

**STATE OF MICHIGAN**  
**CENTRAL PROCUREMENT SERVICES**  
 Department of Technology, Management, and Budget  
 525 W. ALLEGAN ST., LANSING, MICHIGAN 48913  
 P.O. BOX 30026 LANSING, MICHIGAN 48909



**CONTRACT CHANGE NOTICE**

Change Notice Number **10**

to

Contract Number **071B0200124**

<b>CONTRACTOR</b>	E F JOHNSON COMPANY
	1440 Corporate Dr.
	Irving, TX 75038
	Jeanne Smith
	972-819-0216
	jwsmith@efji.com
	CV0050201

<b>STATE</b>	<b>Program Manager</b>	Gerald Leach	MULTI
		517-490-4148	
		leachg@michigan.gov	
	<b>Contract Administrator</b>	Valerie Hiltz	DTMB
		(517) 249-0459	
		hiltzv@michigan.gov	

CONTRACT SUMMARY				
2-WAY RADIOS				
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE	
April 12, 2010	January 19, 2013	5 - 1 Year	January 19, 2020	
PAYMENT TERMS		DELIVERY TIMEFRAME		
Net 45 Days		Per agreed upon delivery date as specified on the individual purchase order.		
ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING	
<input type="checkbox"/> P-Card <input type="checkbox"/> PRC <input type="checkbox"/> Other			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
MINIMUM DELIVERY REQUIREMENTS				
N/A				
DESCRIPTION OF CHANGE NOTICE				
OPTION	LENGTH OF OPTION	EXTENSION	LENGTH OF EXTENSION	REVISED EXP. DATE
<input type="checkbox"/>		<input type="checkbox"/>		January 19, 2020
CURRENT VALUE	VALUE OF CHANGE NOTICE	ESTIMATED AGGREGATE CONTRACT VALUE		
\$1,000,000.00	\$0.00	\$1,000,000.00		
DESCRIPTION				
Effective May 27, 2019 this contract revises the Vendor's Catalog, dated 5-19-19, as attached.				
All other terms, conditions, specifications and pricing remain the same, per Contractor and DTMB Central Procurement Services Approval.				

# KENWOOD

**ATLAS**®  **VIKING**® **NEXEDGE**® **KAIROS**

## Price Guide

### EFJohnson

a JVCKENWOOD Company

*Effective Date: 05.19.2019*

# Table of Contents

## Portables

[Viking VP6000 Portable](#)

[Viking VP5000 Portable](#)

[Viking VP900 Portable](#)

[Viking VP600 Portable](#)

## Mobiles

[Viking VM7000 Mobile](#)

[Viking VM6000 Mobile](#)

[Viking VM5000 Mobile](#)

[Viking VM900 Mobile](#)

## ATLAS Repeaters

[ATLAS 1200](#)

## KENWOOD Repeaters

[Low Power](#)

[NXR-5700](#)

[NXR-5800](#)

[NXR-5900](#)

[NXR-5901](#)

[NXR-710](#)

[NXR-810](#)

[NXR-900](#)

[NXR-901](#)

[TKR-D710](#)

[TKR-D710 LP PKG](#)

[TKR-D810](#)

[TKR-D810 LP PKG](#)

[TKB-6900](#)

[KAS-20](#)

[KAS-10](#)

[KPG-150AP](#)

[KPG-180AP](#)

[KTI-4](#)

[NEXEDGE Simulcast](#)

[NEXEDGE Gen2](#)

[NEXEDGE Gen1 Bridge](#)

[NEXEDGE MAX](#)

[KAIROS KA-160](#)

[KAIROS KA-450/500](#)

**KENWOOD**

P25 Mission Critical

# Viking VP6000

VHF · UHF · 700/800 MHz

P25 Phase 1 &amp; 2 · Viking16

The KENWOOD Viking 6000 series portable is specifically designed for today's public safety agencies with advanced features and ergonomics to meet the first responder's mission critical operational needs.



## Features

- Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)
- Mixed protocol zones (each channel in a zone can be from a different system)
- 1024 channels (2048 option)
- Public safety ergonomics: flare grip for control, large glove friendly knobs, large emergency button
- 1 Watt audio output for high noise environments
- Voice announcement & custom announcements creation
- Fully ruggedized - IP67/68 & MIL-STD-810 C/D/E/F/G
- Full key models (w/ numeric keypad)
- Built-in GPS receiver/antenna for enhanced awareness<sup>1</sup>
- MDC-1200 & GE-Star signaling
- P25 Authentication
- Bluetooth\*
- Man Down
- Instant Recording Replay (IRR)
- Voice Recording
- Encryption
  - ARC4™ software encryption; compatible w/Motorola ADP™
  - P25/TIA defined: AES-256
  - DES-OFB
  - Over-the-Air-Rekeying (OTAR)

<sup>1</sup>Refer to the Viking VP6000 operating manual for detailed requirements & conditions for proper GPS operation.

## Accessories

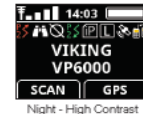
Complete line of accessories including microphones, speakers & antennas. Download the accessory catalog at [www.effjohnson.com/products/accessories](http://www.effjohnson.com/products/accessories).

## User Selectable Color Themes

- Multi-line text
- Top flip display changes text orientation for viewing while in holster
- Multiple visual indicators including battery health & signal strength
- Backlight changes for event identification
- Day & night user selectable display options (8 themes available)



Day - High Contrast



Night - High Contrast

## Compatible with Multiple P25 Systems

- ATLAS® P25 Phase 1 and Phase 2 System
- Motorola Astro® 25 - P25 Phase 1 & Phase 2
- Harris VIDA® - P 25 Phase 1 & Phase 2
- Airbus (formerly Cassidian) VESTA™ Radia - P25 Phase 1 & Phase 2

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



### Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



### Armada® Fleet Management

Update radios in a group rather than one at a time. One template programs both portables & mobiles. Supports either direct computer connection or Over-the-Air Programming (OTAP). Elite battery management enables wireless tracking of battery fleet.



### TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.



	Radio - Base Model	Contract	List
VP6230BKF2	VHF, 136-174 MHz, Model 2 (standard keypad), Black	\$ 1,808.00	\$2,260
VP6330BKF2	UHF, 450-520 MHz, Model 2 (standard keypad), Black	\$ 1,808.00	\$2,260
VP6330BKF5	UHF, 380-470 MHz, Model 2 (standard keypad), Black	\$ 1,808.00	\$2,260
VP6430BKF2	700/800 MHz, 762-806 MHz and 806-870 MHz, Black, Model 2 (standard keypad)	\$ 1,808.00	\$2,260
VP6230BKF3	VHF, 136-174 MHz, Model 3 (full keypad), Black	\$ 2,008.00	\$2,510
VP6330BKF3	UHF, 450-520 MHz, Model 3 (full keypad), Black	\$ 2,008.00	\$2,510
VP6330BKF6	UHF, 380-470 MHz, Model 3 (full keypad), Black	\$ 2,008.00	\$2,510
VP6430BKF3	700/800 MHz, 762-806 MHz and 806-870 MHz, Black, Model 3 (full keypad)	\$ 2,008.00	\$2,510
VP6230GRF2	VHF, 136-174 MHz, Model 2 (standard keypad), Green	\$ 1,968.00	\$2,460
VP6330GRF2	UHF, 450-520 MHz, Model 2 (standard keypad), Green	\$ 1,968.00	\$2,460
VP6330GRF5	UHF, 380-470 MHz, Model 2 (standard keypad), Green	\$ 1,968.00	\$2,460
VP6430GRF2	700/800 MHz, 762-806 MHz and 806-870 MHz, Green, Model 2 (standard keypad)	\$ 1,968.00	\$2,460
VP6230GRF3	VHF, 136-174 MHz, Model 3 (full keypad), Green	\$ 2,168.00	\$2,710
VP6330GRF3	UHF, 450-520 MHz, Model 3 (full keypad), Green	\$ 2,168.00	\$2,710
VP6330GRF6	UHF, 380-470 MHz, Model 3 (full keypad), Green	\$ 2,168.00	\$2,710
VP6430GRF3	700/800 MHz, 762-806 MHz and 806-870 MHz, Green, Model 3 (full keypad)	\$ 2,168.00	\$2,710
	<b>Model Options</b>	<b>Contract</b>	<b>List</b>
	Intrinsically Safe (CSA) - <i>KNB-LS5 battery required</i>	\$ 79.20	\$ 99.00
	<b>Antenna</b>	<b>Contract</b>	<b>List</b>
KRA-32K	700/800 MHz Whip Antenna	\$ 28.00	\$ 35.00
KRA-36	700/800 MHz Stubby Antenna	\$ 20.00	\$ 25.00
KRA-27M	UHF whip antenna 440-490 MHz	\$ 11.20	\$ 14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$ 11.20	\$ 14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$ 11.20	\$ 14.00
KRA-23M	UHF low-profile helical antenna 450-490 MHz	\$ 10.96	\$ 13.70
KRA-23M2	UHF low-profile helical antenna 470-512 MHz	\$ 10.96	\$ 13.70
KRA-23M3	UHF low-profile helical antenna 403-430 MHz	\$ 10.96	\$ 13.70
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	\$ 14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	\$ 14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	\$ 14.00
KRA-22M	VHF low-profile helical antenna 148-162 MHz	\$ 10.96	\$ 13.70
KRA-22M2	VHF low-profile helical antenna 162-174 MHz	\$ 10.96	\$ 13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$ 10.96	\$ 13.70
KRA-25	VHF High gain helically loaded whip antenna 148-162 MHz	\$ 27.40	\$ 34.25
	<b>Batteries &amp; Chargers</b>	<b>Contract</b>	<b>List</b>
KNB-L2M	Li-ion 2600mAh (Standard)	\$ 108.00	\$ 135.00
KNB-L3M	Li-ion 3400mAh (High Capacity)	\$ 140.00	\$ 175.00
KNB-LS5	Li-ion Intrinsically Safe	\$ 160.00	\$ 200.00
KSC-Y32K	Rapid rate single unit charger (Long-Life Charge Mode capable with KAS-12 Software) <b>Note:</b> NiMH/Li-ion battery only	\$ 92.00	\$ 115.00

KSC-32	Rapid rate single unit charger	\$ 56.00	\$ 70.00
KSC-326K	Rapid rate 6-unit charger	\$ 504.00	\$ 630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	\$ 33.75
KVC-15	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC-mobile bracket & cigarette lighter cable DC adapter)	\$ 95.20	\$ 119.00
<b>Carrying Accessories</b>		<b>Contract</b>	<b>List Price</b>
KBH-11	Spring action belt clip (2.5")	\$ 11.76	\$ 14.70
<b>Microphones &amp; Audio Accessories</b>		<b>Contract</b>	<b>List Price</b>
KMC-54WDM	MIL-SPEC, IP67 (Immersion) Speaker Mic <b>Compatible with ANR Feature</b> <b>Note:</b> only compatible with a TK-5x30 series portable	\$ 104.00	\$ 130.00
KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic	\$ 91.20	\$ 114.00
KMC-49	MIL-SPEC, Speaker Mic. with Antenna Connector <b>Note:</b> 5/16" Coax cable hex wrench included (antenna is not included).	\$ 200.00	\$ 250.00
KEP-1	3.5mm earphone kit for KMC-41/42W/54W Speaker Mics	\$ 42.00	\$ 52.50
KEP-2	2.5mm earphone kit for KMC-49 Speaker Mic	\$ 42.00	\$ 52.50
KEP-3	30" Earphone kit w/ 2.5mm plug for KCT-30	\$ 41.20	\$ 51.50
KEP-4	48" Earphone kit w/ 2.5mm plug for KCT-30	\$ 43.80	\$ 54.75
KCT-30	2.5mm Audio Accessory Adapter for KEP-3/4	\$ 51.20	\$ 64.00
KCT-51	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector)	\$ 172.00	\$ 215.00
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black)	\$ 125.20	\$ 156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black)	\$ 147.20	\$ 184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT	\$ 100.80	\$ 126.00
KHS-15-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & PTT	\$ 336.00	\$ 420.00
KHS-15-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & PTT	\$ 294.40	\$ 368.00
<b>Protocol</b>		<b>Contract</b>	<b>List</b>
	Analog FM	\$ -	\$0.00
	P25 CAI AMBE+2	\$ -	\$0.00
<b>System Options</b>		<b>Contract</b>	<b>List</b>
1	Analog Conventional	\$ -	\$0.00
2	P25 Conventional	\$ 280.00	\$350.00
3	P25 Phase 1 Trunking (Must also have option 2)	\$ 100.00	\$125.00
4	P25 Phase 2 TDMA (Must also have option 3)	\$ 320.00	\$ 400.00
5	Viking16	\$ 620.00	\$ 775.00
<b>Optional Features</b>		<b>Contract</b>	<b>List</b>
<b>Channels/Talkgroups</b>			
	1024 Channels/Talkgroups (standard)	\$ -	\$0.00
	2048 Channels/Talkgroups (standard)	\$ 240.00	\$300.00
	4000 Channels/Talkgroups	\$ 480.00	\$600.00
<b>Encryption</b>			
	DES-OFB (multi-key)	\$ -	\$0.00
	AES FIPS 140-2 (multi-key)	\$ 380.00	\$ 475.00

	ARC4 (ADP compatible)	\$ -	\$0.00
	<b>Programming &amp; Data</b>		
	TrueVoice™ Noise Cancellation	\$ -	\$0.00
	MDC1200/GE-Star Signaling	\$ 40.00	\$ 50.00
	P25 Conventional Voting Scan	\$ -	\$0.00
	P25 Data Conventional	\$ 112.00	\$ 140.00
	P25 Data Trunking (Conventional included)	\$ 160.00	\$ 200.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAR (Over-The-Air-Rekeying)	\$ 600.00	\$ 750.00
	P25 Authentication	\$ 80.00	\$100.00
	OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
	FIRESafe™ First Responder	\$ 200.00	\$ 250.00
	FIRESafe™ Command (includes First Responder)	\$ 280.00	\$ 350.00
	GPS	\$ 80.00	\$ 100.00
	Keypad Programming (U.S. Federal Government Only)	\$ 240.00	\$ 300.00
	EVRS	\$ 80.00	\$ 100.00
	Bluetooth	\$ 80.00	\$ 100.00
	Man Down	\$ 80.00	\$ 100.00

KENWOOD

VIKING

P25 Mission Critical

Viking **VP5000**

VHF · UHF (High &amp; Low) · 700/800 MHz

P25 Phase 1 &amp; 2 · Viking16

At just under 5.5 inches tall (140 mm), these small KENWOOD Viking portable radios are packed with advanced features for today's public safety agencies.



## Features

- Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)
- Mixed protocol zones (each channel in a zone can be from a different system)
- 1024 channels
- 1 Watt audio output for high noise environments
- Voice annunciation & custom announcement creation
- Fully ruggedized - IP67 & MIL-STD-810 C/D/E/F/G
- Full key models (w/numeric keypad) & standard key models (w/o numeric keypad)
- Built-In GPS receiver/antenna for enhanced awareness<sup>1</sup>
- MDC-1200 & GE-Star signaling
- P25 Authentication
- Bluetooth\*
- Man Down
- Instant Recording Replay (IRR)
- Voice Recording
- Encryption
  - ARC4\* software encryption; compatible w/Motorola ADP™
  - DES-OFB
  - AES-256 (FIPS 140-2) Single and Multi-Key
  - Over-the-Air-Rekeying (OTAR)
  - VK5000 or Motorola KVL3000/KVL4000 Keyloader

## Accessories

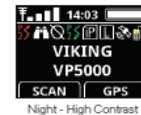
Complete line of accessories including microphones, speakers & antennas.  
Download the accessory catalog at  
[www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

## User Selectable Color Themes

Multi-line text

Multiple visual indicators including battery health &amp; signal strength

Day &amp; night user selectable display options (8 themes available)



## Compatible With P25 Systems

ATLAS\* P25 Phase 1 and Phase 2 System

Motorola Astro\* 25 - P25 Phase 1 &amp; Phase 2

Harris VIDA\* - P25 Phase 1 &amp; Phase 2

Airbus (formerly Cassidian) VESTA\* Radio - P25 Phase 1 &amp; Phase 2

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



## Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



## Armada® Fleet Management

Update radios in a group rather than one at a time. One template programs both portables & mobiles. Supports either direct computer connection or Over-the-Air Programming (OTAP). Elite battery management enables wireless tracking of battery fleet.



## TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.

	Radio - Base Model	Contract	List
VP5430BKF2	700/800 MHz, 762-806 MHz and 806-870 MHz, Black, Model 2 (standard keypad)	\$ 1,244.00	\$ 1,555.00
VP5430BKF3	700/800 MHz, 762-806 MHz and 806-870 MHz, Black, Model 3 (full keypad)	\$ 1,284.00	\$ 1,605.00
VP5330BKF2	UHF, 450-520 MHz, Model 2 (standard keypad)	\$ 1,244.00	\$ 1,555.00
VP5330BKF5	UHF, 380-470 MHz, Model 2 (standard keypad)	\$ 1,244.00	\$ 1,555.00
VP5330BKF3	UHF, 450-520 MHz, Model 3 (full keypad)	\$ 1,284.00	\$ 1,605.00
VP5330BKF6	UHF, 380-470 MHz, Model 3 (full keypad)	\$ 1,284.00	\$ 1,605.00
VP5230BKF2	VHF, 136-174 MHz, Model 2 (standard keypad)	\$ 1,244.00	\$ 1,555.00
VP5230BKF3	VHF, 136-174 MHz, Model 3 (full keypad)	\$ 1,284.00	\$ 1,605.00
	Model Options	Contract	List
	Intrinsically Safe (CSA) - <i>KNB-LS5 battery required</i>	\$ 79.20	\$ 99.00
	Antenna	Contract	List
KRA-32K	700/800 MHz Whip Antenna	\$ 28.00	\$ 35.00
KRA-36	700/800 MHz Stubby Antenna	\$ 20.00	\$ 25.00
KRA-27M	UHF whip antenna 440-490 MHz	\$ 11.20	\$ 14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$ 11.20	\$ 14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$ 11.20	\$ 14.00
KRA-23M	UHF low-profile helical antenna 450-490 MHz	\$ 10.96	\$ 13.70
KRA-23M2	UHF low-profile helical antenna 470-512 MHz	\$ 10.96	\$ 13.70
KRA-23M3	UHF low-profile helical antenna 403-430 MHz	\$ 10.96	\$ 13.70
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	\$ 14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	\$ 14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	\$ 14.00
KRA-22M	VHF low-profile helical antenna 148-162 MHz	\$ 10.96	\$ 13.70
KRA-22M2	VHF low-profile helical antenna 162-174 MHz	\$ 10.96	\$ 13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$ 10.96	\$ 13.70
KRA-25	VHF High gain helically loaded whip antenna 148-162 MHz	\$ 27.40	\$ 34.25
	Batteries & Chargers	Contract	List
KNB-L2M	Li-ion 2600mAh (Standard)	\$ 108.00	\$ 135.00
KNB-L3M	Li-ion 3400mAh (High Capacity)	\$ 140.00	\$ 175.00
KNB-LS5	Li-ion Intrinsically Safe	\$ 160.00	\$ 200.00
KSC-Y32K	Rapid rate single unit charger (Long-Life Charge Mode capable with KAS-12 Software) <b>Note:</b> NiMH/Li-ion battery only	\$ 92.00	\$ 115.00
KAS-12K	License Key for KAS-12 <b>(Authentication required)</b> Battery Reader Software for KNB-L1M/L2M/L3M & KSC-Y32 (Windows® Vista/7/8/8.1)	\$ 68.00	\$ 85.00
KSC-32	Rapid rate single unit charger	\$ 56.00	\$ 70.00
KSC-326K	Rapid rate 6-unit charger	\$ 504.00	\$ 630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	\$ 33.75
KVC-15	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC-mobile bracket & cigarette lighter cable DC adapter)	\$ 95.20	\$ 119.00
Carrying Accessories		Contract	List Price

KBH-11	Spring action belt clip (2.5")	\$ 11.76	\$ 14.70
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$ 21.04	\$ 26.30
KLH-6SW	Leather swivel belt loop / detachable swivel D-Ring back	\$ 17.60	\$ 22.00
KLH-137ST	Firemen's Heavy-Duty Leather Shoulder Strap for a Heavy-Duty Leather Case	\$ 29.40	\$ 36.75
KLH-200K3	Heavy duty leather carrying case (for both K2 & K3 models)	\$ 35.40	\$ 44.25
KLH-201K3	Nylon carrying case (for both keypad models)	\$ 21.04	\$ 26.30
<b>Special Color Housing</b>		<b>Contract</b>	<b>List Price</b>
KWD-YH-5000	Yellow Housing Kit (Standard Key Model Only) Order L-5024 for Factory Install. (Eligible for warranty of IP67/68 immersion) Note: If you order only housing and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.	\$ 32.00	\$ 40.00
KWD-OH-5000	Orange Housing Kit (Standard Key Model Only) Order L-5025 for Factory Install. (Eligible for warranty of IP67/68 immersion) Note: If you order only housing and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.	\$ 32.00	\$ 40.00
<b>Microphones &amp; Audio Accessories</b>		<b>Contract</b>	<b>List Price</b>
KMC-54WDM	MIL-SPEC, IP67 (Immersion) Speaker Mic <b>Compatible with ANR Feature</b> <b>Note:</b> only compatible with a TK-5x30 series portable	\$ 104.00	\$ 130.00
KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic	\$ 91.20	\$ 114.00
KMC-49	MIL-SPEC, Speaker Mic. with Antenna Connector <b>Note:</b> 5/16" Coax cable hex wrench included (antenna is not included).	\$ 200.00	\$ 250.00
KEP-1	3.5mm earphone kit for KMC-41/42W/54W Speaker Mics	\$ 42.00	\$ 52.50
KEP-2	2.5mm earphone kit for KMC-49 Speaker Mic	\$ 42.00	\$ 52.50
KEP-3	30" Earphone kit w/ 2.5mm plug for KCT-30	\$ 41.20	\$ 51.50
KEP-4	48" Earphone kit w/ 2.5mm plug for KCT-30	\$ 43.80	\$ 54.75
KCT-30	2.5mm Audio Accessory Adapter for KEP-3/4	\$ 51.20	\$ 64.00
KCT-51	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector)	\$ 172.00	\$ 215.00
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black)	\$ 125.20	\$ 156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black)	\$ 147.20	\$ 184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT	\$ 100.80	\$ 126.00
KHS-15-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & PTT	\$ 336.00	\$ 420.00
KHS-15-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & PTT	\$ 294.40	\$ 368.00
<b>Protocol</b>		<b>Contract</b>	<b>List</b>
	Analog FM	\$ -	\$0.00
	P25 CAI AMBE+2	\$ -	\$0.00
<b>System Options</b>		<b>Contract</b>	<b>List</b>
1	Analog Conventional	\$ -	\$0.00
2	P25 Conventional	\$ -	\$0.00

3	P25 Phase 1 Trunking	\$ -	\$0.00
4	P25 Phase 2 TDMA	\$ 320.00	\$400.00
5	Viking16	\$ 620.00	\$ 775.00
	<b>Optional Features</b>	<b>Contract</b>	<b>List</b>
	<b>Channels/Talkgroups</b>		
	1024 Channels/Talkgroups (standard)	\$ -	\$0.00
	<b>Encryption (requires Protocol Option 2 - Digital/Project 25 CAI AMBE+2)</b>		
	DES-OFB (multi-key)	\$ 156.00	\$ 195.00
	AES FIPS140-2 (DES-OFB included) (multi key)	\$ 600.00	\$ 750.00
	ARC4 (ADP compatible)	\$ -	\$0.00
	<b>Programming &amp; Data</b>		
	TrueVoice™ Noise Cancellation	\$ -	\$0.00
	MDC1200/GE-Star Signaling	\$ 40.00	\$ 50.00
	P25 Conventional Voting Scan	\$ -	\$0.00
	P25 Data Conventional	\$ 112.00	\$ 140.00
	P25 Data Trunking (Conventional included)	\$ 160.00	\$ 200.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAR (Over-The-Air-Rekeying)	\$ 600.00	\$ 750.00
	P25 Authentication (Must also have AES FIPS 140-2)	\$ 80.00	\$100.00
	OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
	FIRESafe™ First Responder	\$ 200.00	\$ 250.00
	FIRESafe™ Command (includes First Responder)	\$ 280.00	\$ 350.00
	GPS	\$ 80.00	\$ 100.00
	Keypad Programming (U.S. Federal Government Only)	\$ 240.00	\$ 300.00
	EVRS	\$ 80.00	\$ 100.00
	Bluetooth	\$ 80.00	\$ 100.00
	Man Down	\$ 80.00	\$ 100.00

KENWOOD



P25 Mission Critical

# Viking **VP900**

VHF · 700/800 MHz

P25 Phase 1 &amp; 2 · Viking16

The Viking® VP900 is a dual-band, multi-protocol, P25 Phase 2 radio equipped with industry leading audio, display, and advanced feature capabilities that meet the needs of police, fire, EMS, and other mission critical users.



## Features

Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)

Mixed protocol zones (each channel in a zone can be from a different system)  
2048 channels

Public safety ergonomics with large glove friendly knobs

Top flip display changes text orientation for viewing while in holster

Backlight on top display changes for event indication (ex. emergency turns display orange)

Multiple visual indicators including battery health & signal strength

1 Watt audio output for high noise environments

Voice annunciation & custom announcement creation

Fully ruggedized - IP67 & MIL-STD-810 C/D/E/F/G

Dual Shield design (internal metal housing & an external polycarbonate casing for exceptional durability)

Available in three keypad options (none, limited, full)

Integrated GPS<sup>1</sup>

MDC-1200 & GE-Star signaling

P25 Authentication

Instant Recording Replay (IRR)

Encryption

- ARC4™ software encryption; compatible with Motorola ADP™
- DES-OFB
- AES-256 (FIPS 140-2) Single and Multi-Key
- Over-the-Air-Rekeying (OTAR)
- VK5000 or Motorola KVL3000/KVL4000 Keyloaders

<sup>1</sup>Refer to the Viking VP900 operating manual for detailed requirements & conditions for proper GPS operation.

## Compatible With P25 Systems

ATLAS® P25 Phase 1 and Phase 2

Motorola Astro® 25 - P25 Phase 1 & Phase 2

Harris VIDA® - P25 Phase 1 & Phase 2

Airbus (formerly Cassidian) VESTA™ Radio - P25 Phase 1 & Phase 2

## Accessories

Complete line of accessories including microphones, speakers & antennas.  
Download the accessory catalog at  
[www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



### Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



### Armada® Fleet Management

Update radios in a group rather than one at a time. One template programs both portables & mobiles. Supports either direct computer connection or Over-the-Air Programming (OTAP). Elite battery management enables wireless tracking of battery fleet.



### TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.



Radio - Base Model		Contract	List
2425AAAA53XXX	700/800 MHz, 762-806 MHz + VHF 2.5W, and 806-870 MHz, 3W, Model 1 (no keypad)	\$ 2,060.00	\$ 2,575.00
2425AADA93XXX	700/800 MHz, 762-806 MHz + VHF 2.5W, and 806-870 MHz, 3W, Model 1 (no keypad; Hazardous Location - FM)	\$ 2,220.00	\$ 2,775.00
2425AABA53XXX	700/800 MHz, 762-806 MHz + VHF 2.5W, and 806-870 MHz, 3W, Model 2 (limited keypad)	\$ 2,220.00	\$ 2,775.00
2425AAEA93XXX	700/800 MHz, 762-806 MHz + VHF 2.5W, and 806-870 MHz, 3W, Model 2 (limited keypad; Hazardous Location - FM)	\$ 2,380.00	\$ 2,975.00
2425AACA53XXX	700/800 MHz, 762-806 MHz + VHF 2.5W and VHF and 806-870 MHz, 3W, Model 3 (full keypad)	\$ 2,380.00	\$ 2,975.00
2425AAFA93XXX	700/800 MHz, 762-806 MHz + VHF 2.5W and VHF and 806-870 MHz, 3W, Model 3 (full keypad; Hazardous Location - FM)	\$ 2,540.00	\$ 3,175.00
Antenna		Contract	List
	Multiband 700/800 + VHF Standard	\$ -	\$ -
	Multiband 700/800 + VHF Flexible	\$ -	\$ -
	Multiband 700/800 + UHF Hi (470 - 520 MHz) Standard	\$ -	\$ -
Battery		Contract	List
	No Battery (credit)	\$ (40.00)	\$ (40.00)
	Viking Li-ion Battery	\$ -	\$ -
Housing		Contract	List
	Black Housing	\$ -	\$ -
	High Visibility Housing	\$ 160.00	\$ 200.00
Protocol		Contract	List
1	Analog FM (included in base radio)	\$ -	\$ -
2	Digital/Project 25 CAI AMBE+2 with Free Single-Key DES-OFB (includes protocol option 1)	\$ 160.00	\$ 200.00
System Option		Contract	List
1	Conventional System	\$ 280.00	\$ 350.00
3	Viking16	\$ 620.00	\$ 775.00
<b>The following selections require Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</b>			
4	Project 25 Conventional System	\$ 280.00	\$ 350.00
5	Project 25 Phase 1 Trunking Only (includes system option 4)	\$ 380.00	\$ 475.00
6	Project 25 Phase 2 TDMA (includes system option 4 & 5)	\$ 700.00	\$ 875.00
7	Project 25 Phase 1 Trunking and Viking16 Trunking (includes system options 2 & 4)	\$ 680.00	\$ 850.00
8	Project 25 Phase 2 TDMA and Viking16 Trunking (includes system options 2, 4 & 5)	\$ 1,000.00	\$ 1,250.00
Optional Features		Contract	List
Channels/Talkgroups			
	2048 Channels/Talkgroups (standard)	\$ -	\$ -
Encryption (requires Protocol Option 2 - Digital/Project 25 CAI AMBE+2)			
	Single-Key DES-OFB (included with Protocol Option 2)	\$ -	\$ -
	Single-Key AES	\$ 120.00	\$ 150.00
	DES-OFB (multi-key)	\$ 440.00	\$ 550.00
	AES (multi-key)	\$ 380.00	\$ 475.00
	DES-OFB + AES (Multi-Key)	\$ 600.00	\$ 750.00
	ARC4 (ADP compatible)	\$ -	\$ -
Programming & Data			
	MDC1200/GE-Star Signaling	\$ 40.00	\$ 50.00

	FIRESafe™ First Responder	\$ 200.00	\$ 250.00
	FIRESafe™ First Command (includes FIRESafe™ First Responder)	\$ 280.00	\$ 350.00
	GPS	\$ 80.00	\$ 100.00
	Third Party Interface	\$ 120.00	\$ 150.00
	Keypad Programming (U.S. Federal Government Only)	\$ 240.00	\$ 300.00
	<b><i>The following selections require Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i></b>		
	Project 25 Data Conventional	\$ 112.00	\$ 140.00
	Project 25 OTAR Conventional & Trunking	\$ 600.00	\$ 750.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
	<b><i>The following selections require a System Option 5-8 (options with Phase 1 or Phase 2):</i></b>		
	Project 25 Authentication	\$ 80.00	\$ 100.00
	Project 25 Data Trunking (includes Project 25 Data Conventional)	\$ 160.00	\$ 200.00
	EVRS	\$ 80.00	\$ 100.00

KENWOOD

VIKING

P25 Mission Critical

# Viking VM7000

VHF (Regular and Hi Power) · UHF (High &amp; Low) · 700/800 MHz

P25 Phase 1 &amp; 2 · Viking16

With the VM7000 All-Band Multi-Deck Mobile, you can simultaneously receive and display up to four bands so you never miss a call. The "select" and "unselect" speakers give you the option for audio control similar to a dispatch console. KENWOOD Viking® is the industry's only mobile platform providing TrueVoice™ noise cancellation.



## Features

Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)

1024 channels (2048 & 4096 options)

Mixed protocol zones

P25 Authentication (Link Layer Authentication)

P25 IP packet data

P25 GPS data (built in GPS)<sup>1</sup>

MDC-1200 & GE-Star signaling

P25 Conventional vote scan

Single or Dual Remote Mount configuration

External speaker

Over-the-Internet-Programming (OTIP)

Encryption

- ARC4™ software encryption; compatible with Motorola ADP™
- DES-OFB
- AES-256 (FIPS 140-2) Single and Multi-Key
- Over-the-Air-Rekeying (OTAR)
- VK5000 or Motorola KVL3000/KVL4000 Keyloaders

WiFi

Instant Recording Replay (IRR)

Voice Recording

<sup>1</sup>Refer to the Viking VM7000 operating manual for detailed requirements & conditions for proper GPS operation.

## Accessories

Complete line of accessories including microphones, speakers & antennas. Download the accessory catalog at

[www.ejohnson.com/products/accessories](http://www.ejohnson.com/products/accessories).

## Enhanced Control Head

Larger display - 2.75" (36 x 60 mm)

Resolution of 400 x 240 pixels

Viewing angle of 140°

Multi-color LCD + TX/RX (green/red) LEDs

D-Pad & more PF keys, dedicated emergency key & channel/volume control knobs

Replaceable A/B/C button labels

User selectable themes (8 themes available)

Day & night display options



Day - High Contrast



Night - High Contrast

## Compatible With P25 Systems

ATLAS® P25 Phase 1 and Phase 2 System

Motorola Astro® 25 - P25 Phase 1 & Phase 2

Harris VIDA® - P25 Phase 1 & Phase 2

Airbus (formerly Cassidian) VESTA™ Radio - P25 Phase 1 & Phase 2

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



### Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



### Armada® Fleet Management

Update your radios in a group rather than one at a time. One template programs both portables & mobiles. Supports either a direct computer connection, Over-the-Air Programming (OTAP), or Over-the-Internet Programming (OTIP).



### TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.

Master Radio - (First Deck, Choose one)		Contract	List
VM7730HBF-M	VM7000 136-174 MHZ Hi Power Master	\$2,480.00	\$ 3,100.00
VM7630HBF-P	VM7000 39-50 MHZ Low Power Master	\$2,480.00	\$ 3,100.00
VM7730BF-M	VM7000 136-174 MHZ Master	\$1,920.00	\$ 2,400.00
VM7830BF-M	VM7000 450-520 MHZ Master	\$1,920.00	\$ 2,400.00
VM7830BF2-M	VM7000 380-470 MHZ Master	\$1,920.00	\$ 2,400.00
VM7930BF-M	VM7000 700/800 MHZ Master	\$1,920.00	\$ 2,400.00
Slave Radio - (2nd-4th Deck, Choose up to 3)		Contract	List
VM7730BF-S	VM 7000 136-174 MHZ Slave	\$ 880.00	\$ 1,100.00
VM7830BF-S	VM 7000 450-520 MHZ Slave	\$ 880.00	\$ 1,100.00
VM7830BF2-S	VM 7000 380-470 MHZ Slave	\$ 880.00	\$ 1,100.00
VM7930BF-S	VM 7000 700/800 MHZ Slave	\$ 880.00	\$ 1,100.00
Mounting Accessories		Contract	List
KMB-33M	Mounting Bracket	\$ 11.20	\$ 14.00
KCT-46	Ignition Sense Cable	\$ 10.96	\$ 13.70
KRK-17BF	Remote Kit	\$ 320.00	\$400.00
Control head		Contract	List
KCH-29RV	KCH-20 Enhanced control head	\$ 560.00	\$ 700.00
KCT-23M3	DC Cable-Remote	\$ 27.80	\$ 34.75
KCT-71M2	17 Ft remote cable	\$ 56.00	\$ 70.00
KCT-71M3	25 Feet remote cable	\$ 64.00	\$ 80.00
597535777050	VM5000/7000 Remote Cable upto 50 Ft	\$ 240.00	\$ 300.00
597535777100	VM5000/7000 Remote Cable upto 100 Ft	\$ 400.00	\$ 500.00
KMC-35	KCH Standard Mobile Mic	\$ 42.00	\$ 52.50
KMC-36	12 Keypad Mic	\$ 33.61	\$ 42.01
KCT-71M4	Control Cable	\$ 108.00	\$ 135.00
Speaker		Contract	List
KCT-72M	External Accessory Connection Cable for KCH-20R	\$ 29.36	\$ 36.70
KAP-2	HA / PA Relay	\$ 50.40	\$ 63.00
KES-5	40W External Speaker	\$ 49.00	\$ 61.25
Software Options		Contract	List
	Analog FM	\$ -	\$ -
	P25 CAI AMBE+2	\$ -	\$ -
	Analog Conventional	\$ -	\$ -
	P25 Conventional	\$ 280.00	\$ 350.00
	P25 Phase 1 Trunking	\$ 100.00	\$ 125.00
	P25 Phase 2 TDMA	\$ 320.00	\$ 400.00
	Viking16	\$ 620.00	\$ 775.00
	1024 Ch	\$ -	\$ -
	2048 Ch	\$ 240.00	\$ 300.00
	4000 Ch	\$ 480.00	\$600.00
	DES-OFB multi-key	\$ -	\$ -
	AES FIPS-140-2 multi-key	\$ 380.00	\$ 475.00
	ARC4 (ADP Compatible)	\$ -	\$ -
	Conventional Voting Scan	\$ -	\$ -
	TrueVoice Noise Cancellation	\$ -	\$ -
	MDC1200 / GE-Star Signaling	\$ 40.00	\$ 50.00

	P25 Data Conventional	\$ 112.00	\$ 140.00
	P25 Data Trunking (Conventional incl)	\$ 160.00	\$ 200.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAR (Over-the-Air-Rekeying)	\$ 600.00	\$ 750.00
	P25 Authentication	\$ 80.00	\$ 100.00
	OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
	GPS	\$ 80.00	\$ 100.00
	GPS Antenna	\$ 33.60	\$ 42.00
	<b><i>Automatically selected when GPS option is selected in CeVo</i></b>		

KENWOOD

VIKING

P25 Mission Critical

Viking **VM6000**

VHF · UHF (High &amp; Low) · 700/800 MHz

P25 Phase 1 &amp; 2 · Viking16

Uncompromised quality and performance with public safety ergonomics, the KENWOOD Viking® is the industry's only mobile platform providing TrueVoice™ noise cancellation.



## Features

Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)

1024 channels (2048 option)

Mixed protocol zones

P25 Authentication (Link Layer Authentication)

P25 IP packet data

P25 GPS data (built in GPS)<sup>1</sup>

MDC-1200 & GE-Star signaling

Analog & P25 Conventional vote scan

Remote mount only (Viking Control Head)

Dual Viking Control Heads (option)

External speaker

Fixed control station

WiFi

Bluetooth

Instant Recording Replay (IRR)

Voice Recording

Encryption

- ARC4™ software encryption; compatible with Motorola ADP™
- DES-OFB
- AES-256 (FIPS 140-2) Single and Multi-Key
- Over-the-Air-Rekeying (OTAR)
- VK5000 or Motorola KVL3000/KVL4000 Keyloaders

<sup>1</sup>Refer to the Viking VM6000 operating manual for detailed requirements & conditions for proper GPS operation.

## Accessories

Complete line of accessories including microphones, speakers & antennas.  
Download the accessory catalog at  
[www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

## Viking Control Head

Public safety knobs & ergonomics

High contrast transmissive color display for direct sunlight & night time viewing; not compromised by polarized sunglasses

Resolution of 480 x 128 pixels

Viewing angle of 120°

User selectable themes (8 themes available)

Day & night display options

An optional KCH-21RV Handheld Control Head (HHCH) can be used with the VM6000 radio



Day - High Contrast



Night - High Contrast

## Compatible With P25 Systems

ATLAS® P25 Phase 1 and Phase 2 System

Motorola Astro® 25 - P25 Phase 1 & Phase 2

Harris VIDA® - P25 Phase 1 & Phase 2

Airbus (formerly Cassidian) VESTA™ Radio - P25 Phase 1 & Phase 2

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



## Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



## Armada® Fleet Management

Update your radios in a group rather than one at a time. One template programs both portables & mobiles. Supports direct computer connection, Over-the-Air Programming (OTAP), or Over-the-Internet Programming (OTIP).



## TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.

Radio - Base Model		Contract	List
VM6730BF	VM 6000 136-174 MHZ	\$ 1,720.00	\$ 2,150.00
VM6830BF	VM 6000 450-520 MHZ	\$ 1,720.00	\$ 2,150.00
VM6830BF2	VM 6000 380-470 MHZ	\$ 1,720.00	\$ 2,150.00
VM6930BF	VM 6000 700/800 MHZ	\$ 1,720.00	\$ 2,150.00
Mounting Accessories		Contract	List
KMB-33M	Mounting Bracket	\$ 11.20	\$ 14.00
KMB-34	Mounting Case	\$ 38.40	\$ 48.00
KPS-15	DC Switch (P/S)	\$ 138.40	\$ 173.00
KCT-46	Ignition Sense Cable	\$ 10.96	\$ 13.70
Control head		Contract	List
835VM6000VCH	Viking Control Head (VCH) <i>The pricing is valid only when purchased with the radio. If purchased separately, List price is \$1,695</i>	\$ 720.00	\$ 900.00
KCT-23M3	DC Cable-Remote	\$ 27.80	\$ 34.75
597535777502	6 Ft remote cable	\$ 80.00	\$ 100.00
597535777502	17 Ft remote cable	\$ 128.00	\$ 160.00
597535777503	50 Ft remote cable	\$ 240.00	\$ 300.00
250074031003	VCH Standard Mobile Mic	\$ 112.00	\$ 140.00
589001202303	VCH Desktop Mic	\$ 520.00	\$ 650.00
Speaker		Contract	List
2500151006	5in. 15W Speaker, Crimp Leads	\$ 60.00	\$ 75.00
KES-3S	Low Profile Ext. Speaker	\$ 60.00	\$ 75.00
KAP-2	HA / PA Relay	\$ 50.40	\$ 63.00
KES-5	40W External Speaker	\$ 49.00	\$ 61.25
Software Options		Contract	List
	Analog FM	\$ -	\$ -
	P25 CAI AMBE+2	\$ -	\$ -
	Analog Conventional	\$ -	\$ -
	P25 Conventional	\$ 280.00	\$ 350.00
	P25 Phase 1 Trunking	\$ 100.00	\$ 125.00
	P25 Phase 2 TDMA	\$ 320.00	\$ 400.00
	Viking16	\$ 620.00	\$ 775.00
	1024 Ch	\$ -	\$ -
	2048 Ch	\$ 240.00	\$ 300.00
	4000 Ch	\$ 480.00	\$600.00
	DES-OFB multi-key	\$ -	\$ -
	AES FIPS-140-2 multi-key	\$ 380.00	\$ 475.00
	ARC4 (ADP Compatible)	\$ -	\$ -
	Conventional Voting Scan	\$ -	\$ -
	TrueVoice Noise Cancellation	\$ -	\$ -
	MDC1200 / GE-Star Signaling	\$ 40.00	\$ 50.00
	P25 Data Conventional	\$ 112.00	\$ 140.00
	P25 Data Trunking (Conventional included)	\$ 160.00	\$ 200.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAR (Over-the-Air-Rekeying)	\$ 600.00	\$ 750.00
	P25 Authentication	\$ 80.00	\$ 100.00

OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
GPS	\$ 80.00	\$ 100.00
GPS Antenna <i>Automatically selected when GPS option is selected in CeVo</i>	\$ 33.60	\$ 42.00



**KENWOOD****VIKING**

P25 Mission Critical

# Viking VM5000

VHF · UHF (High & Low) · 700/800 MHz  
P25 Phase 1 & 2 · Viking16

Uncompromised quality and performance with public safety ergonomics, the KENWOOD Viking® is the industry's only mobile platform providing TrueVoice™ noise cancellation.



## Features

Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)

1024 channels

Mixed protocol zones

P25 Authentication (Link Layer Authentication)

P25 IP packet data

GPS AVL data (built in GPS)<sup>1</sup>

MDC-1200 & GE-Star signaling

Analog & P25 Conventional vote scan

Dash mount (KCH-19 control head only)

Remote mount

Dual control heads

Internal or external speaker

Fixed control station

WiFi (remote mount configuration only)

Bluetooth (Future)

Instant Recording Replay (IRR)

Voice Recording

Encryption

- ARC4™ software encryption; compatible w/Motorola ADP™
- DES-OFB
- AES-256 (FIPS 140-2) Single and Multi-Key
- Over-the-Air-Rekeying (OTAR)

<sup>1</sup>Refer to the Viking VM5000 operating manual for detailed requirements & conditions for proper GPS operation.

## Accessories

Complete line of accessories including microphones, speakers & antennas. Download the accessory catalog at [www.ejohanson.com/products/accessories](http://www.ejohanson.com/products/accessories).

## Basic Control Head

Resolution of 422 x 154 pixel

Viewing angle of 140°

User selectable themes (8 themes available)

Day & night display options



Day - High Contrast



Night - High Contrast

## Compatible With P25 Systems

ATLAS® P25 Phase 1 and Phase 2 System

Motorola Astro® 25 - P25 Phase 1 & Phase 2

Harris VIDA® - P25 Phase 1 & Phase 2

Airbus (formerly Cassidian) VESTA™ Radio - P25 Phase 1 & Phase 2

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



### Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



### Armada® Fleet Management

Update your radios in a group rather than one at a time. One template programs both portables & mobiles. Supports direct computer connection, Over-the-Air Programming (OTAP), or Over-the-Internet Programming (OTIP).



### TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.

Radio - Base Model		Contract	List
VM5730BF	VM 5000 136-174 MHZ	\$1,720.00	\$ 2,150.00
VM5830BF	VM 5000 450-520 MHZ	\$1,720.00	\$ 2,150.00
VM5830BF2	VM 5000 380-470 MHZ	\$1,720.00	\$ 2,150.00
VM5930BF	VM 5000 700/800 MHZ	\$1,720.00	\$ 2,150.00

Mounting Accessories		Contract	List
KMB-33M	Mounting Bracket	\$ 11.20	\$ 14.00
KMB-34	Mounting Case	\$ 38.40	\$ 48.00
KPS-15	DC Switch (P/S)	\$ 138.40	\$ 173.00
KCT-46	Ignition Sense Cable	\$ 10.96	\$ 13.70
Control head		Contract	List
KCH-19VM	Dash - KCH-19	\$ 144.00	\$ 180.00
KCT-23M	DC Cable-Dash	\$ 25.20	\$ 31.50
KCT-23M3	DC Cable-Remote	\$ 27.80	\$ 34.75
KCT-71M2	17 Ft remote cable	\$ 56.00	\$ 70.00
KCT-71M3	25 Feet remote cable	\$ 64.00	\$ 80.00
597535777050	VM5000/7000 Remote Cable upto 50 Ft	\$ 240.00	\$ 300.00
597535777100	VM5000/7000 Remote Cable upto 100 Ft	\$ 400.00	\$ 500.00
KMC-35	KCH Standard Mobile Mic	\$ 42.00	\$ 52.50
KMC-36	12 Keypad Mic	\$ 33.61	\$ 42.01
KMC-9C	Desktop Mic	\$ 68.80	\$ 86.00
Speaker		Contract	List
KES-3S	Low Profile Ext. Speaker	\$ 60.00	\$ 75.00
KAP-2	HA / PA Relay	\$ 50.40	\$ 63.00
KES-5	40W External Speaker	\$ 49.00	\$ 61.25
Software Options		Contract	List
	Analog FM	\$ -	\$ -
	P25 CAI AMBE+2	\$ -	\$ -
	Analog Conventional	\$ -	\$ -
	P25 Conventional	\$ -	\$ -
	P25 Phase 1 Trunking	\$ -	\$ -
	P25 Phase 2 TDMA	\$ 320.00	\$ 400.00
	Viking16	\$ 620.00	\$ 775.00
	1024 Ch	\$ -	\$ -
	DES-OFB multi-key	\$ 156.00	\$ 195.00
	AES FIPS-140-2 multi-key (DES-OFB included)	\$ 600.00	\$ 750.00
	ARC4 (ADP Compatible)	\$ -	\$ -
	Conventional Voting Scan	\$ -	\$ -
	TrueVoice Noise Cancellation	\$ -	\$ -
	MDC1200 / GE-Star Signaling	\$ 40.00	\$ 50.00
	P25 Data Conventional	\$ 112.00	\$ 140.00
	P25 Data Trunking (Conventional incl)	\$ 160.00	\$ 200.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAR (Over-the-Air-Rekeying)	\$ 600.00	\$ 750.00
	P25 Authentication	\$ 80.00	\$ 100.00
	OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
	GPS	\$ 80.00	\$ 100.00
	GPS Antenna	\$ 33.60	\$ 42.00
	<b><i>Automatically selected when GPS option is selected in CeVo</i></b>		

KENWOOD

VIKING

P25 Mission Critical

Viking **VM900**

VHF · 700/800 MHz

P25 Phase 1 &amp; 2 · Viking16

Dual-band and multi-system radio equipped with industry leading audio, color display, public safety ergonomics, and advanced features including Over-the-Internet (OTIP) programming.

**Features**

Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)

2048 channels

Mixed protocol zones

P25 Authentication (Link Layer Authentication)

P25 IP packet data

GPS AVL data (requires external GPS receiver)

MDC-1200 & GE-Star signaling

Analog & P25 Conventional vote scan

Dash mount

Remote mount

Dash mount with remote control head

Dual control heads

Fixed control station

Encryption

- ARC4™ software encryption; compatible w/Motorola ADP™
- DES-OFB
- AES-256 (FIPS 140-2) Single and Multi-Key
- Over-the-Air-Rekeying (OTAR)
- VK5000 or Motorola KVL3000/KVL4000 Keyloaders

WiFi

Instant Recording Replay (IRR)

**Viking Control Head**

Public safety knobs & ergonomics

High contrast transmissive color display for direct sunlight & nighttime viewing; not compromised by polarized sunglasses

Resolution of 480 x 128 pixels

Viewing angle of 120°

**Compatible With P25 Systems**

ATLAS® P25 Phase 1 and Phase 2 System

Motorola Astro® 25 - P25 Phase 1 & Phase 2

Harris VIDA® - P25 Phase 1 & Phase 2

Airbus (formerly Cassidian) VESTA™ Radio - P25 Phase 1 & Phase 2

**Accessories**

Complete line of accessories including microphones, speakers & antennas.

Download the accessory catalog at

[www.ejohnson.com/products/accessories](http://www.ejohnson.com/products/accessories).

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.

**Perpetual Software Licensing**

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.

**Armada® Fleet Management**

Update your radios in a group rather than one at a time. One template programs both portables & mobiles. Supports either a direct computer connection, Over-the-Air Programming (OTAP), or Over-the-Internet Programming (OTIP).

**TrueVoice™ Noise Cancellation**

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.

	Radio - Base Model	Contract	List
	700/800 MHz, 762-870 MHz + VHF, 30/35W Dash Mount	\$ 2,140.00	\$ 2,675.00
	700/800 MHz, 762-870 MHz + VHF, 30/35W Remote Mount	\$ 2,140.00	\$ 2,675.00
	700/800 MHz, 762-870 MHz + VHF, 30/35W Control Station (includes Power supply & cabinet)	\$ 2,376.00	\$ 2,970.00
	700/800 MHz, 762-870 MHz, 30/35W Dash Mount (Single Band)	\$ 1,408.00	\$ 1,760.00
	700/800 MHz, 762-870 MHz, 30/35W Remote Mount (Single Band)	\$ 1,408.00	\$ 1,760.00
	700/800 MHz, 762-870 MHz, 30/35W Control Station (includes Power supply & cabinet) (Single Band)	\$ 1,752.00	\$ 2,190.00
	VHF, 30/35W Dash Mount (Single Band)	\$ 1,408.00	\$ 1,760.00
	VHF, 30/35W Remote Mount (Single Band)	\$ 1,408.00	\$ 1,760.00
	VHF, 30/35W Control Station (includes Power supply & cabinet) (Single Band)	\$ 1,752.00	\$ 2,190.00
	Control Head Type	Contract	List
	<b><i>Dash Mount Options</i></b>		
	<b><i>Standard LCD Control Head</i></b>	\$ -	
	Dash-Mount Control Head (includes standard palm mic)	\$ 64.00	\$ 80.00
	Dash-Mount Control Head with no mic	\$ -	\$ -
	Dash-Mount Control with Remote Control Head (includes one remote control head & normal bracket)	\$ 600.00	\$ 750.00
	<b><i>Viking Control Head</i></b>	\$ -	
	Dash-Mount Control Head (includes standard palm mic & external speaker)	\$ 688.00	\$ 860.00
	Dash-Mount Control Head with no mic (includes external speaker)	\$ 624.00	\$ 780.00
	Dash-Mount Control with Remote Control Head (includes one remote control head, additional mic & remote control head)	\$ 1,752.00	\$ 2,190.00
	<b><i>Remote Mount Options</i></b>		
	<b><i>Standard LCD Control Head</i></b>	\$ -	
	Remote Control Head (includes standard palm mic)	\$ 440.00	\$ 550.00
	Remote Control Head with no mic	\$ 376.00	\$ 470.00
	Dual Control Head (includes two remote control heads attached to the remote mount radio, two microphones, and two mounting brackets)	\$ 960.00	\$ 1,200.00
	Dual Control Head with no mics	\$ 832.00	\$ 1,040.00
	<b><i>Remote Mount Options</i></b>		
	<b><i>Viking Control Head</i></b>	\$ -	
	Remote Control Head (includes standard palm mic & external speaker)	\$ 1,056.00	\$ 1,320.00
	Remote Control Head with no mic (includes external speaker)	\$ 992.00	\$ 1,240.00

	Dual Control Head (includes two remote control heads attached to the remote mount radio, two microphones, two mounting brackets, and two external speakers)	\$ 2,192.00	\$ 2,740.00
	Dual Control Head with no mics (includes two external speakers)	\$ 2,064.00	\$ 2,580.00
	<b>Accessory Cable</b>	<b>Contract</b>	<b>List</b>
	Cable, Serial, USB, Standard Interface R597-5357-70201 (included with dash mount)	\$ -	\$ -
	Cable, Single remote, Serial, USB, Standard Interface R597-5357-70701 (included with remote mount)	\$ -	\$ -
	Cable, Single remote, Serial, USB, Standard Interface R597-5357-70701 (dash mount)	\$ 124.00	\$ 155.00
	Cable, Single Remote, Serial, USB, PVP/UDDI, Standard Interface R597-5357-73801 (remote mount)	\$ 144.00	\$ 180.00
	Cable, Dual Remote, Serial, USB, Standard R597-5357-74201 (included with remote dual mount)	\$ -	\$ -
	Cable, Dual Remote, Serial, USB, Standard R597-5357-74201 (single remote mount)	\$ 96.00	\$ 120.00
	CABLE, DUAL REMOTE, SERIAL,USB, PVP/UDDI, STD R597-5357-74401 (may be ordered with dual Remote Mount)	\$ 428.80	\$ 536.00
	<b>Protocol</b>	<b>Contract</b>	<b>List</b>
1	Analog FM	\$ -	\$ -
2	Digital/Project 25 CAI AMBE+2 with Free Single-Key DES-OFB (includes protocol option 1)	\$ 280.00	\$ 350.00
	<b>System Option</b>	<b>Contract</b>	<b>List</b>
1	Conventional System	\$ 440.00	\$ 550.00
3	Viking16	\$ 620.00	\$ 775.00
	<b><i>The following selections require Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i></b>		
4	Project 25 Conventional System	\$ 440.00	\$ 550.00
5	Project 25 Phase 1 Trunking Only (includes system option 4)	\$ 620.00	\$ 775.00
6	Project 25 Phase 2 TDMA (includes system option 4 & 5)	\$ 940.00	\$ 1,175.00
7	Project 25 Phase 1 Trunking and Viking16 Trunking (includes system options 2 & 4)	\$ 780.00	\$ 975.00
8	Project 25 Phase 2 TDMA and Viking16 (includes system options 2, 4 & 5)	\$ 1,100.00	\$ 1,375.00
	<b>Optional Features</b>	<b>Contract</b>	<b>List</b>
	<b>Channels/Talkgroups</b>		
	1024 Channels/Talkgroups (standard)	\$ -	\$ -
	<b>Encryption (requires Protocol Option 2 - Digital/Project 25 CAI AMBE+2)</b>		
	Single-Key DES-OFB (included with Protocol Option 2)	\$ -	\$ -
	Single-Key AES	\$ 120.00	\$ 150.00
	DES-OFB (multi-key)	\$ 440.00	\$ 550.00
	AES (multi-key)	\$ 380.00	\$ 475.00
	ARC4 (ADP compatible)	\$ -	\$ -
	<b>Programming &amp; Data</b>		
	MDC1200/GE-Star Signaling	\$ 40.00	\$ 50.00

	<b><i>The following selection requires Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i></b>		
	Project 25 Data Conventional	\$ 112.00	\$ 140.00
	Project 25 OTAR Conventional & Trunking	\$ 600.00	\$ 750.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
	OTIP (Over-the-Intranet Programming)	\$ 160.00	\$ 200.00
	<b><i>The following selections require a System Option 5-8 (options with Phase 1 or Phase 2):</i></b>		
	Project 25 Authentication	\$ 80.00	\$ 100.00
	Project 25 Data Trunking (includes Project 25 Data Conventional)	\$ 160.00	\$ 200.00
	GPS	\$ 160.00	\$ 200.00
	EVRS	\$ 80.00	\$ 100.00

**ATLAS Price Guide | May 2019**

		<b>Contract Price</b>	<b>List Price</b>
336-1212-101	<b>ATLAS 1200 P25 STATION 100W VHF 148-174MHz</b> Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode VHF station.	\$ 10,800.00	\$ 13,500.00
336-1224-101	<b>ATLAS 1200 P25 STATION 100W UHF 450-485MHz</b> Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode UHF station.	\$ 10,800.00	\$ 13,500.00
336-1241-101	<b>ATLAS 1200 P25 STATION 100W 800 MHZ</b> Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode 800 MHz station.	\$ 12,200.00	\$ 15,250.00
336-1224-102	<b>ATLAS 1200 P25 STATION 100W UHF (450-485MHz) 1PPM STAB</b> Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode UHF station with high stability.	\$ 13,180.00	\$ 16,475.00
336-1200-082	<b>ATLAS 1200 P25 BASE STATION DFSI LICENSE KEY</b> Includes one license key for P25 DFSI (Digital Fixed Station Interface).	\$ 1,320.00	\$ 1,650.00
336-1200-000	<b>ATLAS 1200 TOOLS PROGRAMMING KIT</b> Includes programming software and cable.	\$ 236.00	\$ 295.00
336-1200-091	<b>ATLAS 1200 POWER SUPPLY KIT ATLAS 1-STATION VHF/UHF 120/240VAC</b> Includes single power supply, rack mount kit and power cable.	\$ 720.00	\$ 900.00
336-1200-092	<b>ATLAS 1200 POWER SUPPLY KIT ATLAS 1-STATION 700/800 120/240VAC</b> Includes single power supply, rack mount kit and power cable.	\$ 1,240.00	\$ 1,550.00

# NXR-710/810

## UHF/VHF Low Power Base Stations and Repeaters



BASE STATION		CONTRACT	LIST
NXB7100PS	Low Power Base Station, 136-174MHz (NXR-710K, KSGPS20200)	\$ 1,924.00	2,405.00
NXB8101PS	Low Power Base Station, 450-520MHz (NXR-810K, KSGPS20200)	\$ 1,924.00	2,405.00
NXB8102PS	Low Power Base Station, 400-470MHz (NXR-810K2, KSGPS20200)	\$ 1,924.00	2,405.00
REPEATER STATION		CONTRACT	LIST
NXR7100PS	Low Power Repeater Station, 136-174MHz (NXR-710K, KSGPS20200)	\$ 1,924.00	2,405.00
NXR8101PS	Low Power Repeater Station, 450-520MHz (NXR-810K, KSGPS20200)	\$ 1,924.00	2,405.00
NXR8102PS	Low Power Repeater Station, 400-470MHz (NXR-810K2, KSGPS20200)	\$ 1,924.00	2,405.00
REPEATER STATION WITH DUPLEXER		CONTRACT	LIST
Note: Duplexers are not available for all frequencies. The default range of duplexers are between 148-160 MHz (VHF) with a 5MHz split between TX and RX, and between 450-460MHz (UHF). Other frequencies or VHF band splits may be available by special order (non-returnable and non-refundable). Pricing for special order duplexers may be higher.			
NXR7100PSD	Low Power Repeater Station with Duplexer, 148-160MHz (NXR-710K, KSGPS20200, KSGDX62001, KSGCB20008, KSGCB20010)	\$ 2,480.00	3,100.00
NXR8101PSD	Low Power Repeater Station with Duplexer, 450-460MHz (NXR-810K, KSGPS20200, KSGDX63002, KSGCB20008, KSGCB20010)	\$ 2,480.00	3,100.00
NXR8102PSD	Low Power Repeater Station with Duplexer, 450-460MHz (NXR-810K2, KSGPS20200, KSGDX63002, KSGCB20008, KSGCB20010)	\$ 2,480.00	3,100.00
REPEATER STATION WITH CONVENTIONAL IP NETWORK FUNCTIONALITY		CONTRACT	LIST
NXR7100PSI	Low Power Repeater Station, 136-174MHz (NXR-710K, KSGPS20200, KTI-3M)	\$ 2,136.00	2,670.00
NXR8101PSI	Low Power Repeater Station, 450-520MHz (NXR-810K, KSGPS20200, KTI-3M)	\$ 2,136.00	2,670.00
NXR8102PSI	Low Power Repeater Station, 400-470MHz (NXR-810K2, KSGPS20200, KTI-3M)	\$ 2,136.00	2,670.00
REPEATER STATION WITH DUPLEXER AND IP NETWORK FUNCTIONALITY		CONTRACT	LIST
Note: Duplexers are not available for all frequencies. The default range of duplexers are between 148-160 MHz (VHF) with a 5MHz split between TX and RX, and, and between 450-460MHz (UHF). Other frequencies or VHF band splits may be available by special order (non-returnable and non-refundable). Pricing for special order duplexers may be higher. Duplexer and KTI-3M are mounted inside the Repeater; a separate Rack-Mount Power Supply is provided			
NXR7100PSDI	Low Power Repeater Station with Duplexer, 148-160MHz (NXR-710K, KSGPS20201, KSGDX62001, KTI-3M, KSGCB20008, KSGCB20010)	\$ 2,832.00	3,540.00
NXR8101PSDI	Low Power Repeater Station with Duplexer, 450-460MHz (NXR-810K, KSGPS20201, KSGDX63002, KTI-3M, KSGCB20008, KSGCB20010)	\$ 2,832.00	3,540.00
NXR8102PSDI	Low Power Repeater Station with Duplexer, 450-460MHz (NXR-810K2, KSGPS20201, KSGDX63002, KTI-3M, KSGCB20008, KSGCB20010)	\$ 2,832.00	3,540.00
BASIC ACCESSORIES		CONTRACT	LIST
KPG-46UM	Programming Cable	\$ 126.80	158.50
KPG-129DNK	Programming Software (NXR-710/810)	\$ 82.60	103.25
B51-8901-00	NXR-710 Service Manual	\$ 40.00	50.00
B51-8902-00	NXR-810 Service Manual	\$ 40.00	50.00
KMC-9C	Desktop Microphone	\$ 68.80	86.00



KSGMT30001	2RU Desktop Enclosure - 16" deep by 20.5" wide by 5" high	\$ 160.00	200.00
KSGMT30004	4RU Desktop Enclosure - 16" deep by 20.5" wide by 8.5" high	\$ 172.00	215.00

COMPONENTS		CONTRACT	LIST
NXR-710K	Repeater, Digital, VHF, 136-174MHz, 25-50W	\$ 1,720.00	2,150.00
NXR-810K	Repeater, Digital, UHF, 450-520MHz, 1-40W	\$ 1,720.00	2,150.00
NXR-810K2	Repeater, Digital, UHF, 400-470MHz, 1-40W	\$ 1,720.00	2,150.00
KSGPS20200	DC Switching Power Supply	\$ 204.00	255.00
KSGDX62001	Duplexer, VHF, 148-160MHz, 6 cavities, 4.5MHz sep, N-F <b>Note:</b> This is the default frequency range. Other ranges may be available by special order.	\$ 476.00	595.00

COMPONENTS, CON'T		CONTRACT	LIST
KSGDX63002	Duplexer, UHF, 450-460MHz, 6 cavities, 5MHz sep, N-F <b>Note:</b> This is the default frequency range. Other ranges may be available by special order.	\$ 476.00	595.00
KSGCB20008	Cable, 10" 90 deg N-M to 90 deg BNC-M, RG-142 coaxial	\$ 40.00	50.00
KSGCB20010	Cable, 10", 90 deg N-M to 90 deg N-M, RG-142 coaxial	\$ 40.00	50.00
KTI-3M	Network Interface Unit	\$ 212.00	265.00
KSGPS20201	Power Supply, 20A, no meter, RM-2512 w/BB6 & 8 place fuse	\$ 344.00	430.00

# NXR-5700

VHF Digital & FM Base Repeaters - 136-174MHz



## GENERAL:

- Conventional / Conventional IP Network
- NEXEDGE Gen1 System
- NEXEDGE Gen2 System
- Occupies 1 RU
- Wideband Coverage
- 25/5/0.5 W RF Output Power
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.
- Built-in 0.5 ppm TCXO
- LED Status Indicators
- USB 2.0 Type-B Interface
- Programming information is required to properly configure each system. Please contact your Kenwood Systems Regional Manager for assistance.

## GENERAL OPTIONS:

- External amplifier with built-in T/R antenna switching for simplex operation
- Wire line remote control
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is available
- Multi-channel combining systems quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3") and 45 RU (7") open equipment racks.
- Amplifier choices include 50W, 110W, 150W or 250W options.
- Custom configurations are available; contact your Kenwood Systems Regional Sales Manager for details.

## TRUNKING OPTIONS

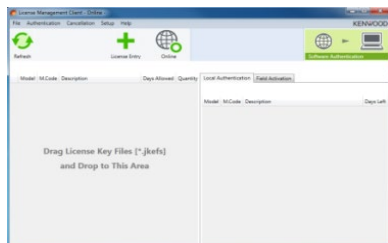
- Enabling of Trunking feature
- Secondary, restricted-level service keys for management of less critical system parameters available. Each trunking system requires an Ethernet switch per site. Routers are optional for a single-site system but required for multi-site systems.
- System switches and routers are recommended, but most commercially available network equipment is compatible.

## NXR-5700 REPEATER

		CONTRACT	LIST
NXR-5700K	Repeater, Digital, VHF, 136-174MHz, 25W, 0.5ppm TCXO built-in	\$ 4,266.40	5,333.00

## LICENSING SYSTEM

CONTRACT LIST



## KPT-300LMC

### License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the "[Account Request Form](#)" and return to the Kenwood Systems Order Desk.

Note: KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	NC	NC

## SOFTWARE LICENSE OPTIONS

CONTRACT LIST

### TO PLACE AN ORDER FOR SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

### Software License Key Discount Structure

1 License Key	---
2 ~ 4 License Keys	10% OFF

5 ~ 14 License Keys      **35% OFF**

15 ~ 24 License Keys      **40% OFF**

SOFTWARE LICENSE OPTIONS		CONTRACT	LIST
KPG-D2NK	License Key for KPG-D2NK Programming Software for NXR-5000 Repeater (Windows® Vista/7/8/8.1) <b>Note:</b> - Requires KPT-300LMC for authentication. - To program NXR-5000, Type A/B USB Cable (KSGCB10206) may be required.	\$ 82.60	103.25

#### RADIO FEATURE LICENSE OPTIONS

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

**\* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:**

1. Complete the attached Radio Feature Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

*Note: Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transferred radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.*

KWD-NX50VTR	License Key for NXR-5000 Vote System	\$ 400.00	500.00
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BASIC ACCESSORIES		CONTRACT	LIST
KXK-3M3	6.25KHz "Very Narrow Band" Option High Stability Reference Oscillator	\$ 2,666.40	3,333.00
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KSGCB10206	Programming USB A/B Cable	\$ 13.60	17.00
B5B-7216-10	NXR-5700 Service Manual	\$ 40.00	50.00

#### RF BASE STATION AMPLIFIER OPTIONS

Note: Includes Two Cables for Radio Connectivity

KSGPA22423	136-174MHz, 3W Input, 25-50W Output	\$ 1,592.00	1,990.00
KSGPA22400	136-144MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22410	144-152MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22420	152-162MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22430	162-174MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22451	136-144MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22452	144-152MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22453	152-162MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22454	162-174MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22258	152-162MHz, 3W Input, 250W Output	\$ 3,680.00	4,600.00
KSGPA22523	136-174MHz, 25W Input, 25-50W Output	\$ 1,592.00	1,990.00
KSGPA22510	144-152MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22520	152-162MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22530	162-174MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22552	144-152MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22553	152-162MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22554	162-174MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00

#### RF REPEATER STATION AMPLIFIER OPTIONS

Note: Includes One Cable for Radio Connectivity

KSGPA22403	136-174MHz, 3W Input, 25-50W Output	\$ 1,332.00	1,665.00
KSGPA22411	136-144MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22412	144-152MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00

KSGPA22413	152-162MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22414	162-174MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22441	136-144MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00

RF REPEATER STATION AMPLIFIER OPTIONS, CONT	CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA22442	144-152MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22443	152-162MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22444	162-174MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22253	152-162MHz, 3W Input, 250W Output	\$ 3,248.00	4,060.00
KSGPA22503	136-174MHz, 25W Input, 25-50W Output	\$ 1,332.00	1,665.00
KSGPA22512	144-152MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22513	152-162MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22514	162-174MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22542	144-152MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22543	152-162MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22544	162-174MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00

POWER SUPPLY OPTIONS	CONTRACT	LIST
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KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS	CONTRACT	LIST
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KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

WIRELINE REMOTE CONTROL OPTIONS	CONTRACT	LIST
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KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTM20016	16 Channel Tone Termination Panel <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 759.00	948.75
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00

Gen1 TRUNKING CONFIGURATIONS	CONTRACT	LIST
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KSGPG91800	Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater.	\$ 1,200.00	1,500.00
KSGPG91810	Multi-Site Networking Feature <b>Note:</b> One required for each networked site.	\$ 9,333.60	11,667.00

Gen1 TRUNKING CONFIGURATIONS, CON'T		CONTRACT	LIST
KSGPGKEYSM	System Manager Software and Secure USB Key Package (KPG-110SMK, KSGPGKEY01) <b>Note:</b> Only required when used as a trunking system. Software/Key package discount has been applied. (See component pricing below.)	\$ 466.40	583.00
KPG-110SMK	System Manager Trunking Software <b>Note:</b> Additional Programming Software (One copy included with KSGPGKEYSM) Software cannot be opened without a valid KSGPGKEY01 or KSGPGKEY02 secure USB key..	\$ 367.20	459.00
KSGPGKEY01	Grade-1 Unlimited Access Secure USB Programming Key	\$ 133.60	167.00
KSGPGKEY02	Grade-2 Limited Access Secure USB Programming Key	\$ 133.60	167.00
USB KEY FUNCTION OR CAPABILITY		GRADE-1 (BLUE)	GRADE-2 (YELLOW)
PROGRAM GENERAL SYSTEM PARAMETERS		✓	✓
ADD / DELETE / EDIT USERS. TALKGROUPS, CLASSES OF SERVICE, ECT.		✓	✓
ASSIGN OR EDIT REPEATER NETWORK IP ADDRESSES		✓	
ADD NEW REPEATER CHANNEL(S)		✓	
SWAP OUT SPARE REPEATERS		✓	
CONSTRUCT OR ADD NEW SITES		✓	
Gen2 TRUNKING CONFIGURATIONS		CONTRACT	LIST
<a href="#">Please see the NEXEDGE Gen2 Page.</a>			
ETHERNET SWITCH & ROUTER OPTIONS		CONTRACT	LIST
Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00
EXTERNAL TRUNKING CONTROLLER OPTIONS		CONTRACT	LIST
KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00
MISC STATION OPTIONS		CONTRACT	LIST
KSGDX12556	6 Cavity VHF BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty, minimum TX-RX 400 KHz. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ -	255.00
		\$ 204.00	
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00
COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
COMPONENTS, CON'T		CONTRACT	LIST
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00

KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGCB20112	Coaxial BNC 12" Canble	\$ 22.40	28.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USR	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male(Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# NXR-5800

UHF Digital & FM Base Repeaters - 400-520MHz



## GENERAL:

- Conventional / Conventional IP Network
- NEXEDGE Gen1 Network
- NEXEDGE Gen2 Network
- Occupies 1 RU
- Wideband Coverage
- 25/5/0.5 W RF Output Power
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.
- Built-in 0.5 ppm TCXO
- LED Status Indicators
- USB 2.0 Type-B Interface
- Programming information is required to properly configure each system. Please contact your Kenwood Systems Regional Manager for assistance.

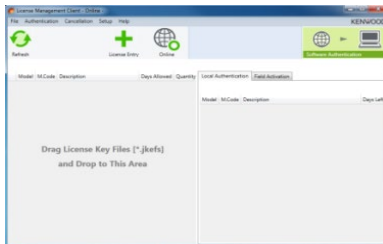
## GENERAL OPTIONS:

- External amplifier with built-in T/R antenna switching for simplex operation
- Wire line remote control
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is available
- Multi-channel combining systems quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 50W, 110W, 150W or 250W options.
- Custom configurations are available; contact your Kenwood Systems Regional Sales Manager for details.

## TRUNKING OPTIONS

- Enabling of Trunking feature
- Secondary, restricted-level service keys for management of less critical system parameters available. Each trunking system requires an Ethernet switch per site. Routers are optional for a single-site system but required for multi-site systems.
- System switches and routers are recommended, but most commercially available network equipment is compatible.

NXR-5800 REPEATER		CONTRACT	LIST
NXR-5800K	Repeater, Digital, UHF, 450-520MHz, 25W, 0.5ppm TCXO built-in	\$ 4,266.40	5,333.00
NXR-5800K3	Repeater, Digital, UHF, 400-470MHz, 25W, 0.5ppm TCXO built-in	\$ 4,266.40	5,333.00



## KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the "[Account Request Form](#)" and return to the Kenwood Systems Order Desk.

Note: KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	NC	NC

SOFTWARE LICENSE OPTIONS	CONTRACT	LIST
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## TO PLACE AN ORDER FOR SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

## Software License Key Discount Structure

1 License Key	---
2 ~ 4 License Keys	10% OFF



5 ~ 14 License Keys      **35% OFF**

15 ~ 24 License Keys      **40% OFF**

SOFTWARE LICENSE OPTIONS		CONTRACT	LIST
KPG-D2NK	License Key for KPG-D2NK Programming Software for NXR-5000 Repeater (Windows® Vista/7/8/8.1) <b>Note:</b> - Requires KPT-300LMC for authentication. - To program NXR-5000, Type A/B USB Cable (KSGCB10206) may be required.	\$ 82.60	103.25

#### RADIO FEATURE LICENSE OPTIONS

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

**\* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:**

1. Complete the attached Radio Feature Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

*Note: Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transferred radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.*

KWD-NX50VTR	License Key for NXR-5000 Vote System	\$ 400.00	500.00
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BASIC ACCESSORIES		CONTRACT	LIST
KXK-3M3	6.25KHz "Very Narrow Band" Option High Stability Reference Oscillator	\$ 2,666.40	3,333.00
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KSGCB10206	Programming USB A/B Cable	\$ 13.60	17.00
B5B-7217-10	NXR-5800 Service Manual	\$ 40.00	50.00

#### RF BASE STATION AMPLIFIER OPTIONS

Note: Includes Two Cables for Radio Connectivity.

KSGPA23421	406-450MHz, 3W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23423	450-512MHz, 3W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23400	406-450MHz, 3W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23420	450-512MHz, 3W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23451	406-450MHz, 3W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23453	450-512MHz, 3W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23521	406-450MHz, 25W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23523	450-512MHz, 25W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23500	406-450MHz, 25W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23520	450-512MHz, 25W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23551	406-450MHz, 25W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23553	450-512MHz, 25W Input, 150W Output	\$ 3,648.00	4,560.00

#### RF REPEATER STATION AMPLIFIER OPTIONS

Note: Includes One Cable for Radio Connectivity.

KSGPA23401	406-450MHz, 3W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23403	450-512MHz, 3W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23411	406-450MHz, 3W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23413	450-512MHz, 3W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23441	406-450MHz, 3W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23443	450-512MHz, 3W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23501	406-450MHz, 25W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23503	450-512MHz, 25W Input, 20-40W Output	\$ 1,332.00	1,665.00



KSGPA23511	406-450MHz, 25W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23513	450-512MHz, 25W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23541	406-450MHz, 25W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23543	450-512MHz, 25W Input, 150W Output	\$ 3,152.00	3,940.00
<b>POWER SUPPLY OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00
<b>MOUNTING CONFIGURATIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00
<b>WIRELINE REMOTE CONTROL OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTM20016	16 Channel Tone Termination Panel <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 759.00	948.75
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00
<b>Gen1 TRUNKING CONFIGURATIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGPG91800	Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater.	\$ 1,200.00	1,500.00
KSGPG91810	Multi-Site Networking Feature <b>Note:</b> One required for each networked site.	\$ 9,333.60	11,667.00
KSGPGKEYSM	System Manager Software and Secure USB Key Package (KPG-110SMK, KSGPGKEY01) <b>Note:</b> Only required when used as a trunking system. Software/Key package discount has been applied. (See component pricing below.)	\$ 466.40	583.00
KPG-110SMK	System Manager Trunking Software <b>Note:</b> Additional Programming Software (One copy included with KSGPGKEYSM) Software cannot be opened without a valid KSGPGKEY01 or KSGPGKEY02 secure USB key..	\$ 367.20	459.00
KSGPGKEY01	Grade-1 Unlimited Access Secure USB Programming Key	\$ 133.60	167.00
KSGPGKEY02	Grade-2 Limited Access Secure USB Programming Key	\$ 133.60	167.00
USB KEY FUNCTION OR CAPABILITY		<b>GRADE-1 (BLUE)</b>	<b>GRADE-2 (YELLOW)</b>
PROGRAM GENERAL SYSTEM PARAMETERS		✓	✓
ADD / DELETE / EDIT USERS. TALKGROUPS, CLASSES OF SERVICE, ECT.		✓	✓
ASSIGN OR EDIT REPEATER NETWORK IP ADDRESSES		✓	
ADD NEW REPEATER CHANNEL(S)		✓	
SWAP OUT SPARE REPEATERS		✓	
CONSTRUCT OR ADD NEW SITES		✓	

Gen2 TRUNKING CONFIGURATIONS		CONTRACT	LIST
<a href="#">Please see the NEXEDGE Gen2 Page.</a>			
ETHERNET SWITCH & ROUTER OPTIONS		CONTRACT	LIST
Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT1000) sold separately.	\$ 300.00	375.00
EXTERNAL TRUNKING CONTROLLER OPTIONS		CONTRACT	LIST
KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00
MISC STATION OPTIONS		CONTRACT	LIST
KSGDX13546	6 Cavity UHF BpBr Duplexer (450-470MHz Only) <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
KSGDX23101	4 Cavity UHF BpBr Duplexer (450-470MHz Only) <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty. Includes one LMR-400 interface cable.	\$ 1,420.00	1,775.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00
COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGCB20112	Coaxial BNC 12" Canble	\$ 22.40	28.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USR	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male(Modem)	\$ 32.00	40.00
COMPONENTS, CON'T		CONTRACT	LIST
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00

KSGUT10001	1RU Mounting Tray <u>Note:</u> Provides mounting space for up to two accessories.	\$ 40.00	50.00
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# NXR-5900

800MHz Digital & FM Base Repeaters - 806-825, 851-870 MHz



## GENERAL:

- Conventional / Conventional IP Network
- NEXEDGE Gen1 Network
- NEXEDGE Gen2 Network \*
- Occupies 1 RU
- Wideband Coverage
- 0.36 W RF Output Power
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.
- Built-in 0.5 ppm TCXO
- LED Status Indicators
- USB 2.0 Type-B Interface
- Programming information is required to properly configure each system. Please contact your Kenwood Systems Regional Manager for assistance.

## GENERAL OPTIONS:

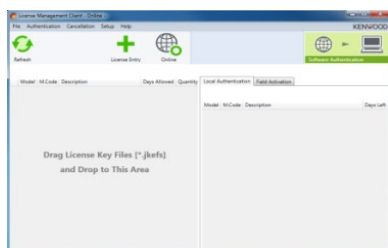
- External amplifier with built-in T/R antenna switching for simplex operation
- Wire line remote control
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is available
- Multi-channel combining systems quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3") and 45 RU (7") open equipment racks.
- Amplifier choices include 75W and 130W options.
- Custom configurations are available; contact your Kenwood Systems Regional Sales Manager for details.

## TRUNKING OPTIONS

- Enabling of Trunking feature
- Secondary, restricted-level service keys for management of less critical system parameters available. Each trunking system requires an Ethernet switch per site. Routers are optional for a single-site system but required for multi-site systems.
- System switches and routers are recommended, but most commercially available network equipment is compatible.

## NXR-5900 REPEATER

		CONTRACT	LIST
NXR-5900K	Repeater, Digital, RX 806-825 MHz, TX 821-870 MHz	\$ 4,600.00	5,750.00



Note: KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.



## KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the "[Account Request Form](#)" and return to the Kenwood Systems Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	NC	NC

## SOFTWARE LICENSE OPTIONS

CONTRACT LIST

### TO PLACE AN ORDER FOR SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvkenwood.com](mailto:systemsorderdesk@us.jvkenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

### Software License Key Discount Structure

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF

SOFTWARE LICENSE OPTIONS		CONTRACT	LIST
KPG-D2NK	License Key for KPG-D2NK Programming Software for NXR-5000 Repeater (Windows® Vista/7/8/8.1) <b>Note:</b> - Requires KPT-300LMC for authentication. - To program NXR-5000, Type A/B USB Cable (KSGCB10206) may be required.	\$ 82.60	103.25

#### RADIO FEATURE LICENSE OPTIONS

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

**\* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:**

1. Complete the attached Radio Feature Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

**Note:** Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transferred radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.

KWD-NX50VTR	License Key for NXR-5000 Vote System	\$ 400.00	500.00
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BASIC ACCESSORIES		CONTRACT	LIST
KXK-3M3	6.25KHz "Very Narrow Band" Option High Stability Reference Oscillator <b>Note:</b> Only one KXK-3M3 required per site for 6.25KHz operation.	\$ 2,666.40	3,333.00
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KSGCB10206	Programming USB A/B Cable	\$ 13.60	17.00
B5B-7278-00	NXR-5900 Service Manual	\$ 40.00	50.00

RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA24181	764-870MHz, 250mW Input, 75W Output	\$ 2,320.00	2,900.00
KSGPA24131	764-870MHz, 250mW Input, 130W Output	\$ 3,064.00	3,830.00

POWER SUPPLY OPTIONS		CONTRACT	LIST
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 130W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 130W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS		CONTRACT	LIST
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

WIRELINE REMOTE CONTROL OPTIONS		CONTRACT	LIST
KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00

KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00

Gen1 TRUNKING CONFIGURATIONS		CONTRACT	LIST
KSGPG91800	Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater.	\$ 1,200.00	1,500.00
KSGPG91810	Multi-Site Networking Feature <b>Note:</b> One required for each networked site.	\$ 9,333.60	11,667.00
KSGPGKEYSM	System Manager Software and Secure USB Key Package (KPG-110SMK, KSGPGKEY01) <b>Note:</b> Only required when used as a trunking system. Software/Key package discount has been applied. (See component pricing below.)	\$ 466.40	583.00
KPG-110SMK	System Manager Trunking Software <b>Note:</b> Additional Programming Software (One copy included with KSGPGKEYSM) Software cannot be opened without a valid KSGPGKEY01 or KSGPGKEY02 secure USB key..	\$ 367.20	459.00
KSGPGKEY01	Grade-1 Unlimited Access Secure USB Programming Key	\$ 133.60	167.00
KSGPGKEY02	Grade-2 Limited Access Secure USB Programming Key	\$ 133.60	167.00

USB KEY FUNCTION OR CAPABILITY	GRADE-1 (BLUE)	GRADE-2 (YELLOW)
PROGRAM GENERAL SYSTEM PARAMETERS	✓	✓
ADD / DELETE / EDIT USERS. TALKGROUPS, CLASSES OF SERVICE, ECT.	✓	✓
ASSIGN OR EDIT REPEATER NETWORK IP ADDRESSES	✓	
ADD NEW REPEATER CHANNEL(S)	✓	
SWAP OUT SPARE REPEATERS	✓	
CONSTRUCT OR ADD NEW SITES	✓	

Gen2 TRUNKING CONFIGURATIONS	CONTRACT	LIST
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[Please see the NEXEDGE Gen2 Page.](#)

ETHERNET SWITCH & ROUTER OPTIONS		CONTRACT	LIST
<b>Note:</b> One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT1000) sold separately.	\$ 300.00	375.00

EXTERNAL TRUNKING CONTROLLER OPTIONS		CONTRACT	LIST
KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00

MISC STATION OPTIONS		CONTRACT	LIST
KSGDX14644	4 Cavity 800MHz BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty, minimum TX-RX 5MHz. Includes RF cables, mounting and tuning. Includes one LMR-400 interface cable.	\$ 1,860.00	2,325.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00

COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00

KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USB	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male(Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# NXR-5901

900MHz Digital & FM Base Repeaters - 896-902, 935-941 MHz



## GENERAL:

- Conventional / Conventional IP Network
- NEXEDGE Gen1 Network
- NEXEDGE Gen2 Network \*
- Occupies 1 RU
- Wideband Coverage
- 0.36 W RF Output Power
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.
- Built-in 0.5 ppm TCXO
- LED Status Indicators
- USB 2.0 Type-B Interface
- Programming information is required to properly configure each system. Please contact your Kenwood Systems Regional Manager for assistance.

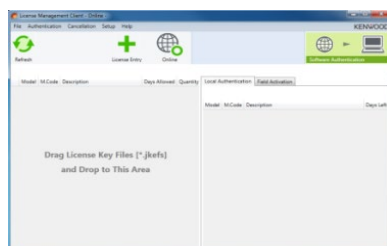
## GENERAL OPTIONS:

- External amplifier with built-in T/R antenna switching for simplex operation
- Wire line remote control
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is available
- Multi-channel combining systems quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 75W and 130W options.
- Custom configurations are available; contact your Kenwood Systems Regional Sales Manager for details.

## TRUNKING OPTIONS

- Enabling of Trunking feature
- Secondary, restricted-level service keys for management of less critical system parameters available. Each trunking system requires an Ethernet switch per site. Routers are optional for a single-site system but required for multi-site systems.
- System switches and routers are recommended, but most commercially available network equipment is compatible.

NXR-5901 REPEATER		CONTRACT	LIST
NXR-5901K	Repeater, Digital, RX 896-902MHz, TX 935-941MHz	\$ 4,600.00	5,750.00



Note: KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.

## KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the "[Account Request Form](#)" and return to the Kenwood Systems Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	NC	NC

SOFTWARE LICENSE OPTIONS	CONTRACT	LIST
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## TO PLACE AN ORDER FOR SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvkenwood.com](mailto:systemsorderdesk@us.jvkenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

## Software License Key Discount Structure

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF



SOFTWARE LICENSE OPTIONS		CONTRACT	LIST
KPG-D2NK	License Key for KPG-D2NK Programming Software for NXR-5000 Repeater (Windows® Vista/7/8/8.1) <b>Note:</b> - Requires KPT-300LMC for authentication. - To program NXR-5000, Type A/B USB Cable (KSGCB10206) may be required.	\$ 82.60	103.25

#### RADIO FEATURE LICENSE OPTIONS

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

**\* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:**

1. Complete the attached Radio Feature Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

**Note:** Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transferred radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.

KWD-NX50VTR	License Key for NXR-5000 Vote System	\$ 400.00	500.00
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BASIC ACCESSORIES		CONTRACT	LIST
KXK-3M3	6.25KHz "Very Narrow Band" Option High Stability Reference Oscillator <b>Note:</b> Only one KXK-3M3 required per site for 12.5kHa and 6.25KHz operation.	\$ 2,666.40	3,333.00
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KSGCB10206	Programming USB A/B Cable	\$ 13.60	17.00
B5B-7278-00	NXR-5901 Service Manual	\$ 40.00	50.00

RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA25172	928-943MHz, 250mW Input, 75W Output	\$ 2,320.00	2,900.00
KSGPA25132	935-940MHz, 250mW Input, 130W Output	\$ 3,064.00	3,830.00

POWER SUPPLY OPTIONS		CONTRACT	LIST
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 130W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 130W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS		CONTRACT	LIST
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

WIRELINE REMOTE CONTROL OPTIONS		CONTRACT	LIST
KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00

KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00

ETHERNET SWITCH & ROUTER OPTIONS	CONTRACT	LIST
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Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.

KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

INTERNAL TRUNKING AND NETWORKING OPTIONS	CONTRACT	LIST
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KSGPG91800	Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater.	\$ 1,200.00	1,500.00
KSGPG91810	Multi-Site Networking Feature <b>Note:</b> One required for each networked site	\$ 9,333.60	11,667.00
KSGPGKEYSM	System Manager Software and Secure USB Key Package (KPG-110SMK, KSGPGKEY01) <b>Note:</b> Only required when used as a trunking system. Software/Key package discount has been applied. (See component pricing below.)	\$ 466.40	583.00
KPG-110SMK	System Manager Trunking Software <b>Note:</b> Additional Programming Software (One copy included with KSGPGKEYSM) Software cannot be opened without a valid KSGPGKEY01 or KSGPGKEY02 secure USB key..	\$ 367.20	459.00
KSGPGKEY01	Grade-1 Unlimited Access Secure USB Programming Key	\$ 133.60	167.00
KSGPGKEY02	Grade-2 Limited Access Secure USB Programming Key	\$ 133.60	167.00

USB KEY FUNCTION OR CAPABILITY	GRADE-1 (BLUE)	GRADE-2 (YELLOW)
PROGRAM GENERAL SYSTEM PARAMETERS	✓	✓
ADD / DELETE / EDIT USERS. TALKGROUPS, CLASSES OF SERVICE, ECT.	✓	✓
ASSIGN OR EDIT REPEATER NETWORK IP ADDRESSES	✓	
ADD NEW REPEATER CHANNEL(S)	✓	
SWAP OUT SPARE REPEATERS	✓	
CONSTRUCT OR ADD NEW SITES	✓	

EXTERNAL TRUNKING CONTROLLER OPTIONS	CONTRACT	LIST
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KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00

MISC STATION OPTIONS	CONTRACT	LIST
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KSGDX15044	4 Cavity 900MHz BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty, minimum TX-RX 5MHz. Includes RF cables, mounting and tuning. Includes one LMR-400 interface cable.	\$ 1,860.00	2,325.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00

MISC STATION OPTIONS, CON'T	CONTRACT	LIST
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KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00

COMPONENTS	CONTRACT	LIST
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KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USB	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male (Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# NXR-710

VHF High Performance Base Stations and Repeaters - High Band 136-174MHz



## GENERAL:

- Occupies 2 RU.
- May be used as a standalone 25 W continuous or 50W intermittent duty station or in conjunction with an external power amplifier.
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.

## OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation.
- Wire line remote control.
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is also available.
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3") and 45 RU (7") open equipment racks.
- Amplifier choices include 50W, 110W or 150W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

NXR-710 REPEATER		CONTRACT	LIST
NXR-710K	Repeater, Digital, VHF, 136-174MHz, 25-50W	\$ 1,720.00	2,150.00

BASIC ACCESSORIES		CONTRACT	LIST
KPG-46XM	Programming Cable	\$ 126.80	158.50
KPG-129DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
B51-8901-00	NXR-710 Service Manual	\$ 40.00	50.00
KTI-3M	Network Interface Unit - Required for Conv. IP Networking Functionality	\$ 212.00	265.00
KWD-NX10VTR	Voting System Option	\$ 400.00	500.00

RF BASE STATION AMPLIFIER OPTIONS		CONTRACT	LIST
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Note: Includes Two Cables for Radio Connectivity and an Internal Antenna Relay.

KSGPA22423	136-174MHz, 3W Input, 25-50W Output	\$ 1,592.00	1,990.00
KSGPA22400	136-144MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22410	144-152MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22420	152-162MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22430	162-174MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22451	136-144MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22452	144-152MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22453	152-162MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22454	162-174MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22258	152-162MHz, 3W Input, 250W Output	\$ 3,680.00	4,600.00
KSGPA22523	136-174MHz, 25W Input, 25-50W Output	\$ 1,592.00	1,990.00
KSGPA22500	136-144MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22510	144-152MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22520	152-162MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22530	162-174MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22551	136-144MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22552	144-152MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22553	152-162MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22554	162-174MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00

RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA22403	136-174MHz, 3W Input, 25-50W Output	\$ 1,332.00	1,665.00
KSGPA22411	136-144MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22412	144-152MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22413	152-162MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22414	162-174MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22441	136-144MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00

RF REPEATER STATION AMPLIFIER OPTIONS, CONT	CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA22442	144-152MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22443	152-162MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22444	162-174MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22253	152-162MHz, 3W Input, 250W Output	\$ 3,248.00	4,060.00
KSGPA22503	136-174MHz, 25W Input, 25-50W Output	\$ 1,332.00	1,665.00
KSGPA22511	136-144MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22512	144-152MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22513	152-162MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22514	162-174MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22541	136-144MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22542	144-152MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22543	152-162MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22544	162-174MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00

POWER SUPPLY OPTIONS	CONTRACT	LIST
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KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS	CONTRACT	LIST
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KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

WIRELINE REMOTE CONTROL OPTIONS	CONTRACT	LIST
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KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTN10A	10 Channel BCD Tone Termination Panel (KSGTM10010, KSGBCDCASE, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 736.00	920.00
KSGTM20016	16 Channel Tone Termination Panel <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 759.00	948.75
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00

KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 752.00	940.00
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ETHERNET SWITCH & ROUTER OPTIONS	CONTRACT	LIST
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Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.

KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

TYPE-D TRUNKING OPTIONS	CONTRACT	LIST
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KWD-10DTR	<b>Type-D Single Site</b> Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater. Only <b>6.25kHz</b> operation is available in Type-D Single Site Trunking.	\$ 200.00	250.00
KTI-5M	Network Adapter Device- Required for Type-D Trunking Web Access <b>Note:</b> For field upgrade, please download KPG-1006DNA from TOOLS and install to your KTI-5M. (Installation Manual is included.)	\$ 345.60	432.00
L-1794	Instillation KPG-1006DNA Firmware for KTI-5M at Factory.	N/C	N/C

EXTERNAL TRUNKING CONTROLLER OPTIONS	CONTRACT	LIST
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KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00

MISC STATION OPTIONS	CONTRACT	LIST
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KSGDX12556	6 Cavity VHF BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty, minimum TX-RX 400 KHz. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00
KSGMS10010	Relay, Antenna, x10 Series, 50W	\$ 272.00	340.00

COMPONENTS	CONTRACT	LIST
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KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10010	Panel, Tone Term, 10 ch., with case, full dup, 2 or 4 wire, w/mon	\$ 656.00	820.00
KSGBCDCASE	Case, Tone Term Panel	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00

KSGMD10001	Modem, USB	\$ 172.00	215.00
KSGCB22154	Cable,54",DB-9 Female (Controller) to DB-25 Male(Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <u>Note</u> : Provides mounting space for up to two accessories.	\$ 40.00	50.00



# NXR-810

## UHF Base Stations and Repeaters - 400-520 MHz



### GENERAL:

- Integrated Systems
- Occupies 2 RU
- May be used as a standalone 25 W continuous or 40W intermittent duty station or in conjunction with an external power amplifier.
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.

### OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation
- Wire line remote control.
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 4 and 6 cavity BpBr duplexer are also available.
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 40W, 100W or 150W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

NXR-810 REPEATER		CONTRACT	LIST
NXR-810K	Repeater, Digital, UHF, 450-520MHz, 1-40W	\$ 1,720.00	2,150.00
NXR-810K2	Repeater, Digital, UHF, 400-470MHz, 1-40W	\$ 1,720.00	2,150.00

BASIC ACCESSORIES		CONTRACT	LIST
KPG-46XM	Programming Cable	\$ 126.80	158.50
KPG-129DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
B51-8902-00	NXR-810 Service Manual	\$ 40.00	50.00
KTI-3M	Network Interface Unit - Required for Conv. IP Networking Functionality	\$ 212.00	265.00
KWD-NX10VTR	Voting System Option	\$ 400.00	500.00

RF BASE STATION AMPLIFIER OPTIONS		CONTRACT	LIST
Note: Includes Two Cables for Radio Connectivity.			
KSGPA23421	406-450MHz, 3W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23423	450-512MHz, 3W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23400	406-450MHz, 3W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23420	450-512MHz, 3W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23451	406-450MHz, 3W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23453	450-512MHz, 3W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23521	406-450MHz, 25W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23523	450-512MHz, 25W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23500	406-450MHz, 25W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23520	450-512MHz, 25W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23551	406-450MHz, 25W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23553	450-512MHz, 25W Input, 150W Output	\$ 3,648.00	4,560.00

RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
Note: Includes One Cable for Radio Connectivity.			
KSGPA23401	406-450MHz, 3W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23403	450-512MHz, 3W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23411	406-450MHz, 3W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23413	450-512MHz, 3W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23441	406-450MHz, 3W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23443	450-512MHz, 3W Input, 150W Output	\$ 3,152.00	3,940.00



KSGPA23501	406-450MHz, 25W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23503	450-512MHz, 25W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23511	406-450MHz, 25W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23513	450-512MHz, 25W Input, 50-100W Output	\$ 1,732.00	2,165.00

RF REPEATER STATION AMPLIFIER OPTIONS, CON'T	CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA23541	406-450MHz, 25W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23543	450-512MHz, 25W Input, 150W Output	\$ 3,152.00	3,940.00

POWER SUPPLY OPTIONS	CONTRACT	LIST
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KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS	CONTRACT	LIST
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KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

WIRELINE REMOTE CONTROL OPTIONS	CONTRACT	LIST
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KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTN10A	10 Channel BCD Tone Termination Panel (KSGTM10010, KSGBCDCASE, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 736.00	920.00
KSGTM20016	16 Channel Tone Termination Panel <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 759.00	948.75
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00

ETHERNET SWITCH & ROUTER OPTIONS	CONTRACT	LIST
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Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.

KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

TYPE-D TRUNKING OPTIONS	CONTRACT	LIST
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KWD-10DTR	<b>Type-D Single Site</b> Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater. Only 6.25kHz operation is available in Type-D Single Site Trunking.	\$ 200.00	250.00
KTI-5M	Network Adapter Device- Required for Type-D Trunking Web Access <b>Note:</b> For field upgrade, please download KPG-1006DNA from TOOLS and install to your KTI-5M. (Installation Manual is included.)	\$ 345.60	432.00

EXTERNAL TRUNKING CONTROLLER OPTIONS		CONTRACT	LIST
KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 2,832.00	3,540.00
MISC STATION OPTIONS		CONTRACT	LIST
KSGDX13546	6 Cavity UHF BpBr Duplexer (450-470MHz Only) <u>Note:</u> Bandpass/Bandreject duplexer, 250W continuous duty. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
KSGDX23101	4 Cavity UHF BpBr Duplexer (450-470MHz Only) <u>Note:</u> Bandpass/Bandreject duplexer, 350W continuous duty. Includes one LMR-400 interface cable.	\$ 1,420.00	1,775.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <u>Note:</u> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <u>Note:</u> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <u>Note:</u> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <u>Note:</u> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00
KSGMS10010	Relay, Antenna, x10 Series, 50W	\$ 272.00	340.00
COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10010	Panel, Tone Term, 10 ch., with case, full dup, 2 or 4 wire, w/mon	\$ 656.00	820.00
KSGBCDCASE	Case, Tone Term Panel	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USR	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male(Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <u>Note:</u> Provides mounting space for up to two accessories.	\$ 40.00	50.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10010	Panel, Tone Term, 10 ch., with case, full dup, 2 or 4 wire, w/mon	\$ 656.00	820.00
KSGBCDCASE	Case, Tone Term Panel	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00

901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USB	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male (Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# NXR-900

800 MHz High Performance Repeaters - 806 - 825, 851 - 870 MHz



## GENERAL:

- Integrated Systems.
- Occupies 1 RU.
- 360 mW transceiver unit used with an external power amplifier.
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.
- Programming information is required to properly configure each system. Please contact your Kenwood Systems Regional Manager for assistance.

## GENERAL OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation
- Wire line remote control
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 4 cavity BpBr duplexer is also available
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 75W and 130W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

## TRUNKING OPTIONS

- Enabling of the NXR-900 trunking feature.
- System management software that includes a master USB key & activation file, which hold a license ID unique to each system. Feature-packed System Manager software provides full access to system parameters, permissions, log files, etc. Secondary, restricted-level service keys that manage less critical system parameters are also available.
- Each trunking system requires an Ethernet switch at each site. Routers are optional for a single-site system but required for multi-site systems.  
NOTE: Recommended models are listed herein, but most commercially available IP equipment is compatible.

NXR-900 REPEATER (K Model)		CONTRACT	LIST
NXR-900K	Repeater, Digital, RX 806-825 MHz, TX 851-870 MHz	\$ 4,600.00	5,750.00
BANDWIDTH OPTION:		CONTRACT	LIST
KXK-3M3	6.25KHz "Very Narrow Band" Option High Stability Reference Oscillator <b>Note:</b> Only one KXK-3M3 required per site for each 6.25KHz operation.	\$ 2,666.40	3,333.00
BASIC ACCESSORIES		CONTRACT	LIST
KSGCB60004	NXR-Series Programming Cable	\$ 20.00	25.00
KPG-109DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
B51-8946-00	NXR-900 Service Manual	\$ 40.00	50.00
KMC-9C	Desktop Microphone	\$ 68.80	86.00
KMC-35	Standard Mobile Microphone	\$ 42.00	52.50
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: Compatible with FDMA (analog / NXDN) and TDMA (DMR) Operation.</b>	\$ 144.00	180.00
RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
Note: Includes One Cable for Radio Connectivity.			
KSGPA24181	764-870MHz, 250mW Input, 75W Output	\$ 2,320.00	2,900.00
KSGPA24131	764-870MHz, 250mW Input, 130W Output	\$ 3,064.00	3,830.00
POWER SUPPLY OPTIONS		CONTRACT	LIST
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 130W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 130W amplifier option.	\$ 1,084.00	1,355.00

KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00
<b>MOUNTING CONFIGURATIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
<b>MOUNTING CONFIGURATIONS, CON'T</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00
<b>WIRELINE REMOTE CONTROL OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00
<b>TRUNKING CONFIGURATIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGPG91800	Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater.	\$ 1,200.00	1,500.00
KSGPG91810	Multi-Site Networking Feature <b>Note:</b> One required for each networked site	\$ 9,333.60	11,667.00
KSGPGKEYSM	System Manager Software and Secure USB Key Package (KPG-110SMK, KSGPGKEY01) <b>Note:</b> Only required when used as a trunking system. Software/Key package discount has been applied. (See component pricing below.)	\$ 466.40	583.00
KPG-110SMK	System Manager Trunking Software <b>Note:</b> Additional Programming Software (One copy included with KSGPGKEYSM) Software cannot be opened without a valid KSGPGKEY01 or KSGPGKEY02 secure USB key..	\$ 367.20	459.00
KSGPGKEY01	Grade-1 Unlimited Access Secure USB Programming Key	\$ 133.60	167.00
KSGPGKEY02	Grade-2 Limited Access Secure USB Programming Key	\$ 133.60	167.00
USB KEY FUNCTION OR CAPABILITY		<b>GRADE-1 (BLUE)</b>	<b>GRADE-2 (YELLOW)</b>
PROGRAM GENERAL SYSTEM PARAMETERS		✓	✓
ADD / DELETE / EDIT USERS. TALKGROUPS, CLASSES OF SERVICE, ECT.		✓	✓
ASSIGN OR EDIT REPEATER NETWORK IP ADDRESSES		✓	
ADD NEW REPEATER CHANNEL(S)		✓	
SWAP OUT SPARE REPEATERS		✓	
CONSTRUCT OR ADD NEW SITES		✓	
<b>ETHERNET SWITCH &amp; ROUTER OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

EXTERNAL TRUNKING CONTROLLER OPTIONS		CONTRACT	LIST
KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00
MISC STATION OPTIONS		CONTRACT	LIST
KSGDX14644	4 Cavity 800MHz BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty, minimum TX-RX 5MHz. Includes RF cables, mounting and tuning. Includes one LMR-400 interface cable.	\$ 1,860.00	2,325.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00
COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USR	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male (Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# NXR-901

900 MHz High Performance Repeaters - 896-902, 935-941 MHz



## GENERAL:

- Integrated Systems
- Occupies 1 RU
- 360 mW transceiver unit used with an external power amplifier
- Operates in analog mode at 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.
- Programming information is required to properly configure each system. Please contact your Kenwood Systems Regional Manager for assistance.

## GENERAL OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation
- Wire line remote control
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 4 cavity BpBr duplexer is also available
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 75W and 130W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

## TRUNKING OPTIONS

- Trunking options include enabling of the NXR-901 trunking feature
- System management software that includes a master USB key & activation file, which hold a license ID unique to each system. Feature-packed System Manager software provides full access to system parameters, permissions, log files, etc. Secondary, restricted-level service keys that manage less critical system parameters are also available.
- Each trunking system requires an Ethernet switch at each site. Routers are optional for a single-site system but required for multi-site systems. NOTE: Recommended models are listed herein, but most commercially available IP equipment is compatible.

NXR-901 REPEATER (K Model)		CONTRACT	LIST
NXR-901K	Repeater, Digital, RX 896-902MHz, TX 935-941MHz	\$ 4,600.00	5,750.00
BANDWIDTH OPTION:		CONTRACT	LIST
KXK-3M3	"Very Narrow Band" Option High Stability Reference Oscillator <b>Note:</b> Only one KXK-3M3 required per site for 12.5KHz or 6.25KHz operation.	\$ 2,666.40	3,333.00
BASIC ACCESSORIES		CONTRACT	LIST
KSGCB60004	NXR-Series Programming Cable	\$ 20.00	25.00
KPG-109DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
B53-7004-00	NXR-901 Service Manual	\$ 40.00	50.00
KMC-9C	Desktop Microphone	\$ 68.80	86.00
KMC-35	Standard Mobile Microphone	\$ 42.00	52.50
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: Compatible with FDMA (analog / NXDN) and TDMA (DMR) Operation.</b>	\$ 144.00	180.00
RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
Note: Includes One Cable for Radio Connectivity.			
KSGPA25172	928-943MHz, 250mW Input, 75W Output	\$ 2,320.00	2,900.00
KSGPA25132	935-940MHz, 250mW Input, 130W Output	\$ 3,064.00	3,830.00
POWER SUPPLY OPTIONS		CONTRACT	LIST
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 130W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 130W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00
MOUNTING CONFIGURATIONS		CONTRACT	LIST



KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
<b>MOUNTING CONFIGURATIONS, CON'T</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00
<b>WIRELINE REMOTE CONTROL OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00
<b>ETHERNET SWITCH &amp; ROUTER OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00
<b>INTERNAL TRUNKING AND NETWORKING OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGPG91800	Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater.	\$ 1,200.00	1,500.00
KSGPG91810	Multi-Site Networking Feature <b>Note:</b> One required for each networked site	\$ 9,333.60	11,667.00
KSGPGKEYSM	System Manager Software and Secure USB Key Package (KPG-110SMK, KSGPGKEY01) <b>Note:</b> Only required when used as a trunking system. Software/Key package discount has been applied. (See component pricing below.)	\$ 466.40	583.00
KPG-110SMK	System Manager Trunking Software <b>Note:</b> Additional Programming Software (One copy included with KSGPGKEYSM) Software cannot be opened without a valid KSGPGKEY01 or KSGPGKEY02 secure USB key..	\$ 367.20	459.00
KSGPGKEY01	Grade-1 Unlimited Access Secure USB Programming Key	\$ 133.60	167.00
KSGPGKEY02	Grade-2 Limited Access Secure USB Programming Key	\$ 133.60	167.00
USB KEY FUNCTION OR CAPABILITY		<b>GRADE-1 (BLUE)</b>	<b>GRADE-2 (YELLOW)</b>
PROGRAM GENERAL SYSTEM PARAMETERS		✓	✓
ADD / DELETE / EDIT USERS. TALKGROUPS, CLASSES OF SERVICE, ECT.		✓	✓
ASSIGN OR EDIT REPEATER NETWORK IP ADDRESSES		✓	
ADD NEW REPEATER CHANNEL(S)		✓	
SWAP OUT SPARE REPEATERS		✓	
CONSTRUCT OR ADD NEW SITES		✓	
<b>EXTERNAL TRUNKING CONTROLLER OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00
<b>MISC STATION OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>



KSGDX15044	4 Cavity 900MHz BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty, minimum TX-RX 5MHz. Includes RF cables, mounting and tuning. Includes one LMR-400 interface cable.	\$ 1,860.00	2,325.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00

COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMTOC03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMTOC07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMTOC40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USR	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male(Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00



# TKR-D710

## DMR VHF Repeaters\* - 136-174MHz

\* Base Operations are not available.



### GENERAL:

- Occupies 2 RU
- Digital 12.5 kHz
- Analog FM 25/12.5 kHz
- 2 slot TDMA
- Mixed Mode
- Call Interruption
- Conventional and Conventional IP\* Network

\* Requires KTI-5

### OPTIONS:

- External amplifier with built-in antenna T/R switch for simplex operation.
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is also available.
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 50W, 110W or 150W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

REPEATER		CONTRACT	LIST
TKR-D710K	Repeater, Digital, VHF, 136-174MHz, 5-50W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,780.00	2,225.00

BASIC ACCESSORIES and LABOR		CONTRACT	LIST
KPG-46XM	Programming Cable	\$ 126.80	158.50
KPG-174DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KTI-5M	Network Adapter Device - Required for Conv. IP Networking Functionality <b>Note:</b> - Must order L-1806 or L-1807 for DMR Conventional IP Configuration - Required for each repeaters	\$ 345.60	432.00
L-1806	Instillation KPG-1010DMR Firmware and Option for KTI-5M	\$ 16.00	20.00
L-1807	KTI-5 Field Upgrade Option for DMR IP Network	\$ 16.00	20.00
B5B-7228-00	TKR-D710 Service Manual	\$ 40.00	50.00

RF BASE STATION AMPLIFIER OPTIONS		CONTRACT	LIST
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Note: Includes Two Cables for Radio Connectivity and an Internal Antenna Relay.

KSGPA22423	136-174MHz, 3W Input, 25-50W Output	\$ 1,592.00	1,990.00
KSGPA22400	136-144MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22410	144-152MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22420	152-162MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22430	162-174MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22451	136-144MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22452	144-152MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22453	152-162MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22454	162-174MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22258	152-162MHz, 3W Input, 250W Output	\$ 3,680.00	4,600.00
KSGPA22523	136-174MHz, 25W Input, 25-50W Output	\$ 1,592.00	1,990.00
KSGPA22500	136-144MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22510	144-152MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22520	152-162MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22530	162-174MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22551	136-144MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00

KSGPA22552	144-152MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22553	152-162MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22554	162-174MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00

RF REPEATER STATION AMPLIFIER OPTIONS	CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA22403	136-174MHz, 3W Input, 25-50W Output	\$ 1,332.00	1,665.00
KSGPA22411	136-144MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00

RF REPEATER STATION AMPLIFIER OPTIONS, CONT	CONTRACT	LIST
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KSGPA22412	144-152MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22413	152-162MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22414	162-174MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22441	136-144MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00

Note: Includes One Cable for Radio Connectivity.

KSGPA22442	144-152MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22443	152-162MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22444	162-174MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22253	152-162MHz, 3W Input, 250W Output	\$ 3,248.00	4,060.00
KSGPA22503	136-174MHz, 25W Input, 25-50W Output	\$ 1,332.00	1,665.00
KSGPA22511	136-144MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22512	144-152MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22513	152-162MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22514	162-174MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22541	136-144MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22542	144-152MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22543	152-162MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22544	162-174MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00

POWER SUPPLY OPTIONS	CONTRACT	LIST
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KSGPS20200	DC Switching Power Supply 13.8VDC 20A	\$ 204.00	255.00
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS	CONTRACT	LIST
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KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

ETHERNET SWITCH & ROUTER OPTIONS	CONTRACT	LIST
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Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment.

KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

MISC STATION OPTIONS	CONTRACT	LIST
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KSGDX12556	6 Cavity VHF BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty, minimum TX-RX 400 KHz. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
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COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00



# TKR-D710

DMR VHF Low Power Repeaters - 136-174MHz

\* Base Operations are not available.



## GENERAL:

- Occupies 2 RU
- Digital 12.5 kHz
- Analog FM 25/12.5 kHz
- 2 slot TDMA
- Mixed Mode
- Call Interruption
- Conventional and Conventional IP\* Network

\* Requires KTI-5

## OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation.
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is also available.
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7") open equipment racks.
- Amplifier choices include 50W, 110W or 150W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

TKR-D710 REPEATER		CONTRACT	LIST
TKR-D710K	Repeater, Digital, VHF, 136-174MHz, 5-50W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,780.00	2,225.00
TKR-D710 REPEATER PACKAGE		CONTRACT	LIST
TKR-D710KPS	Repeater Package Includes KSGPS20200 Power Supply (mounted internally), 136-174MHz Repeater 5-50W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,954.40	2,443.00
REPEATER STATION WITH CONVENTIONAL IP NETWORK FUNCTIONALITY		CONTRACT	LIST
TKR-D710KPSI	Repeater Package includes KSGPS20200 Power Supply (mounted internally), The KTI-5M Network Adaptor and KPG-1010DMR, 136-174MHz Repeater <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,316.00	2,895.00
REPEATER STATION WITH DUPLEXER		CONTRACT	LIST
Note: Duplexers are not available for all frequencies. The default range of duplexers are between 148-160 MHz (VHF) with a 5MHz split between TX and RX, and between 450-460MHz (UHF). Other frequencies or VHF band splits may be available by special order (non-returnable and non-refundable). Pricing for special order duplexers may be higher. Frequencies must be provided with an order.			
TKR-D710KPSD	Repeater Station 5-50W 148-160MHz includes KSGPS20200 Power Supply, KSGDX62001 Duplexer, KSGCB20008 Cable, KSGCB20010 Cable <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,431.20	3,039.00
REPEATER STATION WITH DUPLEXER AND IP NETWORK FUNCTIONALITY		CONTRACT	LIST
Note: Duplexers are not available for all frequencies. The default range of duplexers are between 148-160 MHz (VHF) with a 5MHz split between TX and RX, and between 450-460MHz (UHF). Other frequencies or VHF band splits may be available by special order (non-returnable and non-refundable). Pricing for special order duplexers may be higher. Duplexer and KTI-5M are mounted inside the Repeater cabinet. Base Mount Power Supply is included.			
TKR-D710KPSDI	Repeater Station 5-50W 148-160MHz includes KSGPS20201 Power Supply, KSGDX62001 Duplexer, KTI-5M and KPG-1010DMR, KSGCB20008 Cable, KSGCB20010 Cable. <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,776.00	3,470.00
BASIC ACCESSORIES and LABOR		CONTRACT	LIST
KPG-46XM	Programming Cable	\$ 126.80	158.50
KPG-174DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KTI-5M	Network Adapter Device - Required for Conv. IP Networking Functionality <b>Note:</b> - Must order L-1806 or L-1807 for DMR Conventional IP Configuration - Required for each repeaters	\$ 345.60	432.00

L-1806	Instllation KPG-1010DMR Firmware and Option for KTI-5M	\$ 16.00	20.00
L-1807	KTI-5 Field Upgrade Option for DMR IP Network	\$ 16.00	20.00
B5B-7228-00	TKR-D710 Service Manual	\$ 40.00	50.00

POWER SUPPLY OPTIONS	CONTRACT	LIST
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KSGPS20200	DC Switching Power Supply 13.8VDC 20A	\$ 204.00	255.00
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 1,084.00	1,355.00

MOUNTING CONFIGURATIONS	CONTRACT	LIST
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KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

ETHERNET SWITCH & ROUTER OPTIONS	CONTRACT	LIST
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Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.

KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

MISC STATION OPTIONS	CONTRACT	LIST
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KSGDX12556	6 Cavity VHF BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty, minimum TX-RX 400 KHz. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
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COMPONENTS	CONTRACT	LIST
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KSGDX62001	Duplexer, VHF, 148-160MHz, 6 cavities, 4.5MHz sep, N-F <b>Note:</b> This is the default frequency range. Other ranges may be available by special order. Frequencies must be provided with an order	\$ 476.00	595.00
KSGCB20008	Cable, 10" 90 deg N-M to 90 deg BNC-M, RG-142 coaxial	\$ 40.00	50.00
KSGCB20010	Cable, 10", 90 deg N-M to 90 deg N-M, RG-142 coaxial	\$ 40.00	50.00
KSGPS20201	Power Supply, 20A, no meter, RM-2512 w/BB6 & 8 place fuse	\$ 344.00	430.00
KSGPS20200	DC Switching Power Supply	\$ 204.00	255.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00



# TKR-D810

## DMR UHF Repeaters - 400-520MHz



### GENERAL:

- Occupies 2 RU
- Digital 12.5 kHz
- Analog FM 25/12.5 kHz
- 2 slot TDMA
- Mixed Mode
- Call Interruption
- Conventional and Conventional IP\* Network

\* Requires KTI-5

### OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 4 and 6 cavity BpBr duplexer are also available.
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 40W, 100W or 150W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

TKR-D810 REPEATER		CONTRACT	LIST
TKR-D810K	Repeater, Digital, UHF, 450-520MHz, 5-40W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,780.00	2,225.00
TKR-D810K2	Repeater, Digital, UHF, 400-470MHz, 5-40W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,780.00	2,225.00

BASIC ACCESSORIES and LABOR		CONTRACT	LIST
KPG-46XM	Programming Cable	\$ 126.80	158.50
KPG-174DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KTI-5M	Network Adapter Device - Required for Conv. IP Networking Functionality <b>Note:</b> - Must order L-1806 or L-1807 for DMR Conventional IP Configuration - Required for each repeaters	\$ 345.60	432.00
L-1806	Instillation KPG-1010DMR Firmware and Option for KTI-5M	\$ 16.00	20.00
L-1807	KTI-5 Field Upgrade Option for DMR IP Network	\$ 16.00	20.00
B5B-7229-00	TKR-D710 Service Manual	\$ 40.00	50.00

RF BASE STATION AMPLIFIER OPTIONS		CONTRACT	LIST
Note: Includes Two Cables for Radio Connectivity.			
KSGPA23421	406-450MHz, 3W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23423	450-512MHz, 3W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23400	406-450MHz, 3W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23420	450-512MHz, 3W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23451	406-450MHz, 3W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23453	450-512MHz, 3W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23521	406-450MHz, 25W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23523	450-512MHz, 25W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23500	406-450MHz, 25W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23520	450-512MHz, 25W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23551	406-450MHz, 25W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23553	450-512MHz, 25W Input, 150W Output	\$ 3,648.00	4,560.00

RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
Note: Includes One Cable for Radio Connectivity.			



KSGPA23401	406-450MHz, 3W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23403	450-512MHz, 3W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23411	406-450MHz, 3W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23413	450-512MHz, 3W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23441	406-450MHz, 3W Input, 150W Output	\$ 3,152.00	3,940.00

RF REPEATER STATION AMPLIFIER OPTIONS, CONT	CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA23443	450-512MHz, 3W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23501	406-450MHz, 25W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23503	450-512MHz, 25W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23511	406-450MHz, 25W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23513	450-512MHz, 25W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23541	406-450MHz, 25W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23543	450-512MHz, 25W Input, 150W Output	\$ 3,152.00	3,940.00

POWER SUPPLY OPTIONS	CONTRACT	LIST
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KSGPS20200	DC Switching Power Supply 13.8VDC 20A	\$ 204.00	255.00
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS	CONTRACT	LIST
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KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

ETHERNET SWITCH & ROUTER OPTIONS	CONTRACT	LIST
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Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.

KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

MISC STATION OPTIONS	CONTRACT	LIST
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KSGDX13546	6 Cavity UHF BpBr Duplexer (450-470MHz Only) <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
KSGDX23101	4 Cavity UHF BpBr Duplexer (450-470MHz Only) <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty. Includes one LMR-400 interface cable.	\$ 1,420.00	1,775.00

COMPONENTS	CONTRACT	LIST
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KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00



KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00
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# TKR-D810

## DMR UHF Repeaters - 400-520MHz



### GENERAL:

- Occupies 2 RU
- Digital 12.5 kHz
- Analog FM 25/12.5 kHz
- 2 slot TDMA
- Mixed Mode
- Call Interruption
- Conventional and Conventional IP\* Network

\* Requires KTI-5

### OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 4 and 6 cavity BpBr duplexer are also available.
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 40W, 100W or 150W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

TKR-D810 REPEATER		CONTRACT	LIST
TKR-D810K	Repeater, Digital, UHF, 450-520MHz, 5-40W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,780.00	2,225.00
TKR-D810K2	Repeater, Digital, UHF, 400-470MHz, 5-40W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,780.00	2,225.00

TKR-D810 REPEATER PACKAGE		CONTRACT	LIST
TKR-D810KPS	Repeater Package Includes KSGPS20200 Power Supply (mounted internally), 450-520MHz Repeater 5-40W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,954.40	2,443.00
TKR-D810K2PS	Repeater Package Includes KSGPS20200 Power Supply (mounted internally), 400-470MHz Repeater 5-40W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,954.40	2,443.00

REPEATER STATION WITH CONVENTIONAL IP NETWORK FUNCTIONALITY		CONTRACT	LIST
TKR-D810KPSI	Repeater Package includes KSGPS20200 Power Supply (mounted internally), KTI-5M Network Adaptor and KPG-1010DMR, 450-520MHz Repeater <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,316.00	2,895.00
TKR-D810K2PSI	Repeater Package includes KSGPS20200 Power Supply (mounted internally), KTI-5M Network Adaptor and KPG-1010DMR, 400-470MHz Repeater <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,316.00	2,895.00

REPEATER STATION WITH DUPLEXER		CONTRACT	LIST
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Note: Duplexers are not available for all frequencies. The default range of duplexers are between 148-160 MHz (VHF) with a 5MHz split between TX and RX, and between 450-460MHz (UHF). Other frequencies or VHF band splits may be available by special order (non-returnable and non-refundable). Pricing for special order duplexers may be higher. Frequencies must be provided with an order.

TKR-D810KPSD	Repeater Station 5-40W, 450-520MHz, Includes KSGPS20200 Power Supply, KSGDX63002 Duplexer, KSGCB20008 Cable, KSGCB20010 Cable <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,431.20	3,039.00
TKR-D810K2PSD	Repeater Station 5-40W, 400-470MHz, Includes KSGPS20200 Power Supply, KSGDX63002 Duplexer, KSGCB20008 Cable, KSGCB20010 Cable <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,431.20	3,039.00

REPEATER STATION WITH DUPLEXER AND IP NETWORK FUNCTIONALITY		CONTRACT	LIST
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Note: Duplexers are not available for all frequencies. The default range of duplexers are between 148-160 MHz (VHF) with a 5MHz split between TX and RX, and between 450-460MHz (UHF). Other frequencies or VHF band splits may be available by special order (non-returnable and non-refundable). Pricing for special order duplexers may be higher. Duplexer and KTI-5M are mounted inside the Repeater; a separate Rack-Mount Power Supply is included.

REPEATER STATION WITH DUPLEXER AND IP NETWORK FUNCTIONALITY		CONTRACT	LIST
TKR-D810KPSDI	Repeater Station 5-40W, 450-520MHz Includes KSGPS20201 Power Supply, KSGDX63002 Duplexer, KTI-5M and KPG-1010DMR, KSGCB20008 Cable, KSGCB20010 Cable <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,776.00	3,470.00
TKR-D810K2PSDI	Repeater Station 5-40W, 400-470MHz Includes KSGPS20201 Power Supply, KSGDX63002 Duplexer, KTI-5M and KPG-1010DMR, KSGCB20008 Cable, KSGCB20010 Cable <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,776.00	3,470.00
BASIC ACCESSORIES and LABOR		CONTRACT	LIST
KPG-46XM	Programming Cable	\$ 126.80	158.50
KPG-174DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KTI-5M	Network Adapter Device - Required for Conv. IP Networking Functionality <b>Note:</b> - Must order L-1806 or L-1807 for DMR Conventional IP Configuration - Required for each repeaters	\$ 345.60	432.00
L-1806	Instllation KPG-1010DMR Firmware and Option for KTI-5M	\$ 16.00	20.00
L-1807	KTI-5 Field Upgrade Option for DMR IP Network	\$ 16.00	20.00
B5B-7229-00	TKR-D710 Service Manual	\$ 40.00	50.00
POWER SUPPLY OPTIONS		CONTRACT	LIST
KSGPS20200	DC Switching Power Supply 13.8VDC 20A	\$ 204.00	255.00
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 1,084.00	1,355.00
MOUNTING CONFIGURATIONS		CONTRACT	LIST
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00
ETHERNET SWITCH & ROUTER OPTIONS		CONTRACT	LIST
Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00
MISC STATION OPTIONS		CONTRACT	LIST
KSGDX12556	6 Cavity VHF BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty, minimum TX-RX 400 KHz. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
COMPONENTS		CONTRACT	LIST

KSGDX63002	Duplexer, VHF, 450-460MHz, 6 cavities, 5MHz sep, N-F <b>Note:</b> This is the default frequency range. Other ranges may be available by special order. Frequencies must be provided with an order	\$ 476.00	595.00
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<b>COMPONENTS, CON'T</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGCB20008	Cable, 10" 90 deg N-M to 90 deg BNC-M, RG-142 coaxial	\$ 40.00	50.00
KSGCB20010	Cable, 10", 90 deg N-M to 90 deg N-M, RG-142 coaxial	\$ 40.00	50.00
KSGPS20201	Power Supply, 20A, no meter, RM-2512 w/BB6 & 8 place fuse	\$ 344.00	430.00
KSGPS20200	DC Switching Power Supply	\$ 204.00	255.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# TKB-6900 Series

Low Band Conventional Simplex Base Stations - 29.7 - 50 MHz



## GENERAL:

- 110W
- Occupies 2 RU
- Equipment may be mounted in a cabinet enclosure or open rack
- May be used either by itself (50W continuous duty or 110W at 20% duty cycle) or as a driver for an external continuous duty RF amplifier (100W or 250W).

## OPTIONS:

- Power supply options include battery backup with integrated SmartCharger and Low Voltage Disconnect.
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- T-R simplex antenna switching is included in the basic unit as well as in all external amplifiers.
- Other configurations are also available on a special order basis; please contact your Kenwood Systems Regional Sales Manager for more details.

RADIO PACKAGES		CONTRACT	LIST
TKB6900SK1	29.7-37.0MHz (TK-690HBK, KCH-10, KCT-23M2, KMB-5, KSGUT50002)	\$ 1,069.40	1,336.75
TKB6900SK2	35.0-43.0MHz (TK-690HBK2, KCH-10, KCT-23M2, KMB-5, KSGUT50002)	\$ 1,069.40	1,336.75
TKB6900SK3	40.0-50.0MHz (TK-690HBK3, KCH-10, KCT-23M2, KMB-5, KSGUT50002)	\$ 1,069.40	1,336.75

BASIC ACCESSORIES		CONTRACT	LIST
KPG-43UM	Programming Cable	\$ 126.80	158.50
KPG-44DNK	Programming Software	\$ 54.80	68.50
B51-8460-10	TK-690 Service Manual	\$ 40.00	50.00

RF AMPLIFIER OPTIONS		CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA21101	30-36MHz, 50W Input, 100W Output	\$ 2,180.00	2,725.00
KSGPA21102	36-42MHz, 50W Input, 100W Output	\$ 2,180.00	2,725.00
KSGPA21103	42-50MHz, 50W Input, 100W Output	\$ 2,180.00	2,725.00
KSGPA21251	30-36MHz, 50W Input, 250W Output	\$ 3,740.00	4,675.00
KSGPA21252	36-42MHz, 50W Input, 250W Output	\$ 3,740.00	4,675.00
KSGPA21253	42-50MHz, 50W Input, 250W Output	\$ 3,740.00	4,675.00

POWER SUPPLY OPTIONS		CONTRACT	LIST
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 250W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 250W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS		CONTRACT	LIST
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00

WIRELINE REMOTE CONTROL OPTIONS		CONTRACT	LIST
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KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTN10A	10 Channel BCD Tone Termination Panel (KSGTM10010, KSGBCDCASE, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 736.00	920.00
KSGTM20016	16 Channel Tone Termination Panel <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 759.00	948.75
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00

MISC STATION OPTIONS		CONTRACT	LIST
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00
KSGOCWID	CWID Morse Code Generator <b>Note:</b> Specify call sign at time of order.	\$ 108.00	135.00

COMPONENTS		CONTRACT	LIST
TK-690HBK	Radio, Mobile, 29.7-37.0 MHz, 110w, 160 Ch (R.F. Deck Only)	\$ 856.80	1,071.00
TK-690HBK2	Radio, Mobile, 35.0-43.0 MHz, 110w, 160 Ch (R.F. Deck Only)	\$ 856.80	1,071.00
TK-690HBK3	Radio, Mobile, 40.0-50.0 MHz, 110w, 160 Ch (R.F. Deck Only)	\$ 856.80	1,071.00
KCH-10	Basic Control Panel, 90-Series	\$ 117.60	147.00
KCT-23M2	10' Cable, DC for High-Power Mobile	\$ 31.00	38.75
KMB-5	Mounting Bracket for TK-690 Mobile Radio	\$ 11.20	14.00
KSGUT50002	2RU Utility Tray for Equipment Mounting	\$ 64.00	80.00
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10010	Panel, Tone Term, 10 ch., with case, full dup, 2 or 4 wire, w/mon	\$ 656.00	820.00
KSGBCDCASE	Case, Tone Term Panel	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# KAS-20

## STANDALONE / MULTI-CLIENT AVL & DISPATCH SOFTWARE

The KAS-20 Software provides AVL and Dispatch capability compatible with Kenwood digital radio systems. With the capability to run under Windows and Windows Server operating systems, it provides a cost effective package for AVL and Dispatch for business, supporting both the NXDN and DMR digital protocols.

### FEATURES AND HIGHLIGHTS:

- Low-Cost Initial Investment with Upgrade licenses
- Enhanced Scalability – Standalone PC / Multi-Client Server
- Enhanced User Interface Design for ease of use
- Supports multiple digital radio protocols
- User-Selectable Options – Location, Dispatch, Voice Path, Multiple Client, and Voice Recording

- Location Management – 1,000 subscribers
- Definable Call Dispatch Windows
- Embedded AMBE+2 Vocoder
- System to System Patching\*
  - DMR Conventional
  - NXDN Conventional
  - NXDN Type-C Gen1 System
  - NXDN Type-C Gen2 System

\*System type and bandwidth must match in order to patch calls from different system ID.



### COMPATIBLE IP CONSOLE INTERFACE\*

- Kenwood DMR Conventional
- Kenwood NXDN Conventional
- Kenwood NXDN Type-C
- Kenwood NXDN Gen2

\* KAS-20 does not support serial base connection

### SYSTEM REQUIREMENTS\*

- Windows 7, 8.1, 10 (32/64 bit OS)
- 3.0 GHz Intel Core i5 or faster CPU
- 4 GB RAM or more
- 50GB free space or more
- Internet Connection for AVL

\* Refer to KAS-20 brochure for details

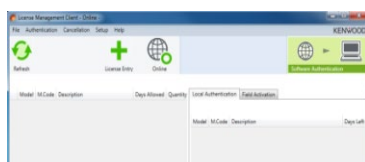
SAMPLE LICENSE		CONTRACT	LIST
KAS-20K2	SAMPLE LICENSE VALID FOR 30 DAYS OF OPERATION Following features are enabled for 30 days after activation: - AVL (similar to KWD-20C-LMK license) - Dispatch (similar to KWD-20C-VDK license) - Voice Path (similar to one KWD-20C-VPK license)	\$ 16.00	20.00
BASE LICENSE		CONTRACT	LIST
KAS-20K	AVL & DISPATCH SOFTWARE BASE LICENSE	NC	NC

#### Notes:

1. KAS-20K base license is required per individual PC or Server. Works on both KAS-20C (Client) and KAS-20S (Server).
2. Application Software for KAS-20C (Client) and KAS-20S (Server) is available on Kenwood CONTRACT Tools.
3. Base license does not contain any of the feature licenses. Must purchase additional software upgrades to enable desired functions.
4. One KAS-20K base license allows a single connection to the RF system.

### TO PLACE AN ORDER FOR WINDOWS<sup>®</sup> SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:



### KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.



**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the enclosed "**Account Request Form**" and return to the Kenwood Systems Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

**Note:** KPT-300LMC is compatible with Windows 7/8.1/10 Only. Windows XP is not supported.

KPT-300LMC	License Management Client	NC	NC
<b>SOFTWARE UPGRADE LICENSES (FOR CLIENT)</b>		<b>CONTRACT</b>	<b>LIST</b>
KWD-20C-VDK	Voice Dispatch License for KAS-20 client <b>Note:</b> KWD-20C-VDK does not contain vocoder license. IP dispatching requires additional KWD-20C-VPK for AMBE+2 voice vocoding .	\$ 533.60	667.00
KWD-20C-VPK	Voice Path License for KAS-20 client <b>Note:</b> Single KWD-20C-VPK allows single stream of AMBE+2 vocoding per license. Purchase multiple licenses up to 8 for simultaneous vocoding.	\$ 533.60	667.00
KWD-20C-LMK	Location Management License for KAS-20 client	\$ 533.60	667.00
<b>SOFTWARE UPGRADE LICENSES (FOR SERVER)</b>		<b>CONTRACT</b>	<b>LIST</b>
KWD-20S-MCK	Server upgrade license to enable multi-client operation <b>Note:</b> Single KAS-20 server software holds up to ten KAS-20 clients.	\$ 1,800.00	2,250.00
KWD-20S-VRK	Server upgrade license to enable Voice Logging and Playbacks <b>Note:</b> Voice replay uses one KWD-20C-VPK voice path license while replaying on KAS-20 client.	\$ 1,800.00	2,250.00
KWD-20S-RSK	Server upgrade license to connect ONE additional RF system to KAS-20 system.	\$ 1,800.00	2,250.00
<b>COMPANION PRODUCTS COMPUTERS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGCP30202	Windows server	\$ 3,500.00	4,375.00
KSGCP30203	Standalone PC Opt3040	\$ 1,020.00	1,275.00
KSGCP40001	USB Desktop Microphone A0110399	\$ 60.00	75.00
KSGSP10001	Multi-Media Desktop PC Speakers AX210 USB	\$ 40.00	50.00
<b>COMPUTER MONITORS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGCP30101	22" LED Backlit LCD Monitor 1920 x 1080 resolution E2316H	\$ 300.00	375.00
KSGCP00014	24" Monitor Backlit LCD Monitor 1920 x 1080, resolution HDMI, VGA, Displayport P2417H	\$ 416.00	520.00



# KAS-10

GPS AVL & Dispatch Messaging Software (Version 2.x)

## Product Enhancements:

- 999 Mobile ID Capacity
- NXDN® Scrambler included
- Up to 100 KAS-10 per system, 10 per site
- 100 Group Scan with four Priority Monitor IDs
- AVL and Voice Dispatch operation of IP: GPS data, status/text message, and voice

## Notes:

- NEXEDGE Gen2, Type-D and DMR Systems not supported.

GPS AVL & DISPATCH		CONTRACT	LIST
KAS-10	GPS AVL & Dispatch Messaging Software	\$ 347.20	434.00
KSGCP50001	AMBE-3000™ Vocoder Chip with USB Interface <b>Note:</b> USB-3003™ multi pass Vocoder with USB does not compatbile with KAS-10.	\$ 520.00	650.00
COMPANION PRODUCTS COMPUTERS		CONTRACT	LIST
KSGCP30201	Windows Workstation PC	\$ 1,612.00	2,015.00
KSGCP40001	USB Desktop Microphone	\$ 60.00	75.00
KSGSP10001	Multi-Media Desktop PC Speakers	\$ 40.00	50.00
KSGCP40002	USB Over the Head Headset with Microphone	\$ 72.00	90.00
KSGCP40003	Mini-Plug Over the Head Headset with Microphone	\$ 60.00	75.00
COMPUTER MONITORS		CONTRACT	LIST
KSGCP30101	17" Anti-Glare Black LCD Monitor	\$ 300.00	375.00
KSGCP00014	19" Anti-Glare Black LCD Monitor	\$ 380.00	475.00
KSGCP30102	17" Anti-Glare Black ELO Touchscreen Monitor	\$ 836.00	1,045.00
KSGCP00015	19" Anti-Glare Black ELO Touchscreen Monitor	\$ 996.00	1,245.00

# KPG-150AP

## OTAP Manager

### General

- For NEXEDGE® digital 12.5/6.25 kHz Conventional, Type-C Trunking and Gen2 systems, the KPG-150AP OTAP (Over the Air Programming) manager simplifies the task of reconfiguring subscribers, either directly or via repeater.
- Eliminates manual collection of portable and mobile radios from the field for reprogramming.
- Eliminates repeated connection and disconnection of individual radios.
- Reduces time spent programming field units.
- User interface and icons offer intuitive operational ease.
- Verification and logging features ensure efficient and reliable data control.

### Main Features

- Accommodates multiple user-defined groups.
- Support for multiple serial ports facilitates transmission on different frequencies.
- Once stored in the OTAP manager, data for each radio can be easily reprogrammed.
- One-click programming allows multiple radios to share the same programming data without individual modification.
- KPG-150AP compares current and updated configurations, enabling transmission of only updated programming data to save on-air time.
- Multiple sessions can be programmed and scheduled in advance, removing the need to be present for remote over-the-air reconfiguration.
- Auto retry options are also available in the case of OTAP failure.
- Each programming session is recorded by the software, indicating transmission success or failure for each radio.

**Note:** NEXEDGE Type-D Trunking system and DMR System not supported.

OTAP MANAGER		CONTRACT	LIST
KPG-150AP	OTAP Manager <b>Note:</b> - Includes a license for one computer, one base radio (mobile or portable), and 10 subscriber radios (mobile or portable) - NEXEDGE Type-D Trunking and DMR System not supported.	\$ 440.00	550.00

ADDITIONAL LICENSES		CONTRACT	LIST
Note: Includes a license for one additional subscriber radio (mobile or portable) attached to one computer running KPG-150AP software			
KWD-AP1	Additional Radio License for 1 PC <b>Note:</b> Price is per license on quantities of less than 100 licenses.	\$ 20.00	25.00
KWD-AP100	Additional Radio License for 1 PC <b>Note:</b> Price is per license when ordering between 100 and 249 licenses at the same time.	\$ 20.00	25.00
KWD-AP250	Additional Radio License for 1 PC <b>Note:</b> Price is per license when ordering between 250 and 499 licenses at the same time.	\$ 20.00	25.00
KWD-AP500	Additional Radio License for 1 PC <b>Note:</b> Price is per license when ordering 500 or more licenses at the same time.	\$ 20.00	25.00
KWD-SP1	Additional System License for 1 PC <b>Note:</b> Price is per license on quantities of less than 16 licenses.	\$ 266.40	333.00

### -- IMPORTANT NOTES--

Base radios are connected to a computer using the KPG-36XM USB adapter for portables, or a KPG-46XM for mobiles.

Requires firmware version 2.5 or higher for the NX-x00/NX-x10 mobiles and portables as well as the NXR-x00/NXR-x10 repeaters.

Requires firmware version 1.01 or higher for the NX-x20 portables.

# KPG-180AP

## OTAP Manager for NX-5000 Series

### General

- For NX-5000 Series radios, the KPG-180AP OTAP (Over the Air Programming) manager simplifies the task of reconfiguring subscribers, either directly or via repeater through NEXEDGE Conventional, Type-C Trunking and Gen2 System.
- Eliminates manual collection of portable and mobile radios from the field for reprogramming.
- Eliminates repeated connection and disconnection of individual radios.
- Reduces time spent programming field units.
- User interface and icons offer intuitive operational ease.
- Verification and logging features ensure efficient and reliable data control.

### Main Features

- Remote editing/adding features such as ID Lists, over-the-air aliases, channels, sites, and more.
- Once stored in the OTAP manager, data for each radio can be easily reprogrammed.
- One-click programming allows multiple radios to share the same programming data without individual modification.
- Each programming session is recorded by the software, indicating transmission success or failure for each radio.
- Multi-Protocol (NXDN/P25) capability.

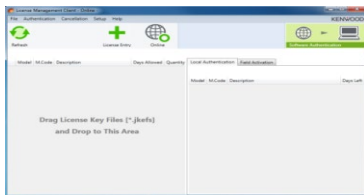
### Note:

- NEXEDGE Type-D Trunking system and DMR System not supported.
- P25 OTAP is only available for Conventional Radio to Radio.

## LICENSING SYSTEM

## CONTRACT

## LIST



Note: KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.



### KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**.

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the enclosed "[Account Request Form](#)" and return to the Kenwood Systems Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
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## SOFTWARE LICENSING OPTIONS

### TO PLACE AN ORDER FOR SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

**Note: A unique license key is required for each PC with software installed. A single license key will not authorize multiple PCs.**

### Software License Key Discount Structure

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF
15 ~ 24 License Keys	40% OFF

## SOFTWARE LICENSING OPTIONS, CONT

## CONTRACT

## LIST

KPG-180AP	OTAP Manager Software (Windows® Vista/7/8/8.1/10) • License includes Fifty (50) radios / One(1) <b>NXDN</b> Conventional and Type-C <b>Air</b> Communication Profile and One(1) <b>NXDN</b> Conventional and Type-C <b>IP</b> Communication Profile	884.00
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**Note:**

- Requires KPT-300LMC for authentication
- Radio to Radio OTAP for P25 Conventional system requires KWD-AP3-P25 license.
- NEXEDGE Type-D Trunking and DMR System not supported.

\$ 707.20
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**SOFTWARE UPGRADE LICENSES FOR KPG-180AP**

**Note:** Includes package license for additional subscriber unit or license for additional profile attached to one computer running KPG-180AP software. All additional licenses require KPT-300LMC for authentication.

KWD-AP5100	Additional 100 Radio Package License for 1 PC Note: License includes 100 subscriber radios OTAP License.	\$ 1,333.60	1667.00
KWD-AP5250	Additional 250 Radio Package License for 1 PC Note: License includes 250 subscriber radios OTAP License.	\$ 2,333.60	2917.00
KWD-AP5500	Additional 500 Radio Package License for 1 PC Note: License includes 500 subscriber radios OTAP License.	\$ 3,333.60	4167.00
KWD-AP1-CA	Additional NXDN Conventional Type-C Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as NEXEDGE Base Station Serial Interface for both Conventional and Trunking (Type-C Gen1/Gen2).	\$ 200.00	250.00
KWD-AP2-CP	Additional NXDN Conventional Type-C IP Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used NEXEDGE Repeater IP Interface for both Conventional and Trunking (Type-C Gen1/Gen2) .	\$ 333.60	417.00
KWD-AP3-P25	P25 Radio to Radio Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as P25 Base Station Serial Interface for only Radio to Radio Communication.	\$ 640.00	800.00

**-- IMPORTANT NOTES--**

Base radios are connected to a computer using the KPG-36XM USB adapter for portables, or a KPG-46XM for mobiles.

Requires firmware version 1.4 or higher for the NX-5000 Series portables and mobiles

Requires firmware version 2.5 or higher for the NXR-x00/NXR-x10 repeaters.

# KTI-4

## Telephone Interconnect Adapter

### General

- Available only for NEXEDGE® digital trunking systems using the NXR-700/800/900 repeaters.
- Provides access to incoming and outgoing PSTN/PABX telephone calls when used in conjunction with a telephone patch panel.
- Serves as an Ethernet-based interface between the NEXEDGE® digital trunking system and an analog telephone patch panel

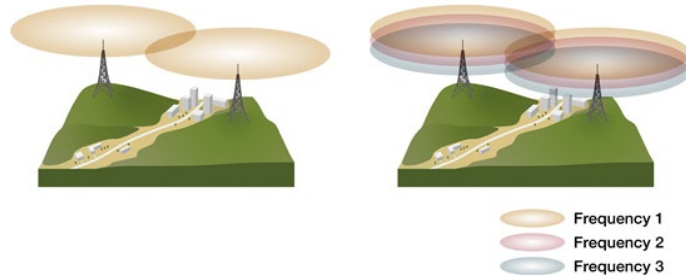
### Main Features

- Can be installed off-site using an IP network connection to the NEXEDGE® system.
- Up to 100 telephony lines per system; six lines per site.
- DTMF control via AUX jack.
- Customizable DTMF command set and tone timer for telephone patch.
- Browser-based remote KTI-4 settings via the IP network.
- Individual telephone calling.
- Speed dial.
- Configurable call restrictions (long-distance, international, etc.).
- AMBE+2™ vocoder for digital audio speech conversion.
- NXDN® encryption included
- Status LEDs: Power, Communications, Full-Duplex, 100 Base-TX.

<i>Interconnect Adapter</i>		<i>CONTRACT</i>	<i>LIST</i>
KTI-4M	Telephone Interconnect Adapter	\$ 456.00	570.00
901-9416	Model 30 Worldpatch	\$ 641.00	801.25
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00
L-8005	KTI-4M Calibration (Required)	\$ 60.00	75.00

**General**

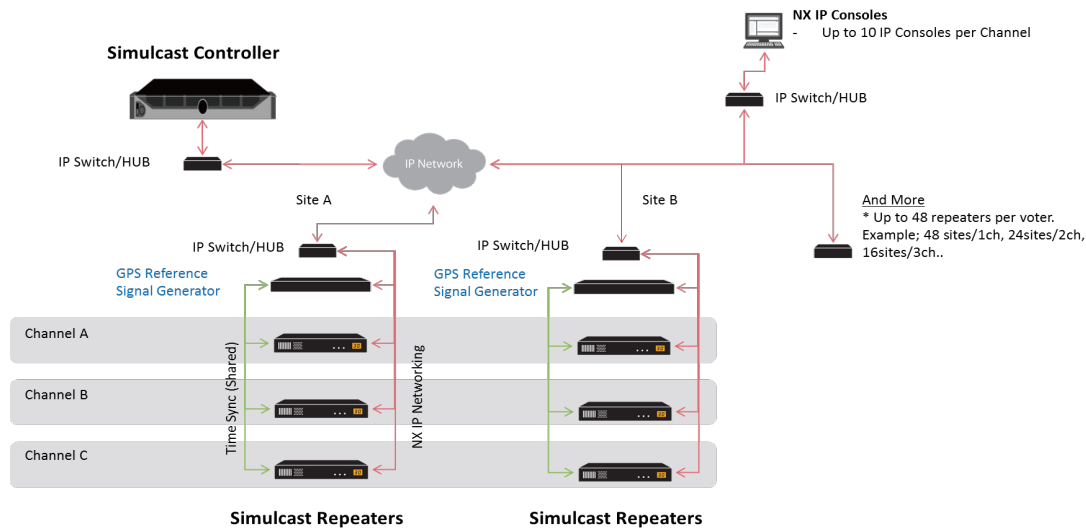
- Simple multi-site operation for extended coverage.
- Digital simulcast will offer the user the ability to use a single frequency pair over a coverage area larger than serviced by a single repeater site.
- No need for radios to be programmed to roam among sites, greatly simplifying operation for the end-user and system owner.

**Features and Highlights**

- 6.25 kHz NXDN Conventional
- VHF and UHF frequency models
- Up to 48 repeaters / Up to 3 channels per Controller  
48 sites / 1CH, 24 sites / 2CH, 16sites/1CH
- Up to 10 IP Consoles per Channel

**Applicable VHF/UHF Subscribers:**

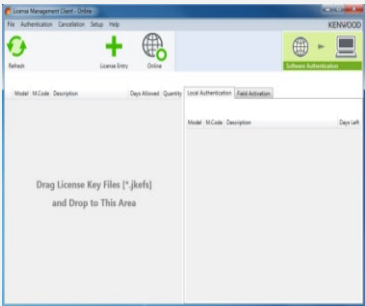

- NX-5x00 Series
- NX-3x00/3x20 Series
- NX-x00G/x10G Series
- NX-x20 Series



SIMULCAST CONTROLLER		CONTRACT	LIST
KSGCT13SIM	Simulcast Controller	\$ 11,200.00	14,000.00
SIMULCAST REPEATERS		CONTRACT	LIST
NXR-5700KSR	Simulcast Repeater, Digital, VHF, 136-174MHz, 25W, 0.5ppm TCXO built-in	\$ 11,466.40	14,333.00
NXR-5800KSR	Simulcast Repeater, Digital, UHF, 450-520MHz, 25W, 0.5ppm TCXO built-in	\$ 11,466.40	14,333.00
NXR-5800K3SR	Simulcast Repeater, Digital, UHF, 400-470MHz, 25W, 0.5ppm TCXO built-in	\$ 11,466.40	14,333.00
GPS REFERENCE		CONTRACT	LIST
KSG-SIM-SG	Hi Performance GPS Receiver w/ Sync Cable <b>Note:</b> GPS reference is required per site	\$ 6,880.00	8,600.00
Includes GPS antenna, mounting hardware, antenna line surge suppressor. Antenna line should be ordered separately.			
SERVICE		CONTRACT	LIST
Custom	System Design, Onsite Consulting, and Coverage Testing are available. Contact the Regional Sales Manager for your area to obtain a custom quote based on specific site requirements, conditions, and environment.	Custom	Custom

**Notes:**

1. Due to the complexity of the digital simulcast system, Kenwood will design, configure, and test the system.
2. IP Network and IP console is not included. CONTRACT should notify Kenwood Systems Group if required.

LICENSING SYSTEM		CONTRACT	LIST
 <p><b>Note:</b> KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.</p>		 <p><b>KPT-300LMC License Management Client</b></p> <p>KPT-300LMC is a <u>required</u> software package that is used to authenticate <b>software</b></p> <p>KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.</p> <p><b>NOTE:</b> A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the "<u>Account Request Form</u>" and return to the Kenwood Systems Order Desk.</p> <p>License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.</p>	
KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	NC	NC
PROGRAMMING SOFTWARE		CONTRACT	LIST
KPG-D2NK	License Key for KPG-D2NK Programming Software for NXR-5000 Repeater (Windows® Vista/7/8/8.1) <b>Note:</b> - Requires KPT-300LMC for authentication. - Type A/B USB Cable (KSGCB10206) is required	\$ 82.60	103.25



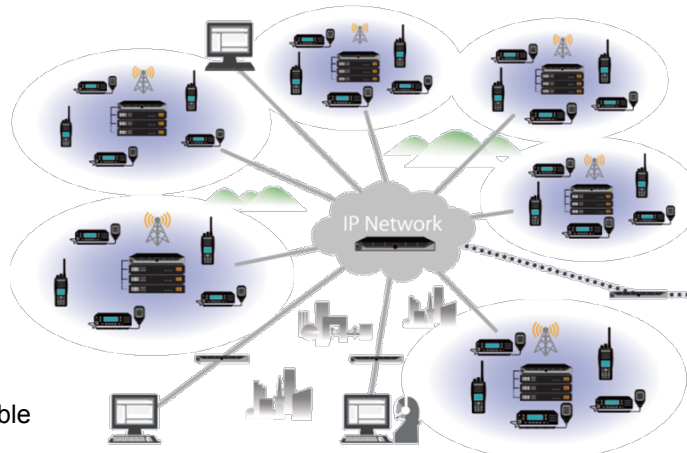
# NEXEDGE® Generation2 System

NEXEDGE Gen2

Gen2 is a new NEXEDGE® platform with additional features and enhanced capacity. NEXEDGE is a scalable solution and the server based architecture of Gen2 will meet your immediate and future needs. NXR-5000 and NXR-x00 series can be upgraded to Gen2 system.  
Key features and enhancements include: Direct Frequency Assignment (DFA), Call Pre-Emption for Console, GPS Report Channel, and an increase to the number of sites within a system.

## FEATURES AND HIGHLIGHTS:

- Up to 1,152 sites
- Up to 24 Wide Area Systems
- Up to 24 Multi System Roaming <sup>1</sup>
- Browser Based Multi-Access Configuration
- All Gen1 Functionality
- Direct Frequency Assignment
- Call Pre-Emption for Console
- Fleet Priority Channel
- Dynamic Control Channel
- GPS Report Channel<sup>2</sup>
- SNMP Capability for Repeaters <sup>3</sup>
- Network Management and Monitoring
- NXR-700/800/900/901/5700/5800 Compatible



1. NX-x00/x10/x11/x20 series are available for 8 systems.
2. Requires Traffic Channel (Repeater) to use as a GPS Report Channel (GRCH).
3. NXR-x00 series requires to equip CF card that is installed of KPT-MIB10 software downloaded from Dealer Tools to use SNMP function.

SERVER SOFTWARE LICENSING		CONTRACT	LIST
KPG-1000SY	System Control Software <i>*Required</i> <b>Note:</b> - Required one per 48 site or per each system code - Includes NXR-5000/x00/x01 Firmware. They are automatically updated when KPG-1000SY is updated.	\$ 13,333.60	16,667.00
KPG-1001ST	Site Control Software <i>*Optional</i> <b>Note:</b> Required one per site of 10 channels or more.	\$ 2,000.00	2,500.00
KPG-1002GW	IP Gateway Software <i>*Optional</i> <b>Note:</b> Required for connecting NXIP Interface Software. One IP Gateway handles 100 interfaces and up to ten IP Gateways per system code	\$ 6,667.20	8,334.00
KPG-1003NS	Network Manager Server Software <i>*Optional</i> <b>Note:</b> Required for monitoring 101 to 1000 devices	\$ 4,000.00	5,000.00
KPG-1005RG	Roaming Gateway Server Software <i>*Optional</i> <b>Note:</b> - Required for subscriber roaming from one system to another. Roaming Gateway is required for the home system to each subscriber needing to roam. For example, subscriber from Sys A needs to roam to Sys B, Sys A needs the Roaming Gateway, Sys B doesn't need it unless Sys B subscriber needs to roam. - Roamer Subscriber must be set SKF that is issued by roamed system.	\$ 5,600.00	7,000.00

### Notes:

1. Gen2 software must be installed and configured by JVCKENWOOD on KSGCP20000 servers.

SERVER HARDWARE		CONTRACT	LIST
KSGCP20000	Custom Rack Mounted Server with Advanced Support 3 year warranty, 7x24, support, next business day onsite service, 3 year warranty includes the hard drive. High priority technical hardware and software support. One server required for each operating system. <b>Note:</b> - L-8518 must be required for each server. - Must be provided and configured by KENWOOD.	\$ 4,400.00	5,500.00



L-8518	Labor for Installing and loading Linux OS and Application Software.	\$ 600.00	750.00
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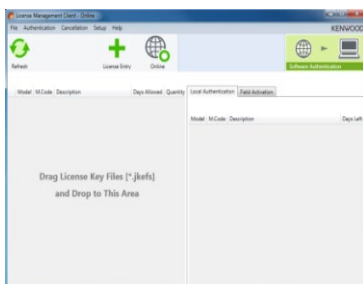
WINDOWS® APPLICATION LICENSING		CONTRACT	LIST
KPG-1004NC	Network Manager Client Software <b>Note:</b> Required for Network Management. A unique license key is required for each PC with software installed. A single license key will not authorize multiple PCs. Requires KPT-300LMC for authentication.	\$ 2,667.20	3,334.00

**TO PLACE AN ORDER FOR WINDOWS® SOFTWARE:**

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

**KPG-1004NC Software License Key Discount Structure**

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF
15 ~ 24 License Keys	40% OFF



**Note:** KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.



## KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the enclosed "**Account Request Form**" and return to the Kenwood Systems Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
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REPEATER TRUNKING AND MULTI SITE FEATURE		CONTRACT	LIST
KWD-20CTR	Repeater Trunking Feature <b>Note:</b> Required for each Trunking Repeater.	\$ 1,200.00	1,500.00
KWD-20CNT	Repeater Multi-Site Feature <b>Note:</b> Only for Multi-Site Trunking System. Required for each Trunking Repeater.	\$ 1,333.60	1,667.00

**REPEATER TRUNKING/MULTI-SITE FEATURE FOR MIGRATING FROM GEN1 TO GEN2**

1. No fees about Trunking/Multi-Site Features for existing Repeaters as Gen1.
2. Adding new repeaters or sites after migrating Gen1 to Gen2 are charged Gen2 trunking/multi-site features. (KCT-20CTR/CNT)

NEXEDGE®

# KPG-157SB

NEXEDGE® Generation1 Bridge



## General

- Connects up to eight NXR-700/800/900/901-based multi-site trunked networks.
- Subscribers from each network can make/ receive voice and data calls to/from any trunked network.
- Can be installed at any trunked site through IP connectivity so it can be remotely configured and controlled from anywhere.

## Features and Highlights

- 100 Group Calls.
- 1000 GID Exchange Sets.
- Call Types - Voice/Short Data/Long Data.
- Cross Band Networks\*.
- IP Remote Control, Configuration and Maintenance.
- Multi-Level Access Control.
- Communication and System Logging.
- Data Backup and Restore.
- NXR-700/800/900/901 Compatible.

\* All channels in NEXEDGE® network must be operating in the same bandwidth (6.25 kHz or 12.5 kHz).

SOFTWARE		CONTRACT	LIST
KPG-157SB	Kenwood NEXEDGE Bridge Software	\$ 10,000.00	12,500.00
KSGPG92010	System Group Call Path License <b>Note:</b> License for block of 10 path activations. (Minimum of one block; maximum of 10 blocks per system)	\$ 8,000.00	10,000.00
KSGPGKEY03	Grade-1 Unlimited Access Secure USB Programming Key <b>Note:</b> Required for operation.	\$ 133.60	167.00
HARDWARE		CONTRACT	LIST
KSGCP20000	Custom Rack Mounted Server with Advanced Support 3 year warranty, 7x24, support, next business day onsite service, 3 year warranty includes the hard drive. High priority technical hardware and software support. One server required for each operating system. <b>Note:</b> - L-8518 must be required for each server. - Must be provided and configured by KENWOOD.	\$ 4,400.00	5,500.00
L-8518	Labor for Installing and loading Linux OS and Application Software.	\$ 600.00	750.00
MOUNTING CONFIGURATIONS		CONTRACT	LIST
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00
COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00

KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00



### General

- End-to-end IP based telecommunications console system designed for mission critical dispatch applications.
- Employs the latest, standards-based IP protocols and IT best practices.
- Offers highest levels of interoperability, scalability, and features.
- Designed to connect directly to a NEXEDGE® Trunking Repeater System (TRS) via IP connection.

MAX PRO WORKSTATIONS		CONTRACT	LIST
905-0410	Kenwood MAX Pro Workstation Bundle Position: One Operator Workstation PC, one Media Dock, two Speakers, and Power Supply Licenses: MAX Base Software, Individual Call, Tone Signaling/Paging, Telephony, Event Replay, Aux I/O Control Feature Sets All manuals are included in softcopy format with the MAX software.	\$ 17,505.00	21,881.25
905-0411	Kenwood MAX Pro Workstation Bundle, PC not included	\$ 16,975.00	21,218.75
905-0412	Kenwood MAX Pro Workstation, Laptop Bundle USB Headset included, Media Dock not included.	\$ 14,855.00	18,568.75
930-0258	MAX Pro Software	\$ 14,320.00	17,900.00
905-0446	Kenwood MAX Pro Workstation Bundle with Rackmount Speakers Position: One Operator Workstation PC, one Media Dock, one 19" Rackmount Speaker Panel with two speakers, and Power Supply Licenses: MAX Base Software, Individual Call, Tone Signaling/Paging, Telephony, Event Replay, Aux I/O Control Feature Sets All manuals included in softcopy format with the MAX software.	\$ 17,505.00	21,881.25
905-0512	1-Position 2 Channel NXDN with PC Position: One Operator Workstation PC, one Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Backroom: One MAX Digital Radio Gateway with NXDN interface licenses, one MAX Central, one MAX Manager (non-redundant) Licenses: One MAX Base Software License, one 2-channel License Block (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls). All manuals included in softcopy format with the MAX software.	\$ 21,310.00	26,637.50
905-0513	1-Position 10 Channel NXDN with PC Position: One Operator Workstation PC, one Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Backroom: Five MAX Digital Radio Gateways with NXDN interface licenses, one MAX Central, one MAX Manager (non-redundant) Licenses: One MAX Base Software License, one 10-channel License Block (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls). All manuals included in softcopy format with the MAX software.	\$ 33,990.00	42,487.50
905-0514	1-Position 20 Channel NXDN with PC Position: One Operator Workstation PC, one Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Backroom: Ten MAX Digital Radio Gateways with NXDN interface licenses, one MAX Central, one MAX Manager (non-redundant) Licenses: One MAX Base Software License, two 10-channel License Blocks (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls) All manuals included in softcopy format with the MAX software.	\$ 51,670.00	64,587.50
905-0515	1-Position 2 Channel NXDN without PC Position: One Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Backroom: One MAX Digital Radio Gateway with NXDN interface licenses, one MAX Central, one MAX Manager (non-redundant) Licenses: One MAX Base Software License, one 2-channel License Block (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls) All manuals included in softcopy format with the MAX software.	\$ 19,295.00	24,118.75

905-0516	1-Position 10 Channel NXDN without PC Position: One Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Backroom: Five MAX Digital Radio Gateways with NXDN interface licenses, one MAX Central, one MAX Manager (non-redundant) Licenses: One MAX Base Software License, one 10-channel License Block (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls) All manuals included in softcopy format with the MAX software.	\$ 32,250.00	40,312.50
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MAX PRO WORKSTATIONS, CON'T	CONTRACT	LIST
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905-0517	1-Position 20 Channel NXDN without PC Position: One Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Backroom: Ten MAX Digital Radio Gateways with NXDN interface licenses, one MAX Central, one MAX Manager (non-redundant) Licenses: One MAX Base Software License, two 10-channel License Blockx (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls) All manuals included in softcopy format with the MAX software.	\$ 49,490.00	61,862.50
905-0518	Max Standard with Laptop Position: Laptop, USB Headset Licenses: One MAX Base Software License (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls)	\$ 9,270.00	11,587.50
950-1348	MAX Standard Software Does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls	\$ 4,500.00	5,625.00
905-0519	MAX Standard Workstation Bundle (with PC) Position: One Operator Workstation PC, one Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Licenses: One MAX Base Software License (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls) All manuals included in softcopy format with the MAX software.	\$ 10,305.00	12,881.25
905-0522	MAX Standard Workstation Bundle (without PC) Includes one Media Dock, two Speakers, Power Supply, MAX Base Software License, and softcopy of manuals	\$ 8,950.00	11,187.50
905-0524	MAX Standard Laptop Bundle (without Laptop) Includes USB Headset and softcopy of manuals; does NOT include Media Dock or Laptop	\$ 4,750.00	5,937.50

OPERATOR WORKSTATION SOFTWARE LICENSES (PER WORKSTATION)
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930-0222	Individual Call Software Feature Set Includes: Individual radio call, Call Alert, Radio Check, Radio Monitor, Inhibit, Uninhibit	\$ 1,060.00	1,325.00
930-0223	Telephony Feature Set Includes: Console controls for basic telephone operation, Caller ID, and Alias	\$ 1,590.00	1,987.50
930-0224	Tone Signaling/Paging Feature Set Includes: Manual paging operation, instant call and stacked paging, 2-tone 100, 1000, and Custom Calls (Mot & GE), Quick Call (2+2), DTMF, and Knox	\$ 1,590.00	1,987.50
930-0225	Event Replay Short term audio playback at the console position	\$ 1,795.00	2,243.75
930-0226	Aux I/O Software Feature Set	\$ 1,590.00	1,987.50

WORKSTATION HARDWARE OPTIONS	CONTRACT	LIST
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950-0032	Headset, 6-wire, Noise Cancelling Dual-prong adapter which includes one headset top	\$ 438.24	547.80
950-0033	Headset 4-Wire, Noise Cancelling Dual-prong adapter which includes one headset top	\$ 329.34	411.68
950-0454	Wireless Headset, 6-Wire, Noise Canceling (comes with two batteries) Plantronics CA12CD improved belt-mounted PTT pack has secure battery retention and accepts Plantronics H-Series headset tops	\$ 1,103.57	1,379.46
802-0115	Headset Top, Noise Cancelling	\$ 147.41	184.26
905-0414	Kenwood Desktop Microphone, Shure with Cable	\$ 615.00	768.75
950-1077	Dual Prong Headset Jackbox Option (Dual Volume Control) Required for TRHI functionality	\$ 800.00	1,000.00
950-1082	Dual Prong Headset Jackbox Option (Single Volume Control)	\$ 641.00	801.25
950-9102	Footswitch, Single w/ 10' cable	\$ 122.00	152.50
950-1190	Kenwood Speakers Single (cable separate)	\$ 450.00	562.50
950-1230	Kenwood 19" 2U Rackmount Speaker Panel - 2 Speakers (cables not included)	\$ 917.00	1,146.25
950-1251	2U Rackmount Gooseneck Microphone	\$ 535.00	668.75
709-0170-10	10 ft. Shielded Cat 5e cable for Speakers	\$ 21.25	26.56
901-9695	Kenwood Media Dock XS Kit	\$ 4,030.00	5,037.50
950-1237	Console Position Light Pole	\$ 584.32	730.40

MAX DIGITAL RADIO GATEWAY INTERFACE AND OPTIONS (IP)		CONTRACT	LIST
901-9727	Kenwood MAX Digital Radio Gateway Used when interfacing via IP directly to a NEXEDGE® System	\$ 2,695.00	3,368.75
930-0264	NEXEDGE Talkpath Interface (Conventional or Trunking) Requires license for each NEXEDGE Talkpath monitored at the console <i>Conventional: One Talkpath per Gateway</i> <i>Trunking: Two Talkpaths per Gateway</i>	\$ 530.00	662.50
MAX SYSTEM HARDWARE/SOFTWARE		CONTRACT	LIST
901-9719	Kenwood MAX Central Hardware platform hosting the MAX Manager, Telephony Gateway, IP Voice Logger Gateway, and the Auxiliary I/O Gateway; includes five (5) 10 ft. shielded CAT5e cables for connectivity	\$ 3,395.00	4,243.75
930-0231	Z-Node Manager At least one required for each MAX System.	\$ 3,290.00	4,112.50
930-0221	Block of 10 Radio Channels Licenses Up to 50 channels in the system; beyond 50 channels, please call Kenwood for pricing.	\$ 3,185.00	3,981.25
930-0376	Block of 2 Radio Channel Licenses	\$ 695.00	868.75
930-0237	IP Voice Logger Channel Block License Provides IP Logging Access for up to 10 radio channels; may require additional Centrals	\$ 480.00	600.00
930-0273	MAX Dispatch Voice Logger License for Eventide NexLog™ Logging Recorders License applies when using Eventide NexLog™ recorder only; Eventide Recorder must have been purchased through Zetron to qualify; 930-0237 not needed	NC	NC
930-0239	Auxiliary I/O Port License Supports any combination of inputs and outputs up to 48	\$ 930.00	1,162.50
930-0233	MAX Portal Remote Radio License One remote Portal license is needed per Radio Gateway that is designated as remote device; may require additional Centrals	\$ 210.00	262.50
930-0234	MAX Portal Z-Node License One portal license is needed for each Z-Node that is required to operate in a multi-node system; may require additional Centrals	\$ 4,120.00	5,150.00
950-9351	Connectorized Punch down Block	\$ 116.86	146.08
950-9199	Connectorized Punch down Block (Protected) [Baseline Product]	\$ 891.00	1,113.75
901-9674	Model 6080 Relay Module For higher current applications (8 I/O)	\$ 875.00	1,093.75
802-1111	Acromag Ethernet I/O Unit Sixteen discrete I/O channels, any mix of inputs and outputs 12-32VDC	\$ 783.52	979.40
930-1214	Aux I/O Port License Supports any combination of inputs and outputs up to 16 ports	\$ 410.00	512.50
802-2117	Acromag Ethernet I/O Unit Thirty-two optically isolated inputs, 16 relay outputs (250 VAC@ 2A) 18-36VDC; power supply not included	\$ 2,729.04	3,411.30
950-1347	Network Isolation Switch Must be used with p/n 802-2117	\$ 258.96	323.70
802-0255	Power Supply for 802-2117 Acromag Ethernet Unit	\$ 33.20	41.50
MAX TELEPHONY GATEWAY INTERFACE		CONTRACT	LIST
930-0235	Telephone Gateway Services (1 per Max Central)	\$ 2,120.00	2,650.00
930-0236	Telephony Port License (1 license per line connection) License not required if purchasing one of the gateways above	\$ 65.00	81.25
950-1130	2 Port FXS VoIP Gateway with 2 port license Unit requires use of 19" Rack 2U shelf (810-0142)	\$ 805.00	1,006.25
950-1131	12 Port FXS VoIP Gateway with 12 port license	\$ 2,450.00	3,062.50
950-1138	2 Port FXO VoIP Gateway with 2 port license Unit requires use of 19" Rack 2U shelf (810-0142)	\$ 805.00	1,006.25
950-1139	12 Port FXO VoIP Gateway with 12 port license	\$ 2,450.00	3,062.50
MAX DMR INTERFACE		CONTRACT	LIST
905-0510	MAX Dispatch DMR AIS Gateway Bundle	\$ 6,200.00	7,750.00
905-0511	MAX Dispatch DMR AIS Gateway Redundancy Bundle	\$ 9,795.00	12,243.75
930-0363	MAX Dispatch DMR 5 TalkPath License	\$ 5,000.00	6,250.00
930-0364	MAX Dispatch DMR 10 TalkPath License	\$ 9,100.00	11,375.00
930-0365	MAX Dispatch DMR 20 TalkPath License	\$ 16,100.00	20,125.00
MAX DMR INTERFACE, CON'T		CONTRACT	LIST
930-0366	MAX Dispatch DMR 30 TalkPath License	\$ 21,100.00	26,375.00

RACK MOUNTING AND POWER EQUIPMENT		CONTRACT	LIST
950-1142	Redundant 12VDC Power System Supports up to 20 MAX Dispatch devices and includes 19" rack mount enclosure	\$ 2,650.00	3,312.50
950-1143	Redundant 12VDC Power System Supports up to 40 MAX Dispatch devices and includes 19" rack mount enclosure	\$ 4,875.00	6,093.75
950-1133	Isolated 12VDC Power Supply System (non-redundant) Supports up to 20 MAX Dispatch devices	\$ 1,380.00	1,725.00
950-1134	12VDC Power Distribution Panel Supports up to 40 MAX Dispatch devices; fuses not included	\$ 630.80	788.50
950-1135	DIN Rail Mounting Kit Generic rack mount kit that can be used for extra power supply mounting or other devices using DIN rail mounting	\$ 505.00	631.25
950-0923	MAX Radio Gateway Power Supply Option Used for powering one Radio Gateway	\$ 80.00	100.00
950-0589	Radio Interface Module Single Unit Rack Mount Kit	\$ 122.00	152.50
950-0588	Radio Interface Module Dual Unit Rack Mount Kit	\$ 170.00	212.50
810-0142	19" Rack 2U Shelf	\$ 106.24	132.80
416-0043	Fuse, 3 Amp	\$ 6.64	8.30
416-0012	AC Power Cord (North America) Required for items that need main power input	\$ 14.61	18.26

MONITORS AND NETWORK EQUIPMENT		CONTRACT	LIST
802-2311	Monitor, LCD Flatpanel, 23" Supports up to 1920X1080 resolution	\$ 358.56	448.20
802-2423	Tech Global 24" WS Multi-touch Monitor Supports up to 1920X1080 resolution	\$ 3,217.74	4,022.18
802-2220	View Sonic, LCD, 22" WS Multi-touch Monitor Supports up to 1920X1080 resolution	\$ 710.48	888.10
950-1275	1000BASE-T SFP Module (Copper) Includes two modules; needed if linking switches together on the same network	\$ 1,095.60	1,369.50
950-1276	1000BASE-SX SFP Module for Multi-Mode Fiber Includes two modules; needed for Multi-Mode Fiber Switch connection	\$ 1,401.04	1,751.30
950-1281	24 Port Managed Gigabit Rack Mount Switch Two required for high availability network	\$ 2,735.68	3,419.60
950-1280	48 Port Managed Gigabit Rack Mount Switch Two required for high availability network	\$ 4,774.16	5,967.70
950-1287	Cisco Management Cable Needed for switch programming and management	\$ 66.40	83.00

SYSTEMS DOCUMENTATION		CONTRACT	LIST
395-0098	MAX Dispatch Manual Set CD includes complete suite of MAX Dispatch manuals	\$ 25.00	31.25
025-9638-1	MAX System Overview Manual	\$ 50.00	62.50
025-9645-1	MAX System Installation Manual	\$ 50.00	62.50
025-9654-1	MAX Dispatch System Configuration Manual	\$ 50.00	62.50
025-9649-1	MAX Operation Manual	\$ 50.00	62.50
025-9625-1	MAX Digital Radio Gateway Product Manual	\$ 50.00	62.50
025-9647-1	MAX Central Product Manual	\$ 50.00	62.50
025-9650-1	MAX Dispatch Console Design Manual	\$ 50.00	62.50
025-9630	Model 6080 Manual	\$ 50.00	62.50
025-9658-1	Media Dock XS Manual	\$ 50.00	62.50
025-9693	MAX Dispatch CAD Interface Control Document API documentation for developing 3rd party applications to control the MAX Dispatch Console; Protocol License Agreement required to obtain documentation	\$ 785.00	981.25
025-9695	MAX Infrastructure Gateway Installation and Configuration Guide	\$ 50.00	62.50
025-9632	Headset Jackbox manual	\$ 50.00	62.50

CUSTOMER SUPPORT SERVICES (NON-DISCOUNTABLE)		CONTRACT	LIST
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Note: Factory Training in Redmond, WA

X97-344F	MAX Dispatch Factory Technical Training, First Person	\$ 1,454.16	1,817.70
X97-344A	MAX Dispatch Factory Technical Training, Additional person	\$ 723.76	904.70
XMP-K344-OWE	MAX-PSP Operator Web Training extension	\$ 1,992.00	2,490.00

ON-SITE OPERATOR TRAINING (NON-DISCOUNTABLE)		CONTRACT	LIST
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Note: Plans are for North America only



XMP-K344-OSO	MAX-PSP On-Site Operator Training, Per Day Price is per day and is for North America only; three weeks advance notice required	\$ 3,320.00	4,150.00
<b>ON-SITE TECHNICAL SUPPORT (NON-DISCOUNTABLE)</b>		<b>CONTRACT</b>	<b>LIST</b>
Note: Plans are for North America only			
XMP-K344-OST	MAX-PSP On-Site Technical Support, Per Day Price is per day and is for North America only; three weeks advance notice required	\$ 3,320.00	4,150.00
<b>UPGRADES</b>		<b>CONTRACT</b>	<b>LIST</b>
950-1228	MAX Dispatch Software and Firmware Upgrade-PSP Required (P/N for delivery tracking only)	NC	NC
<b>SPARES</b>		<b>CONTRACT</b>	<b>LIST</b>
950-1133	Isolated 12VDC Power Supply System (non-redundant) Can support up to 20 MAX Dispatch devices	\$ 1,380.00	1,725.00
901-9727	Kenwood MAX Digital Radio Gateway	\$ 2,695.00	3,368.75
901-9719	Kenwood MAX Central	\$ 3,395.00	4,243.75
901-9695	Kenwood Media Dock XS Kit	\$ 4,030.00	5,037.50
950-1278-1	Kenwood MAX Solutions Workstation PC	\$ 2,629.44	3,286.80
802-0692	Power Supply, Desktop 60W	\$ 55.78	69.72
416-0012	AC Power Cord (North America)	\$ 14.61	18.26
<b>SERVICE PLANS</b>		<b>CONTRACT</b>	<b>LIST</b>
Note: Plans are for North America only			
XMP-K344-EBS	MAX-PSP Extended Service Plan One year software services, one year hardware, after-hours phone support, and one year membership in the Zetron MAX Users Group; per position, per year	NC	NC
XMP-K344-SSL	MAX-PSP Extended Service Plan Reinstatement Fee Reinstating the software services plan after its expiration; per position	NC	NC
XMP-K344-APM	MAX-PSP After hours phone support 1 time Special needs - emergency and pre-scheduled service outside of regular business hours; per month	\$ 100.00	125.00
XMP-K344-RCS	MAX-PSP Remote Configuration Services Systems & CSSI Assistance in the initial configuration of a system; up to 32 hours scheduled	\$ 5,976.00	7,470.00
XMP-K344-RCH	MAX-PSP Remote Configuration Services Features & Components Assistance in the configuration of new components or features; hourly	\$ 239.04	298.80
XMP-K344-MUG	MAX-PSP Zetron MAX Users Group Membership for one year into the ZMUG allows participation in MAX related webinars (must have software PSP)	NC	NC
<b>WARRANTY PACKAGE</b>		<b>CONTRACT</b>	<b>LIST</b>
Note: Plan is for North America only			
XMP-K344-BAS	MAX-PSP Base Service Plan One year software services, one year hardware services, one year of advance hardware replacement, operator web training (2-4 hour sessions), and one year membership in the Zetron MAX Users Group	NC	NC



# KA-160

Analog/DMR VHF Repeaters - 136-174 MHz



## GENERAL FEATURES

- Analog FM 12.5 kHz
- Digital 12.5 kHz
- DMR Tier 2 Conventional
- DMR Conventional IP Network
- Multi-mode Analog/Digital Repeater
- Optional Soft Diversity Reception
- Analog / Digital Simulcast Option

## GENERAL OPTIONS

- External amplifier with built-in antenna T/R switch for simplex operation.
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is also available.
- Multi-channel combining systems are quoted on an individual system basis.
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 50W, 110W or 150W options.
- Custom configurations are also available; contact your KENWOOD Systems Regional Sales Manager for more details.

KAIROS REPEATER		CONTRACT	LIST
KA-160	KAIROS Repeater, Analog/DMR, VHF, 136-174MHz, 1-25W, 100% Duty	\$ 3,362.60	\$ 4,203.25
KA-160-TX	KAIROS Transmitter Only, Analog/DMR, VHF, 136-174MHz, 1-25W, 100% Duty	\$ 2,802.60	\$ 3,503.25
KA-160-RX	KAIROS Receiver Only, Analog/DMR, VHF, 136-174MHz	\$ 2,802.60	\$ 3,503.25
SOFTWARE LICENSES FOR KAIROS REPEATERS		CONTRACT	LIST
KA-MCTCSS	License to allow the use of up to 8 different CTCSS contemporary	\$ 280.00	\$ 350.00
KA-POCSAG	License to add POCSAG capability	\$ 720.00	\$ 900.00
KA-SI-T2	License to allow Simulcast operation	\$ 7,400.00	\$ 9,250.00
KA-1+1	License required for Hot Stand-by configuration <b>Note :</b> Must purchase additional KA repeater.	\$ 320.00	\$ 400.00
PROGRAMMING SOFTWARE		CONTRACT	LIST
KA-MNG	Technical Documentation and Programming Software	\$ 240.00	\$ 300.00
REPEATER MOUNT (Mandatory mount option for rack mounting)		CONTRACT	LIST
KA-RK1v2	19" Mount Panel for One KAIROS Repeaters	\$ 320.00	\$ 400.00
KA-RK2	19" Mount Panel for Two KAIROS Repeaters	\$ 320.00	\$ 400.00
HARDWARE OPTION for KAIROS Repeaters		CONTRACT	LIST
KA-GPS	GPS Receiver for Simulcast Operation	\$ 320.00	\$ 400.00
GPS-ANT	GPS Antenna for Simulcast Operation	\$ 320.00	\$ 400.00
DVX-VHF	Diversity RX filter for VHF 136 - 174 MHz	\$ 800.00	\$ 1,000.00
RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
<b>Note:</b> Includes One Cable for Radio Connectivity.			
KSGPA22403	136-174MHz, 3W Input, 25-50W Output	\$ 1,332.00	\$ 1,665.00
KSGPA22411	136-144MHz, 3W Input, 55-110W Output	\$ 1,728.00	\$ 2,160.00
KSGPA22412	144-152MHz, 3W Input, 55-110W Output	\$ 1,728.00	\$ 2,160.00
KSGPA22413	152-162MHz, 3W Input, 55-110W Output	\$ 1,728.00	\$ 2,160.00

KSGPA22414	162-174MHz, 3W Input, 55-110W Output	\$ 1,728.00	\$ 2,160.00
KSGPA22441	136-144MHz, 3W Input, 150W Output	\$ 2,448.00	\$ 3,060.00
KSGPA22442	144-152MHz, 3W Input, 150W Output	\$ 2,448.00	\$ 3,060.00
KSGPA22443	152-162MHz, 3W Input, 150W Output	\$ 2,448.00	\$ 3,060.00
KSGPA22444	162-174MHz, 3W Input, 150W Output	\$ 2,448.00	\$ 3,060.00
KSGPA22253	152-162MHz, 3W Input, 250W Output	\$ 3,248.00	\$ 4,060.00
KSGPA22503	136-174MHz, 25W Input, 25-50W Output	\$ 1,332.00	\$ 1,665.00
<b>RF REPEATER STATION AMPLIFIER OPTIONS, CON'T</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGPA22511	136-144MHz, 25W Input, 55-110W Output	\$ 1,728.00	\$ 2,160.00
KSGPA22512	144-152MHz, 25W Input, 55-110W Output	\$ 1,728.00	\$ 2,160.00
KSGPA22513	152-162MHz, 25W Input, 55-110W Output	\$ 1,728.00	\$ 2,160.00
KSGPA22514	162-174MHz, 25W Input, 55-110W Output	\$ 1,728.00	\$ 2,160.00
KSGPA22541	136-144MHz, 25W Input, 150W Output	\$ 2,448.00	\$ 3,060.00
KSGPA22542	144-152MHz, 25W Input, 150W Output	\$ 2,448.00	\$ 3,060.00
KSGPA22543	152-162MHz, 25W Input, 150W Output	\$ 2,448.00	\$ 3,060.00
KSGPA22544	162-174MHz, 25W Input, 150W Output	\$ 2,448.00	\$ 3,060.00
<b>POWER SUPPLY OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGPS20200	DC Switching Power Supply 13.8VDC 20A	\$ 204.00	\$ 255.00
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 380.00	\$ 475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 1,084.00	\$ 1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	\$ 1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	\$ 1,740.00
<b>MOUNTING RACK</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	\$ 2,675.00
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	\$ 1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	\$ 1,200.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	\$ 2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	\$ 345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	\$ 90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	\$ 435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	\$ 140.00
<b>ETHERNET SWITCH &amp; ROUTER OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
<b>Note:</b> One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	\$ 250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	\$ 375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	\$ 375.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	\$ 50.00
<b>DUPLEXER</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGDX12556	6 Cavity VHF BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty, minimum TX-RX 400 KHz. Includes one LMR-400 interface cable.	\$ 2,476.00	\$ 3,095.00
<b>COMPONENTS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 3,362.60	\$ 720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	\$ 360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	\$ 650.00

KSGMT0C07R	Crate for 7' Rack	\$ 440.00	\$ 550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	\$ 2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	\$ 520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	\$ 560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	\$ 65.00

## KA-450/500

Analog/DMR UHF Repeaters



### GENERAL FEATURES

- Analog FM 12.5 kHz
- Digital 12.5 kHz
- DMR Tier 2 Conventional
- DMR Conventional IP Network
- Multi-mode Analog/Digital Repeater
- Optional Soft Diversity Reception
- Analog / Digital Simulcast Option
- System Redundancy

### GENERAL OPTIONS

- External amplifier with built-in antenna T/R switch for simplex operation.
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 4 and 6 cavity BpBr duplexer are also available.
- Multi-channel combining systems are quoted on an individual system basis.
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3") and 45 RU (7") open equipment racks.
- Amplifier choices include 40W, 100W or 150W options.
- Custom configurations are also available; contact your KENWOOD Systems Regional Sales Manager for more details.

KAIROS REPEATERS		CONTRACT	LIST
KA-450	KAIROS Repeater, Analog/DMR, UHF, 400-470MHz, 1-25W, 100% Duty	\$ 3,362.60	\$ 4,203.25
KA-450-TX	KAIROS Transmitter Only, Analog/DMR, UHF, 400-470MHz, 1-25W, 100% Duty	\$ 2,802.60	\$ 3,503.25
KA-450-RX	KAIROS Receiver Only, Analog/DMR, UHF, 400-470MHz	\$ 2,802.60	\$ 3,503.25
KA-500	KAIROS Repeater, Analog/DMR, UHF, 450-512MHz, 1-25W, 100% Duty	\$ 3,362.60	\$ 4,203.25
KA-500-TX	KAIROS Transmitter Only, Analog/DMR, UHF, 450-512MHz, 1-25W, 100% Duty	\$ 2,802.60	\$ 3,503.25
KA-500-RX	KAIROS Receiver Only, Analog/DMR, UHF, 450-512MHz	\$ 2,802.60	\$ 3,503.25
SOFTWARE LICENSES FOR KAIROS REPEATERS		CONTRACT	LIST
KA-MCTCSS	License to allow the use of up to 8 different CTCSS contemporary	\$ 280.00	\$ 350.00
KA-POCSAG	License to add POCSAG capability	\$ 720.00	\$ 900.00
KA-SI-T2	License to allow Simulcast operation	\$ 7,400.00	\$ 9,250.00
KA-1+1	License required for Hot Stand-by configuration <b>Note :</b> Must purchase additional KA repeater.	\$ 320.00	\$ 400.00
PROGRAMMING SOFTWARE		CONTRACT	LIST
KA-MNG	Technical Documentation and Programming Software	\$ 240.00	\$ 300.00
REPEATER MOUNT (Mandatory mount option for rack mounting)		CONTRACT	LIST
KA-RK1v2	19" Mount Panel for One KAIROS Repeaters	\$ 320.00	\$ 400.00
KA-RK2	19" Mount Panel for Two KAIROS Repeaters	\$ 320.00	\$ 400.00
HARDWARE OPTION FOR KAIROS REPEATERS		CONTRACT	LIST
KA-GPS	GPS Receiver for Simulcast Operation	\$ 320.00	\$ 400.00
GPS-ANT	GPS Antenna for Simulcast Operation	\$ 320.00	\$ 400.00
DVX-UHF	Diversity RX filter for UHF 400 - 470 MHz	\$ 800.00	\$ 1,000.00
RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
<b>Note:</b> Includes One Cable for Radio Connectivity.			
KSGPA23401	406-450MHz, 3W Input, 20-40W Output	\$ 1,332.00	\$ 1,665.00

KSGPA23403	450-512MHz, 3W Input, 20-40W Output	\$ 1,332.00	\$ 1,665.00
KSGPA23411	406-450MHz, 3W Input, 50-100W Output	\$ 1,732.00	\$ 2,165.00
KSGPA23413	450-512MHz, 3W Input, 50-100W Output	\$ 1,732.00	\$ 2,165.00
KSGPA23441	406-450MHz, 3W Input, 150W Output	\$ 3,152.00	\$ 3,940.00
KSGPA23443	450-512MHz, 3W Input, 150W Output	\$ 3,152.00	\$ 3,940.00
KSGPA23501	406-450MHz, 25W Input, 20-40W Output	\$ 1,332.00	\$ 1,665.00
KSGPA23503	450-512MHz, 25W Input, 20-40W Output	\$ 1,332.00	\$ 1,665.00
KSGPA23511	406-450MHz, 25W Input, 50-100W Output	\$ 1,732.00	\$ 2,165.00
KSGPA23513	450-512MHz, 25W Input, 50-100W Output	\$ 1,732.00	\$ 2,165.00
KSGPA23541	406-450MHz, 25W Input, 150W Output	\$ 3,152.00	\$ 3,940.00
KSGPA23543	450-512MHz, 25W Input, 150W Output	\$ 3,152.00	\$ 3,940.00
<b>POWER SUPPLY OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGPS20200	DC Switching Power Supply 13.8VDC 20A	\$ 204.00	\$ 255.00
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W amplifier option.	\$ 380.00	\$ 475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W amplifier option.	\$ 1,084.00	\$ 1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	\$ 1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	\$ 1,740.00
<b>MOUNTING RACK</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	\$ 1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	\$ 1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	\$ 2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	\$ 2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	\$ 345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	\$ 90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	\$ 435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	\$ 140.00
<b>ETHERNET SWITCH &amp; ROUTER OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
<b>Note:</b> One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	\$ 250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	\$ 375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	\$ 375.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	\$ 50.00
<b>DUPLEXER</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGDX13546	6 Cavity UHF BpBr Duplexer (450-470MHz Only) <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty. Includes one LMR-400 interface cable.	\$ 2,476.00	\$ 3,095.00
KSGDX23101	4 Cavity UHF BpBr Duplexer (450-470MHz Only) <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty. Includes one LMR-400 interface cable.	\$ 1,420.00	\$ 1,775.00
<b>COMPONENTS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	\$ 720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	\$ 360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	\$ 650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	\$ 550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	\$ 2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	\$ 520.00

**STATE OF MICHIGAN**  
**CENTRAL PROCUREMENT SERVICES**  
 Department of Technology, Management, and Budget  
 525 W. ALLEGAN ST., LANSING, MICHIGAN 48913  
 P.O. BOX 30026 LANSING, MICHIGAN 48909



**CONTRACT CHANGE NOTICE**

Change Notice Number **9**

to

Contract Number **071B0200124**

<b>CONTRACTOR</b>	E F JOHNSON COMPANY
	1440 Corporate Dr.
	Irving, TX 75038
	Jeanne Smith
	972-819-0216
	jwsmith@efji.com
	CV0050201

<b>STATE</b>	<b>Program Manager</b>	Gerald Leach	MULTI
		517-490-4148	
		leachg@michigan.gov	
	<b>Contract Administrator</b>	Valerie Hiltz	DTMB
		(517) 249-0459	
		hiltzv@michigan.gov	

CONTRACT SUMMARY				
2-WAY RADIOS				
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE	
April 12, 2010	January 19, 2013	5 - 1 Year	January 19, 2020	
PAYMENT TERMS		DELIVERY TIMEFRAME		
		Per agreed upon delivery date as specified on the individual purchase order.		
ALTERNATE PAYMENT OPTIONS				EXTENDED PURCHASING
<input type="checkbox"/> P-Card <input type="checkbox"/> PRC <input type="checkbox"/> Other				<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS				
N/A				
DESCRIPTION OF CHANGE NOTICE				
OPTION	LENGTH OF OPTION	EXTENSION	LENGTH OF EXTENSION	REVISED EXP. DATE
<input type="checkbox"/>		<input type="checkbox"/>		January 19, 2020
CURRENT VALUE	VALUE OF CHANGE NOTICE	ESTIMATED AGGREGATE CONTRACT VALUE		
\$1,000,000.00	\$0.00	\$1,000,000.00		
DESCRIPTION				
<p>Effective April 19, 2019 this contract is hereby making the following revisions per the following which are attached in this Change Notice:</p> <p>Revisions to contract language via the Revised Language document; Attachment 1 is replaced with Attachment A- Pricing, Attachment A.1 Category Pricing / Category Descriptions, Attachment A.2- EF Johnson Professional Services Rates and the current EFJ Michigan Price Guide; Added Attachment A.3- Authorized Dealers and Direct Sales Staff; and added Attachment A.4- Format for Quotations and A.5- Quotation Sample.</p> <p>The Contractor's primary contact has been changed to Jeanne Smith.</p> <p>All other terms, conditions, and specifications remain the same. Per Agency and Contractor agreement and DTMB Central Procurement Services approval.</p>				



REVISED LANGUAGE- Article 1 – Statement of Work

Section 1.022 (A.1) Specifications (replace in its entirety)

EF Johnson will make available to the State and its MiDeal members all of the products available from its catalog.

Section 1.022 (A.6) Catalogs (Deleted in its entirety)

Section 1.022 (B.7) ~~Receiving~~ Orders (Replaced in its entirety)

A. State of Michigan Orders:

State of Michigan agencies and departments must place their purchases through EF Johnson directly in the following manner:

1. Orders shall be created via SIGMA with the authorizing Document being a Delivery Order (DO). Quotes or documenting paperwork showing items, quantities, unit costs, and total cost shall be attached to the DO in SIGMA. (See Exhibit 1 for Additional Ordering Requirements)
2. The Delivery Order shall be submitted to JVCKenwood via U.S. postal mail, fax or e-mail for fulfillment. No oral orders are permissible.
3. The Contractor shall ensure that all orders for items that are intended to be used on the MPSCS System, which are received from a State of Michigan agency or department, arrives with the MPSCS Approval number clearly stated on the Delivery Order (DO). The Contractor is not authorized to process the order without it.
4. If the Contractor receives a DO without a required MPSCS approval, they shall provide the requesting agency and MPSCS with notification that the request cannot be fulfilled and that an MPSCS Approval number must be obtained to order fulfillment.
5. State orders will be sent to and placed with:  
EF Johnson Order Administration, Irving Texas  
Phone: 800-328-3911, press 1  
Fax: 972-819-2307  
E-mail: [orders@efji.com](mailto:orders@efji.com)

B. MiDeal Member Orders:

MiDeal Members may place their purchases directly with EF Johnson or through the one of the approved Distributors/Dealers listed in this contract.

1. When their order is placed, the MiDeal Member must include somewhere in the ordering paperwork the State of Michigan Master Agreement/Contract Number 071B0200128 to obtain the State of Michigan Pricing.
2. The Distributor/Dealer will confirm your MiDeal Member active status. If the local unit of government is not a MiDeal Member, they will be provided with the link to the MiDeal Membership page or otherwise directed to the State of Michigan MiDeal program, and will not be allowed to take advantage of this contract until their membership has been established.



Section 1.031 Contractor Staff, Roles, and Responsibilities (Replaced in its entirety)

- A. The Contractor has provided a list of all authorized Distributors/Dealers (subcontractors), including the firm name, address, and the contact person, See Attachment A.3. These Distributors/Dealers are authorized to sell and service EF Johnson products, as listed in Attachment A.1. Category Pricing and Category Descriptions, to MiDeal Members.

Distributors/Dealers shall verify that governmental entities, other than State of Michigan Agencies and Departments, are MiDeal Members by visiting [https://www.michigan.gov/dtmb/0,5552,7-358-82550\\_85753---,00.html](https://www.michigan.gov/dtmb/0,5552,7-358-82550_85753---,00.html). This contract and its pricing is extended to verified MiDeal Members only.

- B. The Contractor will provide a Single Point of Contact (SPOC). The duties of the SPOC shall include, but not be limited to:
- supporting the management of the Contract,
  - facilitating dispute resolution, and
  - advising the State of performance under the terms and conditions of the Contract.

The State reserves the right to require a change in the current SPOC if the assigned SPOC is not, in the opinion of the State, adequately serving the needs of the State.

The SPOC for this contract is:

Jeanne Smith  
EF Johnson Technologies, Inc.  
1440 Corporate Drive  
Irvine, TX 75038  
972-819-0216  
[JWSmith@efji.com](mailto:JWSmith@efji.com)

- C. If the State requests professional services during the term of this contract, the Contractor may be asked to provide a Project Manager. The duties of the Project Manager may include, but are not be limited to:
1. Manage all defined Contractor responsibilities in this Scope of Services.
  2. Manage Contractor's subcontractors, if any
  3. Develop the project plan and schedule, and update as needed
  4. Serve as the point person for all project issues
  5. Coordinate and oversee the day-to-day project activities of the project team
  6. Assess and report project feedback and status
  7. Escalate project issues, project risks, and other concerns
  8. Review all project deliverables and provide feedback
  9. Proactively propose/suggest options and alternatives for consideration
  10. Utilize change control procedures
  11. Prepare project documents and materials
  12. Manage and report on the project's budget





Section 1.061 Contract Pricing (Replaced in its entirety)

1. The Contractor must make available to the State of Michigan, and all MiDeal Members, the complete catalog of EF Johnson products.
2. Contract Prices for equipment, hardware, and software shall be a percentage off the List Price, as established in **Attachment A.1. Category pricing and Category Descriptions**, which includes all items in EF Johnson's full catalog, as published by EF Johnson and made available to its Direct Sales staff and its Distributors/Dealers.
  - a. Prices quoted and charged to the State and MiDeal members utilizing this contract shall never be more than prices quoted or offered by the Manufacture Representative's or direct sales through the Contractor "off-contract." This contract shall have "preferred status" and receive the Contractor's best statewide price.
  - b. Should the State discover that State and/or MiDeal members purchasing through this contract have not been offered the best statewide price, the Contractor shall reimburse the State and MiDeal Member for the difference. Contractor shall make the refund within 45 days of receipt of the notice to cure from the State.
  - c. If the contractor offers any national, regional or statewide promotional pricing during the contract period, the Program Manager and the Contract Administrator shall be notified at least 30 calendar days in advance of the promotion or as soon as the information is known, indicating the promotion's parameters and qualification requirements. Any promotional prices must be offered to the State (its Agencies) and its MiDeal members purchasing through this contract if the promotional prices are offered at all.
3. Contract Pricing for professional services shall be based on the Contractor's list price as established in **Attachment A.2. Professional Services Rates**.
4. **Quick Payment Terms**. E.F. Johnson Company offers prompt payment discount terms of 2% 20 Net 30 Days.
5. Prices quoted are Free On Board (FOB) Delivered with transportation charges prepaid on all orders. Other FOB terms will not be accepted.

Section 1.062 Price Term

Revise the following as noted:

Discount percentage quoted off List price as established in Attachment A.1., will remain fixed for the remainder of the contract.

The rates for Professional Services as established in Attachment A.2., will remain fixed for the remainder of the contract.

Replace all reference to Purchase Order (PO) with Delivery Order (DO).

Section 1.064 Quotes for Sales (Added in its Entirety)



The Contractor may be approached to provide quotations for systems or “box” products. Quotes for sales shall be created and provided in one of two formats dependent on type of sale, for system or box, in a format as outlined and described in **Attachments A.4. and A.5.**

REVISED LANGUAGE- Article 2 – Terms and Conditions

Section 2.281, last paragraph.

Please visit MiDeal At [https://www.michigan.gov/dtmb/0,5552,7-358-82550\\_85753---,00.html](https://www.michigan.gov/dtmb/0,5552,7-358-82550_85753---,00.html).

REVISED LANGUAGE- Exhibit 1- Additional Ordering Requirements (revised in total)

A. State Agency Purchases:

1. On the MPSCS System Use. State agencies or departments making radio or any communication service or accessories purchases from this contract with the intent of using them on the MPSCS system, must first be approved by MPSCS. This approval is obtained by making sure the agency selects “RADIO” on the Reporting Tab on the DO Header. That then causes the DO to route to MPSCS for approval before it moves thru the agency’s normal approval path.
2. Off the MPSCS System Use. State agencies or departments that wish to purchase radios or other communication service or accessories from this contract for use outside of the MPSCS system need take no further steps other than to make the purchase via the Master Agreement on SIGMA. Please note on the DO that this purchase is for Off System.



## ATTACHMENT A.1 – CATEGORY PRICING AND CATEGORY PRODUCT DESCRIPTIONS

### Pricing

DISCOUNT OFF LIST PRICE FOR HARDWARE AND SOFTWARE PRODUCTS	
CATEGORY	PERCENTAGE OFF LIST PRICE
Mobile and Portables	20%
Fixed Stations	20%
Dropship	20%
Consoles	20%
ASTRO and SmartZone	20%
Fixed Network Equipment	20%
Spare Parts	20%
Accessories and Aftermarket	20%
PSA/CAD	20%

### Category Product Descriptions

- Mobile and Portable.** Includes but are not limited to:
  - Mobile Radios- which is a fixed mount unit installed into a vehicle.
  - Portable Radios- which are personal radios
  - Consolette Radio- which are at dispatch centers or established for back up using 120v.
- Fixed Stations.** These are the large rack mounted radios located at radio tower sites.
- Dropship.** Includes all items that the Contractor sells or distributes but has been manufactured by other companies. These items include, but are not limited to;
  - Microwave Equipment
  - Antenna Systems
  - Site Shelters
  - Third party hardware or software
- Consoles.** Includes the 911 dispatch consoles.
- ASTRO and SmartZone.** Includes the system infrastructure hardware, software and software licenses, located at the system master sites, which run the P25 Radio System.
- Fixed Network Equipment.** Includes all of the system infrastructure IP networking hardware, including but not limited to:



- a. Routers
  - b. Switches
  - c. Firewalls
7. **Spare Parts.** To repair any items sold.
8. **Accessories and Aftermarket.** Includes but is not limited to such items as:
- a. Belt clips
  - b. Remote speaker mics
  - c. Batteries
9. **PSA/CAD.** PSA stands for Public Safety Applications and CAD stands for Computer Aided Dispatch. This category includes but is not limited to such items as:
- a. CAD systems software
  - b. Records management software
  - c. Jail management software
  - d. Mobile applications



**ATTACHMENT A.2**  
**EF JOHNSON PROFESSIONAL SERVICES RATES**

**EF JOHNSON PROFESSIONAL SERVICES LIST**

DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
Dash Mount Mobile Install	EFJohnson	0.0%	\$ 150.00	Fixed	Mobile Install Rate.
Remote Mount Mobile Install	EFJohnson	0.0%	\$ 250.00	Fixed	Mobile Install Rate.
Dual Control head Mobile Install	EFJohnson	0.0%	\$ 750.00	Fixed	Mobile Install Rate.
Installation Hourly Labor Rate	EFJohnson	0.0%	\$ 120.00	Hourly	Install Hourly Rate.
Technical Hourly Labor Rate	EFJohnson	0.0%	\$ 150.00	Hourly	Technical Hourly Rate.
Onsite Training	EFJohnson	0.0%	\$ 1,500.00	Fixed	Instructor - 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 1,600.00	Fixed	Travel - 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 3,000.00	Fixed	Instructor - 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 2,100.00	Fixed	Travel - 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 4,500.00	Fixed	Instructor - 3-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 3-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 3-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 2,600.00	Fixed	Travel - 3-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 6,000.00	Fixed	Instructor - 4-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 4-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 4-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 3,100.00	Fixed	Travel - 4-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 6,000.00	Fixed	Instructor - 5-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 5-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 5-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 3,100.00	Fixed	Travel - 5-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 7,500.00	Fixed	Instructor - 6-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 6-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 700.00	Fixed	Travel Day - 6-Day Onsite Training



## EF JOHNSON PROFESSIONAL SERVICES LIST

DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
Dash Mount Mobile Install	EFJohnson	0.0%	\$ 150.00	Fixed	Mobile Install Rate.
Remote Mount Mobile Install	EFJohnson	0.0%	\$ 250.00	Fixed	Mobile Install Rate.
Dual Control head Mobile Install	EFJohnson	0.0%	\$ 750.00	Fixed	Mobile Install Rate.
Installation Hourly Labor Rate	EFJohnson	0.0%	\$ 120.00	Hourly	Install Hourly Rate.
Technical Hourly Labor Rate	EFJohnson	0.0%	\$ 150.00	Hourly	Technical Hourly Rate.
Onsite Training	EFJohnson	0.0%	\$ 1,500.00	Fixed	Instructor - 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 1,600.00	Fixed	Travel - 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 3,000.00	Fixed	Instructor - 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 2,100.00	Fixed	Travel - 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 4,500.00	Fixed	Instructor - 3-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 3-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 3-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 2,600.00	Fixed	Travel - 3-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 6,000.00	Fixed	Instructor - 4-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 4-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 4-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 3,100.00	Fixed	Travel - 4-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 6,000.00	Fixed	Instructor - 5-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 5-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 5-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 3,100.00	Fixed	Travel - 5-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 7,500.00	Fixed	Instructor - 6-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 6-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 700.00	Fixed	Travel Day - 6-Day Onsite Training



**ATTACHMENT A.3**  
**AUTHORIZED DEALERS AND DIRECT SALES STAFF**

**Authorized Dealer List- For MiDeal Members**

<b>Company Information</b>	<b>Contact</b>
Adams Distributing Company 30469 Beck Road, Wixom, MI 48393	Scott Adams • 248-669-7100
Adrian Communications 103½ Sand Creek Highway, Adrian MI 49221	Dan Baker • 517-265-8470
Advanced Wireless Telecom 49716 Martin Drive, Wixom, MI 48393	Todd Jones • 248-295-4600
Anderson Communications 6149 Westside Saginaw Road, Bay City, MI 48706	Dale Schroeder • 989-684-9969
C-Comm of Kalamazoo, Inc. 1600 Lincoln Road, Allegan, MI 49010	Valerie White • 269-673-9900
Communications Specialists 4138 S. Division Street, Grand Rapids, MI 49548	Arlen Dykema • 616-534-5862
Cynergy Wirless 1463 Combermere Drive, Troy, MI 48083	Chuck Harris • 248-298-3855
Delta Com, Inc. 28475 Novi Road, P.O. Box 813, Novi, MI 48376	John Zimmerman • 248-207-8587
Digicom Global, Inc. 3911 Rochester Road, Troy, MI 48083	Tim Hoerner • 248-866-6000
Elcom Systems 3150 Wright Street, Marquette, MI 49855	Greg Place • 906-228-5255
Electrocomm-Michigan, Inc. 2648 Lapeer Road, Auburn Hills, MI 48326	Richard Pizzi • 248-334-4300
Grand Traverse Mobile Communications 1670 Barlow Street, Suite 1, Traverse City, MI 49686	Neil Pickard • 231-947-9851
Hi-Tech SMR Communications 255 Bell Road, Suite A, Niles, MI 49120	Michael Ruedinger • 269-683-7451
JS Electronics, Inc. 1108 20 <sup>th</sup> Street, Menominee, MI 49858	James Swanson • 906-863-2820
Midcom Radio Communications, Inc. 1370 East Sanilac Road, Sandusky, MI 48471	Dennis Krajenka • 810-648-3780
Midcom Service 2131 E. Laketon Avenue, Muskegon, MI 49442	Steven Crow • 231-773-3107



OTEC Communication Systems 405 Pine Street, Elk Rapids, MI 49629	Peter Van Den Berghe • 231-264-6133
ProComm, Inc. 2099 Independence Drive, Mt. Pleasant, MI 48858	Harold Stegman, Jr. • 989-772-3751
Radio North, LLC 2682 Garfield Road N., Suite 22, Traverse City, MI 49686	Derinna Dine • 231-929-2934
Range Corporation 2342 U.S. 41 W., Marquette, MI 49855	Jeff Paull • 906-228-7000
RFT Enterprises (HEI Wireless) 2203 Plaza Drive, Benton Harbor, MI 49022	Don Scharnowske • 269-926-1555
Spectrum Wireless, Inc. 27601 Little Mack Avenue, St. Clair Shores, MI 48081	Ron Stebbeds • 586-693-7525
State Systems Radio 5066 S. Sprinkle Road, Portage, MI 49002	Charles Agosti • 269-349-1935
T&W Electronics 1045 S. Division Avenue, Grand Rapids, MI 48506	David Tubergen • 616-241-3645
Thumb Radio, Inc. 1020 N. Van Dyke, Bad Axe, MI 48413	Mary Ann Robinson • 989-269-6420
Washtenaw Communications 3684 Wagner Ridge Court, Ann Arbor, MI 48103	Tim Andrews • 734-662-7138

**Direct Sales and Staff List- For State of Michigan**

**Sales:** Joe Campbell, Regional Sales Manager, 810-626-8813

**Place Order or Check Status:** 1-800-328-3911, ext. 1

**Sales Support:**

Kristi Berg, Inside Sales Representative, 972-819-0872 [kberg@efji.com](mailto:kberg@efji.com)

**Tech Support:** 1-800-328-3911, ext. 3

**Warranty Administration:** Dave Tambeau, 972-819-0705

**Repair Depot:** United Radio, (315) 445-3295

**Service Parts:** Dave Tambeau, 972-819-0705

**Service Center Manager:** Anjali Romero, 972-819-0710

**Dealer Management:** Joe Campbell, 810-626-8813

**EF Johnson Main Number:** 972-819-0700





## ATTACHMENT A.4 FORMAT REQUIRED FOR QUOTATIONS

1. **Quotations for Systems.** A professional quote will be required for equipment and services that are for systems requiring significant systems integration/ professional services. By providing quotes in this format, the Contractor provides a level of documentation required by governmental entities for audit purposes.
  - A. These quotes must be provided on the Motorola letterhead or bear the Motorola logo and shall include all the following elements:
    - a. Title Page
    - b. Table of Contents
    - c. Cover Letter – Signed by the authorized Motorola representative
    - d. System Description – including equipment and technical diagrams
    - e. Statement of Work which provides description of how the system will be implemented.
    - f. Warranty and maintenance information
    - g. Equipment list – detailed by line item including Motorola part number, quantity, description, list price, and discounted price
    - h. Professional Services List- detailed by line item including quantity, list price and discounted price.
    - i. Training- Description of training included in this proposal, if applicable.
    - j. Pricing Summary – Subtotals of equipment and Professional Services that mirrors the equipment list and pricing for install services.
    - k. Product Literature – if applicable
    - l. No additional terms or conditions, other than provided for in this contract are allowed.
  - B. Quotations may be provided, at the discretion of the requestor in:
    - a. Hard copy via fax, US Postal Delivery, courier service or in person
    - b. PDF format via e-mail.
2. **Quotations for Deliverables that are “Box Sales”.** The Contractor may provide a quote in a form format, for “Box Sales” which are those sales essentially for product with minimal amount of professional services or system integration. The quotation form must include all the elements of the sample Simple Quotation provided in **Attachment A.5**. No additional terms or conditions, other than provided for in this contract are allowed.



## ATTACHMENT A.5 SAMPLE- SIMPLE QUOTATION FORM

<b>MOTOROLA</b>		Date:	
(Motorola office address goes here)			
Quote #:			
<b>Prepared By:</b>	(Motorola Sales Rep.)	<b>Phone:</b>	
		<b>Fax:</b>	
CUSTOMER #:			
PREPARED FOR: (Customer Contact)		Bill To: Please Provide	
COMPANY:		Address:	
PHONE:			
FAX:		Ship to: Please Provide	
		Address:	
<b>Equipment Details and Pricing</b>			
<b>Qty.</b>	<b>Model</b>	<b>Description</b>	<b>List Price</b>
			<b>Discount Price</b>
			<b>Total Price</b>
<b>Motorola APX6000Li Portable Radio</b>			
20	H98UCF9PW6 N	APX6000 700/800 MODEL 2.5 PORTABLE	\$ 2,200.00
20	QA02756	ADD: 9600 TRUNKING OR 3600 DIGITAL TRUNKING	\$ 1,570.00
20	QA01749	ADD: ADVANCED SYSTEM KEY - SOFTWARE KEY	\$ -
20	WPLN7080	APX 7000 IMPRES CG SU APX7000 US/NA/CA/LA	\$ 125.00
20	PMNN4403	LIION IMPRES 2150MAH IP67 BATT	\$ 125.00
<b>Installation Services</b>			
20	SVC03	Radio programming & template generation	\$ 95.00
<b>QUOTE SUB TOTAL</b>			<b>\$60,442.00</b>
*All items are priced in accordance with the State of Michigan Radio Contract 071B2200101			

# KENWOOD

**ATLAS**<sup>®</sup>  **VIKING**<sup>®</sup> NEXEDGE<sup>®</sup> KAIROS

## Price Guide

### EFJohnson

a JVCKENWOOD Company

*Effective Date: 04.09.2019*



# Table of Contents

## Portables

[Viking VP6000 Portable](#)  
[Viking VP5000 Portable](#)  
[Viking VP900 Portable](#)  
[Viking VP600 Portable](#)

[NX-5200/5300](#)  
[NX-5400](#)  
[NX-3200/3300](#)  
[NX-3220/3320](#)  
[NX-200G/300G](#)  
[NX-210G](#)  
[NX-220IS/320IS](#)  
[NX-220-TD/320-TD](#)  
[NX-240V/340U](#)  
[NX-410/411](#)  
[NX-420](#)  
[TK-D240V/340U](#)

## Mobiles

[Viking VM7000 Mobile](#)  
[Viking VM6000 Mobile](#)  
[Viking VM5000 Mobile](#)  
[Viking VM900 Mobile](#)

[NX-5700/5800/5900](#)  
[NX-3720HG/3820HG](#)  
[TK-690](#)  
[NX-700/800](#)  
[NX-720HG-TD/820HG-TD](#)  
[NX-740HV/840HU](#)  
[NX-900/901](#)  
[NX-920G](#)  
[TK-D740HV/840HU](#)

## ATLAS Repeaters

[ATLAS 1200](#)

## KENWOOD Repeaters

[Low Power](#)  
[NXR-5700](#)  
[NXR-5800](#)  
[NXR-5900](#)  
[NXR-5901](#)  
[NXR-710](#)  
[NXR-810](#)  
[NXR-900](#)  
[NXR-901](#)  
[TKR-D710](#)  
[TKR-D710 LP PKG](#)  
[TKR-D810](#)  
[TKR-D810 LP PKG](#)

[TKB-6900](#)  
[KAS-20](#)  
[KAS-10](#)  
[KPG-150AP](#)  
[KPG-180AP](#)  
[KTI-4](#)  
[NEXEDGE Simulcast](#)  
[NEXEDGE Gen2](#)  
[NEXEDGE Gen1 Bridge](#)  
[NEXEDGE MAX](#)  
[KAIROS KA-160](#)  
[KAIROS KA-450/500](#)

**KENWOOD**

P25 Mission Critical

# Viking VP6000

VHF · UHF · 700/800 MHz  
P25 Phase 1 & 2 · Viking16

The KENWOOD Viking 6000 series portable is specifically designed for today's public safety agencies with advanced features and ergonomics to meet the first responder's mission critical operational needs.



## Features

- Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)
- Mixed protocol zones (each channel in a zone can be from a different system)
- 1024 channels (2048 option)
- Public safety ergonomics: flare grip for control, large glove friendly knobs, large emergency button
- 1 Watt audio output for high noise environments
- Voice annunciation & custom announcements creation
- Fully ruggedized - IP67/68 & MIL-STD-810 C/D/E/F/G
- Full key models (w/ numeric keypad)
- Built-in GPS receiver/antenna for enhanced awareness<sup>1</sup>
- MDC-1200 & GE-Star signaling
- P25 Authentication
- Bluetooth\*
- Man Down
- Instant Recording Replay (IRR)
- Voice Recording
- Encryption
  - ARC4™ software encryption; compatible w/Motorola ADP™
  - P25/TIA defined: AES-256
  - DES-OFB
  - Over-the-Air-Rekeying (OTAR)

<sup>1</sup>Refer to the Viking VP6000 operating manual for detailed requirements & conditions for proper GPS operation.

## Accessories

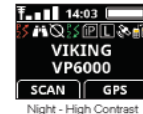
Complete line of accessories including microphones, speakers & antennas. Download the accessory catalog at [www.effjohnson.com/products/accessories](http://www.effjohnson.com/products/accessories).

## User Selectable Color Themes

- Multi-line text
- Top flip display changes text orientation for viewing while in holster
- Multiple visual indicators including battery health & signal strength
- Backlight changes for event identification
- Day & night user selectable display options (8 themes available)



Day - High Contrast



Night - High Contrast

## Compatible with Multiple P25 Systems

- ATLAS® P25 Phase 1 and Phase 2 System
- Motorola Astro® 25 - P25 Phase 1 & Phase 2
- Harris VIDA® - P 25 Phase 1 & Phase 2
- Airbus (formerly Cassidian) VESTA™ Radia - P25 Phase 1 & Phase 2

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



### Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



### Armada® Fleet Management

Update radios in a group rather than one at a time. One template programs both portables & mobiles. Supports either direct computer connection or Over-the-Air Programming (OTAP). Elite battery management enables wireless tracking of battery fleet.



### TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.

	Radio - Base Model	Contract	List
VP6230BKF2	VHF, 136-174 MHz, Model 2 (standard keypad), Black	\$ 1,808.00	\$2,260
VP6330BKF2	UHF, 450-520 MHz, Model 2 (standard keypad), Black	\$ 1,808.00	\$2,260
VP6330BKF5	UHF, 380-470 MHz, Model 2 (standard keypad), Black	\$ 1,808.00	\$2,260
VP6430BKF2	700/800 MHz, 762-806 MHz and 806-870 MHz, Black, Model 2 (standard keypad)	\$ 1,808.00	\$2,260
VP6230BKF3	VHF, 136-174 MHz, Model 3 (full keypad), Black	\$ 2,008.00	\$2,510
VP6330BKF3	UHF, 450-520 MHz, Model 3 (full keypad), Black	\$ 2,008.00	\$2,510
VP6330BKF6	UHF, 380-470 MHz, Model 3 (full keypad), Black	\$ 2,008.00	\$2,510
VP6430BKF3	700/800 MHz, 762-806 MHz and 806-870 MHz, Black, Model 3 (full keypad)	\$ 2,008.00	\$2,510
VP6230GRF2	VHF, 136-174 MHz, Model 2 (standard keypad), Green	\$ 1,968.00	\$2,460
VP6330GRF2	UHF, 450-520 MHz, Model 2 (standard keypad), Green	\$ 1,968.00	\$2,460
VP6330GRF5	UHF, 380-470 MHz, Model 2 (standard keypad), Green	\$ 1,968.00	\$2,460
VP6430GRF2	700/800 MHz, 762-806 MHz and 806-870 MHz, Green, Model 2 (standard keypad)	\$ 1,968.00	\$2,460
VP6230GRF3	VHF, 136-174 MHz, Model 3 (full keypad), Green	\$ 2,168.00	\$2,710
VP6330GRF3	UHF, 450-520 MHz, Model 3 (full keypad), Green	\$ 2,168.00	\$2,710
VP6330GRF6	UHF, 380-470 MHz, Model 3 (full keypad), Green	\$ 2,168.00	\$2,710
VP6430GRF3	700/800 MHz, 762-806 MHz and 806-870 MHz, Green, Model 3 (full keypad)	\$ 2,168.00	\$2,710
	<b>Model Options</b>	<b>Contract</b>	<b>List</b>
	Intrinsically Safe (CSA) - <i>KNB-LS5 battery required</i>	\$ 79.20	\$ 99.00
	<b>Antenna</b>	<b>Contract</b>	<b>List</b>
KRA-32K	700/800 MHz Whip Antenna	\$ 28.00	\$ 35.00
KRA-36	700/800 MHz Stubby Antenna	\$ 20.00	\$ 25.00
KRA-27M	UHF whip antenna 440-490 MHz	\$ 11.20	\$ 14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$ 11.20	\$ 14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$ 11.20	\$ 14.00
KRA-23M	UHF low-profile helical antenna 450-490 MHz	\$ 10.96	\$ 13.70
KRA-23M2	UHF low-profile helical antenna 470-512 MHz	\$ 10.96	\$ 13.70
KRA-23M3	UHF low-profile helical antenna 403-430 MHz	\$ 10.96	\$ 13.70
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	\$ 14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	\$ 14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	\$ 14.00
KRA-22M	VHF low-profile helical antenna 148-162 MHz	\$ 10.96	\$ 13.70
KRA-22M2	VHF low-profile helical antenna 162-174 MHz	\$ 10.96	\$ 13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$ 10.96	\$ 13.70
KRA-25	VHF High gain helically loaded whip antenna 148-162 MHz	\$ 27.40	\$ 34.25
	<b>Batteries &amp; Chargers</b>	<b>Contract</b>	<b>List</b>
KNB-L2M	Li-ion 2600mAh (Standard)	\$ 108.00	\$ 135.00
KNB-L3M	Li-ion 3400mAh (High Capacity)	\$ 140.00	\$ 175.00
KNB-LS5	Li-ion Intrinsically Safe	\$ 160.00	\$ 200.00
KSC-Y32K	Rapid rate single unit charger (Long-Life Charge Mode capable with KAS-12 Software) <b>Note:</b> NiMH/Li-ion battery only	\$ 92.00	\$ 115.00

KSC-32	Rapid rate single unit charger	\$ 56.00	\$ 70.00
KSC-326K	Rapid rate 6-unit charger	\$ 504.00	\$ 630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	\$ 33.75
KVC-15	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC-mobile bracket & cigarette lighter cable DC adapter)	\$ 95.20	\$ 119.00
<b>Carrying Accessories</b>		<b>Contract</b>	<b>List Price</b>
KBH-11	Spring action belt clip (2.5")	\$ 11.76	\$ 14.70
<b>Microphones &amp; Audio Accessories</b>		<b>Contract</b>	<b>List Price</b>
KMC-54WDM	MIL-SPEC, IP67 (Immersion) Speaker Mic <b>Compatible with ANR Feature</b> <b>Note:</b> only compatible with a TK-5x30 series portable	\$ 104.00	\$ 130.00
KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic	\$ 91.20	\$ 114.00
KMC-49	MIL-SPEC, Speaker Mic. with Antenna Connector <b>Note:</b> 5/16" Coax cable hex wrench included (antenna is not included).	\$ 200.00	\$ 250.00
KEP-1	3.5mm earphone kit for KMC-41/42W/54W Speaker Mics	\$ 42.00	\$ 52.50
KEP-2	2.5mm earphone kit for KMC-49 Speaker Mic	\$ 42.00	\$ 52.50
KEP-3	30" Earphone kit w/ 2.5mm plug for KCT-30	\$ 41.20	\$ 51.50
KEP-4	48" Earphone kit w/ 2.5mm plug for KCT-30	\$ 43.80	\$ 54.75
KCT-30	2.5mm Audio Accessory Adapter for KEP-3/4	\$ 51.20	\$ 64.00
KCT-51	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector)	\$ 172.00	\$ 215.00
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black)	\$ 125.20	\$ 156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black)	\$ 147.20	\$ 184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT	\$ 100.80	\$ 126.00
KHS-15-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & PTT	\$ 336.00	\$ 420.00
KHS-15-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & PTT	\$ 294.40	\$ 368.00
<b>Protocol</b>		<b>Contract</b>	<b>List</b>
	Analog FM	\$ -	\$0.00
	P25 CAI AMBE+2	\$ -	\$0.00
<b>System Options</b>		<b>Contract</b>	<b>List</b>
1	Analog Conventional	\$ -	\$0.00
2	P25 Conventional	\$ 280.00	\$350.00
3	P25 Phase 1 Trunking (Must also have option 2)	\$ 100.00	\$125.00
4	P25 Phase 2 TDMA (Must also have option 3)	\$ 320.00	\$ 400.00
5	Viking16	\$ 620.00	\$ 775.00
<b>Optional Features</b>		<b>Contract</b>	<b>List</b>
<b>Channels/Talkgroups</b>			
	1024 Channels/Talkgroups (standard)	\$ -	\$0.00
	2048 Channels/Talkgroups (standard)	\$ 240.00	\$300.00
	4000 Channels/Talkgroups	\$ 480.00	\$600.00
<b>Encryption</b>			
	DES-OFB (multi-key)	\$ -	\$0.00
	AES FIPS 140-2 (multi-key)	\$ 380.00	\$ 475.00



	ARC4 (ADP compatible)	\$ -	\$0.00
	<b>Programming &amp; Data</b>		
	TrueVoice™ Noise Cancellation	\$ -	\$0.00
	MDC1200/GE-Star Signaling	\$ 40.00	\$ 50.00
	P25 Conventional Voting Scan	\$ -	\$0.00
	P25 Data Conventional	\$ 112.00	\$ 140.00
	P25 Data Trunking (Conventional included)	\$ 160.00	\$ 200.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAR (Over-The-Air-Rekeying)	\$ 600.00	\$ 750.00
	P25 Authentication	\$ 80.00	\$100.00
	OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
	FIRESafe™ First Responder	\$ 200.00	\$ 250.00
	FIRESafe™ Command (includes First Responder)	\$ 280.00	\$ 350.00
	GPS	\$ 80.00	\$ 100.00
	Keypad Programming (U.S. Federal Government Only)	\$ 240.00	\$ 300.00
	EVRS	\$ 80.00	\$ 100.00
	Bluetooth	\$ 80.00	\$ 100.00
	Man Down	\$ 80.00	\$ 100.00

KENWOOD

VIKING

P25 Mission Critical

Viking **VP5000**

VHF · UHF (High &amp; Low) · 700/800 MHz

P25 Phase 1 &amp; 2 · Viking16

At just under 5.5 inches tall (140 mm), these small KENWOOD Viking portable radios are packed with advanced features for today's public safety agencies.



## Features

Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)  
 Mixed protocol zones (each channel in a zone can be from a different system)  
 1024 channels  
 1 Watt audio output for high noise environments  
 Voice annunciation & custom announcement creation  
 Fully ruggedized - IP67 & MIL-STD-810 C/D/E/F/G  
 Full key models (w/numeric keypad) & standard key models (w/o numeric keypad)  
 Built-In GPS receiver/antenna for enhanced awareness<sup>1</sup>  
 MDC-1200 & GE-Star signaling  
 P25 Authentication  
 Bluetooth\*  
 Man Down  
 Instant Recording Replay (IRR)  
 Voice Recording  
 Encryption  
 · ARC4\* software encryption; compatible w/Motorola ADP™  
 · DES-OFB  
 · AES-256 (FIPS 140-2) Single and Multi-Key  
 · Over-the-Air-Rekeying (OTAR)  
 · VK5000 or Motorola KVL3000/KVL4000 Keyloader

## Accessories

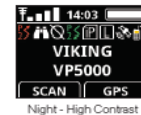
Complete line of accessories including microphones, speakers & antennas.  
 Download the accessory catalog at  
[www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

## User Selectable Color Themes

Multi-line text

Multiple visual indicators including battery health & signal strength

Day & night user selectable display options (8 themes available)



## Compatible With P25 Systems

ATLAS\* P25 Phase 1 and Phase 2 System

Motorola Astro\* 25 - P25 Phase 1 &amp; Phase 2

Harris VIDA\* - P25 Phase 1 &amp; Phase 2

Airbus (formerly Cassidian) VESTA\* Radio - P25 Phase 1 &amp; Phase 2

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



## Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



## Armada\* Fleet Management

Update radios in a group rather than one at a time. One template programs both portables & mobiles. Supports either direct computer connection or Over-the-Air Programming (OTAP). Elite battery management enables wireless tracking of battery fleet.



## TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.

	Radio - Base Model	Contract	List
VP5430BKF2	700/800 MHz, 762-806 MHz and 806-870 MHz, Black, Model 2 (standard keypad)	\$ 1,244.00	\$ 1,555.00
VP5430BKF3	700/800 MHz, 762-806 MHz and 806-870 MHz, Black, Model 3 (full keypad)	\$ 1,284.00	\$ 1,605.00
VP5330BKF2	UHF, 450-520 MHz, Model 2 (standard keypad)	\$ 1,244.00	\$ 1,555.00
VP5330BKF5	UHF, 380-470 MHz, Model 2 (standard keypad)	\$ 1,244.00	\$ 1,555.00
VP5330BKF3	UHF, 450-520 MHz, Model 3 (full keypad)	\$ 1,284.00	\$ 1,605.00
VP5330BKF6	UHF, 380-470 MHz, Model 3 (full keypad)	\$ 1,284.00	\$ 1,605.00
VP5230BKF2	VHF, 136-174 MHz, Model 2 (standard keypad)	\$ 1,244.00	\$ 1,555.00
VP5230BKF3	VHF, 136-174 MHz, Model 3 (full keypad)	\$ 1,284.00	\$ 1,605.00
	Model Options	Contract	List
	Intrinsically Safe (CSA) - <i>KNB-LS5 battery required</i>	\$ 79.20	\$ 99.00
	Antenna	Contract	List
KRA-32K	700/800 MHz Whip Antenna	\$ 28.00	\$ 35.00
KRA-36	700/800 MHz Stubby Antenna	\$ 20.00	\$ 25.00
KRA-27M	UHF whip antenna 440-490 MHz	\$ 11.20	\$ 14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$ 11.20	\$ 14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$ 11.20	\$ 14.00
KRA-23M	UHF low-profile helical antenna 450-490 MHz	\$ 10.96	\$ 13.70
KRA-23M2	UHF low-profile helical antenna 470-512 MHz	\$ 10.96	\$ 13.70
KRA-23M3	UHF low-profile helical antenna 403-430 MHz	\$ 10.96	\$ 13.70
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	\$ 14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	\$ 14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	\$ 14.00
KRA-22M	VHF low-profile helical antenna 148-162 MHz	\$ 10.96	\$ 13.70
KRA-22M2	VHF low-profile helical antenna 162-174 MHz	\$ 10.96	\$ 13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$ 10.96	\$ 13.70
KRA-25	VHF High gain helically loaded whip antenna 148-162 MHz	\$ 27.40	\$ 34.25
	Batteries & Chargers	Contract	List
KNB-L2M	Li-ion 2600mAh (Standard)	\$ 108.00	\$ 135.00
KNB-L3M	Li-ion 3400mAh (High Capacity)	\$ 140.00	\$ 175.00
KNB-LS5	Li-ion Intrinsically Safe	\$ 160.00	\$ 200.00
KSC-Y32K	Rapid rate single unit charger (Long-Life Charge Mode capable with KAS-12 Software) <b>Note:</b> NiMH/Li-ion battery only	\$ 92.00	\$ 115.00
KAS-12K	License Key for KAS-12 <b>(Authentication required)</b> Battery Reader Software for KNB-L1M/L2M/L3M & KSC-Y32 (Windows® Vista/7/8/8.1)	\$ 68.00	\$ 85.00
KSC-32	Rapid rate single unit charger	\$ 56.00	\$ 70.00
KSC-326K	Rapid rate 6-unit charger	\$ 504.00	\$ 630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	\$ 33.75
KVC-15	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC-mobile bracket & cigarette lighter cable DC adapter)	\$ 95.20	\$ 119.00
Carrying Accessories		Contract	List Price

KBH-11	Spring action belt clip (2.5")	\$ 11.76	\$ 14.70
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$ 21.04	\$ 26.30
KLH-6SW	Leather swivel belt loop / detachable swivel D-Ring back	\$ 17.60	\$ 22.00
KLH-137ST	Firemen's Heavy-Duty Leather Shoulder Strap for a Heavy-Duty Leather Case	\$ 29.40	\$ 36.75
KLH-200K3	Heavy duty leather carrying case (for both K2 & K3 models)	\$ 35.40	\$ 44.25
KLH-201K3	Nylon carrying case (for both keypad models)	\$ 21.04	\$ 26.30
<b>Special Color Housing</b>		<b>Contract</b>	<b>List Price</b>
KWD-YH-5000	Yellow Housing Kit (Standard Key Model Only) Order L-5024 for Factory Install. (Eligible for warranty of IP67/68 immersion) Note: If you order only housing and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.	\$ 32.00	\$ 40.00
KWD-OH-5000	Orange Housing Kit (Standard Key Model Only) Order L-5025 for Factory Install. (Eligible for warranty of IP67/68 immersion) Note: If you order only housing and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.	\$ 32.00	\$ 40.00
<b>Microphones &amp; Audio Accessories</b>		<b>Contract</b>	<b>List Price</b>
KMC-54WDM	MIL-SPEC, IP67 (Immersion) Speaker Mic <b>Compatible with ANR Feature</b> <b>Note:</b> only compatible with a TK-5x30 series portable	\$ 104.00	\$ 130.00
KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic	\$ 91.20	\$ 114.00
KMC-49	MIL-SPEC, Speaker Mic. with Antenna Connector <b>Note:</b> 5/16" Coax cable hex wrench included (antenna is not included).	\$ 200.00	\$ 250.00
KEP-1	3.5mm earphone kit for KMC-41/42W/54W Speaker Mics	\$ 42.00	\$ 52.50
KEP-2	2.5mm earphone kit for KMC-49 Speaker Mic	\$ 42.00	\$ 52.50
KEP-3	30" Earphone kit w/ 2.5mm plug for KCT-30	\$ 41.20	\$ 51.50
KEP-4	48" Earphone kit w/ 2.5mm plug for KCT-30	\$ 43.80	\$ 54.75
KCT-30	2.5mm Audio Accessory Adapter for KEP-3/4	\$ 51.20	\$ 64.00
KCT-51	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector)	\$ 172.00	\$ 215.00
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black)	\$ 125.20	\$ 156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black)	\$ 147.20	\$ 184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT	\$ 100.80	\$ 126.00
KHS-15-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & PTT	\$ 336.00	\$ 420.00
KHS-15-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & PTT	\$ 294.40	\$ 368.00
<b>Protocol</b>		<b>Contract</b>	<b>List</b>
	Analog FM	\$ -	\$0.00
	P25 CAI AMBE+2	\$ -	\$0.00
<b>System Options</b>		<b>Contract</b>	<b>List</b>
1	Analog Conventional	\$ -	\$0.00
2	P25 Conventional	\$ -	\$0.00

3	P25 Phase 1 Trunking	\$ -	\$0.00
4	P25 Phase 2 TDMA	\$ 320.00	\$400.00
5	Viking16	\$ 620.00	\$ 775.00
	<b>Optional Features</b>	<b>Contract</b>	<b>List</b>
	<b>Channels/Talkgroups</b>		
	1024 Channels/Talkgroups (standard)	\$ -	\$0.00
	<b>Encryption (requires Protocol Option 2 - Digital/Project 25 CAI AMBE+2)</b>		
	DES-OFB (multi-key)	\$ 156.00	\$ 195.00
	AES FIPS140-2 (DES-OFB included) (multi key)	\$ 600.00	\$ 750.00
	ARC4 (ADP compatible)	\$ -	\$0.00
	<b>Programming &amp; Data</b>		
	TrueVoice™ Noise Cancellation	\$ -	\$0.00
	MDC1200/GE-Star Signaling	\$ 40.00	\$ 50.00
	P25 Conventional Voting Scan	\$ -	\$0.00
	P25 Data Conventional	\$ 112.00	\$ 140.00
	P25 Data Trunking (Conventional included)	\$ 160.00	\$ 200.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAR (Over-The-Air-Rekeying)	\$ 600.00	\$ 750.00
	P25 Authentication (Must also have AES FIPS 140-2)	\$ 80.00	\$100.00
	OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
	FIRESafe™ First Responder	\$ 200.00	\$ 250.00
	FIRESafe™ Command (includes First Responder)	\$ 280.00	\$ 350.00
	GPS	\$ 80.00	\$ 100.00
	Keypad Programming (U.S. Federal Government Only)	\$ 240.00	\$ 300.00
	EVRS	\$ 80.00	\$ 100.00
	Bluetooth	\$ 80.00	\$ 100.00
	Man Down	\$ 80.00	\$ 100.00

KENWOOD



P25 Mission Critical

# Viking **VP900**

VHF · 700/800 MHz

P25 Phase 1 &amp; 2 · Viking16

The Viking® VP900 is a dual-band, multi-protocol, P25 Phase 2 radio equipped with industry leading audio, display, and advanced feature capabilities that meet the needs of police, fire, EMS, and other mission critical users.



## Features

Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)

Mixed protocol zones (each channel in a zone can be from a different system)  
2048 channels

Public safety ergonomics with large glove friendly knobs

Top flip display changes text orientation for viewing while in holster

Backlight on top display changes for event indication (ex. emergency turns display orange)

Multiple visual indicators including battery health & signal strength

1 Watt audio output for high noise environments

Voice annunciation & custom announcement creation

Fully ruggedized - IP67 & MIL-STD-810 C/D/E/F/G

Dual Shield design (internal metal housing & an external polycarbonate casing for exceptional durability)

Available in three keypad options (none, limited, full)

Integrated GPS<sup>1</sup>

MDC-1200 & GE-Star signaling

P25 Authentication

Instant Recording Replay (IRR)

Encryption

- ARC4™ software encryption; compatible with Motorola ADP™
- DES-OFB
- AES-256 (FIPS 140-2) Single and Multi-Key
- Over-the-Air-Rekeying (OTAR)
- VK5000 or Motorola KVL3000/KVL4000 Keyloaders

<sup>1</sup>Refer to the Viking VP900 operating manual for detailed requirements & conditions for proper GPS operation.

## Compatible With P25 Systems

ATLAS® P25 Phase 1 and Phase 2

Motorola Astro® 25 - P25 Phase 1 & Phase 2

Harris VIDA® - P25 Phase 1 & Phase 2

Airbus (formerly Cassidian) VESTA™ Radio - P25 Phase 1 & Phase 2

## Accessories

Complete line of accessories including microphones, speakers & antennas.  
Download the accessory catalog at  
[www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



### Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



### Armada® Fleet Management

Update radios in a group rather than one at a time. One template programs both portables & mobiles. Supports either direct computer connection or Over-the-Air Programming (OTAP). Elite battery management enables wireless tracking of battery fleet.



### TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.

Radio - Base Model		Contract	List
2425AAAA53XXX	700/800 MHz, 762-806 MHz + VHF 2.5W, and 806-870 MHz, 3W, Model 1 (no keypad)	\$ 2,060.00	\$ 2,575.00
2425AADA93XXX	700/800 MHz, 762-806 MHz + VHF 2.5W, and 806-870 MHz, 3W, Model 1 (no keypad; Hazardous Location - FM)	\$ 2,220.00	\$ 2,775.00
2425AABA53XXX	700/800 MHz, 762-806 MHz + VHF 2.5W, and 806-870 MHz, 3W, Model 2 (limited keypad)	\$ 2,220.00	\$ 2,775.00
2425AAEA93XXX	700/800 MHz, 762-806 MHz + VHF 2.5W, and 806-870 MHz, 3W, Model 2 (limited keypad; Hazardous Location - FM)	\$ 2,380.00	\$ 2,975.00
2425AACA53XXX	700/800 MHz, 762-806 MHz + VHF 2.5W and VHF and 806-870 MHz, 3W, Model 3 (full keypad)	\$ 2,380.00	\$ 2,975.00
2425AAFA93XXX	700/800 MHz, 762-806 MHz + VHF 2.5W and VHF and 806-870 MHz, 3W, Model 3 (full keypad; Hazardous Location - FM)	\$ 2,540.00	\$ 3,175.00
Antenna		Contract	List
	Multiband 700/800 + VHF Standard	\$ -	\$ -
	Multiband 700/800 + VHF Flexible	\$ -	\$ -
	Multiband 700/800 + UHF Hi (470 - 520 MHz) Standard	\$ -	\$ -
Battery		Contract	List
	No Battery (credit)	\$ (40.00)	\$ (40.00)
	Viking Li-ion Battery	\$ -	\$ -
Housing		Contract	List
	Black Housing	\$ -	\$ -
	High Visibility Housing	\$ 160.00	\$ 200.00
Protocol		Contract	List
1	Analog FM (included in base radio)	\$ -	\$ -
2	Digital/Project 25 CAI AMBE+2 with Free Single-Key DES-OFB (includes protocol option 1)	\$ 160.00	\$ 200.00
System Option		Contract	List
1	Conventional System	\$ 280.00	\$ 350.00
3	Viking16	\$ 620.00	\$ 775.00
<b>The following selections require Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</b>			
4	Project 25 Conventional System	\$ 280.00	\$ 350.00
5	Project 25 Phase 1 Trunking Only (includes system option 4)	\$ 380.00	\$ 475.00
6	Project 25 Phase 2 TDMA (includes system option 4 & 5)	\$ 700.00	\$ 875.00
7	Project 25 Phase 1 Trunking and Viking16 Trunking (includes system options 2 & 4)	\$ 680.00	\$ 850.00
8	Project 25 Phase 2 TDMA and Viking16 Trunking (includes system options 2, 4 & 5)	\$ 1,000.00	\$ 1,250.00
Optional Features		Contract	List
Channels/Talkgroups			
	2048 Channels/Talkgroups (standard)	\$ -	\$ -
Encryption (requires Protocol Option 2 - Digital/Project 25 CAI AMBE+2)			
	Single-Key DES-OFB (included with Protocol Option 2)	\$ -	\$ -
	Single-Key AES	\$ 120.00	\$ 150.00
	DES-OFB (multi-key)	\$ 440.00	\$ 550.00
	AES (multi-key)	\$ 380.00	\$ 475.00
	DES-OFB + AES (Multi-Key)	\$ 600.00	\$ 750.00
	ARC4 (ADP compatible)	\$ -	\$ -
Programming & Data			
	MDC1200/GE-Star Signaling	\$ 40.00	\$ 50.00

	FIRESafe™ First Responder	\$ 200.00	\$ 250.00
	FIRESafe™ First Command (includes FIRESafe™ First Responder)	\$ 280.00	\$ 350.00
	GPS	\$ 80.00	\$ 100.00
	Third Party Interface	\$ 120.00	\$ 150.00
	Keypad Programming (U.S. Federal Government Only)	\$ 240.00	\$ 300.00
	<b><i>The following selections require Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i></b>		
	Project 25 Data Conventional	\$ 112.00	\$ 140.00
	Project 25 OTAR Conventional & Trunking	\$ 600.00	\$ 750.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
	<b><i>The following selections require a System Option 5-8 (options with Phase 1 or Phase 2):</i></b>		
	Project 25 Authentication	\$ 80.00	\$ 100.00
	Project 25 Data Trunking (includes Project 25 Data Conventional)	\$ 160.00	\$ 200.00
	EVRS	\$ 80.00	\$ 100.00



**KENWOOD****VIKING**

P25 Mission Critical

# Viking VM7000

VHF (Regular and Hi Power) · UHF (High & Low) · 700/800 MHz  
P25 Phase 1 & 2 · Viking16

With the VM7000 All-Band Multi-Deck Mobile, you can simultaneously receive and display up to four bands so you never miss a call. The "select" and "unselect" speakers give you the option for audio control similar to a dispatch console. KENWOOD Viking® is the industry's only mobile platform providing TrueVoice™ noise cancellation.



## Features

Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)  
1024 channels (2048 & 4096 options)  
Mixed protocol zones  
P25 Authentication (Link Layer Authentication)  
P25 IP packet data  
P25 GPS data (built in GPS)<sup>1</sup>  
MDC-1200 & GE-Star signaling  
P25 Conventional vote scan  
Single or Dual Remote Mount configuration  
External speaker  
Over-the-Internet-Programming (OTIP)  
Encryption  
· ARC4™ software encryption; compatible with Motorola ADP™  
· DES-OFB  
· AES-256 (FIPS 140-2) Single and Multi-Key  
· Over-the-Air-Rekeying (OTAR)  
· VK5000 or Motorola KVL3000/KVL4000 Keyloaders  
WiFi  
Instant Recording Replay (IRR)  
Voice Recording

<sup>1</sup>Refer to the Viking VM7000 operating manual for detailed requirements & conditions for proper GPS operation.

## Accessories

Complete line of accessories including microphones, speakers & antennas.  
Download the accessory catalog at  
[www.ejohanson.com/products/accessories](http://www.ejohanson.com/products/accessories).

## Enhanced Control Head

Larger display - 2.75" (36 x 60 mm)  
Resolution of 400 x 240 pixels  
Viewing angle of 140°  
Multi-color LCD + TX/RX (green/red) LEDs  
D-Pad & more PF keys, dedicated emergency key & channel/volume control knobs  
Replaceable A/B/C button labels  
User selectable themes (8 themes available)  
Day & night display options



Day - High Contrast



Night - High Contrast

## Compatible With P25 Systems

ATLAS® P25 Phase 1 and Phase 2 System  
Motorola Astro® 25 - P25 Phase 1 & Phase 2  
Harris VIDA® - P25 Phase 1 & Phase 2  
Airbus (formerly Cassidian) VESTA™ Radio - P25 Phase 1 & Phase 2

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



### Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



### Armada® Fleet Management

Update your radios in a group rather than one at a time. One template programs both portables & mobiles. Supports either a direct computer connection, Over-the-Air Programming (OTAP), or Over-the-Internet Programming (OTIP).



### TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.

Master Radio - (First Deck, Choose one)		Contract	List
VM7730HBF-M	VM7000 136-174 MHZ Hi Power Master	\$2,480.00	\$ 3,100.00
VM7730BF-M	VM7000 136-174 MHZ Master	\$1,920.00	\$ 2,400.00
VM7830BF-M	VM7000 450-520 MHZ Master	\$1,920.00	\$ 2,400.00
VM7830BF2-M	VM7000 380-470 MHZ Master	\$1,920.00	\$ 2,400.00
VM7930BF-M	VM7000 700/800 MHZ Master	\$1,920.00	\$ 2,400.00
Slave Radio - (2nd-4th Deck, Choose up to 3)		Contract	List
VM7730BF-S	VM 7000 136-174 MHZ Slave	\$ 880.00	\$ 1,100.00
VM7830BF-S	VM 7000 450-520 MHZ Slave	\$ 880.00	\$ 1,100.00
VM7830BF2-S	VM 7000 380-470 MHZ Slave	\$ 880.00	\$ 1,100.00
VM7930BF-S	VM 7000 700/800 MHZ Slave	\$ 880.00	\$ 1,100.00
Mounting Accessories		Contract	List
KMB-33M	Mounting Bracket	\$ 11.20	\$ 14.00
KCT-46	Ignition Sense Cable	\$ 10.96	\$ 13.70
KRK-17BF	Remote Kit	\$ 320.00	\$400.00
Control head		Contract	List
KCH-29RV	KCH-20 Enhanced control head	\$ 560.00	\$ 700.00
KCT-23M3	DC Cable-Remote	\$ 27.80	\$ 34.75
KCT-71M2	17 Ft remote cable	\$ 56.00	\$ 70.00
KCT-71M3	25 Feet remote cable	\$ 64.00	\$ 80.00
597535777050	VM5000/7000 Remote Cable upto 50 Ft	\$ 240.00	\$ 300.00
597535777100	VM5000/7000 Remote Cable upto 100 Ft	\$ 400.00	\$ 500.00
KMC-35	KCH Standard Mobile Mic	\$ 42.00	\$ 52.50
KMC-36	12 Keypad Mic	\$ 33.61	\$ 42.01
KCT-71M4	Control Cable	\$ 108.00	\$ 135.00
Speaker		Contract	List
KCT-72M	External Accessory Connection Cable for KCH-20R	\$ 29.36	\$ 36.70
KAP-2	HA / PA Relay	\$ 50.40	\$ 63.00
KES-5	40W External Speaker	\$ 49.00	\$ 61.25
Software Options		Contract	List
	Analog FM	\$ -	\$ -
	P25 CAI AMBE+2	\$ -	\$ -
	Analog Conventional	\$ -	\$ -
	P25 Conventional	\$ 280.00	\$ 350.00
	P25 Phase 1 Trunking	\$ 100.00	\$ 125.00
	P25 Phase 2 TDMA	\$ 320.00	\$ 400.00
	Viking	\$ 620.00	\$ 775.00
	1024 Ch	\$ -	\$ -
	2048 Ch	\$ 240.00	\$ 300.00
	4000 Ch	\$ 480.00	\$600.00
	DES-OFB multi-key	\$ -	\$ -
	AES FIPS-140-2 multi-key	\$ 380.00	\$ 475.00
	ARC4 (ADP Compatible)	\$ -	\$ -
	Conventional Voting Scan	\$ -	\$ -
	TrueVoice Noise Cancellation	\$ -	\$ -
	MDC1200 / GE-Star Signaling	\$ 40.00	\$ 50.00
	P25 Data Conventional	\$ 112.00	\$ 140.00

	P25 Data Trunking (Conventional incl)	\$ 160.00	\$ 200.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAR (Over-the-Air-Rekeying)	\$ 600.00	\$ 750.00
	P25 Authentication	\$ 80.00	\$ 100.00
	OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
	GPS	\$ 80.00	\$ 100.00
	GPS Antenna	\$ 33.60	\$ 42.00
	<b><i>Automatically selected when GPS option is selected in CeVo</i></b>		

KENWOOD

VIKING

P25 Mission Critical

Viking **VM6000**

VHF · UHF (High &amp; Low) · 700/800 MHz

P25 Phase 1 &amp; 2 · Viking16

Uncompromised quality and performance with public safety ergonomics, the KENWOOD Viking® is the industry's only mobile platform providing TrueVoice™ noise cancellation.



## Features

Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)

1024 channels (2048 option)

Mixed protocol zones

P25 Authentication (Link Layer Authentication)

P25 IP packet data

P25 GPS data (built in GPS)<sup>1</sup>

MDC-1200 & GE-Star signaling

Analog & P25 Conventional vote scan

Remote mount only (Viking Control Head)

Dual Viking Control Heads (option)

External speaker

Fixed control station

WiFi

Bluetooth

Instant Recording Replay (IRR)

Voice Recording

Encryption

- ARC4™ software encryption; compatible with Motorola ADP™
- DES-OFB
- AES-256 (FIPS 140-2) Single and Multi-Key
- Over-the-Air-Rekeying (OTAR)
- VK5000 or Motorola KVL3000/KVL4000 Keyloaders

<sup>1</sup>Refer to the Viking VM6000 operating manual for detailed requirements & conditions for proper GPS operation.

## Accessories

Complete line of accessories including microphones, speakers & antennas. Download the accessory catalog at [www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

## Viking Control Head

Public safety knobs & ergonomics

High contrast transmissive color display for direct sunlight & night time viewing; not compromised by polarized sunglasses

Resolution of 480 x 128 pixels

Viewing angle of 120°

User selectable themes (8 themes available)

Day & night display options

An optional KCH-21RV Handheld Control Head (HHCH) can be used with the VM6000 radio



Day - High Contrast



Night - High Contrast

## Compatible With P25 Systems

ATLAS® P25 Phase 1 and Phase 2 System

Motorola Astro® 25 - P25 Phase 1 & Phase 2

Harris VIDA® - P25 Phase 1 & Phase 2

Airbus (formerly Cassidian) VESTA™ Radio - P25 Phase 1 & Phase 2

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



## Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



## Armada® Fleet Management

Update your radios in a group rather than one at a time. One template programs both portables & mobiles. Supports direct computer connection, Over-the-Air Programming (OTAP), or Over-the-Internet Programming (OTIP).



## TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.

Radio - Base Model		Contract	List
VM6730BF	VM 6000 136-174 MHZ	\$ 1,720.00	\$ 2,150.00
VM6830BF	VM 6000 450-520 MHZ	\$ 1,720.00	\$ 2,150.00
VM6830BF2	VM 6000 380-470 MHZ	\$ 1,720.00	\$ 2,150.00
VM6930BF	VM 6000 700/800 MHZ	\$ 1,720.00	\$ 2,150.00
Mounting Accessories		Contract	List
KMB-33M	Mounting Bracket	\$ 11.20	\$ 14.00
KMB-34	Mounting Case	\$ 38.40	\$ 48.00
KPS-15	DC Switch (P/S)	\$ 138.40	\$ 173.00
KCT-46	Ignition Sense Cable	\$ 10.96	\$ 13.70
Control head		Contract	List
835VM6000VCH	Viking Control Head (VCH) <i>The pricing is valid only when purchased with the radio. If purchased separately, List price is \$1,695</i>	\$ 720.00	\$ 900.00
KCT-23M3	DC Cable-Remote	\$ 27.80	\$ 34.75
597535777502	6 Ft remote cable	\$ 80.00	\$ 100.00
597535777502	17 Ft remote cable	\$ 128.00	\$ 160.00
597535777503	50 Ft remote cable	\$ 240.00	\$ 300.00
250074031003	VCH Standard Mobile Mic	\$ 112.00	\$ 140.00
589001202303	VCH Desktop Mic	\$ 520.00	\$ 650.00
Speaker		Contract	List
2500151006	5in. 15W Speaker, Crimp Leads	\$ 60.00	\$ 75.00
KES-3S	Low Profile Ext. Speaker	\$ 60.00	\$ 75.00
KAP-2	HA / PA Relay	\$ 50.40	\$ 63.00
KES-5	40W External Speaker	\$ 49.00	\$ 61.25
Software Options		Contract	List
	Analog FM	\$ -	\$ -
	P25 CAI AMBE+2	\$ -	\$ -
	Analog Conventional	\$ -	\$ -
	P25 Conventional	\$ 280.00	\$ 350.00
	P25 Phase 1 Trunking	\$ 100.00	\$ 125.00
	P25 Phase 2 TDMA	\$ 320.00	\$ 400.00
	Viking16	\$ 620.00	\$ 775.00
	1024 Ch	\$ -	\$ -
	2048 Ch	\$ 240.00	\$ 300.00
	4000 Ch	\$ 480.00	\$600.00
	DES-OFB multi-key	\$ -	\$ -
	AES FIPS-140-2 multi-key	\$ 380.00	\$ 475.00
	ARC4 (ADP Compatible)	\$ -	\$ -
	Conventional Voting Scan	\$ -	\$ -
	TrueVoice Noise Cancellation	\$ -	\$ -
	MDC1200 / GE-Star Signaling	\$ 40.00	\$ 50.00
	P25 Data Conventional	\$ 112.00	\$ 140.00
	P25 Data Trunking (Conventional included)	\$ 160.00	\$ 200.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAR (Over-the-Air-Rekeying)	\$ 600.00	\$ 750.00
	P25 Authentication	\$ 80.00	\$ 100.00

OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
GPS	\$ 80.00	\$ 100.00
GPS Antenna <i>Automatically selected when GPS option is selected in CeVo</i>	\$ 33.60	\$ 42.00

**KENWOOD****VIKING**

P25 Mission Critical

# Viking VM5000

VHF · UHF (High & Low) · 700/800 MHz  
P25 Phase 1 & 2 · Viking16

Uncompromised quality and performance with public safety ergonomics, the KENWOOD Viking® is the industry's only mobile platform providing TrueVoice™ noise cancellation.



## Features

Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)

1024 channels

Mixed protocol zones

P25 Authentication (Link Layer Authentication)

P25 IP packet data

GPS AVL data (built in GPS)<sup>1</sup>

MDC-1200 & GE-Star signaling

Analog & P25 Conventional vote scan

Dash mount (KCH-19 control head only)

Remote mount

Dual control heads

Internal or external speaker

Fixed control station

WiFi (remote mount configuration only)

Bluetooth (Future)

Instant Recording Replay (IRR)

Voice Recording

Encryption

- ARC4™ software encryption; compatible w/Motorola ADP™
- DES-OFB
- AES-256 (FIPS 140-2) Single and Multi-Key
- Over-the-Air-Rekeying (OTAR)

<sup>1</sup>Refer to the Viking VM5000 operating manual for detailed requirements & conditions for proper GPS operation.

## Accessories

Complete line of accessories including microphones, speakers & antennas. Download the accessory catalog at [www.ejohanson.com/products/accessories](http://www.ejohanson.com/products/accessories).

## Basic Control Head

Resolution of 422 x 154 pixel

Viewing angle of 140°

User selectable themes (8 themes available)

Day & night display options



Day - High Contrast



Night - High Contrast

## Compatible With P25 Systems

ATLAS® P25 Phase 1 and Phase 2 System

Motorola Astro® 25 - P25 Phase 1 & Phase 2

Harris VIDA® - P25 Phase 1 & Phase 2

Airbus (formerly Cassidian) VESTA™ Radio - P25 Phase 1 & Phase 2

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



### Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



### Armada® Fleet Management

Update your radios in a group rather than one at a time. One template programs both portables & mobiles. Supports direct computer connection, Over-the-Air Programming (OTAP), or Over-the-Internet Programming (OTIP).



### TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.

Radio - Base Model		Contract	List
VM5730BF	VM 5000 136-174 MHZ	\$1,720.00	\$ 2,150.00
VM5830BF	VM 5000 450-520 MHZ	\$1,720.00	\$ 2,150.00
VM5830BF2	VM 5000 380-470 MHZ	\$1,720.00	\$ 2,150.00
VM5930BF	VM 5000 700/800 MHZ	\$1,720.00	\$ 2,150.00

Mounting Accessories		Contract	List
KMB-33M	Mounting Bracket	\$ 11.20	\$ 14.00
KMB-34	Mounting Case	\$ 38.40	\$ 48.00
KPS-15	DC Switch (P/S)	\$ 138.40	\$ 173.00
KCT-46	Ignition Sense Cable	\$ 10.96	\$ 13.70
Control head		Contract	List
KCH-19VM	Dash - KCH-19	\$ 144.00	\$ 180.00
KCT-23M	DC Cable-Dash	\$ 25.20	\$ 31.50
KCT-23M3	DC Cable-Remote	\$ 27.80	\$ 34.75
KCT-71M2	17 Ft remote cable	\$ 56.00	\$ 70.00
KCT-71M3	25 Feet remote cable	\$ 64.00	\$ 80.00
597535777050	VM5000/7000 Remote Cable upto 50 Ft	\$ 240.00	\$ 300.00
597535777100	VM5000/7000 Remote Cable upto 100 Ft	\$ 400.00	\$ 500.00
KMC-35	KCH Standard Mobile Mic	\$ 42.00	\$ 52.50
KMC-36	12 Keypad Mic	\$ 33.61	\$ 42.01
KMC-9C	Desktop Mic	\$ 68.80	\$ 86.00
Speaker		Contract	List
KES-3S	Low Profile Ext. Speaker	\$ 60.00	\$ 75.00
KAP-2	HA / PA Relay	\$ 50.40	\$ 63.00
KES-5	40W External Speaker	\$ 49.00	\$ 61.25
Software Options		Contract	List
	Analog FM	\$ -	\$ -
	P25 CAI AMBE+2	\$ -	\$ -
	Analog Conventional	\$ -	\$ -
	P25 Conventional	\$ -	\$ -
	P25 Phase 1 Trunking	\$ -	\$ -
	P25 Phase 2 TDMA	\$ 320.00	\$ 400.00
	Viking16	\$ 620.00	\$ 775.00
	1024 Ch	\$ -	\$ -
	DES-OFB multi-key	\$ 156.00	\$ 195.00
	AES FIPS-140-2 multi-key (DES-OFB included)	\$ 600.00	\$ 750.00
	ARC4 (ADP Compatible)	\$ -	\$ -
	Conventional Voting Scan	\$ -	\$ -
	TrueVoice Noise Cancellation	\$ -	\$ -
	MDC1200 / GE-Star Signaling	\$ 40.00	\$ 50.00
	P25 Data Conventional	\$ 112.00	\$ 140.00
	P25 Data Trunking (Conventional incl)	\$ 160.00	\$ 200.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAR (Over-the-Air-Rekeying)	\$ 600.00	\$ 750.00
	P25 Authentication	\$ 80.00	\$ 100.00
	OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
	GPS	\$ 80.00	\$ 100.00
	GPS Antenna	\$ 33.60	\$ 42.00
	<b><i>Automatically selected when GPS option is selected in CeVo</i></b>		



**KENWOOD****VIKING**

P25 Mission Critical

# Viking VM900

VHF · 700/800 MHz

P25 Phase 1 &amp; 2 · Viking16

Dual-band and multi-system radio equipped with industry leading audio, color display, public safety ergonomics, and advanced features including Over-the-Internet (OTIP) programming.



## Features

Mixed protocol operation (P25 Phase 1 & 2 Trunking, P25 Conventional, Viking16, FM Analog)

2048 channels

Mixed protocol zones

P25 Authentication (Link Layer Authentication)

P25 IP packet data

GPS AVL data (requires external GPS receiver)

MDC-1200 & GE-Star signaling

Analog & P25 Conventional vote scan

Dash mount

Remote mount

Dash mount with remote control head

Dual control heads

Fixed control station

Encryption

- ARC4™ software encryption; compatible w/Motorola ADP™
- DES-OFB
- AES-256 (FIPS 140-2) Single and Multi-Key
- Over-the-Air-Rekeying (OTAR)
- VK5000 or Motorola KVL3000/KVL4000 Keyloaders

WiFi

Instant Recording Replay (IRR)

## Viking Control Head

Public safety knobs & ergonomics

High contrast transmissive color display for direct sunlight & nighttime viewing; not compromised by polarized sunglasses

Resolution of 480 x 128 pixels

Viewing angle of 120°

## Compatible With P25 Systems

ATLAS® P25 Phase 1 and Phase 2 System

Motorola Astro® 25 - P25 Phase 1 & Phase 2

Harris VIDA® - P25 Phase 1 & Phase 2

Airbus (formerly Cassidian) VESTA™ Radio - P25 Phase 1 & Phase 2

## Accessories

Complete line of accessories including microphones, speakers & antennas.

Download the accessory catalog at

[www.ejohnson.com/products/accessories](http://www.ejohnson.com/products/accessories).

We combine P25 design expertise with recognized quality & reliability along with advanced technology to make KENWOOD Viking radios simple to use & maintain.



### Perpetual Software Licensing

Adds greater value to your radios by extending the life of the software into your next hardware platform — you own the software option forever, and your licenses are simple to manage with our cloud-based tool — Vault™.



### Armada® Fleet Management

Update your radios in a group rather than one at a time. One template programs both portables & mobiles. Supports either a direct computer connection, Over-the-Air Programming (OTAP), or Over-the-Internet Programming (OTIP).



### TrueVoice™ Noise Cancellation

Software-based noise cancellation automatically filters out noise source frequencies and eliminates the need for extra configuration. Works in analog or digital mode and with any accessory.

	Radio - Base Model	Contract	List
	700/800 MHz, 762-870 MHz + VHF, 30/35W Dash Mount	\$ 2,140.00	\$ 2,675.00
	700/800 MHz, 762-870 MHz + VHF, 30/35W Remote Mount	\$ 2,140.00	\$ 2,675.00
	700/800 MHz, 762-870 MHz + VHF, 30/35W Control Station (includes Power supply & cabinet)	\$ 2,376.00	\$ 2,970.00
	700/800 MHz, 762-870 MHz, 30/35W Dash Mount (Single Band)	\$ 1,408.00	\$ 1,760.00
	700/800 MHz, 762-870 MHz, 30/35W Remote Mount (Single Band)	\$ 1,408.00	\$ 1,760.00
	700/800 MHz, 762-870 MHz, 30/35W Control Station (includes Power supply & cabinet) (Single Band)	\$ 1,752.00	\$ 2,190.00
	VHF, 30/35W Dash Mount (Single Band)	\$ 1,408.00	\$ 1,760.00
	VHF, 30/35W Remote Mount (Single Band)	\$ 1,408.00	\$ 1,760.00
	VHF, 30/35W Control Station (includes Power supply & cabinet) (Single Band)	\$ 1,752.00	\$ 2,190.00
	Control Head Type	Contract	List
	<b>Dash Mount Options</b>		
	<b>Standard LCD Control Head</b>	\$ -	
	Dash-Mount Control Head (includes standard palm mic)	\$ 64.00	\$ 80.00
	Dash-Mount Control Head with no mic	\$ -	\$ -
	Dash-Mount Control with Remote Control Head (includes one remote control head & normal bracket)	\$ 600.00	\$ 750.00
	<b>Viking Control Head</b>	\$ -	
	Dash-Mount Control Head (includes standard palm mic & external speaker)	\$ 688.00	\$ 860.00
	Dash-Mount Control Head with no mic (includes external speaker)	\$ 624.00	\$ 780.00
	Dash-Mount Control with Remote Control Head (includes one remote control head, additional mic & remote control head)	\$ 1,752.00	\$ 2,190.00
	<b>Remote Mount Options</b>		
	<b>Standard LCD Control Head</b>	\$ -	
	Remote Control Head (includes standard palm mic)	\$ 440.00	\$ 550.00
	Remote Control Head with no mic	\$ 376.00	\$ 470.00
	Dual Control Head (includes two remote control heads attached to the remote mount radio, two microphones, and two mounting brackets)	\$ 960.00	\$ 1,200.00
	Dual Control Head with no mics	\$ 832.00	\$ 1,040.00
	<b>Remote Mount Options</b>		
	<b>Viking Control Head</b>	\$ -	
	Remote Control Head (includes standard palm mic & external speaker)	\$ 1,056.00	\$ 1,320.00
	Remote Control Head with no mic (includes external speaker)	\$ 992.00	\$ 1,240.00

	Dual Control Head (includes two remote control heads attached to the remote mount radio, two microphones, two mounting brackets, and two external speakers)	\$ 2,192.00	\$ 2,740.00
	Dual Control Head with no mics (includes two external speakers)	\$ 2,064.00	\$ 2,580.00
	<b>Accessory Cable</b>	<b>Contract</b>	<b>List</b>
	Cable, Serial, USB, Standard Interface R597-5357-70201 (included with dash mount)	\$ -	\$ -
	Cable, Single remote, Serial, USB, Standard Interface R597-5357-70701 (included with remote mount)	\$ -	\$ -
	Cable, Single remote, Serial, USB, Standard Interface R597-5357-70701 (dash mount)	\$ 124.00	\$ 155.00
	Cable, Single Remote, Serial, USB, PVP/UDDI, Standard Interface R597-5357-73801 (remote mount)	\$ 144.00	\$ 180.00
	Cable, Dual Remote, Serial, USB, Standard R597-5357-74201 (included with remote dual mount)	\$ -	\$ -
	Cable, Dual Remote, Serial, USB, Standard R597-5357-74201 (single remote mount)	\$ 96.00	\$ 120.00
	CABLE, DUAL REMOTE, SERIAL,USB, PVP/UDDI, STD R597-5357-74401 (may be ordered with dual Remote Mount)	\$ 428.80	\$ 536.00
	<b>Protocol</b>	<b>Contract</b>	<b>List</b>
1	Analog FM	\$ -	\$ -
2	Digital/Project 25 CAI AMBE+2 with Free Single-Key DES-OFB (includes protocol option 1)	\$ 280.00	\$ 350.00
	<b>System Option</b>	<b>Contract</b>	<b>List</b>
1	Conventional System	\$ 440.00	\$ 550.00
3	Viking16	\$ 620.00	\$ 775.00
	<b><i>The following selections require Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i></b>		
4	Project 25 Conventional System	\$ 440.00	\$ 550.00
5	Project 25 Phase 1 Trunking Only (includes system option 4)	\$ 620.00	\$ 775.00
6	Project 25 Phase 2 TDMA (includes system option 4 & 5)	\$ 940.00	\$ 1,175.00
7	Project 25 Phase 1 Trunking and Viking16 Trunking (includes system options 2 & 4)	\$ 780.00	\$ 975.00
8	Project 25 Phase 2 TDMA and Viking16 (includes system options 2, 4 & 5)	\$ 1,100.00	\$ 1,375.00
	<b>Optional Features</b>	<b>Contract</b>	<b>List</b>
	<b>Channels/Talkgroups</b>		
	1024 Channels/Talkgroups (standard)	\$ -	\$ -
	<b>Encryption (requires Protocol Option 2 - Digital/Project 25 CAI AMBE+2)</b>		
	Single-Key DES-OFB (included with Protocol Option 2)	\$ -	\$ -
	Single-Key AES	\$ 120.00	\$ 150.00
	DES-OFB (multi-key)	\$ 440.00	\$ 550.00
	AES (multi-key)	\$ 380.00	\$ 475.00
	ARC4 (ADP compatible)	\$ -	\$ -
	<b>Programming &amp; Data</b>		
	MDC1200/GE-Star Signaling	\$ 40.00	\$ 50.00

	<b><i>The following selection requires Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i></b>		
	Project 25 Data Conventional	\$ 112.00	\$ 140.00
	Project 25 OTAR Conventional & Trunking	\$ 600.00	\$ 750.00
	P25 Paging Encode	\$ 80.00	\$ 100.00
	OTAP (Over-the-Air Programming)	\$ 160.00	\$ 200.00
	OTIP (Over-the-Intranet Programming)	\$ 160.00	\$ 200.00
	<b><i>The following selections require a System Option 5-8 (options with Phase 1 or Phase 2):</i></b>		
	Project 25 Authentication	\$ 80.00	\$ 100.00
	Project 25 Data Trunking (includes Project 25 Data Conventional)	\$ 160.00	\$ 200.00
	GPS	\$ 160.00	\$ 200.00
	EVRS	\$ 80.00	\$ 100.00

NEXEDGE®



# NX-5200/5300

VHF/UHF Digital & FM Analog Portable Radios



<Standard Key Model > <Full Key Model >

## All NX-5000 series portables include:

- Belt Clip (KBH-11)
- Universal Connector Cap
- User Guide
- Premium Warranty: 3 Years\*

All Accessories / options: 1 Year

Purchase Battery, Charger, Antenna separately

**\*Note:** To maintain immersion specs (IP67/68), all warranty service must be done by one of the three National Kenwood Authorized Service Centers. IP67/68 Certification is valid under the 3 year premium warranty. No re-certification is available.

**Because of spurious signal (birdie), the following frequencies (and  $\pm 10$  kHz ranges) are not allowed;**

- |            |            |            |
|------------|------------|------------|
| • 144.0000 | • 384.0000 | • 460.8000 |
| • 147.4560 | • 403.2000 | • 480.0000 |
| • 153.6000 | • 422.4000 | • 499.2000 |
| • 172.0325 | • 432.0000 | • 518.4000 |
| • 172.8000 | • 441.6000 |            |

## STANDARD

### ■ GENERAL FEATURES

- 6 W (136-174 MHz) Models
- 5 W (380-470, 450-520 MHz) Models
- 1024 CH-GID / 128 Zones
- Standard Key Models (w/o numeric keypad)
- Full Key Models (w/ numeric keypad)
- Full Color 1.74" (240 x 180 pixels) Transflective TFT Display
- Multi-line Text Display
- Function/Status Icons
- Multi-Language Display
- Date & 12/24 Hour Time Clock
- Transmit/Busy/Call Alert/Warn LED
- On/Off Volume Knob
- 16-Position Mechanical Selector (w/ a stopper)
- 4-way Directional-pad (D-pad)
- 2 Position Lever Switch
- Emergency/AUX Key
- 3 Side PF Keys
- 1W Speaker Audio
- Multi Digital Protocol <sup>1</sup>
- Emergency Call Features
- Built-in GPS Receiver / Antenna
- Built-in Bluetooth® Module
- Built-in Motion Sensor
- Built-in 56-bit DES Encryption (4 keys programmable by KPG-D1(N)K)
- Active Noise Reduction (ANR)
- KPG-D1N Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP67/68 Immersion
- Color Housing Option

*1. Multi Digital Protocol can be used for two(2) of the three(3) Digital Protocols set by programming software. P25/DMR Digital Protocols are options.*

### ■ DIGITAL – NXDN® MODE

- NXDN® Conventional / TYPE-C (Gen1/Gen2) Trunking
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming (requires KPG-180AP OTAP Manager Software)
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill/Check
- Short & Long Data Messages
- GPS Location
- NXDN® Scrambler

### ■ DIGITAL – DMR MODE

- DMR Tier II Conventional
- DMR Auto Slot Select (DASS)
- AMBE+2™ VOCODER
- 12.5 kHz Channels
- Call Interrupt (Direct & Repeater Mode)
- Paging Call
- Emergency Call
- All Group Call
- Late Entry
- Status Messaging
- Remote Control by Subscriber Units
- ARC4 Encryption Optional
- Site Roaming

### ■ ANALOG MODE

- Conventional Zones
- LTR® Zones
- FleetSync®/II: PTT ID ANI, Caller ID Display, Selective/Group Call, Emergency Status, Text Messages
- MDC-1200: PTT ID ANI, Caller ID Display, Emergency, Radio Check & Inhibit
- QT / DQT
- Two-Tone (Conventional Zones Only)
- DTMF
- Built-in Voice Inversion Scrambler

Approved by CSA-us International Inc. for Classes I, II & III, Div. 1, Groups D, E, F, G and are also approved for non-Incendive use in Class I, Div. 2, Groups A, B, C hazardous locations.  
**Note:** Environmental conditions are less than 32°F (0°C), KENWOOD carrying caes must be used.

## OPTIONAL

### ■ GENERAL FEATURES

- 4000 Channel (**KWD-5000CH** License Key Activation required)
- Front Panel Programming (**KWD-5001FP** License Key Activation required )
- microSD/microSDHC Memory Card Slot (**KWD-5002SD** License Key Activation required)
- Built-in Bluetooth® Module for Data (**KWD-5003BT** License Key Activation required)
- Remote Control by Subscriber Units (**KWD-5007RC** License Key Activation required)
- 256-bit AES Encryption (**KWD-AE30K/31K** Encryption Module required)
- Battery Management Solution (**KSC-Y32K** Charger & **KAS-12K** Software License Key required)

### ■ DIGITAL – P25 MODE

- Conventional Features (**KWD-5100CV** License Key Activation required)
- Phase 1 Trunking Features (**KWD-5100CV** & **5101TR** License Keys Activation required)
- Phase 2 Trunking Features (**KWD-5100CV** & **5101TR** & **5102TR** License Keys Activation required)
- Conventional OTAR (**KWD-5103RK** License Key Activation required)
- Trunking OTAR (**KWD-5103RK** & **5106DT** License Keys Activation required)
- Conventional Voting Scan (**KWD-5105VT** License Key Activation required)
- Packet Data required for Trunked OTAR/GPS(**KWD-5106DT** License Keys Activation required)
- Link Layer Authentication (Phase 1 Trunking and KWD-AE3x Encryption Board Required)

### ■ DIGITAL – DMR MODE

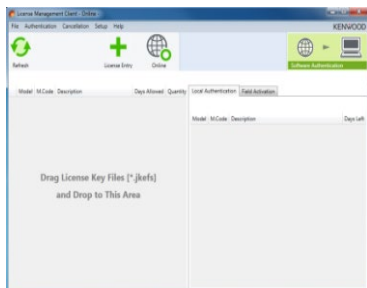
- DMR Tier 2 Conventional Features (**KWD-5300CV** License Key Activation required))

RADIO		Contract	LIST
<b>Standard Key Models</b>			
NX-5200K2	VHF (136-174MHz), 6.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 660.00	825.00
NX-5300K2	UHF (450-520MHz), 5.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 660.00	825.00
NX-5300K5	UHF (380-470MHz), 5.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 660.00	825.00

Full Key Models		Contract	LIST
NX-5200K3	VHF (136-174MHz), 6.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 700.00	875.00
NX-5300K3	UHF (450-520MHz), 5.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 700.00	875.00
NX-5300K6	UHF (380-470MHz), 5.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 700.00	875.00

CSA US APPROVED MODELS		Contract	LIST
<b>Must Order L-5039 &amp; KNB-LS5CU Intrinsically Safe Battery per radio</b> <i>*Note: microSD card is not allowed to use as Intrinsically Safe Option.</i>			
NX-5200-ISCK2	VHF (136-174MHz), 6.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 660.00	825.00
NX-5200-ISCK3	VHF (136-174MHz), 6.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 700.00	875.00
NX-5300-ISCK2	UHF (450-520MHz), 5.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 660.00	825.00
NX-5300-ISCK3	UHF (450-520MHz), 5.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 700.00	875.00
NX-5300-ISCK5	UHF (380-470MHz), 5.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 660.00	825.00
NX-5300-ISCK6	UHF (380-470MHz), 5.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 700.00	875.00

LICENSING SYSTEM	Contract	LIST
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**Note:** KPT-300LMC is compatible with Windows Vista/7/8/8.1/10 Only. Windows XP is not supported.



## KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software** (FPU) and **radio feature license** keys for the NX-5000 Series radios.

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software, such as KPG-D1NK, KAS-12, and KPG-AE1/DE1.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the enclosed "Account Request Form" and return to the Land Mobile Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <i>Note:</i> specify the number of PC's used for Radio Feature License Activation.	NC	NC

SOFTWARE LICENSING OPTIONS	Contract	LIST
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**TO PLACE AN ORDER FOR SOFTWARE:**

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the Land Mobile Order Desk via:
  - a) E-Mail: [lmrorderdesk@us.jvckenwood.com](mailto:lmrorderdesk@us.jvckenwood.com)
  - b) Fax: (310) 761-8246
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

*Note: A unique license key is required for each PC with software installed. A single license key will not authorize multiple PCs.*

**Software License Key Discount Structure**

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF
15 ~ 24 License Keys	40% OFF
25+ License Keys	45% OFF

FIELD PROGRAMMING UNIT (FPU)	Contract	LIST
KPG-D1NK License Key for KPG-D1NK Programming Software for NX-5000 Portable/Mobile (Windows® Vista/7/8/8.1/10) <i>Note:</i> Requires KPT-300LMC for authentication	\$ 124.00	155.00

P25 Trunked Programming Capability (licensed by either 1 or 2 below):

1. USB Key Type: Advanced System Key (ASK)- See KWD-ASK-MK and AK
  - For NX-5000 series radios.
  - KWD-ASK-MK (Master Key): For trunked system operator (SYSOP). Required for activating KWD-ASK-AK Access keys. Securely embeds/encrypts the HSID.
  - KWD-ASK-AK (Access Key): For Contracts/contractors. Activated by KWD-ASK-MK Master Key.
  - KPG-D1NK supports up to 16 KWD-ASK-AK Access Keys (16 trunked networks).

2. Software Key Type: System Key File (SKF)- See L-5005

- For NX-5000 series radios.
- 3-digit HEX System ID (HSID) with verifiable written authorization required from SYSOP.
- Utilized by both SYSOPs and Contracts/Contractors. But Contracts/Contractors must be permitted from SYSOP to order and use SKF.
- Kenwood ships an encrypted \*.SKF file via E-Mail to the address provided on the P25 Trunking System Keys Request Form placed on Kenwood Tools.
- The \*.SKF securely embeds/encrypts the HSID.

OVER THE AIR PROGRAMMING (OTAP)	Contract	LIST
KPG-180AP OTAP Manager Software (Windows® Vista/7/8/8.1/10) • License includes Fifty (50) radios / One(1) <b>NXDN</b> Conventional and Type-C <b>Air</b> Communication Profile and One(1) <b>NXDN</b> Conventional and Type-C <b>IP</b> Communication Profile  <i>Note:</i> - Requires KPT-300LMC for authentication - Radio to Radio OTAP for <u>P25 Conventional system</u> requires <u>KWD-AP3-P25</u> license. - NEXEDGE Type-D Trunking and DMR System not supported.	\$ 707.20	884.00

**SOFTWARE UPGRADE LICENSES FOR KPG-180AP**

*Note:* Includes package license for additional subscriber unit or license for additional profile attached to one computer running KPG-180AP software. All additional licenses require KPT-300LMC for authentication.

KWD-AP5100	Additional 100 Radio Package License for 1 PC Note: License includes 100 subscriber radios OTAP License.	\$ 1,333.60	1667.00
KWD-AP5250	Additional 250 Radio Package License for 1 PC Note: License includes 250 subscriber radios OTAP License.	\$ 2,333.60	2917.00
KWD-AP5500	Additional 500 Radio Package License for 1 PC Note: License includes 500 subscriber radios OTAP License.	\$ 3,333.60	4167.00

KWD-AP1-CA	Additional NXDN Conventional Type-C Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as NEXEDGE Base Station Serial Interface for both Conventional and Trunking (Type-C Gen1/Gen2).	\$ 200.00	250.00
KWD-AP2-CP	Additional NXDN Conventional Type-C IP Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used NEXEDGE Repeater IP Interface for both Conventional and Trunking (Type-C Gen1/Gen2) .	\$ 333.60	417.00
KWD-AP3-P25	P25 Radio to Radio Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as P25 Base Station Serial Interface for only Radio to Radio Communication.	\$ 640.00	800.00

**-- IMPORTANT NOTES--**

Base radios are connected to a computer using the KPG-36XM USB adapter for portables, or a KPG-46XM for mobiles.

Requires firmware version 1.4 or higher for the NX-5000 Series portables and mobiles

Requires firmware version 2.5 or higher for the NXR-x00/NXR-x10 repeaters.

Requires firmware version 1.0 or higher for the NXR-5xxx repeaters

BATTERY READER		Contract	LIST
KAS-12K	License Key for KAS-12 Battery Reader Software for KNB-L1/2/3/N4/LS5 & KSC-Y32 (Windows® Vista/7/8/8.1) <u>Note:</u> Requires KPT-300LMC for authentication	\$ 68.00	85.00
SOFTWARE UPGRADE LICENSES FOR KAS-12 Note: Upgrade License attaches to one computer running KAS-12 software. All additional licenses require KPT-300LMC for authentication.			
KAS-12PRO	Add Battery Management with Database <u>Must require KAS-12K Battery Reader Software to upgrade</u>  <u>Note:</u> - A Windows® PC may be required as a Database Server which KAS-12DU (Free) software is installed. - Requires KPT-300LMC for authentication	\$ 280.00	350.00

## RADIO FEATURE LICENSE OPTIONS

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

**\* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:**

1. Complete the attached Radio Feature Request Form.
2. Submit the completed form along with your PO to the Land Mobile Order Desk via:
  - a) E-Mail: [lmrorderdesk@us.jvckenwood.com](mailto:lmrorderdesk@us.jvckenwood.com)
  - b) Fax: (310) 761-8246
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

**Note:** Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once

Offline Authentication Option		Contract	LIST
KWD-OFL-USB	USB License Storage Hardware key for Radio Feature License <u>Note:</u> - Must purchase Radio Feature Licenses separately. - Can be used with only one (1) Account Registration Key. - Requires KPT-300LMC V1.10 or higher. - Cancellation rule is difference with standard Online/Offline Authentication. Please refer to a leaflet bundled with KWD-OFL-USB. <u>Warranty Information:</u> - Damaged USB License Storage "KWD-OFL-USB" a. Remaining Licenses will not be warranted. b. Licenses not uploaded to the License Management Server will not be warranted.	\$ 160.00	200.00

General Radio Features		Contract	LIST
KWD-5000CH	License Key for 4000 Channel Expansion	\$ 336.00	420.00
KWD-5001FP	License Key for Front Panel Programming	\$ 240.00	300.00
KWD-5002SD	License Key for microSD Memory Card Slot Activation	\$ 84.00	105.00
KWD-5003BT	License Key for Bluetooth Serial Port Profile (Required for Data Communication) <u>Note:</u> Voice Communication for Bluetooth Head Set does NOT require KWD-5003BT. You can pair with any Bluetooth audio device without this option.	\$ 28.00	35.00



KWD-5007RC	License Key for Remote Control by Subscriber Units <b>Note:</b> - P25 Mode is <u>NOT</u> available. - This license may be used by Administrator due to Stun/Revive/Kill. - The license is required for only Transmitting of Remote Control. - PC command for Remote Control does <u>NOT</u> require the license.	\$ 32.00	40.00
<b>P25 Radio Features</b>		<b>Contract</b>	<b>LIST</b>
KWD-5100CV	License Key for P25 Conventional	\$ 460.00	575.00
KWD-5101TR	License Key for P25 Phase 1 Trunking (requires KWD-5100CV) <b>Note:</b> Required for Link Layer Authentication	\$ 416.00	520.00
KWD-5102TR	License Key for P25 Phase 2 Trunking (requires KWD-5100CV & KWD-5101TR)	\$ 320.00	400.00
KWD-5103RK	License Key for P25 OTAR (requires KWD-5106DT for a Trunking Operation)	\$ 560.00	700.00
KWD-5105VT	License Key for P25 Conventional Voting Scan	\$ 96.00	120.00
KWD-5106DT	License Key for P25 Trunking OTAR / GPS Note: Conventional (OTAR/GPS) does NOT require KWD-5106DT.	\$ 144.00	180.00
<b>DMR Radio Features</b>		<b>Contract</b>	<b>LIST</b>
KWD-5300CV	License Key for DMR Tier II Conventional	\$ 48.00	60.00
KWD-5500EE	License Key for DMR ARC4 Enhanced Encryption	\$ 32.00	40.00
<b>ANTENNAS</b>		<b>Contract</b>	<b>LIST</b>
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	14.00
KRA-27M	UHF whip antenna 440-490 MHz	\$ 11.20	14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$ 11.20	14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$ 11.20	14.00
KRA-22M	VHF low-profile helical antenna 148-162 MHz	\$ 10.96	13.70
KRA-22M2	VHF low-profile helical antenna 162-174 MHz	\$ 10.96	13.70
KRA-22M3	VHF low-profile helical antenna 136-150 MHz	\$ 10.96	13.70
KRA-23M	UHF low-profile helical antenna 450-490 MHz	\$ 10.96	13.70
KRA-23M2	UHF low-profile helical antenna 470-512 MHz	\$ 10.96	13.70
KRA-23M3	UHF low-profile helical antenna 403-430 MHz	\$ 10.96	13.70
KRA-25	High gain VHF helically loaded whip antenna 148-162 MHz	\$ 27.40	34.25
KRA-28	Broad-band VHF helically loaded whip antenna 140-170 MHz	\$ 33.60	42.00
KRA-29	Broad Band UHF Whip Antenna 380-430 MHz	\$ 29.40	36.75
<b>BATTERIES AND CHARGERS</b>		<b>Contract</b>	<b>LIST</b>
KNB-L1M	Li-ion 2000mAh (Compact Slim)	\$ 92.00	115.00
KNB-L2M	Li-ion 2600mAh (Standard)	\$ 108.00	135.00
KNB-L3M	Li-ion 3400mAh (High Capacity)	\$ 140.00	175.00
KNB-N4M	Ni-MH 2500mAh	\$ 116.00	145.00
KNB-LS5CU	CSA US Intrinsically Safe Battery Li-ion 2000mAh <b>Note:</b> Due to the I.S. circuitry on the KNB-LS5CU, the cells may lose charge during storage. To prevent loss of capacity during storage, charge the battery for 10 minutes at least every 4 months with the KSC-32, KSC-Y32K or KSC-326K. <b>[Intrinsically Safe Option]</b>	\$ 166.64	208.30
KBP-8M	AA Alkaline Refillable Battery Pack (12 AA: 9V). Cells not included. <b>Note:</b> The color of the case is International Orange.	\$ 84.80	106.00
KSC-Y32K	Rapid rate single unit charger (Long-Life Charge Mode capable with KAS-12 Software)	\$ 92.00	115.00
KSC-32	Rapid rate single unit charger	\$ 56.00	70.00
KSC-326K	Rapid rate 6-unit charger	\$ 504.00	630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	33.75
KVC-15	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC-mobile bracket & cigarette lighter cable DC adapter)	\$ 95.20	119.00

KVC-23	Rapid rate DC vehicular charger for TK-5x10/5x20, NX-5x00/x00/x10/x20, TK-x180, TK-x170, & TK-x360 portables with Lithium Ion /Lithium Polymer/NiMH packs only	\$ 240.00	300.00
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<b>CARRYING ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KBH-11	Spring action belt clip (2.5")	\$ 11.76	14.70
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$ 21.04	26.30
KLH-6SW	Leather swivel belt loop / detachable swivel D-Ring back	\$ 17.60	22.00
KLH-137ST	Firemen's Heavy-Duty Leather Shoulder Strap for a Heavy-Duty Leather Case	\$ 29.40	36.75
KLH-200K3	Heavy duty leather carrying case for NX-5000 series with KNB-L1/L2/L3/LS5 (for both keypad models)	\$ 35.40	44.25
KLH-201K3	Nylon carrying case for NX-5000-series with KNB-L1/L2/L3/LS5 (for both keypad models)	\$ 21.04	26.30

<b>SPECIAL COLOR HOUSING</b>		<b>Contract</b>	<b>LIST</b>
KWD-YH-5000	Yellow Housing Kit for NX-5000 series Portables (Standard Key Model Only) Order L-5024 for Factory Install. (Eligible for warranty of IP67/68 immersion / Intrinsically Safe Option must be installed by Kenwood.) Note: If you order only housing and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.	\$ 32.00	40.00
KWD-OH-5000	Orange Housing Kit for NX-5000 series Portables (Standard Key Model Only) Order L-5025 for Factory Install. (Eligible for warranty of IP67/68 immersion / Intrinsically Safe Option must be installed by Kenwood.) Note: If you order only housing and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.	\$ 32.00	40.00

<b>MICROPHONES &amp; AUDIO ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KMC-54WDM	MIL-SPEC, IP67 (Immersion) Speaker Mic <b>Compatible with ANR Feature</b> <b>Note:</b> only compatible with a NX-5000 series portable <b>[Intrinsically Safe Option]</b>	\$ 104.00	130.00
KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic <b>[Intrinsically Safe Option]</b>	\$ 91.20	114.00
KMC-49	MIL-SPEC, Speaker Mic. with Antenna Connector <b>Note:</b> 5/16" Coax cable hex wrench included (antenna is not included). <b>[Intrinsically Safe Option]</b>	\$ 200.00	250.00
KEP-1	3.5mm earphone kit for KMC-41/42W/54W Speaker Mics <b>[Intrinsically Safe Option]</b>	\$ 42.00	52.50
KEP-2	2.5mm earphone kit for KMC-49 Speaker Mic <b>[Intrinsically Safe Option]</b>	\$ 42.00	52.50
KCT-51	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector) <b>[Intrinsically Safe Option]</b>	\$ 172.00	215.00
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black) <b>[Intrinsically Safe Option]</b>	\$ 125.20	156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black) <b>Note:</b> NOT compatible with TDMA operations <b>[Intrinsically Safe Option]</b>	\$ 147.20	184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT <b>Note:</b> NOT compatible with TDMA operations <b>[Intrinsically Safe Option]</b>	\$ 100.80	126.00
KHS-15D-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & PTT <b>[Intrinsically Safe Option]</b>	\$ 336.00	420.00
KHS-15D-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & PTT <b>[Intrinsically Safe Option]</b>	\$ 294.40	368.00

<b>ENCRYPTION &amp; OPTION MODULES</b>		<b>Contract</b>	<b>LIST</b>
KWD-AE30K	AES FIPS140-2 & DES Encryption Module (Multi-Key) Order a Labor Code L-5003 if installation is required. (Eligible for warranty of IP67/68 immersion / Intrinsically Safe Option must be installed by Kenwood. If you order only a Module and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.) KWD-AE30K requires: a Motorola KVL3000 Plus/4000 key loader device. KWD-AE30K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1). Note: Required for Link Layer Authentication <b>[Intrinsically Safe Option]</b> - Must be Kenwood installed for I.S.	\$ 680.00	850.00

KWD-AE31K	<p>AES &amp; DES Encryption Module (Multi-Key)  Order a Labor Code L-5004 if installation is required. (Eligible for warranty of IP67/68 immersion / Intrinsically Safe Option must be installed by Kenwood. If you order only a Module and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.)  Note: Requires KPG-AE1/DE1 software key loader or Motorola KVL3000 Plus/4000 key loader device. KWD-AE31K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1)  Note: Required for Link Layer Authentication  [Intrinsically Safe Option]- Must be Kenwood installed for I.S.</p>	\$ 440.00	550.00
KCT-48VU	<p>External Vibration Unit  <b>Note:</b> Audio accessories cannot be used when this option installed.  KCT-48VU does not support the P25 digital mode calling or paging features  <b>[Intrinsically Safe Option]</b></p>	\$ 56.00	70.00
KPG-AE1K	<p>AES/DES Encryption Software Key Loader for KWD-AE31K  <b>Authentication by KPT-300LMC is required</b>  <b>Note:</b> KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A).</p>	\$ 420.00	525.00
<b>ENCRYPTION &amp; OPTION MODULES, CON'T</b>		<b>Contract</b>	<b>LIST</b>
KPG-DE1K	<p>DES Encryption Software Key Loader for KWD-AE31K  <b>Authentication by KPT-300LMC is required</b>  <b>Note:</b> KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D992A.1).</p>	\$ 294.40	368.00
<b>SERVICE RELATED ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KPG-36XM	<p>Full Speed USB Programming interface cable  <b>Note:</b> This cable with USB mode may used for SD Card Direct Access.</p>	\$ 126.80	158.50
KPG-93	Encryption Key Loader Interface Cable for Motorola KVL-3000/3000 Plus/4000	\$ 210.00	262.50
KPG-93AUT	<p>KVL-4000 Radio Authentication Cable  <b>Note:</b> Only capable for P25 Radio Authentication. Not available for Encryption Key Loading.</p>	\$ 264.00	330.00
KWD-ASK-AK	<p>Access Key for KPG-D1NK P25 trunked programming  <b>Notes:</b> Enables P25 Trunked system programming privileges in a KPG-D1NK.  • For NX-5000 series only.  • Must be activated by trunked system operator (SYSOP) with KWD-ASK-MK Master Key.  • Must have KPG-D1NK.  • Configurable expiration period of KWD-ASK-AK set by KWD-ASK-MK is available for 3 years for built in battery. USB Key must be replaced since the expiration set up dose not work after 3 years.</p>	\$ 166.40	208.00
KWD-ASK-MK	<p>Master Key for activating KWD-ASK-AK Access Keys  - <b>Restricted Purchase Requirements</b> -  <b>Notes:</b>  • For NX-5000 series only.  • Sold to trunked system operator (SYSOP) or SYSOP authorized entities only  • Must have KPG-D1NK.  • SYSOP must provide 3-digit HEX HSID to Kenwood with P25 Trunking System Keys Request Form placed on Kenwood Tools.  • Purchase KWD-ASK-AK Access Keys if needed.</p>	\$ 400.00	500.00
<b>INSTALLATION / TUNING CHARGES</b>		<b>Contract</b>	<b>LIST</b>
L-5001	<p>Factory Activation of Radio Feature Licenses (per Radio)  <b>Note:</b> Must purchase Radio Feature Licenses separately.  KPT-300LMC's History Menu will not display the Radio Features activated by Factory.</p>	\$ 96.00	120.00
L-5002	NX-5200/5300/5400 Programming (with basic TX/RX check)	\$ 30.00	37.50
L-5003	Install KWD-AE30K in NX-5000 series Portable (Must purchase module separately)	\$ 60.00	75.00
L-5004	Install KWD-AE31K in NX-5000 series Portable (Must purchase module separately)	\$ 60.00	75.00
L-5005	<p>KPG-D1NK System Key File (SKF)  <b>Note:</b> Enables P25 Trunked system programming privileges in a KPG-D1NK.  - <b>Restricted Purchase Requirements</b> -  • Trunked system operator (SYSOP) must provide 3-digit HEX HSID to Kenwood with P25 Trunking System Keys Request Form placed on Kenwood Tools.  • Must have KPG-D1NK.  • Kenwood ships an encrypted *.SKF file via E-Mail to the address provided on the P25 Trunking System Keys Request Form placed on Kenwood Tools.  • Non-SYSOP entities ordering L-5005 must provide verifiable written authorization from SYSOP to receive an *.SKF file.  • 3-digit HEX HSID are securely encrypted &amp; embedded in the *.SKF file.</p>	\$ 105.60	132.00
L-5024	Assemble Yellow Housing KWD-YH-5000 with NX-5000 series Portable	\$ 21.60	27.00
L-5025	Assemble Orange Housing KWD-OH-5000 with NX-5000 series Portable	\$ 21.60	27.00
L-5039	<p>Configure NX-5200/5300/5400 for CSA US Intrinsically Safe  <b>Must order KNB-LS5CU I.S. battery</b></p>	\$ 27.20	34.00

**-- IMPORTANT NOTES regarding ENCRYPTION MODULES--**

Encryption modules, key loaders and radios containing encryption are export controlled by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export license to most countries. See [www.bis.gov](http://www.bis.gov) for more information regarding export regulations. DO NOT SHIP encryption items outside the U.S. without proper DOC/BIS Export Licenses and/or compliances.

Kenwood may request the following information to be submitted at time of order (this information must meet Kenwood internal approvals prior to shipment even if being returned to Kenwood later:

a) Initial Destination: Initial delivery point if different from Ultimate Destination  
(customer distribution center, headquarters, Contractship, manufacturer's representative)

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

b) Ultimate Destination: Final delivery point(s); deployment/distribution

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

c) Intended Use of Radios: Law enforcement, security, operations, etc.

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**KWD-AE30 AES FIPS140-2 SCM , NIST Validation & Customer Shipping**

A secure delivery method direct to the end user customer is required by the NIST AES FIPS 140-2 validation rules. For U.S. Federal Government entities the SCM must ship from Kenwood USA Corporation directly to the end user customer by a trusted carrier (FEDEX, UPS or a designated Kenwood USA Corporation employee); shipping/handling by a Contract or other entity is not acceptable. This may or may not be required by local/state government agencies or business/industrial users. Please check with the end use customer about their AES encryption handling requirements before ordering. Kenwood will not be responsible for shipments of KWD-AE30K modules to erroneous destinations specified on an order.

NEXEDGE®



# NX-5400

700/800MHz Digital & FM Analog Portable Radios



<Standard Key Model > <Full Key Model >

## All NX-5000 series portables include:

- Belt Clip (KBH-11)
- Universal Connector Cap
- User Guide
- Premium Warranty: 3 Years\*

All Accessories / options: 1 Year

Purchase Battery, Charger, Antenna separately

**\*Note:** To maintain immersion specs (IP67/68), all warranty service must be done by one of the three National Kenwood Authorized Service Centers. IP67/68 Certification is valid under the 3 year premium warranty. No re-certification is available.

**Because of spurious signal (birdie), the following frequencies (and  $\pm 10$ kHz ranges) are not allowed;**

- |            |            |            |
|------------|------------|------------|
| • 144.0000 | • 384.0000 | • 460.8000 |
| • 147.4560 | • 403.2000 | • 480.0000 |
| • 153.6000 | • 422.4000 | • 499.2000 |
| • 172.0325 | • 432.0000 | • 518.4000 |
| • 172.8000 | • 441.6000 |            |

## STANDARD

### ■ GENERAL FEATURES

- 6 W (136-174 MHz) Models
- 5 W (380-470, 450-520 MHz) Models
- 1024 CH-GID / 128 Zones
- Standard Key Models (w/o numeric keypad)
- Full Key Models (w/ numeric keypad)
- Full Color 1.74" (240 x 180 pixels) Transflective TFT Display
- Multi-line Text Display
- Function/Status Icons
- Multi-Language Display
- Date & 12/24 Hour Time Clock
- Transmit/Busy/Call Alert/Warn LED
- On/Off Volume Knob
- 16-Position Mechanical Selector (w/ a stopper)
- 4-way Directional-pad (D-pad)
- 2 Position Lever Switch
- Emergency/AUX Key
- 3 Side PF Keys
- 1W Speaker Audio
- Multi Digital Protocol <sup>1</sup>
- Emergency Call Features
- Built-in GPS Receiver / Antenna
- Built-in Bluetooth® Module
- Built-in Motion Sensor
- Built-in 56-bit DES Encryption (4 keys programmable by KPG-D1(N)K)
- Active Noise Reduction (ANR)
- KPG-D1N Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP67/68 Immersion
- Color Housing Option

*1. Multi Digital Protocol can be used for two(2) of the three(3) Digital Protocols set by programming software. P25/DMR Digital Protocols are options.*

### ■ DIGITAL – NXDN® MODE

- NXDN® Conventional / TYPE-C (Gen1/Gen2) Trunking
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming (requires KPG-180AP OTAP Manager Software)
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill/Check
- Short & Long Data Messages
- GPS Location
- NXDN® Scrambler

### ■ DIGITAL – DMR MODE

- DMR Tier II Conventional
- DMR Auto Slot Select (DASS)
- AMBE+2™ VOCODER
- 12.5 kHz Channels
- Call Interrupt (Direct & Repeater Mode)
- Paging Call
- Emergency Call
- All Group Call
- Late Entry
- Status Messaging
- Remote Control by Subscriber Units
- ARC4 Encryption Optional
- Site Roaming

### ■ ANALOG MODE

- Conventional Zones
- LTR® Zones
- FleetSync®/II: PTT ID ANI, Caller ID Display, Selective/Group Call, Emergency Status, Text Messages
- MDC-1200: PTT ID ANI, Caller ID Display, Emergency, Radio Check & Inhibit
- QT / DQT
- Two-Tone (Conventional Zones Only)
- DTMF
- Built-in Voice Inversion Scrambler

Approved by CSA-us International Inc. for Classes I, II & III, Div. 1, Groups D, E, F, G and are also approved for non-Incendive use in Class I, Div. 2, Groups A, B, C hazardous locations.  
**Note:** Environmental conditions are less than 32°F (0°C), KENWOOD carrying caes must be used.

## OPTIONAL

### ■ GENERAL FEATURES

- 4000 Channel ([KWD-5000CH](#) License Key Activation required)
- Front Panel Programming ([KWD-5001FP](#) License Key Activation required )
- microSD/microSDHC Memory Card Slot ([KWD-5002SD](#) License Key Activation required)
- Built-in Bluetooth® Module for Data ([KWD-5003BT](#) License Key Activation required)
- Remote Control by Subscriber Units ([KWD-5007RC](#) License Key Activation required)
- 256-bit AES Encryption ([KWD-AE30K/31K](#) Encryption Module required)
- Battery Management Solution ([KSC-Y32K](#) Charger & [KAS-12K](#) Software License Key required)

### ■ DIGITAL – P25 MODE

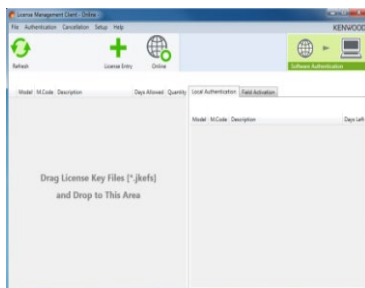
- Conventional Features ([KWD-5100CV](#) License Key Activation required)
- Phase 1 Trunking Features ([KWD-5100CV](#) & [5101TR](#) License Keys Activation required)
- Phase 2 Trunking Features ([KWD-5100CV](#) & [5101TR](#) & [5102TR](#) License Keys Activation required)
- Conventional OTAR ([KWD-5103RK](#) License Key Activation required)
- Trunking OTAR ([KWD-5103RK](#) & [5106DT](#) License Keys Activation required)
- Conventional Voting Scan ([KWD-5105VT](#) License Key Activation required)
- Packet Data required for Trunked OTAR/GPS([KWD-5106DT](#) License Keys Activation required)
- Link Layer Authentication (Phase 1 Trunking and KWD-AE3x Encryption Board Required)

### ■ DIGITAL – DMR MODE

- DMR Tier 2 Conventional Features ([KWD-5300CV](#) License Key Activation required))

RADIO		Contract	LIST
NX-5400K2	700 / 800 MHz, 3.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking Standard Key Model	\$ 660.00	825.00
NX-5400K3	700 / 800 MHz, 3.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking Full Key Model	\$ 700.00	875.00
CSA US APPROVED MODELS		Contract	LIST
<b>Must Order L-5039 &amp; KNB-LS5CU Intrinsically Safe Battery per radio</b> <i>*Note: microSD card is not allowed to use as Intrinsically Safe Option.</i>			
NX-5400-ISCK2	700 / 800 MHz, 3.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking Standard Key Model	\$ 660.00	825.00
NX-5400-ISCK3	700 / 800 MHz, 3.0 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking Full Key Model	\$ 700.00	875.00

LICENSING SYSTEM	Contract	LIST
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### KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software** (FPU) and **radio feature license** keys for the NX-5000 Series radios.

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software, such as KPG-D1NK, KAS-12, and KPG-AE1/DE1.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the enclosed "[Account Request Form](#)" and return to the Land Mobile Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

**Note:** KPT-300LMC is compatible with Windows Vista/7/8/8.1/10 Only. Windows XP is not supported.

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	NC	NC
SOFTWARE LICENSING OPTIONS		Contract	LIST

**TO PLACE AN ORDER FOR SOFTWARE:**

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the Land Mobile Order Desk via:
  - a) E-Mail: [lmrorderdesk@us.jvckenwood.com](mailto:lmrorderdesk@us.jvckenwood.com)
  - b) Fax: (310) 761-8246
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

**Note: A unique license key is required for each PC with software installed. A single license key will not authorize multiple PCs.**

**Software License Key Discount Structure**

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF
15 ~ 24 License Keys	40% OFF
25+ License Keys	45% OFF

FIELD PROGRAMMING UNIT (FPU)		Contract	LIST
KPG-D1NK	License Key for KPG-D1NK Programming Software for NX-5000 Portable/Mobile (Windows® Vista/7/8/8.1/10) <u>Note:</u> Requires KPT-300LMC for authentication	\$ 124.00	155.00

P25 Trunked Programming Capability (licensed by either 1 or 2 below):

1. USB Key Type: Advanced System Key (ASK)- See KWD-ASK-MK and AK
  - For NX-5000 series radios.
  - KWD-ASK-MK (Master Key): For trunked system operator (SYSOP). Required for activating KWD-ASK-AK Access keys. Securely embeds/encrypts the HSID.
  - KWD-ASK-AK (Access Key): For Contracts/contractors. Activated by KWD-ASK-MK Master Key.
  - KPG-D1NK supports up to 16 KWD-ASK-AK Access Keys (16 trunked networks).

2. Software Key Type: System Key File (SKF)- See L-5005

- For NX-5000 series radios.
- 3-digit HEX System ID (HSID) with verifiable written authorization required from SYSOP.
- Utilized by both SYSOPs and Contracts/Contractors. But Contracts/Contractors must be permitted from SYSOP to order and use SKF.
- Kenwood ships an encrypted \*.SKF file via E-Mail to the address provided on the P25 Trunking System Keys Request Form placed on Kenwood Tools.
- The \*.SKF securely embeds/encrypts the HSID.

OVER THE AIR PROGRAMMING (OTAP)		Contract	LIST
KPG-180AP	OTAP Manager Software (Windows® Vista/7/8/8.1/10) • License includes Fifty (50) radios / One(1) <b>NXDN</b> Conventional and Type-C <b>Air</b> Communication Profile and One(1) <b>NXDN</b> Conventional and Type-C <b>IP</b> Communication Profile  <u>Note:</u> - Requires KPT-300LMC for authentication - Radio to Radio OTAP for <u>P25 Conventional system</u> requires <u>KWD-AP3-P25</u> license. - NEXEDGE Type-D Trunking and DMR System not supported.	\$ 707.20	884.00

**SOFTWARE UPGRADE LICENSES FOR KPG-180AP**

**Note: Includes package license for additional subscriber unit or license for additional profile attached to one computer running KPG-180AP software. All additional licenses require KPT-300LMC for authentication.**

KWD-AP5100	Additional 100 Radio Package License for 1 PC Note: License includes 100 subscriber radios OTAP License.	\$ 1,333.60	1667.00
KWD-AP5250	Additional 250 Radio Package License for 1 PC Note: License includes 250 subscriber radios OTAP License.	\$ 2,333.60	2917.00
KWD-AP5500	Additional 500 Radio Package License for 1 PC Note: License includes 500 subscriber radios OTAP License.	\$ 3,333.60	4167.00
KWD-AP1-CA	Additional NXDN Conventional Type-C Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as NEXEDGE Base Station Serial Interface for both Conventional and Trunking (Type-C Gen1/Gen2).	\$ 200.00	250.00



KWD-AP2-CP	Additional NXDN Conventional Type-C IP Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used NEXEDGE Repeater IP Interface for both Conventional and Trunking (Type-C Gen1/Gen2) .	\$ 333.60	417.00
KWD-AP3-P25	P25 Radio to Radio Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as P25 Base Station Serial Interface for only Radio to Radio Communication.	\$ 640.00	800.00

**-- IMPORTANT NOTES--**

Base radios are connected to a computer using the KPG-36XM USB adapter for portables, or a KPG-46XM for mobiles.

Requires firmware version 1.4 or higher for the NX-5000 Series portables and mobiles

Requires firmware version 2.5 or higher for the NXR-x00/NXR-x10 repeaters.

Requires firmware version 1.0 or higher for the NXR-5xxx repeaters

BATTERY READER		Contract	LIST
KAS-12K	License Key for KAS-12 Battery Reader Software for KNB-L1/2/3/N4/LS5 & KSC-Y32 (Windows® Vista/7/8/8.1) <b>Note:</b> Requires KPT-300LMC for authentication	\$ 68.00	85.00

**SOFTWARE UPGRADE LICENSES FOR KAS-12**

**Note: Upgrade License attaches to one computer running KAS-12 software. All additional licenses require KPT-300LMC for authentication.**

KAS-12PRO	Add Battery Management with Database <b>Must require KAS-12K Battery Reader Software to upgrade</b>  <b>Note:</b> - A Windows® PC may be required as a Database Server which KAS-12DU (Free) software is installed. - Requires KPT-300LMC for authentication	\$ 280.00	350.00
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**RADIO FEATURE LICENSE OPTIONS**

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

**\* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:**

1. Complete the attached Radio Feature Request Form.
2. Submit the completed form along with your PO to the Land Mobile Order Desk via:
  - a) E-Mail: [Imrorderdesk@us.jvckenwood.com](mailto:Imrorderdesk@us.jvckenwood.com)
  - b) Fax: (310) 761-8246
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

**Note: Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once**

Offline Authentication Option		Contract	LIST
KWD-OFL-USB	USB License Storage Hardware key for Radio Feature License <b>Note:</b> - Must purchase Radio Feature Licenses separately. - Can be used with only one (1) Account Registration Key. - Requires KPT-300LMC V1.10 or higher. - Cancellation rule is difference with standard Online/Offline Authentication. Please refer to a leaflet bundled with KWD-OFL-USB. <b>Warranty Information:</b> - Damaged USB License Storage "KWD-OFL-USB" a. Remaining Licenses will not be warranted. b. Licenses not uploaded to the License Management Server will not be warranted.	\$ 160.00	200.00

General Radio Features		Contract	LIST
KWD-5000CH	License Key for 4000 Channel Expansion	\$ 336.00	420.00
KWD-5001FP	License Key for Front Panel Programming	\$ 240.00	300.00
KWD-5002SD	License Key for microSD Memory Card Slot Activation	\$ 84.00	105.00
KWD-5003BT	License Key for Bluetooth Serial Port Profile (Required for Data Communication) <b>Note:</b> Voice Communication for Bluetooth Head Set does NOT require KWD-5003BT. You can pair with any Bluetooth audio device without this option.	\$ 28.00	35.00
KWD-5007RC	License Key for Remote Control by Subscriber Units <b>Note:</b> - P25 Mode is <u>NOT</u> available. - This license may be used by Administrator due to Stun/Revive/Kill. - The license is required for only Transmitting of Remote Control. - PC command for Remote Control does <u>NOT</u> require the license.	\$ 32.00	40.00

P25 Radio Features		Contract	LIST
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KWD-5100CV	License Key for P25 Conventional	\$ 460.00	575.00
KWD-5101TR	License Key for P25 Phase 1 Trunking (requires KWD-5100CV) <b>Note:</b> Required for Link Layer Authentication	\$ 416.00	520.00
KWD-5102TR	License Key for P25 Phase 2 Trunking (requires KWD-5100CV & KWD-5101TR)	\$ 320.00	400.00
KWD-5103RK	License Key for P25 OTAR (requires KWD-5106DT for a Trunking Operation)	\$ 560.00	700.00
KWD-5105VT	License Key for P25 Conventional Voting Scan	\$ 96.00	120.00
KWD-5106DT	License Key for P25 Trunking OTAR / GPS Note: Conventional (OTAR/GPS) does NOT require KWD-5106DT.	\$ 144.00	180.00
<b>DMR Radio Features</b>		<b>Contract</b>	<b>LIST</b>
KWD-5300CV	License Key for DMR Tier II Conventional	\$ 48.00	60.00
KWD-5500EE	License Key for DMR ARC4 Enhanced Encryption	\$ 32.00	40.00
<b>ANTENNAS</b>		<b>Contract</b>	<b>LIST</b>
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	14.00
KRA-27M	UHF whip antenna 440-490 MHz	\$ 11.20	14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$ 11.20	14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$ 11.20	14.00
KRA-22M	VHF low-profile helical antenna 148-162 MHz	\$ 10.96	13.70
KRA-22M2	VHF low-profile helical antenna 162-174 MHz	\$ 10.96	13.70
KRA-22M3	VHF low-profile helical antenna 136-150 MHz	\$ 10.96	13.70
KRA-23M	UHF low-profile helical antenna 450-490 MHz	\$ 10.96	13.70
KRA-23M2	UHF low-profile helical antenna 470-512 MHz	\$ 10.96	13.70
KRA-23M3	UHF low-profile helical antenna 403-430 MHz	\$ 10.96	13.70
KRA-25	High gain VHF helically loaded whip antenna 148-162 MHz	\$ 27.40	34.25
KRA-28	Broad-band VHF helically loaded whip antenna 140-170 MHz	\$ 33.60	42.00
KRA-29	Broad Band UHF Whip Antenna 380-430 MHz	\$ 29.40	36.75
<b>BATTERIES AND CHARGERS</b>		<b>Contract</b>	<b>LIST</b>
KNB-L1M	Li-ion 2000mAh (Compact Slim)	\$ 92.00	115.00
KNB-L2M	Li-ion 2600mAh (Standard)	\$ 108.00	135.00
KNB-L3M	Li-ion 3400mAh (High Capacity)	\$ 140.00	175.00
KNB-N4M	Ni-MH 2500mAh	\$ 116.00	145.00
KNB-LS5CU	CSA US Intrinsically Safe Battery Li-ion 2000mAh <b>Note:</b> Due to the I.S. circuitry on the KNB-LS5CU, the cells may lose charge during storage. To prevent loss of capacity during storage, charge the battery for 10 minutes at least every 4 months with the KSC-32, KSC-Y32K or KSC-326K. [Intrinsically Safe Option]	\$ 166.64	208.30
KBP-8M	AA Alkaline Refillable Battery Pack (12 AA: 9V). Cells not included. <b>Note:</b> The color of the case is International Orange.	\$ 84.80	106.00
KSC-Y32K	Rapid rate single unit charger (Long-Life Charge Mode capable with KAS-12 Software)	\$ 92.00	115.00
KSC-32	Rapid rate single unit charger	\$ 56.00	70.00
KSC-326K	Rapid rate 6-unit charger	\$ 504.00	630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	33.75
KVC-15	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC-mobile bracket & cigarette lighter cable DC adapter)	\$ 95.20	119.00
KVC-23	Rapid rate DC vehicular charger for TK-5x10/5x20, NX-5x00/x00/x10/x20, TK-x180, TK-x170, & TK-x360 portables with Lithium Ion /Lithium Polymer/NiMH packs only	\$ 240.00	300.00
<b>CARRYING ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KBH-11	Spring action belt clip (2.5")	\$ 11.76	14.70
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$ 21.04	26.30
KLH-6SW	Leather swivel belt loop / detachable swivel D-Ring back	\$ 17.60	22.00

KLH-137ST	Firemen's Heavy-Duty Leather Shoulder Strap for a Heavy-Duty Leather Case	\$ 29.40	36.75
KLH-200K3	Heavy duty leather carrying case for NX-5000 series with KNB-L1/L2/L3/LS5 (for both keypad models)	\$ 35.40	44.25
KLH-201K3	Nylon carrying case for NX-5000-series with KNB-L1/L2/L3/LS5 (for both keypad models)	\$ 21.04	26.30

<b>SPECIAL COLOR HOUSING</b>		<b>Contract</b>	<b>LIST</b>
KWD-YH-5000	Yellow Housing Kit for NX-5000 series Portables (Standard Key Model Only) Order L-5024 for Factory Install. (Eligible for warranty of IP67/68 immersion / Intrinsically Safe Option must be installed by Kenwood.) Note: If you order only housing and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.	\$ 32.00	40.00
KWD-OH-5000	Orange Housing Kit for NX-5000 series Portables (Standard Key Model Only) Order L-5025 for Factory Install. (Eligible for warranty of IP67/68 immersion / Intrinsically Safe Option must be installed by Kenwood.) Note: If you order only housing and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.	\$ 32.00	40.00

<b>MICROPHONES &amp; AUDIO ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KMC-54WDM	MIL-SPEC, IP67 (Immersion) Speaker Mic <b>Compatible with ANR Feature</b> <b>Note:</b> only compatible with a NX-5000 series portable <b>[Intrinsically Safe Option]</b>	\$ 104.00	130.00
KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic <b>[Intrinsically Safe Option]</b>	\$ 91.20	114.00
KMC-49	MIL-SPEC, Speaker Mic. with Antenna Connector <b>Note:</b> 5/16" Coax cable hex wrench included (antenna is not included). <b>[Intrinsically Safe Option]</b>	\$ 200.00	250.00
KEP-1	3.5mm earphone kit for KMC-41/42W/54W Speaker Mics <b>[Intrinsically Safe Option]</b>	\$ 42.00	52.50
KEP-2	2.5mm earphone kit for KMC-49 Speaker Mic <b>[Intrinsically Safe Option]</b>	\$ 42.00	52.50
KCT-51	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector) <b>[Intrinsically Safe Option]</b>	\$ 172.00	215.00
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black) <b>[Intrinsically Safe Option]</b>	\$ 125.20	156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black) <b>Note:</b> NOT compatible with TDMA operations <b>[Intrinsically Safe Option]</b>	\$ 147.20	184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT <b>Note:</b> NOT compatible with TDMA operations <b>[Intrinsically Safe Option]</b>	\$ 100.80	126.00
KHS-15D-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & PTT <b>[Intrinsically Safe Option]</b>	\$ 336.00	420.00
KHS-15D-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & PTT <b>[Intrinsically Safe Option]</b>	\$ 294.40	368.00

<b>ENCRYPTION &amp; OPTION MODULES</b>		<b>Contract</b>	<b>LIST</b>
KWD-AE30K	AES FIPS140-2 & DES Encryption Module (Multi-Key) Order a Labor Code L-5003 if installation is required. (Eligible for warranty of IP67/68 immersion / Intrinsically Safe Option must be installed by Kenwood. If you order only a Module and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.) KWD-AE30K requires: a Motorola KVL3000 Plus/4000 key loader device. KWD-AE30K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1). Note: Required for Link Layer Authentication <b>[Intrinsically Safe Option]</b> - Must be Kenwood installed for I.S.	\$ 680.00	850.00
KWD-AE31K	AES & DES Encryption Module (Multi-Key) Order a Labor Code L-5004 if installation is required. (Eligible for warranty of IP67/68 immersion / Intrinsically Safe Option must be installed by Kenwood. If you order only a Module and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.) Note: Requires KPG-AE1/DE1 software key loader or Motorola KVL3000 Plus/4000 key loader device. KWD-AE31K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1) Note: Required for Link Layer Authentication <b>[Intrinsically Safe Option]</b> - Must be Kenwood installed for I.S.	\$ 440.00	550.00
KCT-48VU	External Vibration Unit <b>Note:</b> Audio accessories cannot be used when this option installed. KCT-48VU does not support the P25 digital mode calling or paging features <b>[Intrinsically Safe Option]</b>	\$ 56.00	70.00

KPG-AE1K	AES/DES Encryption Software Key Loader for KWD-AE31K <b>Authentication by KPT-300LMC is required</b> <b>Note:</b> KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A).	\$ 420.00	525.00
<b>ENCRYPTION &amp; OPTION MODULES, CONT</b>		<b>Contract</b>	<b>LIST</b>
KPG-DE1K	DES Encryption Software Key Loader for KWD-AE31K <b>Authentication by KPT-300LMC is required</b> <b>Note:</b> KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D992A.1).	\$ 294.40	368.00
<b>SERVICE RELATED ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KPG-36XM	Full Speed USB Programming interface cable <b>Note:</b> This cable with USB mode may used for SD Card Direct Access.	\$ 126.80	158.50
KPG-93	Encryption Key Loader Interface Cable for Motorola KVL-3000/3000 Plus/4000	\$ 210.00	262.50
KPG-93AUT	KVL-4000 Radio Authentication Cable <b>Note:</b> Only capable for P25 Radio Authentication. Not available for Encryption Key Loading.	\$ 264.00	330.00
KWD-ASK-AK	Access Key for KPG-D1NK P25 trunked programming <b>Notes:</b> Enables P25 Trunked system programming privileges in a KPG-D1NK. • For NX-5000 series only. • Must be activated by trunked system operator (SYSOP) with KWD-ASK-MK Master Key. • Must have KPG-D1NK. • Configurable expiration period of KWD-ASK-AK set by KWD-ASK-MK is available for 3 years for built in battery. USB Key must be replaced since the expiration set up dose not work after 3 years.	\$ 166.40	208.00
KWD-ASK-MK	Master Key for activating KWD-ASK-AK Access Keys <b>- Restricted Purchase Requirements -</b> <b>Notes:</b> • For NX-5000 series only. • Sold to trunked system operator (SYSOP) or SYSOP authorized entities only • Must have KPG-D1NK. • SYSOP must provide 3-digit HEX HSID to Kenwood with P25 Trunking System Keys Request Form placed on Kenwood Tools. • Purchase KWD-ASK-AK Access Keys if needed.	\$ 400.00	500.00
<b>INSTALLATION / TUNING CHARGES</b>		<b>Contract</b>	<b>LIST</b>
L-5001	Factory Activation of Radio Feature Licenses (per Radio) <b>Note:</b> Must purchase Radio Feature Licenses separately. <u>KPT-300LMC's History Menu will not display the Radio Features activated by Factory.</u>	\$ 96.00	120.00
L-5002	NX-5200/5300/5400 Programming (with basic TX/RX check)	\$ 30.00	37.50
L-5003	Install KWD-AE30K in NX-5000 series Portable (Must purchase module separately)	\$ 60.00	75.00
L-5004	Install KWD-AE31K in NX-5000 series Portable (Must purchase module separately)	\$ 60.00	75.00
L-5005	KPG-D1NK System Key File (SKF) <b>Note:</b> Enables P25 Trunked system programming privileges in a KPG-D1NK. <b>- Restricted Purchase Requirements -</b> • Trunked system operator (SYSOP) must provide 3-digit HEX HSID to Kenwood with P25 Trunking System Keys Request Form placed on Kenwood Tools. • Must have KPG-D1NK. • Kenwood ships an encrypted *.SKF file via E-Mail to the address provided on the P25 Trunking System Keys Request Form placed on Kenwood Tools. • Non-SYSOP entities ordering L-5005 must provide verifiable written authorization from SYSOP to receive an *.SKF file. • 3-digit HEX HSID are securely encrypted & embedded in the *.SKF file.	\$ 105.60	132.00
L-5024	Assemble Yellow Housing KWD-YH-5000 with NX-5000 series Portable	\$ 21.60	27.00
L-5025	Assemble Orange Housing KWD-OH-5000 with NX-5000 series Portable	\$ 21.60	27.00
L-5039	Configure NX-5200/5300/5400 for CSA US Intrinsically Safe <b>Must order KNB-LS5CU I.S. battery</b>	\$ 27.20	34.00
L-5051	P25 CAP Compliance of Non-Encrypted Radio - Disable Built-in DES	\$ 40.00	50.00

-- IMPORTANT NOTES regarding ENCRYPTION MODULES--

Encryption modules, key loaders and radios containing encryption are export controlled by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export license to most countries. See [www.bis.gov](http://www.bis.gov) for more information regarding export regulations. DO NOT SHIP encryption items outside the U.S. without proper DOC/BIS Export Licenses and/or compliances.

Kenwood may request the following information to be submitted at time of order (this information must meet Kenwood internal approvals prior to shipment even if being returned to Kenwood later:

a) Initial Destination: Initial delivery point if different from Ultimate Destination  
(customer distribution center, headquarters, Contractship, manufacturer's representative)

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

b) Ultimate Destination: Final delivery point(s); deployment/distribution

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

c) Intended Use of Radios: Law enforcement, security, operations, etc.

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#### KWD-AE30 AES FIPS140-2 SCM , NIST Validation & Customer Shipping

A secure delivery method direct to the end user customer is required by the NIST AES FIPS 140-2 validation rules. For U.S. Federal Government entities the SCM must ship from Kenwood USA Corporation directly to the end user customer by a trusted carrier (FEDEX, UPS or a designated Kenwood USA Corporation employee); shipping/handling by a Contract or other entity is not acceptable. This may or may not be required by local/state government agencies or business/industrial users. Please check with the end use customer about their AES encryption handling requirements before ordering. Kenwood will not be responsible for shipments of KWD-AE30K modules to erroneous destinations specified on an order.

NEXEDGE®



# NX-5700/5800/5900

VHF/UHF/700/800MHz Digital & FM Analog Mobile Radios

## STANDARD



### NX-5000(K-version\*) Mobiles include:

- Standard Microphone (KMC-35)
- Mounting Bracket (KMB-33M)
- DC Cable
- Blade Fuse
- User Guide
- Premium Warranty: 3 Years

All Accessories / options: 1 Year

\*BK-version comes with a RF deck only

### ■ GENERAL FEATURES

- 50 W (136-174 MHz) Models
- 45 W (380-470, 450-520 MHz) Models
- 35 W (700/800 MHz) Models
- 1024 CH-GID / 128 Zones
- Full Color 2.55" (154 x 422 pixels) TFT Display
- Multi-line Text Display
- Function/Status Icons
- Multi-Language Display
- Date & 12/24 Hour Time Clock
- Transmit/Busy/Call Alert/Warn LED
- Emergency/AUX Key
- 4W Speaker Audio
- DB-25 Accessory Connector
- Multi Digital Protocol <sup>1</sup>
- Emergency Call Features
- Built-in GPS Receiver
- Built-in Bluetooth® Module
- Built-in 56-bit DES Encryption (4 keys programmable by KPG-D1(N)K)
- Mobile Relay Station<sup>2</sup> (DMR Mode<sup>3</sup>)
- Cross Band Repeater (Only)
- Active Noise Reduction (ANR)
- KPG-D1N Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP54/55

1. Multi Digital Protocol can be used for two(2) of the three(3) Digital Protocols set by programming software. P25/DMR Digital Protocols are options.

2. Requires **L-5023** DB25 Cable between Decks.

### ■ DIGITAL – NXDN® MODE

- NXDN® Conventional0
- NXDN® TYPE-C (Gen1/Gen2) Trunking (except 700MHz)
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming (requires KPG-180AP OTAP Manager Software)
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill/Check
- Short & Long Data Messages
- GPS Location
- NXDN® Scrambler

### ■ DIGITAL – DMR MODE

- DMR Tier II Conventional
- DMR Auto Slot Select (DASS)
- AMBE+2™VOCODER
- 12.5 kHz Channels
- Call Interrupt (Direct & Repeater Mode)
- Paging Call
- Emergency Call
- All Group Call
- Late Entry
- Status Messaging
- Remote Control by Subscriber Units
- ARC4 Encryption Optional
- Site Roaming

### ■ ANALOG MODE

- Conventional Zones
- LTR® Zones
- FleetSync®/II: PTT ID ANI, Caller ID Display, Selective/Group Call, Emergency Status, Text Messages
- MDC-1200: PTT ID ANI, Caller ID Display, Emergency, Radio Check & Inhibit
- QT / DQT
- Two-Tone (Conventional Zones Only)
- DTMF
- Built-in Voice Inversion Scrambler

## OPTIONAL

### ■ GENERAL FEATURES

- 4000 Channel (KWD-5000CH License Key Activation required)
- Front Panel Programming (KWD-5001FP License Key Activation required )
- microSD/microSDHC Memory Card Slot (KWD-5002SD License Key Activation required)
- Built-in Bluetooth® Module for Data (KWD-5003BT License Key Activation required)
- Remote Control by Subscriber Units (KWD-5007RC License Key Activation required)
- 256-bit AES Encryption (KWD-AE30K/31K Encryption Module required)

### ■ DIGITAL – P25 MODE

- Conventional Features (KWD-5100CV License Key Activation required)
- Phase 1 Trunking Features (KWD-5100CV & 5101TR License Keys Activation required)
- Phase 2 Trunking Features (KWD-5100CV & 5101TR & 5102TR License Keys Activation required)
- Conventional OTAR (KWD-5103RK License Key Activation required)
- Trunking OTAR (KWD-5103RK & 5106DT License Keys Activation required)
- Conventional Voting Scan (KWD-5105VT License Key Activation required)
- Packet Data required for Trunked OTAR/GPS (KWD-5106DT License Keys Activation required)
- Link Layer Authentication (Phase 1 Trunking and KWD-AE3x Encryption Board Required)

### ■ MOUNTING & REMOTE CONFIGURATIONS

(Order L-5029–L-5038 for KENWOOD Factory assembling)

- KCH-20R Featured Control Head
- KCH-21R Handheld Control Head
- Single Remote Control Head  
(KRK Kit & KCT-71 or KCT-77 Cable required)
- Dual Remote Control Heads  
(KCH-19/20R/21R & KRK Kit & KCT-71 or KCT-77 Cables required)
- Multiple RF Decks  
(KRK Kit & KCT-71 or KCT-77 Control Cable + KWD-5004MR License Key Activation required\*)
- \* ONLY for the radios with S/N: B5900000 or earlier.

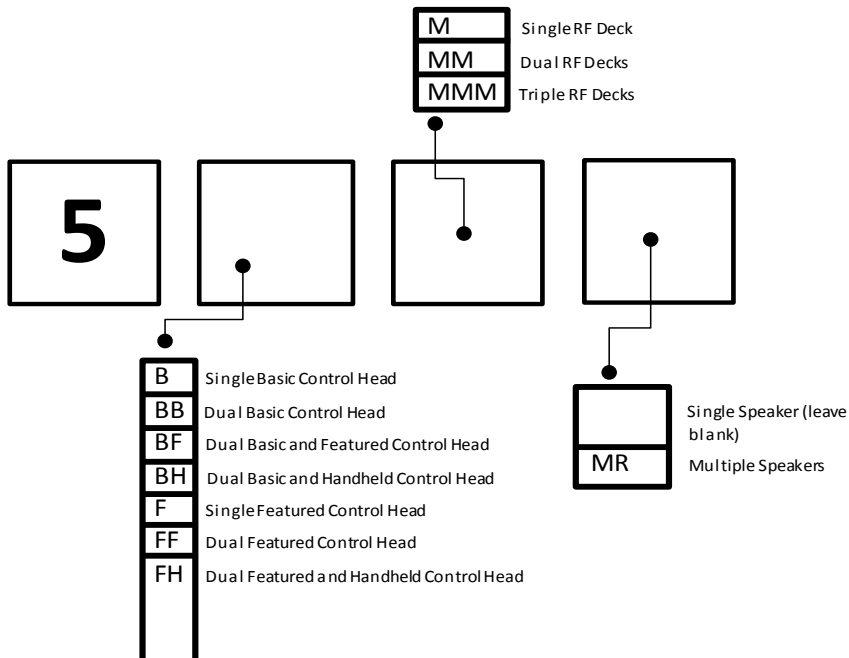


### ■ DIGITAL – DMR MODE

- DMR Tier 2 Conventional Features (KWD-5300CV License Key Activation required))

RADIO (includes: KCH-19M, KMC-35, KMB-33M, and DC Cable)		Contract	LIST
NX-5700K	VHF (136-174MHz), 50 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 784.00	980.00
NX-5800K	UHF (450-520MHz), 45 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 784.00	980.00
NX-5800K2	UHF (380-470MHz), 45 Watts NXDN Conventional / TYPE-C (Gen1/Gen2) Trunking	\$ 784.00	980.00
NX-5900K	700 / 800 MHz, 30/35 Watts NXDN Conventional / 800MHz TYPE-C (Gen1/Gen2) Trunking	\$ 1,000.00	1250.00
RF Deck Only		Contract	LIST
MUST purchase necessary accessories separately			
NX-5700BK	NX-5700K (50W, 136-174 MHz) RF Deck Only (KCH-19 Control Head, KMC-35 Microphone, KMB-33 Bracket, DC Cable not included)	\$ 576.00	720.00
NX-5800BK	NX-5800K (45W, 450-520 MHz) RF Deck Only (KCH-19 Control Head, KMC-35 Microphone, KMB-33 Bracket, DC Cable not included)	\$ 576.00	720.00
NX-5800BK2	NX-5800K2 (45W, 380-470 MHz) RF Deck Only (KCH-19 Control Head, KMC-35 Microphone, KMB-33 Bracket, DC Cable not included)	\$ 576.00	720.00
NX-5900BK	NX-5900K (35W, 700/800 MHz) RF Deck Only (KCH-19 Control Head, KMC-35 Microphone, KMB-33 Bracket, DC Cable not included)	\$ 792.00	990.00

### ACCESSORY CONFIGURATION KITS





H Single Hand Held Control Head

HH Dual Featured and Handheld Control Head

\* Multiple Speakers configurations allow simultaneous monitoring of multiple RF Decks.

5BM	KCH-19M, KRK-14HM, KRK-15BM, KCT-71M2, KCT-23M3, KMB-33M, KMC-35	\$ 448.20	560.25
5FM	KCH-20RM, KRK-15BM, KCT-71M2, KCT-23M3, KMB-33M, KMC-35, KES-5, KCT-72M	\$ 735.36	919.20
5HM	KCH-21RM, KRK-15BM, KCT-77M2, KCT-23M3, KMB-33M	\$ 1,021.60	1277.00
L-5029	Package Single Deck Single Head Remote for Basic/Featured Panel or Handheld Control Head (MUST purchase NX-5x00(B) RF Deck and the Kit with this labor for full installation).	\$ 60.00	75.00
<b>Single Deck Dual Head Remote Mount</b>		<b>Contract</b>	<b>LIST</b>
5BBM	KCH-19M(x2), KRK-14HM(x2), KRK-15BM, KCT-71M2(x2), KCT-23M3, KMB-33M, KMC-35(x2)	\$ 817.40	1021.75
5BFM	KCH-19M, KRK-14HM, KCH-20RM, KRK-15BM, KCT-71M2(x2), KCT-23M3, KMB-33M, KMC-35(x2), KES-5, KCT-72M	\$ 1,104.56	1380.70
5BHM	KCH-19M, KRK-14HM, KCH-21RM, KRK-15BM, KCT-77M2, KCT-71M2, KCT-23M3, KMB-33M, KMC-35	\$ 1,390.84	1738.55
<b>Single Deck Dual Head Remote Mount</b>		<b>Contract</b>	<b>LIST</b>
5FFM	KCH-20RM(x2), KRK-15BM, KCT-71M2(x2), KCT-23M3, KMB-33M, KMC-35(x2), KES-5(x2), KCT-72M(x2)	\$ 1,391.72	1739.65
5FHM	KCH-20RM, KCH-21RM, KRK-15BM, KCT-71M2, KCT-77M2, KCT-23M3, KMB-33M, KMC-35, KES-5, KCT-72M	\$ 1,678.00	2097.50
5HHM	KCH-21RM(x2), KRK-15BM, KCT-77M2(x2), KCT-23M3, KMB-33M	\$ 1,964.28	2455.35
L-5030	Package Single Deck Dual Head Remote for Basic/Featured Panel or Handheld Control Head (MUST purchase NX-5x00(B) RF Deck and the Kit with this labor for full installation).	\$ 112.00	140.00
<b>Dual Deck Single Head Single Speaker Remote Mount</b>		<b>Contract</b>	<b>LIST</b>
5BMM	KCH-19M, KRK-14HM, KRK-15BM(x2), KCT-71M2, KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35	\$ 563.20	704.00
5FMM	KCH-20RM, KRK-15BM(x2), KCT-71M2, KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35, KES-5, KCT-72M	\$ 850.36	1062.95
5HMM	KCH-21RM, KRK-15BM(x2), KCT-77M2, KCT-71M4, KCT-23M3(x2), KMB-33M(x2)	\$ 1,136.56	1420.70
L-5031	Package Dual Deck Single Head Remote for Basic/Feature Panel or Handheld Control Head (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation). <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 68.00	85.00
<b>Dual Deck Single Head Dual Speaker Remote Mount</b>		<b>Contract</b>	<b>LIST</b>
5BMM-MR	KCH-19M, KRK-14HM, KRK-15BM(x2), KCT-71M2, KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35, KES-5(x2), KAP-2(x2)	\$ 762.00	952.50
5FMM-MR	KCH-20RM, KRK-15BM(x2), KCT-71M2, KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35, KES-5(x2), KAP-2(x2)	\$ 970.80	1213.50
5HMM-MR	KCH-21RM, KRK-15BM(x2), KCT-77M2, KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KES-5(x2), KAP-2(x2)	\$ 1,335.44	1669.30
L-5032	Package Dual Deck Single Head Dual Speaker Remote for Basic/Featured Panel or Handheld Control Head (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 120.00	150.00
<b>Dual Deck Dual Head Single Speaker Remote Mount</b>		<b>Contract</b>	<b>LIST</b>
5BBMM	KCH-19M(x2), KRK-14HM(x2), KRK-15BM(x2), KCT-71M2(x2), KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35(x2)	\$ 932.40	1165.50
5BFMM	KCH-19M, KRK-14HM, KCH-20RM, KRK-15BM(x2), KCT-71M2(x2), KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35(x2), KES-5, KCT-72M	\$ 1,219.56	1524.45
5BHMM	KCH-19M, KRK-14HM, KCH-21RM, KRK-15BM(x2), KCT-71M2, KCT-77M2, KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35	\$ 1,505.84	1882.30
5FFMM	KCH-20RM(x2), KRK-15BM(x2), KCT-71M2(x2), KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35(x2), KES-5(x2), KCT-72M(x2)	\$ 1,506.72	1883.40
5FHMM	KCH-20RM, KCH-21RM, KRK-15BM(x2), KCT-71M2, KCT-77M2, KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35, KES-5, KCT-72M	\$ 1,793.00	2241.25
5HHMM	KCH-21RM(x2), KRK-15BM(x2), KCT-77M2(x2), KCT-71M4, KCT-23M3(x2), KMB-33M(x2)	\$ 2,079.28	2599.10
L-5033	Package Dual Deck Dual Head Single Speaker Remote for Basic/Featured Panel or Handheld Control Head (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 120.00	150.00



Dual Deck Dual Head Dual Speaker Remote Mount		Contract	LIST
5BBMM-MR	KCH-19M(x2), KRK-14HM(x2), KRK-15BM(x2), KCT-71M2(x2), KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35(x2), KES-5(x2), KAP-2(x2)	\$ 1,131.20	1414.00
5BFMM-MR	KCH-19M, KRK-14HM, KCH-20RM, KRK-15BM(x2), KCT-71M2(x2), KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35(x2), KES-5(x2), KAP-2(x2)	\$ 1,340.00	1675.00
5BHMM-MR	KCH-19M, KRK-14HM, KCH-21RM, KRK-15BM(x2), KCT-71M2, KCT-77M2, KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35, KES-5(x2), KAP-2(x2)	\$ 1,704.64	2130.80
5FFMM-MR	KCH-20RM(x2), KRK-15BM(x2), KCT-71M2(x2), KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35(x2), KES-5(x2), KAP-2(x2)	\$ 1,548.80	1936.00
5FHMM-MR	KCH-20RM, KCH-21RM, KRK-15BM(x2), KCT-71M2, KCT-77M2, KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KMC-35, KES-5(x2), KAP-2(x2)	\$ 1,913.44	2391.80
5HHMM-MR	KCH-21RM(x2), KRK-15BM(x2), KCT-77M2(x2), KCT-71M4, KCT-23M3(x2), KMB-33M(x2), KES-5(x2), KAP-2(x2)	\$ 2,278.08	2847.60
Dual Deck Dual Head Dual Speaker Remote Mount		Contract	LIST
L-5034	Package Dual Deck Dual Head Dual Speaker Remote for Basic/Featured Panel or Handheld Control Head (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 124.00	155.00
Triple Deck Single Head Single Speaker Remote Mount		Contract	LIST
5BMMM	KCH-19M, KRK-14HM, KRK-15BM(x3), KCT-71M2, KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35	\$ 678.20	847.75
5FMMM	KCH-20RM, KRK-15BM(x3), KCT-71M2, KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35, KES-5, KCT-72M	\$ 965.36	1206.70
5HMMM	KCH-21RM, KRK-15BM(x3), KCT-77M2, KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3)	\$ 1,251.44	1564.30
L-5035	Package Triple Deck Single Head Single Speaker Remote for Basic/Featured Panel or Handheld Control Head (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 112.00	140.00
Triple Deck Single Head Triple Speaker Remote Mount		Contract	LIST
5BMMM-MR	KCH-19M, KRK-14HM, KRK-15BM(x3), KCT-71M2, KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35, KES-5(x3), KAP-2(x3)	\$ 976.40	1220.50
5FMMM-MR	KCH-20RM, KRK-15BM(x3), KCT-71M2, KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35, KES-5(x3), KAP-2(x3)	\$ 1,185.20	1481.50
5HMMM-MR	KCH-21RM, KRK-15BM(x3), KCT-77M2, KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KES-5(x3), KAP-2(x3)	\$ 1,549.84	1937.30
L-5036	Package Triple Deck Single Head Triple Speaker Remote for Basic/Featured Panel or Handheld Control Head (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 120.00	150.00
Triple Deck Dual Head Single Speaker Remote Mount		Contract	LIST
5BBMMM	KCH-19M(x2), KRK-14HM(x2), KRK-15BM(x3), KCT-71M2(x2), KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35(x2)	\$ 1,047.40	1309.25
5BFMMM	KCH-19M, KRK-14HM, KCH-20RM, KRK-15BM(x3), KCT-71M2(x2), KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35(x2), KES-5, KCT-72M	\$ 1,334.56	1668.20
5BHMMM	KCH-19M, KRK-14HM, KCH-21RM, KRK-15BM(x3), KCT-71M2, KCT-77M2, KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35	\$ 1,620.84	2026.05
5FFMMM	KCH-20RM(x2), KRK-15BM(x3), KCT-71M2(x2), KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35(x2), KES-5(x2), KCT-72M(x2)	\$ 1,621.72	2027.15
5FHMMM	KCH-20RM, KCH-21RM, KRK-15BM(x3), KCT-71M2, KCT-77M2, KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35, KES-5, KCT-72M	\$ 1,908.00	2385.00
5HHMMM	KCH-21RM(x2), KRK-15BM(x3), KCT-77M2(x2), KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3)	\$ 2,194.28	2742.85
L-5037	Package Triple Deck Dual Head Single Speaker Remote for Basic/Featured Panel or Handheld Control Head (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 128.00	160.00
Triple Deck Dual Head Triple Speaker Remote Mount ( MUST be KENWOOD Assembled )		Contract	LIST
5BBMMM-MR	KCH-19M(x2), KRK-14HM(x2), KRK-15BM(x3), KCT-71M2(x2), KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35(x2), KES-5(x3), KAP-2(x3)	\$ 1,345.60	1682.00
5BFMMM-MR	KCH-19M, KRK-14HM, KCH-20RM, KRK-15BM(x3), KCT-71M2(x2), KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35(x2), KES-5(x3), KAP-2(x3)	\$ 1,554.40	1943.00
5BHMMM-MR	KCH-19M, KRK-14HM, KCH-21RM, KRK-15BM(x3), KCT-71M2, KCT-77M2, KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35, KES-5(x3), KAP-2(x3)	\$ 1,919.04	2398.80
5FFMMM-MR	KCH-20RM(x2), KRK-15BM(x3), KCT-71M2(x2), KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35(x2), KES-5(x3), KAP-2(x3)	\$ 1,763.20	2204.00
5FHMMM-MR	KCH-20RM, KCH-21RM, KRK-15BM(x3), KCT-71M2, KCT-77M2, KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KMC-35, KES-5(x3), KAP-2(x3)	\$ 2,127.84	2659.80
5HHMMM-MR	KCH-21RM(x2), KRK-15BM(x3), KCT-77M2(x2), KCT-71M4(x2), KCT-23M3(x3), KMB-33M(x3), KES-5(x3), KAP-2(x3)	\$ 2,492.48	3115.60



L-5038	Package Triple Deck Dual Head Triple Speaker Remote for Basic/Featured Panel or Handheld Control Head (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 144.00	180.00
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FRONT PANELS & REMOTE KITS	Contract	LIST
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KCH-19M	Basic Control Panel	\$ 144.00	180.00
KCH-20RM	Full Featured Remote Control Panel <b>Note:</b> - microSD License (KWD-5002SD) and Bluetooth SPP License (KWD-5003BT) are <b>NOT</b> required for both <b>KCH-20RM</b> and <b>connected RF Decks</b> . KCH-20RM and connected RF Decks can be used of microSD and Bluetooth SPP with <b>NO</b> License Activation. - <u>Remote configuration only</u> . No Internal Speaker included. KES-5/3 is required.	\$ 480.00	600.00
KCH-21RM	Hand Held Control Head for Long Cable <u>*Requires KCT-77M2 (17 ft.)</u> <b>Note:</b> - Bluetooth SPP License (KWD-5003BT) is NOT required for both KCH-21RM and connected RF Decks. KCH-21RM has built-in Bluetooth SPP license that will also activate the connected RF Decks.	\$ 796.00	995.00
KCH-21RM-S	Hand Held Control Head with Short Cable (4 ft.) <b>Note:</b> - Bluetooth SPP License (KWD-5003BT) is NOT required for both KCH-21RM and connected RF Decks. KCH-21RM has built-in Bluetooth SPP license that will also activate the connected RF Decks.	\$ 796.00	995.00
KRK-14HM	Control Head Interface Kit for KCH-19M	\$ 127.20	159.00
KRK-15BM	Control Head Remote Kit for a RF Deck	\$ 40.00	50.00

CABLES	Contract	LIST
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KCT-71M2	Remote Control Cable (17 feet)	\$ 56.00	70.00
KCT-71M3	Remote Control Cable (25 feet)	\$ 64.00	80.00
KCT-71M4	Remote Control Cable (1.6 feet)	\$ 36.00	45.00
KCT-77M2	Remote Control Cable for KCH-21RM (17 feet)	\$ 146.64	183.30
KCT-23M	DC Cable (35-50W Dash mount; pos/neg. 10 ft. leads)	\$ 25.20	31.50
KCT-23M3	DC Cable (35-50W Remote mount; pos.23 ft.; neg. 3.3. ft. leads)	\$ 27.80	34.75

MOBILE INSTALLATION ACCESSORIES	Contract	LIST
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KAP-2	Horn Alert/P.A. Relay Option	\$ 50.40	63.00
KCT-46	Ignition sense cable (plugs directly into mobile chassis ignition sense line)	\$ 10.96	13.70
KCT-72M	External Accessory Connection Cable for KCH-19M / KCH-20RM	\$ 29.36	36.70
KLF-2	Line Filter (suppresses alternator whine, 25dB, 25A max).	\$ 33.60	42.00
KMB-10	Key lock adapter	\$ 21.04	26.30
KMB-33M	Standard Mounting Bracket	\$ 11.20	14.00
KPS-15	DC Switching Power Supply (117/230 VAC; 23A max. continuous, 25A peak)	\$ 138.40	173.00
KRA-40GM	GPS Antenna	\$ 33.60	42.00

CONTROL STATION INSTALLATION ACCESSORIES	Contract	LIST
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KMC-9C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: NOT compatible with TDMA operations</b>	\$ 68.80	86.00
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: Compatible with FDMA (analog / NXDN) and TDMA operations (P25 Phase 2 and DMR)</b>	\$ 144.00	180.00
KMB-34	Control Station Mounting Case for KPS-15 Power Supply and Mobiles (excludes TK-5x10/6110 series). (mobile mounting hardware included)	\$ 38.40	48.00
KPS-15	DC Switching Power Supply (117/230 VAC; 23A max. continuous, 25A peak)	\$ 138.40	173.00

MICROPHONES AND SPEAKERS	Contract	LIST
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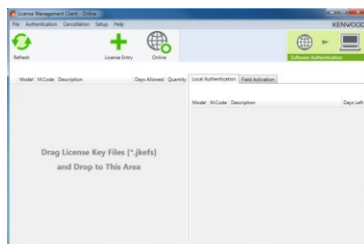
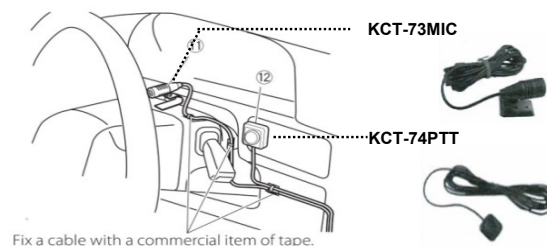
KMC-35	MIL-SPEC Standard electret mobile microphone (8-pin mod. plug)	\$ 42.00	52.50
KMC-36	MIL-SPEC Standard electret mobile microphone with 12 keypad (8-pin mod. plug)	\$ 75.60	94.50
KES-3S	External speaker (compact low profile; black case; 3.5 mm phono plug-in)	\$ 35.40	44.25
KES-5	External speaker, 40W max input <b>Note:</b> requires KAP-2 (PA/HA unit) or KCT-72M (connection cable) installed.	\$ 49.00	61.25
KCT-73MIC	External Microphone kit w/ 9.8 ft. cord for Safer Driving	\$ 21.60	27.00
KCT-74PTT	External PTT Switch kit w/ 9.8 ft cord for Safer Driving	\$ 18.40	23.00

## Hands-free operation

To promote driver safety and meet hands-free regulations in certain regions, NX-5000 series mobile offers external microphone and PTT as options.

**NOTE:** Connecting to the radio via DB25 terminal on backside of RF Deck or via optional KCT-72 "Connection Cable" on backside of KCH-19M and KCH-20R\*.

KCT-73MIC is not compatible with other NX/TK-mobile radios.



**Note:** KPT-300LMC is compatible with Windows Vista/7/8/8.1/10 Only. Windows XP is not supported.



## KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software** (FPU) and **radio feature license** keys for the NX-5000 Series radios.

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software, such as KPG-D1NK, KAS-12, and KPG-AE1/DE1.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the enclosed "Account Request Form" and return to the Land Mobile Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key	NC	NC

**Note:** specify the number of PC's used for Radio Feature License Activation.

## SOFTWARE LICENSE OPTIONS

### TO PLACE AN ORDER FOR SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the Land Mobile Order Desk via:
  - a) E-Mail: [lmrorderdesk@us.jvckenwood.com](mailto:lmrorderdesk@us.jvckenwood.com)
  - b) Fax: (310) 761-8246
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

**Note:** A unique license key is required for each PC with software installed. A single license key will not authorize multiple PCs.

### Software License Key Discount Structure

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF
15 ~ 24 License Keys	40% OFF
25+ License Keys	45% OFF

FIELD PROGRAMMING UNIT (FPU)		Contract	LIST
KPG-D1NK	License Key for KPG-D1NK Programming Software for NX-5000 Portable/Mobile (Windows® Vista/7/8/8.1) <b>Note: Requires KPT-300LMC for authentication</b>	\$ 124.00	155.00

FIELD PROGRAMMING UNIT (FPU)	Contract	LIST
P25 Trunked Programming Capability (licensed by either 1 or 2 below): 1. USB Key Type: Advanced System Key (ASK)- See KWD-ASK-MK and AK • For NX-5000 series radios. • KWD-ASK-MK (Master Key): For trunked system operator (SYSOP). Required for activating KWD-ASK-AK Access keys. Securely embeds/encrypts the HSID. • KWD-ASK-AK (Access Key): For Contracts/contractors. Activated by KWD-ASK-MK Master Key. • KPG-D1NK supports up to 16 KWD-ASK-AK Access Keys (16 trunked networks).		

2. Software Key Type: System Key File (SKF)- See L-5005
  - For NX-5000 series radios.
  - 3-digit HEX System ID (HSID) with verifiable written authorization required from SYSOP.
  - Utilized by both SYSOPs and Contracts/Contractors. But Contracts/Contractors must be permitted from SYSOP to order and use SKF.
  - Kenwood ships an encrypted \*.SKF file via E-Mail to the address provided on the P25 Trunking System Keys Request Form placed on Kenwood Tools.
  - The \*.SKF securely embeds/encrypts the HSID.

OVER THE AIR PROGRAMMING (OTAP)		Contract	LIST
KPG-180AP	OTAP Manager Software (Windows® Vista/7/8/8.1/10) • License includes Fifty (50) radios / One(1) <b>NXDN</b> Conventional and Type-C <b>Air</b> Communication Profile and One(1) <b>NXDN</b> Conventional and Type-C <b>IP</b> Communication Profile  <b>Note:</b> - Requires KPT-300LMC for authentication - Radio to Radio OTAP for <u>P25 Conventional system</u> requires <u>KWD-AP3-P25</u> license. - NEXEDGE Type-D Trunking and DMR System not supported.	\$ 707.20	884.00

#### SOFTWARE UPGRADE LICENSES FOR KPG-180AP

**Note:** Includes package license for additional subscriber unit or license for additional profile attached to one computer running KPG-180AP software. All additional licenses require KPT-300LMC for authentication.

KWD-AP5100	Additional 100 Radio Package License for 1 PC Note: License includes 100 subscriber radios OTAP License.	\$ 1,333.60	1667.00
KWD-AP5250	Additional 250 Radio Package License for 1 PC Note: License includes 250 subscriber radios OTAP License.	\$ 2,333.60	2917.00
KWD-AP5500	Additional 500 Radio Package License for 1 PC Note: License includes 500 subscriber radios OTAP License.	\$ 3,333.60	4167.00
KWD-AP1-CA	Additional NXDN Conventional Type-C Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as NEXEDGE Base Station Serial Interface for both Conventional and Trunking (Type-C Gen1/Gen2).	\$ 200.00	250.00
KWD-AP2-CP	Additional NXDN Conventional Type-C IP Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used NEXEDGE Repeater IP Interface for both Conventional and Trunking (Type-C Gen1/Gen2) .	\$ 333.60	417.00
KWD-AP3-P25	P25 Radio to Radio Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as P25 Base Station Serial Interface for only Radio to Radio Communication.	\$ 640.00	800.00

#### -- IMPORTANT NOTES--

Base radios are connected to a computer using the KPG-36XM USB adapter for portables, or a KPG-46XM for mobiles.

Requires firmware version 1.4 or higher for the NX-5000 Series portables and mobiles

Requires firmware version 2.5 or higher for the NXR-x00/NXR-x10 repeaters.

Requires firmware version 1.0 or higher for the NXR-5xxx repeaters

#### RADIO FEATURE LICENSE OPTIONS

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

#### \* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:

1. Complete the attached Radio Feature Request Form.
2. Submit the completed form along with your PO to the Land Mobile Order Desk via:
  - a) E-Mail: [lmrorderdesk@us.jvckenwood.com](mailto:lmrorderdesk@us.jvckenwood.com)
  - b) Fax: (310) 761-8246
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

**Note:** Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transferred radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.

Offline Authentication Option	Contract	LIST
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KWD-OFL-USB	USB License Storage Hardware key for Radio Feature License <b>Note:</b> - Must purchase Radio Feature Licenses separately. - Can be used with only one (1) Account Registration Key. - Requires KPT-300LMC V1.10 or higher. - Cancellation rule is difference with standard Online/Offline Authentication. Please refer to a leaflet bundled with KWD-OFL-USB. <b>Warranty Information:</b> - Damaged USB License Storage "KWD-OFL-USB" a. Remaining Licenses will not be warranted. b. Licenses not uploaded to the License Management Server will not be warranted.	\$ 160.00	200.00
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General Radio Features		Contract	LIST
KWD-5000CH	License Key for 4000 Channel Expansion	\$ 336.00	420.00
KWD-5001FP	License Key for Front Panel Programming	\$ 240.00	300.00
KWD-5002SD	License Key for microSD Memory Card Slot Activation	\$ 84.00	105.00
KWD-5003BT	License Key for Bluetooth Serial Port Profile (Required for Data Communication) <b>Note:</b> Voice Communication for Bluetooth Head Set does NOT require KWD-5003BT. You can pair with any Bluetooth audio device without this option.	\$ 28.00	35.00
KWD-5004MR	License Key for Multiple RF Decks Receiver <b>Note:</b> Required ONLY for the radios with S/N: B5900000 or earlier.	N/C	N/C
KWD-5007RC	License Key for Remote Control by Subscriber Units <b>Note:</b> - P25 Mode is NOT available. - This license may be used by Administrator due to Stun/Revive/Kill. - The license is required for only Transmitting of Remote Control. - PC command for Remote Control does NOT require the license.	\$ 32.00	40.00

P25 Radio Features		Contract	LIST
KWD-5100CV	License Key for P25 Conventional	\$ 460.00	575.00
KWD-5101TR	License Key for P25 Phase 1 Trunking (requires KWD-5100CV) <b>Note:</b> Required for Link Layer Authentication	\$ 416.00	520.00
KWD-5102TR	License Key for P25 Phase 2 Trunking (requires KWD-5100CV & KWD-5101TR)	\$ 320.00	400.00
KWD-5103RK	License Key for P25 OTAR (requires KWD-5106DT for a Trunking Operation)	\$ 560.00	700.00
KWD-5105VT	License Key for P25 Conventional Voting Scan	\$ 96.00	120.00
KWD-5106DT	License Key for P25 Trunking OTAR / GPS Note: Conventional (OTAR/GPS) does NOT require KWD-5106DT.	\$ 144.00	180.00

DMR Radio Features		Contract	LIST
KWD-5300CV	License Key for DMR Tier II Conventional	\$ 48.00	60.00
KWD-5500EE	License Key for DMR ARC4 Enhanced Encryption	\$ 32.00	40.00

DMR Radio Features		Contract	LIST
KWD-AE30K	AES FIPS140-2 & DES Encryption Module (Multi-Key) Order a Labor Code L-5003 if installation is required. (Eligible for warranty of IP67/68 immersion / Intrinsically Safe Option must be installed by Kenwood. If you order only a Module and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.) KWD-AE30K requires: a Motorola KVL3000 Plus/4000 key loader device. KWD-AE30K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1). Note: Required for Link Layer Authentication [Intrinsically Safe Option]- Must be Kenwood installed for I.S.	\$ 680.00	850.00
KWD-AE31K	AES & DES Encryption Module (Multi-Key) Order a Labor Code L-5004 if installation is required. (Eligible for warranty of IP67/68 immersion / Intrinsically Safe Option must be installed by Kenwood. If you order only a Module and perform Contract Installation, IP67/68 Warranty Claim will not be eligible.) Note: Requires KPG-AE1/DE1 software key loader or Motorola KVL3000 Plus/4000 key loader device. KWD-AE31K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1) Note: Required for Link Layer Authentication [Intrinsically Safe Option]- Must be Kenwood installed for I.S.	\$ 440.00	550.00
KPG-AE1K	AES/DES Encryption Software Key Loader for KWD-AE31K <b>Authentication by KPT-300LMC is required</b> <b>Note:</b> KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A)	\$ 420.00	525.00
KPG-DE1K	DES Encryption Software Key Loader for KWD-AE31K <b>Authentication by KPT-300LMC is required</b> <b>Note:</b> KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D992A.1)	\$ 294.40	368.00

FleetSync® & NEXEDGE® AVL & MESSAGING		Contract	LIST
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KAS-10	FleetSync & NEXEDGE AVL & Messaging Software with NEXEDGE Trunking VoIP Dispatch <b>Note:</b> - Users can chose to operate Messaging, AVL or VoIP or all three if desired. Compatible with Windows® XP, VISTA & 7 and Microsoft® MapPoint® 2006/2009/2010 (certain format bitmap images can be imported). Refer to KAS-10 product spec sheets and manuals for details. - NEXEDGE Gen2, Type-D Trunking and DMR System not supported.	\$ 347.20	434.00
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SERVICE RELATED ACCESSORIES		Contract	LIST
KPG-46XM	Full Speed USB Programming interface cable <b>Note:</b> This cable with USB mode may be used for SD Card Direct Access.	\$ 126.80	158.50
KPG-115	Encryption Key Loader Interface Cable for Motorola KVL-3000/3000 Plus/4000	\$ 210.00	262.50
KPG-115AUT	KVL-4000 Radio Authentication Cable <b>Note:</b> Only capable for P25 Radio Authentication. Not available for Encryption Key Loading.	\$ 264.00	330.00
KWD-ASK-AK	Access Key for KPG-D1NK P25 trunked programming <b>Notes:</b> Enables P25 Trunked system programming privileges in a KPG-D1NK. • For NX-5000 series only • Must be activated by trunked system operator (SYSOP) with KWD-ASK-MK Master Key • Must have KPG-D1NK • Configurable expiration period of KWD-ASK-AK set by KWD-ASK-MK is available for 3 years for built in battery. USB Key must be replaced since the expiration set up dose not work after 3 years.	\$ 166.40	208.00
KWD-ASK-MK	Master Key for activating KWD-ASK-AK Access Keys - <b>Restricted Purchase Requirements</b> - <b>Notes:</b> • For NX-5000 series only. • Sold to trunked system operator (SYSOP) or SYSOP authorized entities only • Must have KPG-D1NK • SYSOP must provide 3-digit HEX HSID to Kenwood with P25 Trunking System Keys Request Form placed on Kenwood Tools. • Purchase KWD-ASK-AK Access Keys if needed.	\$ 400.00	500.00

INSTALLATION / TUNING CHARGES		Contract	LIST
L-5001	Factory Activation of Radio Feature Licenses (per Radio) <b>Note:</b> Must purchase Radio Feature Licenses separately. <u>KPT-300LMC's History Menu will not display the Radio Features activated by Factory.</u>	\$ 96.00	120.00
L-5006	NX-5700/5800 Programming (with basic TX/RX check)	\$ 30.00	37.50
L-5007	Install KWD-AE30K in NX-5000 series Mobile (Must purchase module separately)	\$ 60.00	75.00
L-5008	Install KWD-AE31K in NX-5000 series Mobile (Must purchase module separately)	\$ 60.00	75.00

INSTALLATION / TUNING CHARGES, CON'T		Contract	LIST
L-5005	KPG-D1NK System Key File (SKF) <b>Note:</b> Enables P25 Trunked system programming privileges in a KPG-D1NK. - <b>Restricted Purchase Requirements</b> - • Trunked system operator (SYSOP) must provide 3-digit HEX HSID to Kenwood with P25 Trunking System Keys Request Form placed on Kenwood Tools. • Must have KPG-D1NK. • Kenwood ships an encrypted *.SKF file via E-Mail to the address provided on the P25 Trunking System Keys Request Form placed on Kenwood Tools. • Non-SYSOP entities ordering L-5005 must provide verifiable written authorization from SYSOP to receive an *.SKF file. • 3-digit HEX HSID are securely encrypted & embedded in the *.SKF file.	\$ 105.60	132.00
L-5015	Install KAP-2 (Default) HR1/Internal Sp./PA. <b>Note:</b> This labor code is only for individual orders for mobile configuration. The labor code (L-5032, 5034, 5036 and 5038) for Multi RF Deck Configuration Package includes installation of KAP-2.	\$ 20.00	25.00
L-5016	Assemble NX-5000 Mobile for Single Remote Head Control	\$ 33.60	42.00
L-5020	KCT-71 Extended Control Head Cable (up to 50 ft. max.) <b>Note:</b> Please specify exact length at 1ft. increments when ordering. <b>Caution:</b> Extended control head cables exhibit a loss in speaker audio power to the control heads.	\$ 152.00	190.00
L-5021	KCT-71 Extended Control Head Cable (up to 100 ft. max.) <b>Note:</b> Please specify exact length at 1ft. increments when ordering. <b>Caution:</b> Extended control head cables exhibit a loss in speaker audio power to the control heads.	\$ 196.00	245.00
L-5022	USB Mobile Cable for SD Card Direct Access Support <b>Note:</b> microSD function requires KWD-5002SD license.	\$ 76.00	95.00

L-5023	DB25 Cable for Mobile Relay Station (Conventional Only) <b>Note:</b> - Mobile Relay Station requires Multi RF Deck Configuration. The cable requires between Decks. - Built-in GPS and Bluetooth are not available with Mobile Relay Station. - DMR is not available and version up later.	\$ 28.00	35.00
L-5029	Package Single Deck Single Head Remote (MUST purchase NX-5x00(B) RF Deck and the Kit with this labor for full installation)	\$ 60.00	75.00
L-5030	Package Single Deck Dual Head Remote (MUST purchase NX-5x00(B) RF Deck and the Kit with this labor for full installation)	\$ 112.00	140.00
L-5031	Package Dual Deck Single Head Remote (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 68.00	85.00
L-5032	Package Dual Deck Single Head Dual Speaker Remote (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 120.00	150.00
L-5033	Package Dual Deck Dual Head Single Speaker Remote (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 120.00	150.00
L-5034	Package Dual Deck Dual Head Dual Speaker Remote (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 124.00	155.00
L-5035	Package Triple Deck Single Head Single Speaker Remote (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 112.00	140.00
L-5036	Package Triple Deck Single Head Triple Speaker Remote (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 120.00	150.00
L-5037	Package Triple Deck Dual Head Single Speaker Remote (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 128.00	160.00
L-5038	Package Triple Deck Dual Head Triple Speaker Remote (MUST purchase NX-5x00(B) RF Decks and the Kit with this labor for full installation) <b>Note: MUST submit the Remote Mount Configuration Request Form.</b>	\$ 144.00	180.00
L-5051	P25 CAP Compliance of Non-Encrypted Radio - Disable Built-in DES	\$ 40.00	50.00

**-- IMPORTANT NOTES regarding ENCRYPTION MODULES--**

Encryption modules, key loaders and radios containing encryption are export controlled by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export license to most countries. See [www.bis.gov](http://www.bis.gov) for more information regarding export regulations. DO NOT SHIP encryption items outside the U.S. without proper DOC/BIS Export Licenses and/or compliances.

Kenwood may request the following information to be submitted at time of order (this information must meet Kenwood internal approvals prior to shipment even if being returned to Kenwood later:

a) Initial Destination: Initial delivery point if different from Ultimate Destination  
(customer distribution center, headquarters, Contractship, manufacturer's representative)

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

b) Ultimate Destination: Final delivery point(s); deployment/distribution

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

c) Intended Use of Radios: Law enforcement, security, operations, etc.

**KWD-AE30 AES FIPS140-2 SCM , NIST Validation & Customer Shipping**

A secure delivery method direct to the end user customer is required by the NIST AES FIPS 140-2 validation rules. For U.S. Federal Government entities the SCM must ship from Kenwood USA Corporation directly to the end user customer by a trusted carrier (FEDEX, UPS or a designated Kenwood USA Corporation employee); shipping/handling by a Contract or other entity is not acceptable. This may or may not be required by local/state government agencies or business/industrial users. Please check with the end use customer about their AES encryption handling requirements before ordering. Kenwood will not be responsible for shipments of KWD-AE30K modules to erroneous destinations specified on an order.



NEXEDGE®

DMR

## NX-3200/3300

VHF/UHF Digital &amp; FM Analog Portable Radios



Basic      Standard Key      Full Key

**All NX-3000 series portables include:**

- Belt Clip (KBH-11)
- Accessory Cover
- Channel Stopper
- User Guide
- Premium Warranty: 3 Years\*

All Accessories / options: 1 Year

Purchase Battery, Charger, Antenna separately

**\*Note:** To maintain immersion specs (IP67), all warranty service must be done by one of the three National Kenwood Authorized Service Centers. IP67 Certification is valid under the 3 year premium warranty. No re-certification is available.

**Because of spurious signal (birdie), the following frequencies (and  $\pm 7.5$  kHz ranges) are not allowed ;**

- |            |            |            |
|------------|------------|------------|
| • 139.2000 | • 403.2000 | • 460.8000 |
| • 144.0000 | • 408.0000 | • 465.6000 |
| • 148.8000 | • 412.8000 | • 470.4000 |
| • 153.6000 | • 417.6000 | • 475.2000 |
| • 158.4000 | • 422.4000 | • 480.0000 |
| • 160.0000 | • 427.2000 | • 484.8000 |
| • 163.2000 | • 432.0000 | • 489.6000 |
| • 168.0000 | • 436.8000 | • 494.4000 |
| • 172.8000 | • 441.6000 | • 499.2000 |
|            | • 446.4000 | • 504.0000 |
|            | • 451.2000 | • 508.8000 |
|            | • 456.0000 | • 513.6000 |
|            |            | • 518.4000 |

## STANDARD

## ■ GENERAL FEATURES

- 5 W (136-174 MHz) Models
- 5 W (400-520 MHz) Models
- 512 CH-GID / 128 Zones
- 64 CH-GID / 4 Zones (For Basic Models)
- Basic Models (w/o LCD and keypad)
- Standard Keypad Models (w/ LCD and D-pad/4key)
- Full Keypad Models (w/ LCD and D-pad/12 key)
- 4-Line Basic Frame (2-Line Main/Sub-LCD, icon & key guide)
- 5-Line Text Message Frame (3 Lines of Text, icon & key guide)
- Multi-Language Display
- Date & 12/24 Hour Time Clock
- 7-color Light Bar Indicator
- Transmit/Busy/Call Alert/Warn LED
- Remote Stun/Kill/Check
- On/Off Volume Knob
- 16-Position Mechanical Selector
- 4-way Directional-pad (For Standard/Full Keypad)
- Emergency Key
- 2 Side PF Keys
- 1W Speaker Audio
- Dual Digital Protocol<sup>1</sup>
- Emergency Call Features
- Built-in GPS Receiver / Antenna
- Built-in Bluetooth® Module
- Built-in Motion Sensor
- Active Noise Reduction (ANR)
- KPG-D3N Windows® FPU
- Flash Firmware Upgrading
- Optional Software-based DES and AES Encryptions (Digital Only)
- MIL-STD-810 C/D/E/F/G
- IP54/55<sup>2</sup> Water & Dust Intrusion
- IP67<sup>2</sup> Immersion

<sup>1</sup> Designed to operate digital, DMR OR NXDN, along with analog FM; a single FM digital protocol is selected with programming software.

<sup>2</sup> Must equip **Accessory Cover** included with a Radio. Speaker Microphone does not cover IPs.

## ■ DIGITAL – NXDN® MODE

- NXDN® Conventional Standard
- NXDN® TYPE-C (Gen1/Gen2) Trunking Optional
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming (requires KPG-180AP OTAP Manager Software)
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill/Check
- Short & Long Data Messages
- GPS Location
- NXDN® Scrambler

## ■ DIGITAL – DMR MODE

- DMR Tier II Conventional Standard
- DMR Auto Slot Select (DASS)
- AMBE+2™ VOCODER
- 12.5 kHz Channels
- Site Roaming
- Call Interrupt (Direct & Repeater Mode)
- Paging Call
- Emergency Call
- All Group Call
- Late Entry
- Status Messaging
- Remote Control by Subscriber Units
- ARC4 Encryption (Option)

## ■ ANALOG MODE

- Conventional Zones
- LTR® Zones
- FleetSync®/II: PTT ID ANI, Caller ID Display, Selective/Group Call, Emergency Status, Text Messages
- MDC-1200: PTT ID ANI, Caller ID Display, Emergency, Radio Check & Inhibit
- QT / DQT
- Two-Tone (Conventional Zones Only)
- DTMF
- Built-in Voice Inversion Scrambler

## OPTIONAL

- 1000 Channel (**KWD-3000CH** License Key Activation required)
- Front Panel Programming (**KWD-3001FP** License Key Activation required)
- Built-in Bluetooth® Module for Data (**KWD-3002BT** License Key Activation required)
- Digital Trunking (**KWD-3501TR** License Key Activation required)
- DMR ARC4 Enhanced Encryption (**KWD-3502EE** License Key Activation required)
- AES/DES Encryption (**KWD-3503AE** License Key Activation required)
- Remote Control by Subscriber Units (**KWD-3504RC** Software License Key required)

RADIO		Contract	LIST
NX-3200K	VHF (136-174MHz), 5.0 Watts, 64 CH, Basic Model	\$ 473.36	591.70
NX-3200K2	VHF (136-174MHz), 5.0 Watts, 512 CH, Standard Key Model	\$ 513.36	641.70
NX-3200K3	VHF (136-174MHz), 5.0 Watts, 512 CH, Full Key Model	\$ 553.36	691.70
NX-3300K	UHF (400-520MHz), 5.0 Watts, 64 CH, Basic Model	\$ 473.36	591.70
NX-3300K2	UHF (400-520MHz), 5.0 Watts, 512 CH, Standard Key Model	\$ 513.36	641.70
NX-3300K3	UHF (400-520MHz), 5.0 Watts, 512 CH, Full Key Model	\$ 553.36	691.70
Li-ion VALUE PACKAGES		Contract	LIST
NX-3200K2-LKVP	VHF Hi-Cap Li-Ion Value Pack (NX-3200K2+KNB-57L+KSC-25LSK+KRA-26M)	\$ 641.60	802.00
NX-3200K2-SLKVP	VHF Li-Ion Value Pack (NX-3200K2+KNB-55L+KSC-25LSK+KRA-26M)	\$ 611.20	764.00

NX-3300K2-LKVP	UHF Hi-Cap Li-Ion Value Pack (NX-3300K2+KNB-57L+KSC-25LSK+KRA-27M)	\$ 641.60	802.00
NX-3300K2-SLKVP	UHF Li-Ion Value Pack (NX-3300K2+KNB-55L+KSC-25LSK+KRA-27M)	\$ 611.20	764.00

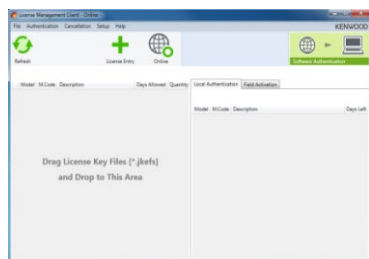
CSA US APPROVED MODELS		Contract	LIST
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**Must Order L-5062 & KNB-79LCM Intrinsically Safe Battery per radio**

NX-3200-ISCK	VHF (136-174MHz), 5.0 Watts, 64 CH, Basic Model	\$ 473.36	591.70
NX-3200-ISCK2	VHF (136-174MHz), 5.0 Watts, 512 CH, Standard Key Model	\$ 513.36	641.70
NX-3200-ISCK3	VHF (136-174MHz), 5.0 Watts, 512 CH, Full Key Model	\$ 553.36	691.70
NX-3300-ISCK	UHF (400-520MHz), 5.0 Watts, 64 CH, Basic Model	\$ 473.36	591.70
NX-3300-ISCK2	UHF (400-520MHz), 5.0 Watts, 512 CH, Standard Key Model	\$ 513.36	641.70
NX-3300-ISCK3	UHF (400-520MHz), 5.0 Watts, 512 CH, Full Key Model	\$ 553.36	691.70

**Note:** KNB-68LC for NX-x20 series cannot be used with NX-3000 series as an Intrinsically Safe battery.

LICENSING SYSTEM	Contract	LIST
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## KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software** (FPU) and **radio feature license** keys for the NX-5000 Series radios.

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software, such as KPG-D1NK, KAS-12, and KPG-AE1/DE1.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the enclosed "[Account Request Form](#)" and return to the Land Mobile Order Desk.

**Note:** KPT-300LMC is compatible with Windows Vista/7/8/8.1/10 Only. Windows XP is not supported.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	NC	NC

SOFTWARE LICENSING OPTIONS	Contract	LIST
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### TO PLACE AN ORDER FOR SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the Land Mobile Order Desk via:
  - a) E-Mail: [lmrorderdesk@us.jvckenwood.com](mailto:lmrorderdesk@us.jvckenwood.com)
  - b) Fax: (310) 761-8246
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

**Note:** A unique license key is required for each PC with software installed. A single license key will not authorize multiple PCs.

### Software License Key Discount Structure

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF
15 ~ 24 License Keys	40% OFF
25+ License Keys	45% OFF

FIELD PROGRAMMING UNIT (FPU)	Contract	LIST
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KPG-D3NK	License Key for KPG-D3NK Programming Software for NX-3000 Portable/Mobile <b>Note:</b> Requires KPT-300LMC for authentication	\$ 124.00	155.00
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Over The Air Programming (OTAP)	Contract	LIST
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KPG-180AP	Licence Key for KPG-180AP OTAP Manager Software • License includes Fifty (50) radios / One(1) <b>NXDN</b> Conventional and Type-C <b>Air</b> Communication Profile and One(1) <b>NXDN</b> Conventional and Type-C <b>IP</b> Communication Profile <b>Note:</b> - Requires KPT-300LMC for authentication - NEXEDGE Type-D Trunking and DMR System not supported.	\$ 707.20	884.00
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**SOFTWARE UPGRADE LICENSES FOR KPG-180AP**

Note: Includes package license for additional subscriber unit or license for additional profile attached to one computer running KPG-180AP software. All additional licenses require KPT-300LMC for authentication.

KWD-AP5100	Additional 100 Radio Package License for 1 PC Note: License includes 100 subscriber radios OTAP License.	\$ 1,333.60	1667.00
KWD-AP5250	Additional 250 Radio Package License for 1 PC Note: License includes 250 subscriber radios OTAP License.	\$ 2,333.60	2917.00
KWD-AP5500	Additional 500 Radio Package License for 1 PC Note: License includes 500 subscriber radios OTAP License.	\$ 3,333.60	4167.00

**Over The Air Programming (OTAP), CONT****Contract****LIST**

KWD-AP1-CA	Additional NXDN Conventional Type-C Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as NEXEDGE Base Station Serial Interface for both Conventional and Trunking (Type-C Gen1/Gen2).	\$ 200.00	250.00
KWD-AP2-CP	Additional NXDN Conventional Type-C IP Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used NEXEDGE Repeater IP Interface for both Conventional and Trunking (Type-C Gen1/Gen2).	\$ 333.60	417.00

**-- IMPORTANT NOTES--**

Base radios are connected to a computer using the KPG-36XM USB adapter for portables, or a KPG-46XM for mobiles.

Requires firmware version 2.5 or higher for the NXR-x00/NXR-x10 repeaters.

Requires firmware version 1.0 or higher for the NXR-5xxx repeaters

**Encryption Software Keyloaders****Contract****LIST**

KPG-AE1K	License Key for AES/DES Encryption Software Key Loader for KWD-3503AE <b>Note:</b> - Requires KPT-300LMC for authentication - KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A).	\$ 420.00	525.00
KPG-DE1K	License Key for DES Encryption Software Key Loader for KWD-3503AE <b>Note:</b> - Requires KPT-300LMC for authentication - KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A).	\$ 294.40	368.00

**RADIO FEATURE LICENSE OPTIONS**

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

**\* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:**

1. Complete the attached Radio Feature License Keys Request Form.
2. Submit the completed form along with your PO to the Land Mobile Order Desk via:
  - a) E-Mail: [lmrorderdesk@us.jvckenwood.com](mailto:lmrorderdesk@us.jvckenwood.com)
  - b) Fax: (310) 761-8246
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

**Note: Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transferred radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.**

**Offline Authentication Option****Contract****LIST**

KWD-OFL-USB	USB License Storage Hardware key for Radio Feature License <b>Note:</b> - Must purchase Radio Feature Licenses separately. - Can be used with only one (1) Account Registration Key. - Requires KPT-300LMC V1.10 or higher. - Cancellation rule is difference with standard Online/Offline Authentication. Please refer to a leaflet bundled with KWD-OFL-USB. <b>Warranty Information:</b> - Damaged USB License Storage "KWD-OFL-USB" a. Remaining Licenses will not be warranted. b. Licenses not uploaded to the License Management Server will not be warranted.	\$ 160.00	200.00
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**Radio Features****Contract****LIST**

KWD-3000CH	License Key for 1000 Channel Expansion	\$ 128.00	160.00
KWD-3001FP	License Key for Front Panel Programming	\$ 100.00	125.00
KWD-3002BT	License Key for Bluetooth Serial Port Profile (Required for Data Communication) <b>Note:</b> Voice Communication for Bluetooth Head Set does NOT require KWD-3002BT. You can pair with any Bluetooth audio device without this option.	\$ 28.00	35.00
KWD-3501TR	License Key for Digital Trunking (Includes NXDN Type-C and Type-C Gen2)	\$ 33.36	41.70
KWD-3502EE	License Key for DMR ARC4 Enhanced Encryption	\$ 32.00	40.00

KWD-3503AE	License Key for AES/DES Encryption <b>Note:</b> 1. Factory Installation only. Must order L-5054. 2. Requires KPG-AE1/DE1 software key loader to encrypt. 3. KWD-3503AE is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1) Please see descriptions at the bottom.	\$ 360.00	450.00
KWD-3504RC	License Key for Remote Control by Subscriber Unit <b>Note:</b> - This license may be used by Administrator due to Stun/Revive/Kill. - The license is only required for transmission of Remote Control commands. - PC command for Remote Control does <b>NOT</b> require the license.	\$ 32.00	40.00
KWD-3505DE	License Key for DES Encryption <b>Note:</b> Requires KPG-AE1/DE1 software key loader to load encryption keys	\$ 80.00	100.00

ANTENNAS		Contract	LIST
KRA-22M	VHF Low-profile helical antenna 148-162 MHz	\$ 10.96	13.70
KRA-22M2	VHF Low -profile helical antenna 162-174 MHz	\$ 10.96	13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$ 10.96	13.70
KRA-23M	UHF Low-profile helical antenna 450-490 MHz	\$ 10.96	13.70
KRA-23M2	UHF Low-profile helical antenna 470-512 MHz	\$ 10.96	13.70
KRA-23M3	UHF Low-profile helical antenna 403-430 MHz	\$ 10.96	13.70
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	14.00
KRA-27M	UHF whip antenna 440-490 MHz	\$ 11.20	14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$ 11.20	14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$ 11.20	14.00
KRA-25	High gain VHF helically loaded whip antenna 148-162 MHz	\$ 27.40	34.25
KRA-28	Broad-band VHF helically loaded whip antenna 140-170 MHz	\$ 33.60	42.00

BATTERIES AND CHARGERS		Contract	LIST
KNB-78LM	2860 mAh, Li-ion battery - requires KSC-25SK/25LSK/256K charger	\$ 96.00	120.00
KNB-57L	2000 mAh, Li-ion battery - requires KSC-25SK/25LSK/256K charger	\$ 78.40	98.00
KNB-55L	1480 mAh, Li-ion battery - requires KSC-25SK/25LSK/256K charger	\$ 48.00	60.00
KNB-56N	1400 mAh, Ni-MH battery	\$ 52.00	65.00
KNB-79LCM	CSA US Intrinsically Safe Battery Li-ion 2860mAh <b>[Intrinsically Safe Option]</b>	\$ 126.64	158.30

BATTERIES AND CHARGERS, CONT		Contract	LIST
KBP-5	AA Alkaline Refillable Battery Pack (6 AA; 9V) cells not included	\$ 39.20	49.00
KSC-25LSK	100~240 volt rapid rate single unit charger for KNB-40LC(V)/55L/57L/68LC/79LCM Li-ion Battery	\$ 38.64	48.30
KSC-25SK	110 volt Rapid rate single unit charger for KNB-26N/40LC(V)/55L/56N/57L/68LC/79LCM	\$ 49.60	62.00
KSC-256K	Rapid rate 6-Unit charger for KNB- 25A/26N/35L/40LC(V)/55L/56N/57L/68LC/79LCM	\$ 504.00	630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	33.75
KMB-16	Six Unit Charger Adapter for the KSC-16/20/24/25/25L chargers (chargers not included)	\$ 138.40	173.00
KMB-23	Six Unit Charger Adapter for the KSC-16/20/24/25/25L/32 chargers (chargers not included)	\$ 152.80	191.00
KVC-4	Vehicular charger adapter for the KSC-16/18/20/24/25 chargers (chargers not included)	\$ 67.20	84.00
KVC-23	Rapid rate DC vehicular charger for TK-5x10/5x20, NX-5x00/NX-3x00/x00/x10/x20, TK-x180, TK-x170, & TK-x360 portables with Lithium Ion /Lithium Polymer/NiMH packs only.	\$ 240.00	300.00

CARRYING ACCESSORIES		Contract	LIST
KBH-11	Spring action belt clip (2.5")	\$ 11.76	14.70
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$ 21.04	26.30
KLH-206K	Heavy-Duty Leather Case w/Swivel Belt Loop for Basic Model	\$ 39.20	49.00
KLH-206K2	Heavy-Duty Leather Case w/Swivel Belt Loop for Standard Keypad Model	\$ 39.20	49.00
KLH-206K3	Heavy-Duty Leather Case w/Swivel Belt Loop for Full Keypad Model	\$ 39.20	49.00

KLH-207K	Nylon carrying case for Basic Model	\$ 21.04	26.30
KLH-207K2	Nylon carrying case for Standard Keypad Model	\$ 21.04	26.30
KLH-207K3	Nylon carrying case for Full Keypad Model	\$ 21.04	26.30
<b>MICROPHONES &amp; AUDIO ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KMC-54WDM	MIL-SPEC, IP67 (Immersion) Speaker Mic <u>Compatible with ANR Feature</u> <u>Note:</u> ANR Feature with KMC-54WDM is only compatible with a NX-5000/3000 series portable <u>[Intrinsically Safe Option]</u>	\$ 104.00	130.00
KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic <u>[Intrinsically Safe Option]</u>	\$ 91.20	114.00
KMC-41M	MIL-SPEC, IP54/55 Noise-canceling Speaker Mic <u>Note:</u> Not compatible with TDMA operation <u>[Intrinsically Safe Option]</u>	\$ 77.20	96.50
KEP-1	3.5mm earphone kit for KMC-41/42W/54W Speaker Mics <u>[Intrinsically Safe Option]</u>	\$ 42.00	52.50
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black) <u>[Intrinsically Safe Option]</u>	\$ 125.20	156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black) <u>Note:</u> Not compatible with TDMA operations <u>[Intrinsically Safe Option]</u>	\$ 147.20	184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT <u>Note:</u> Not compatible with TDMA operations <u>[Intrinsically Safe Option]</u>	\$ 100.80	126.00
KHS-15D-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & PTT <u>[Intrinsically Safe Option]</u>	\$ 336.00	420.00
KHS-15D-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & PTT <u>[Intrinsically Safe Option]</u>	\$ 294.40	368.00
<b>OPTION MODULES</b>		<b>Contract</b>	<b>LIST</b>
KCT-48VU	External Vibration Unit <u>Note:</u> Audio accessories cannot be used when this option installed.	\$ 56.00	70.00
<b>SERVICE RELATED ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KPG-36XM	Full Speed USB Programming interface cable	\$ 126.80	158.50
<b>INSTALLATION / TUNING CHARGES</b>		<b>Contract</b>	<b>LIST</b>
L-836	Assemble KMB-16 with six KSC-25/25L	\$ 12.00	15.00
L-961	Assemble KMB-23 with six KSC-24/25/25L/32 (Rapid Rate, 120 Volt versions only)	\$ 13.60	17.00
L-5001	Factory Activation of Radio Feature Licenses (per Radio) <u>Note:</u> Must purchase Radio Feature Licenses separately. <u>KPT-300LMC's History Menu will not display the Radio Features activated by Factory.</u>	\$ 96.00	120.00
L-5052	NX-3200/3300 Programming (with basic TX/RX check)	\$ 30.00	37.50
L-5054	Installation AES/DES for NX-3000 Portable/Mobile	\$ 20.00	25.00
L-5062	Configure NX-3000 series for CSA US Intrinsically Safe <u>Note:</u> NX-3000 series I.S. radios must be used with matching I.S. battery KNB-79LCM.	\$ 27.20	34.00

**-- IMPORTANT NOTES regarding ENCRYPTION SOFTWARE OPTION--**

Encryption Software Option, key loaders and radios containing encryption are export controlled by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export license to most countries. See [www.bis.gov](http://www.bis.gov) for more information regarding export regulations. DO NOT SHIP encryption items outside the U.S. without proper DOC/BIS Export Licenses and/or compliances.

JVCKENWOOD may request the following information to be submitted at time of order (this information must meet JVCKENWOOD internal approvals prior to shipment even if being returned to JVCKENWOOD later:

a) Initial Destination: Initial delivery point if different from Ultimate Destination  
(customer distribution center, headquarters, Contractship, manufacturer's representative)

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

b) Ultimate Destination: Final delivery point(s); deployment/distribution

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

c) Intended Use of Radios: Law enforcement, security, operations, etc.

NEXEDGE®

DMR

## NX-3220/3320

VHF/UHF Digital &amp; FM Analog Portable Radios



Basic      Standard Key      Full Key

**All NX-3000 series portables include:**

- Belt Clip (KBH-11)
- Accessory Cover
- Channel Stopper
- User Guide
- Premium Warranty: 3 Years\*

All Accessories / options: 1 Year

Purchase Battery, Charger, Antenna separately

**\*Note:** To maintain immersion specs (IP67), all warranty service must be done by one of the three National Kenwood Authorized Service Centers. IP67 Certification is valid under the 3 year premium warranty. No re-certification is available.

**Because of spurious signal (birdie), the following frequencies (and  $\pm 7.5$  kHz ranges) are not allowed ;**

- |            |            |            |
|------------|------------|------------|
| • 139.2000 | • 403.2000 | • 460.8000 |
| • 144.0000 | • 408.0000 | • 465.6000 |
| • 148.8000 | • 412.8000 | • 470.4000 |
| • 153.6000 | • 417.6000 | • 475.2000 |
| • 158.4000 | • 422.4000 | • 480.0000 |
| • 160.0000 | • 427.2000 | • 484.8000 |
| • 163.2000 | • 432.0000 | • 489.6000 |
| • 168.0000 | • 436.8000 | • 494.4000 |
| • 172.8000 | • 441.6000 | • 499.2000 |
|            | • 446.4000 | • 504.0000 |
|            | • 451.2000 | • 508.8000 |
|            | • 456.0000 | • 513.6000 |
|            |            | • 518.4000 |

## STANDARD

## ■ GENERAL FEATURES

- 5 W (136-174 MHz) Models
- 5 W (400-520 MHz) Models
- 512 CH-GID / 128 Zones
- 64 CH-GID / 4 Zones (For Basic Models)
- Basic Models (w/o LCD and keypad)
- Standard Keypad Models (w/ LCD and D-pad/4key)
- Full Keypad Models (w/ LCD and D-pad/12 key)
- 4-Line Basic Frame (2-Line Main/Sub-LCD, icon & key guide)
- 5-Line Text Message Frame (3 Lines of Text, icon & key guide)
- Multi-Language Display
- Date & 12/24 Hour Time Clock
- 7-color Light Bar Indicator
- Transmit/Busy/Call Alert/Warn LED
- Remote Stun/Kill/Check
- On/Off Volume Knob
- 16-Position Mechanical Selector
- 4-way Directional-pad (For Standard/Full Keypad)
- Emergency Key
- 2 Side PF Keys
- 1W Speaker Audio
- Dual Digital Protocol<sup>1</sup>
- Emergency Call Features
- Built-in GPS Receiver / Antenna
- Built-in Bluetooth® Module
- Built-in Motion Sensor
- Active Noise Reduction (ANR)
- KPG-D3N Windows® FPU
- Flash Firmware Upgrading
- Optional Software-based DES and AES Encryptions (Digital Only)
- MIL-STD-810 C/D/E/F/G
- IP54/55<sup>2</sup> Water & Dust Intrusion
- IP67<sup>2</sup> Immersion

1. Designed to operate digital, DMR OR NXDN, along with analog FM; a single FM digital protocol is selected with programming software.

2. Must equip **Accessory Cover** included with a Radio. Speaker Microphone does not cover IPs.

## ■ DIGITAL – NXDN® MODE

- NXDN® Conventional Standard
- NXDN® TYPE-C (Gen1/Gen2) Trunking Optional
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming (requires KPG-180AP OTAP Manager Software)
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill/Check
- Short & Long Data Messages
- GPS Location
- NXDN® Scrambler

## ■ DIGITAL – DMR MODE

- DMR Tier II Conventional Standard
- DMR Auto Slot Select (DASS)
- AMBE+2™ VOCODER
- 12.5 kHz Channels
- Site Roaming
- Call Interrupt (Direct & Repeater Mode)
- Paging Call
- Emergency Call
- All Group Call
- Late Entry
- Status Messaging
- Remote Control by Subscriber Units
- ARC4 Encryption (Option)

## ■ ANALOG MODE

- Conventional Zones
- LTR® Zones
- FleetSync®/II: PTT ID ANI, Caller ID Display, Selective/Group Call, Emergency Status, Text Messages
- MDC-1200: PTT ID ANI, Caller ID Display, Emergency, Radio Check & Inhibit
- QT / DQT
- Two-Tone (Conventional Zones Only)
- DTMF
- Built-in Voice Inversion Scrambler

## OPTIONAL

- 1000 Channel (**KWD-3000CH** License Key Activation required)
- Front Panel Programming (**KWD-3001FP** License Key Activation required)
- Built-in Bluetooth® Module for Data (**KWD-3002BT** License Key Activation required)
- Digital Trunking (**KWD-3501TR** License Key Activation required)
- DMR ARC4 Enhanced Encryption (**KWD-3502EE** License Key Activation required)
- AES/DES Encryption (**KWD-3503AE** License Key Activation required)
- Remote Control by Subscriber Units (**KWD-3504RC** Software License Key required)

RADIO		Contract	LIST
NX-3220K	VHF (136-174MHz), 5.0 Watts, 64 CH, Basic Model	\$ 376.00	470.00
NX-3220K2	VHF (136-174MHz), 5.0 Watts, 260CH, Standard Key Model	\$ 442.80	553.50
NX-3220K3	VHF (136-174MHz), 5.0 Watts, 260CH, Full Key Model	\$ 482.80	603.50
NX-3320K	UHF (400-520MHz), 5.0 Watts, 64 CH, Basic Model	\$ 376.00	470.00
NX-3320K2	UHF (400-520MHz), 5.0 Watts, 260CH, Standard Key Model	\$ 442.80	553.50
NX-3320K3	UHF (400-520MHz), 5.0 Watts, 260CH, Full Key Model	\$ 482.80	603.50
RADIO TRUNKING PACKAGE		Contract	LIST
NX-3220K-TR	VHF (136-174MHz), 5.0 Watts, 64 CH, Basic Model with Digital Trunking	\$ 396.00	495.00
NX-3220K2-TR	VHF (136-174MHz), 5.0 Watts, 260CH, Standard Key Model with Digital Trunking	\$ 462.64	578.30

NX-3220K3-TR	VHF (136-174MHz), 5.0 Watts, 260CH, Full Key Model with Digital Trunking	\$ 502.64	628.30
NX-3320K-TR	UHF (400-520MHz), 5.0 Watts, 64 CH, Basic Model with Digital Trunking	\$ 396.00	495.00
NX-3320K2-TR	UHF (400-520MHz), 5.0 Watts, 260CH, Standard Key Model with Digital Trunking	\$ 462.64	578.30
NX-3320K3-TR	UHF (400-520MHz), 5.0 Watts, 260CH, Full Key Model with Digital Trunking	\$ 502.64	628.30

<b>Li-ion VALUE PACKAGES</b>	<b>Contract</b>	<b>LIST</b>
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NX-3220K2-LKVP	VHF Hi-Cap Li-Ion Value Pack (NX-3220K2+KNB-57L+KSC-25LSK+KRA-26M)	\$ 571.04	713.80
NX-3220K2-SLKVP	VHF Li-Ion Value Pack (NX-3220K2+KNB-55L+KSC-25LSK+KRA-26M)	\$ 540.64	675.80
NX-3320K2-LKVP	UHF Hi-Cap Li-Ion Value Pack (NX-3320K2+KNB-57L+KSC-25LSK+KRA-27M)	\$ 571.04	713.80
NX-3320K2-SLKVP	UHF Li-Ion Value Pack (NX-3320K2+KNB-55L+KSC-25LSK+KRA-27M)	\$ 540.64	675.80

<b>CSA US APPROVED MODELS</b>	<b>Contract</b>	<b>LIST</b>
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**Must Order L-5062 & KNB-79LCM Intrinsically Safe Battery per radio**

NX-3220-ISCK	VHF (136-174MHz), 5.0 Watts, 64 CH, Basic Model	\$ 376.00	470.00
NX-3220-ISCK2	VHF (136-174MHz), 5.0 Watts, 512 CH, Standard Key Model	\$ 442.80	553.50
NX-3220-ISCK3	VHF (136-174MHz), 5.0 Watts, 512 CH, Full Key Model	\$ 482.80	603.50
NX-3320-ISCK	UHF (400-520MHz), 5.0 Watts, 64 CH, Basic Model	\$ 376.00	470.00
NX-3320-ISCK2	UHF (400-520MHz), 5.0 Watts, 512 CH, Standard Key Model	\$ 442.80	553.50
NX-3320-ISCK3	UHF (400-520MHz), 5.0 Watts, 512 CH, Full Key Model	\$ 482.80	603.50

**Note:** KNB-68LC for NX-x20 series cannot be used with NX-3000 series as an Intrinsically Safe battery.

<b>LICENSING SYSTEM</b>	<b>Contract</b>	<b>LIST</b>
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### KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software** (FPU) and **radio feature license** keys for the NX-5000 Series radios.

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software, such as KPG-D1NK, KAS-12, and KPG-AE1/DE1.

**Note:** KPT-300LMC is compatible with Windows Vista/7/8/8.1/10 Only. Windows

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	NC	NC

<b>SOFTWARE LICENSING OPTIONS</b>	<b>Contract</b>	<b>LIST</b>
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**TO PLACE AN ORDER FOR SOFTWARE:**

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the Land Mobile Order Desk via:
  - a) E-Mail: [lmrorderdesk@us.jvckenwood.com](mailto:lmrorderdesk@us.jvckenwood.com)
  - b) Fax: (310) 761-8246
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

**Note:** A unique license key is required for each PC with software installed. A single license key will not authorize multiple PCs.

**Software License Key Discount Structure**

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF
15 ~ 24 License Keys	40% OFF
25+ License Keys	45% OFF

<b>FIELD PROGRAMMING UNIT (FPU)</b>	<b>Contract</b>	<b>LIST</b>
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KPG-D3NK	License Key for KPG-D3NK Programming Software for NX-3000 Portable/Mobile <b>Note:</b> Requires KPT-300LMC for authentication	\$ 124.00	155.00
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<b>Over The Air Programming (OTAP)</b>	<b>Contract</b>	<b>LIST</b>
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KPG-180AP	Licence Key for KPG-180AP OTAP Manager Software • License includes Fifty (50) radios / One(1) <b>NXDN</b> Conventional and Type-C <b>Air</b> Communication Profile and One(1) <b>NXDN</b> Conventional and Type-C <b>IP</b> Communication Profile <u><b>Note:</b></u> - Requires KPT-300LMC for authentication - NEXEDGE Type-D Trunking and DMR System not supported.	<div> <div></div> <div>\$ 707.20</div> </div>	884.00
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#### SOFTWARE UPGRADE LICENSES FOR KPG-180AP

**Note:** Includes package license for additional subscriber unit or license for additional profile attached to one computer running KPG-180AP software. All additional licenses require KPT-300LMC for authentication.

KWD-AP5100	Additional 100 Radio Package License for 1 PC <u>Note:</u> License includes 100 subscriber radios OTAP License.	\$ 1,333.60	1667.00
KWD-AP5250	Additional 250 Radio Package License for 1 PC <u>Note:</u> License includes 250 subscriber radios OTAP License.	\$ 2,333.60	2917.00
KWD-AP5500	Additional 500 Radio Package License for 1 PC <u>Note:</u> License includes 500 subscriber radios OTAP License.	\$ 3,333.60	4167.00
<b>Over The Air Programming (OTAP), CONT</b>		<b>Contract</b>	<b>LIST</b>
KWD-AP1-CA	Additional NXDN Conventional Type-C Air Communication Profile for 1 PC. <u>Note:</u> Price is per license on quantities of less than 16 licenses. Used as NEXEDGE Base Station Serial Interface for both Conventional and Trunking (Type-C Gen1/Gen2).	\$ 200.00	250.00
KWD-AP2-CP	Additional NXDN Conventional Type-C IP Communication Profile for 1 PC. <u>Note:</u> Price is per license on quantities of less than 16 licenses. Used NEXEDGE Repeater IP Interface for both Conventional and Trunking (Type-C Gen1/Gen2) .	\$ 333.60	417.00

#### -- IMPORTANT NOTES--

Base radios are connected to a computer using the KPG-36XM USB adapter for portables, or a KPG-46XM for mobiles.  
Requires firmware version 2.5 or higher for the NXR-x00/NXR-x10 repeaters.

Requires firmware version 1.0 or higher for the NXR-5xxx repeaters

<b>Encryption Software Keyloaders</b>		<b>Contract</b>	<b>LIST</b>
KPG-AE1K	License Key for AES/DES Encryption Software Key Loader for KWD-3503AE <u>Note:</u> - Requires KPT-300LMC for authentication - KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A).	\$ 420.00	525.00
KPG-DE1K	License Key for DES Encryption Software Key Loader for KWD-3503AE <u>Note:</u> - Requires KPT-300LMC for authentication - KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A).	\$ 294.40	368.00

#### RADIO FEATURE LICENSE OPTIONS

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

##### \* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:

1. Complete the attached Radio Feature License Keys Request Form.
2. Submit the completed form along with your PO to the Land Mobile Order Desk via:
  - a) E-Mail: [lmrorderdesk@us.jvckenwood.com](mailto:lmrorderdesk@us.jvckenwood.com)
  - b) Fax: (310) 761-8246
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

**Note:** Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transferred radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.

<b>Offline Authentication Option</b>		<b>Contract</b>	<b>LIST</b>
KWD-OFL-USB	USB License Storage Hardware key for Radio Feature License <u><b>Note:</b></u> - Must purchase Radio Feature Licenses separately. - Can be used with only one (1) Account Registration Key. - Requires KPT-300LMC V1.10 or higher. - Cancellation rule is difference with standard Online/Offline Authentication. Please refer to a leaflet bundled with KWD-OFL-USB. <u><b>Warranty Information:</b></u> - Damaged USB License Storage "KWD-OFL-USB" a. Remaining Licenses will not be warranted. b. Licenses not uploaded to the License Management Server will not be warranted.	<div> <div></div> <div>\$ 160.00</div> </div>	200.00
<b>Radio Features</b>		<b>Contract</b>	<b>LIST</b>

KWD-3000CH	License Key for 1000 Channel Expansion	\$ 128.00	160.00
KWD-3001FP	License Key for Front Panel Programming	\$ 100.00	125.00
KWD-3002BT	License Key for Bluetooth Serial Port Profile (Required for Data Communication) <b>Note:</b> Voice Communication for Bluetooth Head Set does NOT require KWD-3002BT. You can pair with any Bluetooth audio device without this option.	\$ 28.00	35.00
KWD-3501TR	License Key for Digital Trunking (Includes NXDN Type-C and Type-C Gen2)	\$ 33.36	41.70
KWD-3502EE	License Key for DMR ARC4 Enhanced Encryption	\$ 32.00	40.00
KWD-3503AE	License Key for AES/DES Encryption <b>Note:</b> 1. Factory Installation only. Must order L-5054. 2. Requires KPG-AE1/DE1 software key loader to encrypt. 3. KWD-3503AE is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1) Please see descriptions at the bottom.	\$ 360.00	450.00
KWD-3504RC	License Key for Remote Control by Subscriber Unit <b>Note:</b> - This license may be used by Administrator due to Stun/Revive/Kill. - The license is only required for transmission of Remote Control commands. - PC command for Remote Control does <b>NOT</b> require the license.	\$ 32.00	40.00
KWD-3505DE	License Key for DES Encryption <b>Note:</b> Requires KPG-AE1/DE1 software key loader to load encryption keys	\$ 80.00	100.00

ANTENNAS		Contract	LIST
KRA-22M	VHF Low-profile helical antenna 148-162 MHz	\$ 10.96	13.70
KRA-22M2	VHF Low -profile helical antenna 162-174 MHz	\$ 10.96	13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$ 10.96	13.70
KRA-23M	UHF Low-profile helical antenna 450-490 MHz	\$ 10.96	13.70
KRA-23M2	UHF Low-profile helical antenna 470-512 MHz	\$ 10.96	13.70
KRA-23M3	UHF Low-profile helical antenna 403-430 MHz	\$ 10.96	13.70
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	14.00
KRA-27M	UHF whip antenna 440-490 MHz	\$ 11.20	14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$ 11.20	14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$ 11.20	14.00
KRA-25	High gain VHF helically loaded whip antenna 148-162 MHz	\$ 27.40	34.25
KRA-28	Broad-band VHF helically loaded whip antenna 140-170 MHz	\$ 33.60	42.00

BATTERIES AND CHARGERS		Contract	LIST
KNB-78LM	2860 mAh, Li-ion battery - requires KSC-25SK/25LSK/256K charger	\$ 96.00	120.00
KNB-57L	2000 mAh, Li-ion battery - requires KSC-25SK/25LSK/256K charger	\$ 78.40	98.00
KNB-55L	1480 mAh, Li-ion battery - requires KSC-25SK/25LSK/256K charger	\$ 48.00	60.00
KNB-56N	1400 mAh, Ni-MH battery	\$ 52.00	65.00
KNB-79LCM	CSA US Intrinsically Safe Battery Li-ion 2860mAh <b>[Intrinsically Safe Option]</b>	\$ 126.64	158.30

BATTERIES AND CHARGERS, CON'T		Contract	LIST
KBP-5	AA Alkaline Refillable Battery Pack (6 AA; 9V) cells not included	\$ 39.20	49.00
KSC-25LSK	100~240 volt rapid rate single unit charger for KNB-40LC(V)/55L/57L/68LC/79LCM Li-ion Battery	\$ 38.64	48.30
KSC-25SK	110 volt Rapid rate single unit charger for KNB-26N/40LC(V)/55L/56N/57L/68LC/79LCM	\$ 49.60	62.00
KSC-256K	Rapid rate 6-Unit charger for KNB- 25A/26N/35L/40LC(V)/55L/56N/57L/68LC/79LCM	\$ 504.00	630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	33.75
KMB-16	Six Unit Charger Adapter for the KSC-16/20/24/25/25L chargers (chargers not included)	\$ 138.40	173.00
KMB-23	Six Unit Charger Adapter for the KSC-16/20/24/25/25L/32 chargers (chargers not included)	\$ 152.80	191.00
KVC-4	Vehicular charger adapter for the KSC-16/18/20/24/25 chargers (chargers not included)	\$ 67.20	84.00
KVC-23	Rapid rate DC vehicular charger for TK-5x10/5x20, NX-5x00/NX-3x00/x00/x10/x20, TK-x180, TK-x170, & TK-x360 portables with Lithium Ion /Lithium Polymer/NiMH packs only.	\$ 240.00	300.00

<b>CARRYING ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KBH-11	Spring action belt clip (2.5")	\$ 11.76	14.70
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$ 21.04	26.30
KLH-206K	Heavy-Duty Leather Case w/Swivel Belt Loop for Basic Model	\$ 39.20	49.00
KLH-206K2	Heavy-Duty Leather Case w/Swivel Belt Loop for Standard Keypad Model	\$ 39.20	49.00
KLH-206K3	Heavy-Duty Leather Case w/Swivel Belt Loop for Full Keypad Model	\$ 39.20	49.00
KLH-207K	Nylon carrying case for Basic Model	\$ 21.04	26.30
KLH-207K2	Nylon carrying case for Standard Keypad Model	\$ 21.04	26.30
KLH-207K3	Nylon carrying case for Full Keypad Model	\$ 21.04	26.30
<b>MICROPHONES &amp; AUDIO ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KMC-54WDM	MIL-SPEC, IP67 (Immersion) Speaker Mic <b>Compatible with ANR Feature</b> <b>Note:</b> ANR Feature with KMC-54WDM is only compatible with a NX-5000/3000 series portable <b>[Intrinsically Safe Option]</b>	\$ 104.00	130.00
KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic <b>[Intrinsically Safe Option]</b>	\$ 91.20	114.00
KMC-41M	MIL-SPEC, IP54/55 Noise-canceling Speaker Mic <b>Note:</b> Not compatible with TDMA operation <b>[Intrinsically Safe Option]</b>	\$ 77.20	96.50
KEP-1	3.5mm earphone kit for KMC-41/42W/54W Speaker Mics <b>[Intrinsically Safe Option]</b>	\$ 42.00	52.50
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black) <b>[Intrinsically Safe Option]</b>	\$ 125.20	156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black) <b>Note:</b> Not compatible with TDMA operations <b>[Intrinsically Safe Option]</b>	\$ 147.20	184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT <b>Note:</b> Not compatible with TDMA operations <b>[Intrinsically Safe Option]</b>	\$ 100.80	126.00
KHS-15D-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & PTT <b>[Intrinsically Safe Option]</b>	\$ 336.00	420.00
KHS-15D-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & PTT <b>[Intrinsically Safe Option]</b>	\$ 294.40	368.00
<b>OPTION MODULES</b>		<b>Contract</b>	<b>LIST</b>
KCT-48VU	External Vibration Unit <b>Note:</b> Audio accessories cannot be used when this option installed.	\$ 56.00	70.00
<b>SERVICE RELATED ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KPG-36XM	Full Speed USB Programming interface cable	\$ 126.80	158.50
<b>INSTALLATION / TUNING CHARGES</b>		<b>Contract</b>	<b>LIST</b>
L-836	Assemble KMB-16 with six KSC-25/25L	\$ 12.00	15.00
L-961	Assemble KMB-23 with six KSC-24/25/25L/32 (Rapid Rate, 120 Volt versions only)	\$ 13.60	17.00
L-5001	Factory Activation of Radio Feature Licenses (per Radio) <b>Note:</b> Must purchase Radio Feature Licenses separately. KPT-300LMC's History Menu will not display the Radio Features activated by Factory.	\$ 96.00	120.00
L-5052	NX-3200/3300 Programming (with basic TX/RX check)	\$ 30.00	37.50
L-5054	Installation AES/DES for NX-3000 Portable/Mobile	\$ 20.00	25.00
L-5062	Configure NX-3000 series for CSA US Intrinsically Safe <b>Note:</b> NX-3000 series I.S. radios must be used with matching I.S. battery KNB-79LCM.	\$ 27.20	34.00

-- IMPORTANT NOTES regarding ENCRYPTION SOFTWARE OPTION--



Encryption Software Option, key loaders and radios containing encryption are export controlled by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export license to most countries. See [www.bis.gov](http://www.bis.gov) for more information regarding export regulations. DO NOT SHIP encryption items outside the U.S. without proper DOC/BIS Export Licenses and/or compliances.

JVCKENWOOD may request the following information to be submitted at time of order (this information must meet JVCKENWOOD internal approvals prior to shipment even if being returned to JVCKENWOOD later:

a) Initial Destination: Initial delivery point if different from Ultimate Destination

(customer distribution center, headquarters, Contractship, manufacturer's representative)

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

b) Ultimate Destination: Final delivery point(s); deployment/distribution

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

c) Intended Use of Radios: Law enforcement, security, operations, etc.

NEXEDGE®

DMR

# NX-3720HG/3820HG

## VHF/UHF Digital & FM Analog Mobile Radios



### All NX-3000 Series Mobiles include:

- Standard Microphone (KMC-35)
- Mounting Bracket
- DC Cable
- Blade Fuse
- User Guide
- Premium Warranty: 3 Years

All Accessories / options: 1 Year

**Because of spurious signal (birdie), the following frequencies (and  $\pm 7.5$  kHz ranges) are not allowed ;**

- |            |            |            |
|------------|------------|------------|
| • 139.2000 | • 403.2000 | • 460.8000 |
| • 144.0000 | • 408.0000 | • 465.6000 |
| • 148.8000 | • 412.8000 | • 470.4000 |
| • 153.6000 | • 417.6000 | • 475.2000 |
| • 158.4000 | • 422.4000 | • 480.0000 |
| • 163.2000 | • 427.2000 | • 484.8000 |
| • 166.4000 | • 432.0000 | • 489.6000 |
| • 168.0000 | • 436.8000 | • 494.4000 |
| • 172.8000 | • 441.6000 | • 499.2000 |
|            | • 446.4000 | • 504.0000 |
|            | • 451.2000 | • 508.8000 |
|            | • 456.0000 | • 513.6000 |
|            |            | • 518.4000 |

### STANDARD

#### ■ GENERAL FEATURES

- 50 W (136-174 MHz) Models
- 45 W (400-470, 450-520 MHz) Models
- 512 CH / 128 Zones
- 4-Line Basic Frame (2-Line Main/Sub-LCD, icon & key guide) / 14 characters
- 4-Line Text Message Frame (2 Lines of Text, icon & key guide)
- Function/Status LCD Icons
- Multi-Language Display
- Date & 12/24 Hour Time Clock
- 7-color LED Indicator
- Transmit/Busy/Call Alert/Warn LED
- Emergency/AUX Key
- 4W Speaker Audio
- DB-15 Accessory Connector
- Dual Digital Protocol <sup>1</sup>
- Emergency Call Features
- Built-in GPS Receiver
- Built-in Bluetooth® Module
- Active Noise Reduction (ANR)
- KPG-D3N Windows® FPU
- Flash Firmware Upgrading
- Optional Software-based DES and AES Encryptions (Digital Only)
- MIL-STD-810 C/D/E/F/G
- IP-54 Water & Dust Intrusion

1. Designed to operate digital, DMR OR NXDN, along with analog FM; a single digital protocol selected with programming software.

#### ■ DIGITAL – NXDN® MODE

- NXDN® Conventional Standard
- NXDN® TYPE-C (Gen1/Gen2) Trunking Optional
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming (requires KPG-180AP OTAP Manager Software)
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill/Check
- Short & Long Data Messages
- GPS Location
- NXDN® Scrambler

#### ■ DIGITAL – DMR MODE

- DMR Tier II Conventional Standard
- DMR Auto Slot Select (DASS)
- AMBE+2™ VOCODER
- 12.5 kHz Channels
- Site Roaming
- Call Interrupt (Direct & Repeater Mode)
- Paging Call
- Emergency Call
- All Group Call
- Late Entry
- Status Messaging
- Remote Control by Subscriber Units
- ARC4 Encryption

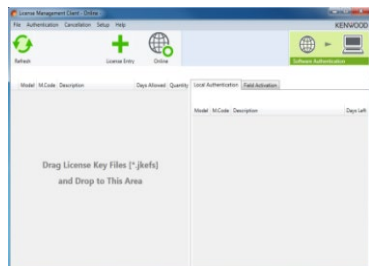
#### ■ ANALOG MODE

- Conventional Zones
- LTR® Zones
- FleetSync®/II: PTT ID ANI, Caller ID Display, Selective/Group Call, Emergency Status, Text Messages
- MDC-1200: PTT ID ANI, Caller ID Display, Emergency, Radio Check & Inhibit
- QT / DQT
- Two-Tone (Conventional Zones Only)
- DTMF
- Built-in Voice Inversion Scrambler

### OPTIONAL

- 1000 Channel (**KWD-3000CH** License Key Activation required)
- Front Panel Programming (**KWD-3001FP** License Key Activation required)
- Built-in Bluetooth® Module for Data (**KWD-3002BT** License Key Activation required)
- Digital Trunking (**KWD-3501TR** License Key Activation required)
- DMR ARC4 Enhanced Encryption (**KWD-3502EE** License Key Activation required)
- AES/DES Encryption (**KWD-3503AE** License Key Activation required)
- Remote Control by Subscriber Units (**KWD-3504RC** Software License Key required)

RADIO		Contract	LIST
NX-3720HGK	VHF (136-174MHz), 50 Watts, 512 CH, 128 Zones	\$ 547.20	684.00
NX-3820HGK	UHF (450 - 520MHz), 45 Watts, 512 CH, 128 Zones	\$ 547.20	684.00
NX-3820HGK2	UHF (400 - 470MHz), 45 Watts, 512 CH, 128 Zones	\$ 547.20	684.00
RADIO TRUNKING PACKAGE		Contract	LIST
NX-3720HGK-TR	VHF (136-174MHz), 50 Watts, 512 CH, 128 Zones with Digital Trunking	\$ 566.64	708.30
NX-3820HGK-TR	UHF (450 - 520MHz), 45 Watts, 512 CH, 128 Zones with Digital Trunking	\$ 566.64	708.30
NX-3820HGK2-TR	UHF (400 - 470MHz), 45 Watts, 512 CH, 128 Zones with Digital Trunking	\$ 566.64	708.30



## KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software** (FPU) and **radio feature license** keys for the NX-5000 Series radios.

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software, such as KPG-D1NK, KAS-12, and KPG-AE1/DE1.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the enclosed "Account Request Form" and return to the Land Mobile Order Desk.

Note: KPT-300LMC is compatible with Windows Vista/7/8/10 Only. Windows XP is not supported.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <u>Note:</u> specify the number of PC's used for Radio Feature License Activation.	NC	NC

### SOFTWARE LICENSING OPTIONS

Contract

LIST

#### TO PLACE AN ORDER FOR SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the Land Mobile Order Desk via:
  - a) E-Mail: [Imrorderdesk@us.jvckenwood.com](mailto:Imrorderdesk@us.jvckenwood.com)
  - b) Fax: (310) 761-8246
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

**Note: A unique license key is required for each PC with software installed. A single license key will not authorize multiple PCs.**

#### Software License Key Discount Structure

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF
	40% OFF
15 ~ 24 License Keys	
25+ License Keys	45% OFF

Field Programming Unit (FPU)		Contract	LIST
KPG-D3NK	License Key for KPG-D3NK Programming Software for NX-3000 Portable/Mobile <u>Note:</u> Requires KPT-300LMC for authentication	\$ 124.00	155.00

Over The Air Programming (OTAP)		Contract	LIST
KPG-180AP	License Key for KPG-180AP OTAP Manager Software • License includes Fifty (50) radios / One(1) <b>NXDN</b> Conventional and Type-C <b>Air</b> Communication Profile and One(1) <b>NXDN</b> Conventional and Type-C <b>IP</b> Communication Profile <u>Note:</u> - Requires KPT-300LMC for authentication - NEXEDGE Type-D Trunking and DMR System not supported.	\$ 707.20	884.00

#### SOFTWARE UPGRADE LICENSES FOR KPG-180AP

**Note:** Includes package license for additional subscriber unit or license for additional profile attached to one computer running KPG-180AP software. All additional licenses require KPT-300LMC for authentication.

KWD-AP5100	Additional 100 Radio Package License for 1 PC Note: License includes 100 subscriber radios OTAP License.	\$ 1,333.60	1667.00
KWD-AP5250	Additional 250 Radio Package License for 1 PC Note: License includes 250 subscriber radios OTAP License.	\$ 2,333.60	2917.00
KWD-AP5500	Additional 500 Radio Package License for 1 PC Note: License includes 500 subscriber radios OTAP License.	\$ 3,333.60	4167.00
KWD-AP1-CA	Additional NXDN Conventional Type-C Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as NEXEDGE Base Station Serial Interface for both Conventional and Trunking (Type-C Gen1/Gen2).	\$ 200.00	250.00

#### Over The Air Programming (OTAP), CON'T

Contract

LIST

KWD-AP2-CP	Additional NXDN Conventional Type-C IP Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used NEXEDGE Repeater IP Interface for both Conventional and Trunking (Type-C Gen1/Gen2) .	\$ 333.60	417.00
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**-- IMPORTANT NOTES--**

Base radios are connected to a computer using the KPG-22XM USB adapter for portables, or a KPG-46XM for mobiles.  
Requires firmware version 2.5 or higher for the NXR-x00/NXR-x10 repeaters.

Requires firmware version 1.0 or higher for the NXR-5xxx repeaters

Encryption Software Keyloaders		Contract	LIST
KPG-AE1K	License Key for AES/DES Encryption Software Key Loader for KWD-3503AE <u>Note:</u> - Requires KPT-300LMC for authentication - KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A).	\$ 420.00	525.00
KPG-DE1K	License Key for DES Encryption Software Key Loader for KWD-3503AE <u>Note:</u> - Requires KPT-300LMC for authentication - KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A).	\$ 294.40	368.00

## RADIO FEATURE LICENSE OPTIONS

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

**\* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:**

1. Complete the attached Radio Feature License Keys Request Form.
2. Submit the completed form along with your PO to the Land Mobile Order Desk via:
  - a) E-Mail: [lmrorderdesk@us.jvckenwood.com](mailto:lmrorderdesk@us.jvckenwood.com)
  - b) Fax: (310) 761-8246
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

*Note: Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transferred radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.*

Offline Authentication Option		Contract	LIST
KWD-OFL-USB	USB License Storage Hardware key for Radio Feature License <u>Note:</u> - Must purchase Radio Feature Licenses separately. - Can be used with only one (1) Account Registration Key. - Requires KPT-300LMC V1.10 or higher. - Cancellation rule is difference with standard Online/Offline Authentication. Please refer to a leaflet bundled with KWD-OFL-USB. <u>Warranty Information:</u> - Damaged USB License Storage "KWD-OFL-USB" a. Remaining Licenses will not be warranted. b. Licenses not uploaded to the License Management Server will not be warranted.	\$ 160.00	200.00

Radio Features		Contract	LIST
KWD-3000CH	License Key for 1000 Channel Expansion	\$ 128.00	160.00
KWD-3001FP	License Key for Front Panel Programming	\$ 100.00	125.00
KWD-3002BT	License Key for Bluetooth Serial Port Profile (Required for Data Communication) <u>Note:</u> Voice Communication for Bluetooth Head Set does NOT require KWD-3002BT. You can pair with any Bluetooth audio device without this option.	\$ 28.00	35.00
KWD-3501TR	License Key for Digital Trunking (Includes NXDN Type-C and Type-C Gen2)	\$ 33.36	41.70
KWD-3502EE	License Key for DMR ARC4 Enhanced Encryption	\$ 32.00	40.00
KWD-3503AE	License Key for AES/DES Encryption <u>Note:</u> 1. Factory Installation only. Must order L-5054. 2. Requires KPG-AE1/DE1 software key loader to encrypt. 3. KWD-3503AE is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1) Please see descriptions at the bottom.	\$ 360.00	450.00
KWD-3504RC	License Key for Remote Control by Subscriber Units <u>Note:</u> - This license may be used by Administrator due to Stun/Revive/Kill. - The license is required for only Transmitting of Remote Control. - PC command for Remote Control does <b>NOT</b> require the license.	\$ 32.00	40.00

Radio Features, CONT	Contract	LIST
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KWD-3505DE	License Key for DES Encryption <b>Note:</b> Requires KPG-AE1/DE1 software key loader to load encryption keys	\$ 80.00	100.00
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<b>CONTROL HEAD REMOTE KIT</b>	<b>Contract</b>	<b>LIST</b>
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KRK-18HM	Interface Kit for a Control Head	\$ 116.00	145.00
KRK-19BM	Interface Kit for an RF Deck	\$ 29.60	37.00

**Note:** Remote Control Cable must be purchased separately.

<b>REMOTE CONTROL CABLES</b>	<b>Contract</b>	<b>LIST</b>
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KCT-71M2	Remote Control Cable (17 feet)	\$ 56.00	70.00
KCT-71M3	Remote Control Cable (25 feet)	\$ 64.00	80.00
KCT-71M4	Remote Control Cable (1.6 feet)	\$ 36.00	45.00

<b>MOBILE INSTALLATION ACCESSORIES</b>	<b>Contract</b>	<b>LIST</b>
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KCT-60M	DB15-to-15pin Molex Adapter Cable	\$ 23.20	29.00
KCT-18	Ignition sense cable (requires KCT-60M Acc. Cable Option)	\$ 10.96	13.70
KCT-36	Extension Cable for KCT-34/35/39/40M/60M; 117.6 inches (9.8 ft.)	\$ 35.00	43.75
KCT-72M	External Accessory Connection Cable for KRK-18HM	\$ 29.36	36.70
KLF-2	Line Filter (suppresses alternator whine, 25dB, 25A max).	\$ 33.60	42.00
KMB-10	Key lock adapter	\$ 21.04	26.30
KRA-40GM	GPS Antenna	\$ 33.60	42.00

<b>CONTROL STATION INSTALLATION ACCESSORIES</b>	<b>Contract</b>	<b>LIST</b>
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KMB-34	Control Station Mounting Case for KPS-15 Power Supply and Mobiles (excludes TK-5x10/6110 series). (mobile mounting hardware included)	\$ 38.40	48.00
KPS-15	DC Switching Power Supply (117/230 VAC; 23A max. continuous, 25A peak)	\$ 138.40	173.00

<b>MICROPHONES AND SPEAKERS</b>	<b>Contract</b>	<b>LIST</b>
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KMC-35	MIL-SPEC Standard electret mobile microphone (8-pin mod. plug) - same as supplied	\$ 42.00	52.50
KMC-36	MIL-SPEC Standard electret mobile microphone with 12-key DTMF (8-pin mod. plug)	\$ 75.60	94.50
KMC-9C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: NOT compatible with TDMA operations</b>	\$ 68.80	86.00
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: Compatible with FDMA (analog / NXDN) and TDMA (DMR) Operation.</b>	\$ 144.00	180.00
KES-3S	External speaker (compact low profile; black case; 3.5 mm phono plug-in)	\$ 35.40	44.25
KES-5	External speaker, 40W max input <b>Note:</b> requires KCT-60M installed.	\$ 49.00	61.25
KCT-73MIC	External Microphone kit w/ 9.8 ft. cord for Safer Driving	\$ 21.60	27.00
KCT-74PTT	External PTT Switch kit w/ 9.8 ft cord for Safer Driving	\$ 18.40	23.00

**Hands-free operation**

To promote driver safety and meet hands-free regulations in certain regions, NX-3000 series mobile offers external microphone and PTT as options.

**NOTE:** Connecting to the radio via DB25 terminal on backside of RF Deck or via optional KCT-72 "Connection Cable" on backside of KCH-19M and KCH-20R\*.

KCT-73MIC is not compatible with other NX/TK-mobile radios.

<b>SERVICE RELATED ACCESSORIES</b>	<b>Contract</b>	<b>LIST</b>
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KPG-46XM	Full Speed USB Programming interface cable <b>Note:</b> This cable with USB mode may be used for SD Card Direct Access.	\$ 126.80	158.50
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<b>INSTALLATION / TUNING CHARGES</b>	<b>Contract</b>	<b>LIST</b>
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L-5001	Factory Activation of Radio Feature Licenses (per Radio) <b>Note:</b> Must purchase Radio Feature Licenses separately. KPT-300LMC's History Menu will not display the Radio Features activated by Factory.	\$ 96.00	120.00
L-5053	NX-3720HG/3820HG Programming (with basic TX/RX check)	\$ 30.00	37.50

<b>INSTALLATION / TUNING CHARGES, CON'T</b>	<b>Contract</b>	<b>LIST</b>
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L-5054	Installation for NX-3000 Portable/Mobile AES	\$ 20.00	25.00
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-- IMPORTANT NOTES regarding ENCRYPTION SOFTWARE OPTION--

Encryption Software Option, key loaders and radios containing encryption are export controlled by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export license to most countries. See [www.bis.gov](http://www.bis.gov) for more information regarding export regulations. DO NOT SHIP encryption items outside the U.S. without proper DOC/BIS Export Licenses and/or compliances.

JVCKENWOOD may request the following information to be submitted at time of order (this information must meet JVCKENWOOD internal approvals prior to shipment even if being returned to JVCKENWOOD later:

a) Initial Destination: Initial delivery point if different from Ultimate Destination

(customer distribution center, headquarters, Contractship, manufacturer's representative)

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

b) Ultimate Destination: Final delivery point(s); deployment/distribution

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

c) Intended Use of Radios: Law enforcement, security, operations, etc.

**All NX-G series portables include:**

- Belt Clip (KBH-11)
- Universal Connector Cap
- Instruction Manual
- Premium Warranty: 3 Years\*

\* All Accessories / options: 1 Year

*Purchase Battery, Charger, Antenna separately.*

Approved by CSA International Inc. for Classes I, II & III, Div. 1, Groups C, D, E, F, G and are also approved for non-Incendive use in Class I, Div. 2, Groups A, B, C, D hazardous locations.

**Note:** Class I, Div 2 Group A & B Gases require use of a portable carrying case.

**STANDARD****GENERAL FEATURES**

- 5 W (136-174 MHz) Models
- 5 W (400-470, 450-520 MHz) Models
- 512 CH-GID / 128 Zones
- 12-Key Keypad Models
- 14 Character Alphanumeric Aliases
- Backlit Dot Matrix LCD
- Function/Status LCD Icons
- Multi-Language Display
- Date & 12/24 Hour Time Clock
- Transmit/Busy/Call Alert/Warn LED
- On/Off Volume Knob
- 16-Position Mechanical Selector
- 6 Front PF & Menu Keys
- 2 Side PF Keys
- 500 mW Speaker Audio
- Emergency Call Features
- Built-in GPS Unit
- (KRA-43G/44G is required for GPS operation)
- KMC-51/52 Digital Noise-Canceling Speaker Mic Option
- KPG-111D Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP54/55 Water & Dust Intrusion
- PC Serial Interface
- SDM Manual Input1
- Transparent Data Mode

**DIGITAL – GENERAL**

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill/Check
- Short & Long Data Messages
- GPS Location with Voice
- NXDN® Scrambler Included
- DES Encryption Module Option
- AES & DES Encryption Module Option
- AES/DES Software Key Loader Option

**DIGITAL – CONVENTIONAL MODE**

- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call
- Mixed FM/Digital Operation
- Conventional IP Networks
- Site Roaming

**DIGITAL – TRUNKING MODE**

- Individual Private Call
- Group Call & Broadcast Call
- Telephone Interconnect
- Transmission Trunked Mode
- Message Trunked Mode
- Call Queuing with Priority
- Late Entry (UID & GID)
- 4 Priority Monitor ID's
- Remote Group Add
- System Auto Select

**DIGITAL - MULTI-SITE IP NETWORKS**NEXEDGE Generation1 System

- 48site Trunked IP Network
- Auto Roaming Registration
- Group Registration

NEXEDGE Generation1 System Bridge

- 8 Trunked Networks per radio (each in a zone)
- UID Lists for each network

NEXEDGE Generation2 System (option)

- 1,152 sites Wide Area System
- Direct Frequency Assignment

**SCAN**

- Single Zone / Multi-Zone / List Scan
- Dual Priority Scan (Conventional)

**ANALOG MODE – GENERAL**

- 25 & 12.5 kHz Channels
- Conventional & LTR® Zones
- FleetSync®/II, MDC-1200, DTMF
- QT / DQT & Two-Tone (Conventional Zones Only)
- Voice Inversion Scrambler
- Analog Scrambler Board Capability

**MPT ZONES (option)**

- Single-Site Trunking
- Multi-Site Network Trunking
- 8 Network Capacity
- Network Roaming / Registration

**FleetSync®/II (FM)**

- PTT ID ANI / Caller ID
- Selective / Group Call
- Emergency Status / Text Messages

**MDC-1200**

- PTT ID ANI / Caller ID
- Emergency / Radio Check & Inhibit

<b>RADIO</b>		<b>Contract</b>	<b>LIST</b>
NX-200GK	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys	\$ 547.20	684.00
NX-200GK2	136-174MHz 5W, 14 characters Alphanumeric LCD, Full Keypad	\$ 587.20	734.00
NX-300GK	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys	\$ 547.20	684.00
NX-300GK2	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys	\$ 547.20	684.00
NX-300GK3	450-520MHz 5W, 14 characters Alphanumeric LCD, Full Keypad	\$ 587.20	734.00
NX-300GK4	400-470MHz 5W, 14 characters Alphanumeric LCD, Full Keypad	\$ 587.20	734.00

<b>CSA US APPROVED MODELS</b>		<b>Contract</b>	<b>LIST</b>
<b>Must Order L-1796 &amp; an Intrinsically Safe Battery per radio</b>			
NX-200-ISCGK	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys	\$ 547.20	684.00
NX-200-ISCGK2	136-174MHz 5W, 14 characters Alphanumeric LCD, Full Keypad	\$ 587.20	734.00
NX-300-ISCGK	450-520MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys	\$ 547.20	684.00



NX-300-ISCGK2	400-470MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys	\$ 547.20	684.00
<b>CSA US APPROVED MODELS, CON'T</b>		<b>Contract</b>	<b>LIST</b>
NX-300-ISCGK3	450-520MHz 5W, 14 characters Alphanumeric LCD, Full Keypad	\$ 587.20	734.00
NX-300-ISCGK4	400-470MHz 5W, 14 characters Alphanumeric LCD, Full Keypad	\$ 587.20	734.00
<b>ANTENNAS</b>		<b>Contract</b>	<b>LIST</b>
KRA-43GM	VHF helical antenna 146-162 MHz (w/GPS)	\$ 13.92	17.40
KRA-43GM2	VHF helical antenna 162-174 MHz (w/GPS)	\$ 13.92	17.40
KRA-43GM3	VHF helical antenna 136-150 MHz (w/GPS)	\$ 13.92	17.40
KRA-44GM	UHF helical antenna 440-490 MHz (w/GPS)	\$ 13.92	17.40
KRA-44GM2	UHF helical antenna 470-520 MHz (w/GPS)	\$ 13.92	17.40
KRA-44GM3	UHF helical antenna 400-450 MHz (w/GPS)	\$ 13.92	17.40
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	14.00
KRA-27M	UHF whip antenna 440-490 MHz	\$ 11.20	14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$ 11.20	14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$ 11.20	14.00
KRA-22M	VHF low-profile helical antenna 148-162 MHz	\$ 10.96	13.70
KRA-22M2	VHF low-profile helical antenna 162-174 MHz	\$ 10.96	13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$ 10.96	13.70
KRA-23M	UHF low-profile helical antenna 450-490 MHz	\$ 10.96	13.70
KRA-23M2	UHF low-profile helical antenna 470-512 MHz	\$ 10.96	13.70
KRA-23M3	UHF low-profile helical antenna 403-430 MHz	\$ 10.96	13.70
KRA-25	High gain VHF helically loaded whip antenna 148-162 MHz	\$ 27.40	34.25
KRA-28	Broad-band VHF helically loaded whip antenna 140-170 MHz	\$ 33.60	42.00
KRA-29	Broad Band UHF Whip Antenna 380-430 MHz	\$ 29.40	36.75
<b>BATTERIES AND CHARGERS</b>		<b>Contract</b>	<b>LIST</b>
KNB-47L	1950 mAh, Li-ion battery - requires KSC-32/326K charger	\$ 84.00	105.00
KNB-48L	2550 mAh, Li-ion battery - requires KSC-32/326K charger	\$ 98.00	122.50
KNB-50NC	2000 mAh, Ni-MH battery - requires KSC-32/326K charger [FM & CSA-us ntrinsically Safe Option]	\$ 126.00	157.50
KNB-72LC-CSA-US	1880 mAh, Li-ion battery - requires KSC-32/326K charger [CSA US Intrinsically Safe Option]	\$ 168.00	210.00
KBP-7	AA Alkaline Refillable Battery Pack (6 AA; 9V) cells not included <b>Note:</b> the color of the case is orange	\$ 54.80	68.50
KSC-32	Rapid rate single unit charger for KNB-31A/32N/33L/41NC/43L/47L/48L/50NC <b>Note:</b> Includes 110/220V auto-switching AC adapter with U.S.-style line cord plug; requires plug adapter for 220V Euro-style outlets (not supplied).	\$ 56.00	70.00
KSC-326K	Rapid rate 6-unit charger for KNB-31A/32N/33L/41NC/43L/47L/48L/50NC	\$ 504.00	630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	33.75
KMB-23	Six Unit Charger Adapter for the KSC-16/20/24/25/25L/32 chargers (chargers not included)	\$ 152.80	191.00
KVC-15	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC-mobile bracket & cigarette lighter cable DC adapter)	\$ 95.20	119.00
KVC-23	Rapid rate DC vehicular charger for TK-5x10/5x20, NX-5x00/x00/x10/x20, TK-x180, TK-x170, & TK-x360 portables with Lithium Ion /Lithium Polymer/NiMH packs only	\$ 240.00	300.00
<b>CARRYING ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KBH-11	Spring action belt clip (2.5")	\$ 11.76	14.70
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$ 21.04	26.30
KLH-6SW	Leather swivel belt loop / detachable swivel D-Ring back	\$ 17.60	22.00
KLH-137ST	Firemen's Heavy-Duty Leather Shoulder Strap for a Heavy-Duty Leather Case (KLH-75B/76B/78B/79B//92/122/123/133/148/154)	\$ 29.40	36.75
KLH-148K	Heavy duty leather case for NX-200/300/TK-5220/5320 (Non DTMF keypad models)	\$ 35.40	44.25



KLH-148K2	Heavy duty leather case for NX-200/300/TK-5220/5320 (DTMF keypad models)	\$ 35.40	44.25
<b>CARRYING ACCESSORIES, CON'T</b>		<b>Contract</b>	<b>LIST</b>
KLH-149K	Nylon carrying case for NX-200/300/TK-5220/5320 (Non DTMF keypad models)	\$ 21.04	26.30
KLH-149K2	Nylon carrying case for NX-200/300/TK-5220/5320 (DTMF keypad models)	\$ 21.04	26.30
<b>SPECIAL COLOR HOUSING</b>		<b>Contract</b>	<b>LIST</b>
KWD-YH20-NX	Yellow Housing Kit for NX-x00 portables (6 Control Keys Version Only) Order <b>L-1714</b> for Factory Install. (required for Intrinsically Safe & IP67 radio orders)	\$ 32.00	40.00
KWD-OH20-NX	Orange Housing Kit for NX-x00 portables (6 Control Keys Version Only) Order <b>L-1739</b> for Factory Install. (required for Intrinsically Safe & IP67 radio orders)	\$ 32.00	40.00
<b>MICROPHONES &amp; AUDIO ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KMC-51DM	MIL-SPEC, IP54/55 DSP Digital Noise-canceling Speaker Mic <b>[see note 2]</b> <b>[Intrinsically Safe Option]</b>	\$ 200.00	250.00
KMC-52WDM	MIL-SPEC, <b>IP67 (Immersion)</b> DSP Digital Noise-canceling Speaker Mic <b>[see note 2]</b> <b>Note:</b> Radio does not have an IP67 Immersion option; meets MIL STD810 rain standards.	\$ 240.00	300.00
	<b>[note 2]:</b> To adjust microphone settings different from factory default, download KPG-147NC configuration software and special configuration firmware from Kenwood Tools (no charge).	\$ -	
KMC-47GPSD	GPS Speaker Microphone <b>[Intrinsically Safe Option]</b>	\$ 232.00	290.00
KMC-41M	MIL-SPEC, IP54/55 Noise-canceling Speaker Mic <b>[Intrinsically Safe Approved Accessory]</b>	\$ 77.20	96.50
KMC-42WDM	MIL-SPEC, <b>IP67 (Immersion)</b> Noise-canceling Speaker Mic <b>[Intrinsically Safe Approved Accessory]</b> <b>Note:</b> Radio does not have an IP67 Immersion option; meets MIL STD810 rain standards.	\$ 91.20	114.00
KEP-1	3.5mm earphone kit for KMC-25/26/41M/42WM Speaker Mics <b>[Intrinsically Safe Approved Accessory]</b>	\$ 42.00	52.50
KCT-51	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector) <b>[Intrinsically Safe Approved Accessory]</b>	\$ 172.00	215.00
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black) <b>[Intrinsically Safe Approved Accessory]</b>	\$ 125.20	156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black) <b>[Intrinsically Safe Approved Accessory]</b>	\$ 147.20	184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT <b>[Intrinsically Safe Approved Accessory]</b>	\$ 100.80	126.00
KHS-15D-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & in-line PTT <b>[Intrinsically Safe Approved Accessory]</b>	\$ 336.00	420.00
KHS-15D-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & in-line PTT <b>[Intrinsically Safe Approved Accessory]</b>	\$ 294.40	368.00
<b>SOFTWARE &amp; USB OPTIONS</b>		<b>Contract</b>	<b>LIST</b>
KPG-150AP	NEXEDGE OTAP Manager Windows Software. • License Includes 10 radios / 1 Serial Port* • To add more radios/serial ports, you must contact Kenwood Systems Division [1-800-TRUNKING] <b>Note:</b> NEXEDGE Type-D Trunking and DMR not supported.	\$ 440.00	550.00
KPG-AE1K	AES/DES Encryption Software Key Loader for KWD-AE31K Authentication by KPT-300LMC is required <b>Note:</b> KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A).	\$ 420.00	525.00
KPG-DE1K	DES Encryption Software Key Loader for KWD-AE31K Authentication by KPT-300LMC is required <b>Note:</b> KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D992A.1).	\$ 294.40	368.00
KWD-NX2G-10	Gen2 Enhanced Option for NX-*00/*10/*11/*20 Portables & Mobiles Must order <b>L-1812</b> for factory installation, or <b>L-1813</b> for field-upgrade option <b>Note:</b> <b>MPT</b> Firmware and FPU do <b>NOT</b> compatible. MPTs will be available on <b>3Q FY2016</b> .	\$ 13.60	17.00
<b>SOFTWARE &amp; USB OPTIONS, CON'T</b>		<b>Contract</b>	<b>LIST</b>

KWD-LIC-USB	USB Hardware Key for activating KWD-NX2G-10 options to NX-*00/*10/*11/*20 series without ESN. KWD-LIC-USB stores KWD-NX2G-10 options which are purchased separately and includes KPG-97USB software for activating radios.	N/C	N/C
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Note:

- Must order L-1819.
- Must purchase KWD-NX2G-10 separately.
- KWD-LIC-USB Request Form that can be downloaded from Contract Tools is required to order.
- KWD-LIC-USB cannot be rechargeable. Must purchase it per every orders.
- KWD-LIC-USB can store up to 50,000 KWD-NX2G-10 Gen2 Upgrade Options.
- The licenses (KWD-NX2G-10) installed to the KWD-LIC-USB is NOT eligible for warranty compensaton.

OPTION MODULES		Contract	LIST
KCT-48VU	External Vibration Unit <b>[Intrinsically Safe Approved Accessory]</b> <b>Note:</b> Audio accessories cannot be used when this option installed.	\$ 56.00	70.00
KCT-57MS	Man-Down Internal Tilt Switch (Non-Mercury) <b>[Intrinsically Safe Approved Accessory]</b> - Must be Kenwood installed for I.S. Order <b>L-1093</b> for NXDN®/FleetSync® operations	\$ 17.60	22.00
KWD-AE30K	AES FIPS140-2 & DES Encryption Module (Multi-Key) Order a Labor Code L-1828 if installation is required. KWD-AE30K requires: a Motorola KVL3000 Plus/4000 key loader device. KWD-AE30K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1). <b>[Intrinsically Safe Option]</b> - Must be Kenwood installed for I.S. <b>Note:</b> GPS Board must be removed to install this option.	\$ 680.00	850.00
KWD-AE31K	AES & DES Encryption Module (Multi-Key) Order a Labor Code L-1829 if installation is required. Note: Requires KPG-AE1/DE1 software key loader or Motorola KVL3000 Plus/4000 key loader device. KWD-AE31K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1) <b>[Intrinsically Safe Option]</b> - Must be Kenwood installed for I.S. <b>Note:</b> GPS Board must be removed to install this option.	\$ 440.00	550.00

SERVICE RELATED ACCESSORIES		Contract	LIST
KPG-111DNK (Ver 4.4 or newer)	Windows® Programming Software for NX-200/210/300/410/411/700/800/900/901 (Compliant with FCC Part 90 Narrowbanding)	\$ 82.60	103.25
KPG-36XM	USB Programming interface cable	\$ 126.80	158.50

MPT FIRMWARE/ACCESSORIES/TUNING		Contract	LIST
KPG-143DNK	Windows® Programming Software for NX series MPT (Compliant with FCC Part 90 Narrowbanding) (Contract Level License ID included) Note: - Must order L-1727 for Network Level License ID & programming privileges. - Gen2 Enhanced Option (KWD-NX2G-10) for MPT will be available on 3Q FY2016.	\$ 82.60	103.25
KWD-NX10MPT	MPT Trunking Field Upgrade Kit for NX series radio Must order <b>L-1729</b> <b>Note:</b> Not compatible with any other firmware options. Radio does not retain LTR trunking features once the MPT option is installed.	\$ 53.36	66.70
L-1726	Install MPT option in NX series radio	\$ 20.00	25.00
L-1727	Network Level License ID for KPG-143D(N) NX series Programmer	\$ 126.66	158.33
L-1728	Retrofit Install of MPT option in NX series radio For previously purchased NX series radios. Order L-1728 through LMR order desk/rep. Ship radios to attn: Kenwood LMR Tuning, Long Beach for installation. Include Kenwood order number for L-1728 provided by order desk & copy of company P.O. or P.O. number. <b>Note:</b> see NX series MPT Introduction Sales Bulletin for details.	\$ 68.00	85.00
L-1729	NX Series Radio MPT Firmware FIELD-UPGRADE (Must purchase KWD-NX10MPT separately)	NC	NC
L-1730	Install KCT-57MS (for MPT Emergency Call)	\$ 16.00	20.00

INSTALLATION / TUNING CHARGES		Contract	LIST
L-961	Assemble KMB-23 with six KSC-32K's (Rapid Rate, 120 Volt version only)	\$ 13.60	17.00

INSTALLATION / TUNING CHARGES, CON'T		Contract	LIST
L-1084	NX-200(S)/300(S) Programming (with basic TX/RX check)	\$ 30.00	37.50

L-1093	NX-200(S)/300(S) Portable KCT-57MS Installation (for NXDN® / FleetSync®)	\$ 16.00	20.00
L-1100	Multi-Channel Encoder Modification	\$ 20.00	25.00
L-1714	Assemble Yellow Housing KWD-YH20-NX with NX-200K/300K/300K3 Portable	\$ 21.60	27.00
L-1739	Assemble Orange Housing KWD-OH20-NX with NX-200K/300K/300K3 Portable	\$ 21.60	27.00
L-1796	Configure NX-200G/300G for Intrinsically Safe <b>Must order an I.S. battery</b>	\$ 56.00	70.00
L-1812	Install Gen2 Enhanced Option in NX series radio (Must purchase KWD-NX2G-10 separately)	\$ 20.00	25.00
L-1813	NX Series Radio Gen2 Enhanced Option FIELD-UPGRADE (Must purchase KWD-NX2G-10 separately)	NC	NC
L-1819	Create KWD-LIC-USB and store KWD-NX2G-10 (Must purchase KWD-NX2G-10 separately)	\$ 100.00	125.00
L-1828	Install KWD-AE30K in NX-200G/300G series Portable (Must purchase module separately)	\$ 60.00	75.00
L-1829	Install KWD-AE31K in NX-200G/300G series Portable (Must purchase module separately)	\$ 60.00	75.00

-- IMPORTANT NOTES --

Encryption modules, key loaders and radios containing encryption are export controlled by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export license to most countries. See [www.bis.gov](http://www.bis.gov) for more information regarding export regulations. DO NOT SHIP encryption items outside the U.S. without proper DOC/BIS Export Licenses and/or compliances.

Kenwood may request the following information to be submitted at time of order (this information must meet Kenwood internal approvals prior to shipment even if being returned to Kenwood later:

a) Initial Destination: Initial delivery point if different from Ultimate Destination  
(customer distribution center, headquarters, Contractship, manufacturer's representative)

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

b) Ultimate Destination: Final delivery point(s); deployment/distribution

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

c) Intended Use of Radios: Law enforcement, security, operations, etc.

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KWD-AE30 AES FIPS140-2 SCM , NIST Validation & Customer Shipping

A secure delivery method direct to the end user customer is required by the NIST AES FIPS 140-2 validation rules. For U.S. Federal Government entities the SCM must ship from JVCKENWOOD USA Corporation directly to the end user customer by a trusted carrier (FEDEX, UPS or a designated JVCKENWOOD USA Corporation employee); shipping/handling by a Contract or other entity is not acceptable. This may or may not be required by local/state government agencies or business/industrial users. Please check with the end use customer about their AES encryption handling requirements before ordering. Kenwood will not be responsible for shipments of KWD-AE30K modules to erroneous destinations specified on an order.

**210G series portable include:**

- Belt Clip (KBH-11)
- Universal Connector Cap
- Instruction Manual
- Premium Warranty: 3 Years\*

\* All Accessories / options: 1 Year

Order packages to include Battery, Charger & Antenna, or purchase Battery, Charger, and Antenna separately.

Approved by CSA International Inc. for Classes I, II & III, Div. 1, Groups C, D, E, F, G and are also approved for non-Incendive use in Class I, Div. 2, Groups A, B, C, D hazardous locations.

**Note:** Class I, Div 2 Group A & B Gases require use of a portable carrying case.

**STANDARD****GENERAL FEATURES**

- 5 W (136-174 MHz) Model
- 512 CH-GID / 128 Zones
- 12-Key Keypad Model
- 14 Character Alphanumeric Aliases
- Backlit Dot Matrix LCD
- Function/Status LCD Icons
- Multi-Language Display
- Date & 12/24 Hour Time Clock
- Transmit/Busy/Call Alert/Warn LED
- On/Off Volume Knob
- 6 Front PF & Menu Keys
- 2 Side PF Keys
- Emergency/AUX Key
- 500 mW Speaker Audio
- Built-In GPS Unit
- KPG-111D Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- MIL-STD "Driven-Rain"
- IP54/55 Water & Dust Intrusion
- PC Serial Interface
- SDM Manual Input
- Transparent Data Mode

**DIGITAL – GENERAL**

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill
- Remote Check
- Short & Long Data Messages
- GPS Location with Voice
- NXDN® Scrambler Included
- DES Encryption Module Option\*
- AES & DES Encryption Module Option\*
- AES/DES Software Key Loader Option

**DIGITAL – CONVENTIONAL MODE**

- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call
- Mixed FM/Digital Operation
- Conventional IP Networks
- Site Roaming

**DIGITAL – TRUNKING MODE**

- Individual Private Call
- Group Call & Broadcast Call
- Telephone Interconnect
- Transmission Trunked Mode
- Message Trunked Mode
- Call Queuing with Priority
- Late Entry (UID & GID)
- 4 Priority Monitor ID's
- Remote Group Add
- System Auto Select

**DIGITAL - MULTI-SITE IP NETWORKS**NEXEDGE Generation1 System

- 48site Trunked IP Network
- Auto Roaming Registration
- Group Registration

NEXEDGE Generation1 System Bridge

- 8 Trunked Networks per radio (each in a zone)
- UID Lists for each network

NEXEDGE Generation2 System (option)

- 1,152 sites Wide Area System
- Direct Frequency Assignment

**SCAN**

- Single Zone / Multi-Zone / List Scan
- Dual Priority Scan (Conventional)

**ANALOG MODE – GENERAL**

- 25 & 12.5 kHz Channels
- Conventional & LTR® Zones
- FleetSync®/II, MDC-1200, DTMF
- QT / DQT & Two-Tone (Conventional Zones Only)
- Voice Inversion Scrambler
- Analog Scrambler Board Capability

**FleetSync®/II (FM)**

- PTT ID ANI / Caller ID
- Selective / Group Call
- Emergency Status / Text Messages

**MDC-1200**

- PTT ID ANI / Caller ID
- Emergency / Radio Check & Inhibit

\* Must remove GPS module to utilize these options

RADIO		Contract	LIST
NX-210GK2	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad	\$ 587.20	734.00
CSA US APPROVED MODELS		Contract	LIST
Must Order L-1750 & an Intrinsically Safe Battery per radio			
NX-210-ISCGK2	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Key (I.S.)	\$ 587.20	734.00
PACKAGE		Contract	LIST
NX-210GK2-LKP	136-174MHz 5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad VHF Li-Ion Battery Package (NX-210K2 + KNB-33L + KSC-32 + KBH-11 + KRA-26M)	\$ 738.40	923.00
ANTENNAS		Contract	LIST
KRA-43GM	VHF helical antenna 146-162 MHz (w/GPS)	\$ 13.92	17.40

KRA-43GM2	VHF helical antenna 162-174 MHz (w/GPS)	\$ 13.92	17.40
KRA-43GM3	VHF helical antenna 136-150 MHz (w/GPS)	\$ 13.92	17.40
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	14.00
KRA-22M	VHF low-profile helical antenna 148-162 MHz	\$ 10.96	13.70
KRA-22M2	VHF low-profile helical antenna 162-174 MHz	\$ 10.96	13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$ 10.96	13.70
KRA-25	High gain VHF helically loaded whip antenna 148-162 MHz	\$ 27.40	34.25
KRA-28	Broad-band VHF helically loaded whip antenna 140-170 MHz	\$ 33.60	42.00

<b>BATTERIES AND CHARGERS</b>		<b>Contract</b>	<b>LIST</b>
KNB-41NC	2500 mAh, Ni-MH battery - requires KSC-32/326K charger [FM & CSA-us ntrinsically Safe Option]	\$ 109.20	136.50
KNB-73LCM	2000 mAh, Li-ion battery - requires KSC-32/326K charger [CSA-us ntrinsically Safe Option]	\$ 111.20	139.00
KNB-54N	2500 mAh, Ni-MH battery - requires KSC-32/326K charger	\$ 70.00	87.50
KNB-33L	2000 mAh, Li-ion battery - requires KSC-32/326K charger	\$ 84.00	105.00
KNB-43L	3300 mAh, Li-Polymer battery - requires KSC-32/326K charger	\$ 130.40	163.00
KBP-6	AA Alkaline Refillable Battery Pack (6 AA; 9V) cells not included <b>Note:</b> the color of the case is orange.	\$ 54.80	68.50
KSC-32	Rapid rate single unit charger for KNB-31A/32N/33L/41NC/43L/47L/48L/50NC <b>Note:</b> Includes 110/220V auto-switching AC adapter with U.S.-style line cord plug; requires plug adapter for 220V Euro-style outlets (not supplied).	\$ 56.00	70.00
KSC-326K	Rapid rate 6-unit charger for KNB-31A/32N/33L/41NC/43L/47L/48L/50NC	\$ 504.00	630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	33.75
KMB-23	Six Unit Charger Adapter for the KSC-16/20/24/25/25L/32 chargers (chargers not included)	\$ 152.80	191.00
KVC-15	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC-mobile bracket & cigarette lighter cable DC adapter)	\$ 95.20	119.00
KVC-23	Rapid rate DC vehicular charger for TK-5x10/5x20, NX-5x00/x00/x10/x20, TK- x180, TK-x170, & TK-x360 portables with Lithium Ion /Lithium Polymer/NiMH packs only	\$ 240.00	300.00

<b>CARRYING ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KBH-10	Low profile spring action belt clip (for use with KNB-33L Only)	\$ 6.68	8.35
KBH-11	Spring action belt clip (2.5")	\$ 11.76	14.70
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$ 21.04	26.30
KLH-6SW	Leather swivel belt loop / detachable swivel D-Ring back	\$ 17.60	22.00
KLH-137ST	Firemen's Heavy-Duty Leather Shoulder Strap for a Heavy-Duty Leather Case (KLH-75B/76B/78B/79B//92/122/123/133/148/154)	\$ 29.40	36.75
KLH-154K2	Heavy duty leather carrying case for NX-210K2/410K2/411K2 <b>Note:</b> No belt loop flap is included. Must order KLH-6SW for belt loop.	\$ 35.40	44.25

<b>MICROPHONES &amp; AUDIO ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KMC-51DM	MIL-SPEC, IP54/55 DSP Digital Noise-canceling Speaker Mic <b>[see note 1]</b> [Intrinsically Safe Approved Accessory] * CSA Intrinsically Safe Approved except for Group C gases.	\$ 200.00	250.00
KMC-52WDM	MIL-SPEC, IP67 (Immersion) DSP Digital Noise-canceling Speaker Mic <b>[see note 1]</b> <b>Note:</b> Radio does not have an IP67 Immersion option; meets MIL STD810 rain standards [Intrinsically Safe Approved Accessory] * CSA Intrinsically Safe Approved except for Group C gases.	\$ 240.00	300.00

**[note 1]:** To adjust microphone settings different from factory default, download KPG-147NC configuration software and special configuration firmware from Kenwood Tools (no charge).

KMC-40	MIL-SPEC, Speaker Mic. with Antenna Connector [Intrinsically Safe Approved Accessory] <b>Note:</b> 5/16" Coax cable hex wrench included (antenna is not included).	\$ 200.00	250.00
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<b>MICROPHONES &amp; AUDIO ACCESSORIES, CONT</b>		<b>Contract</b>	<b>LIST</b>
KMC-41M	MIL-SPEC, IP54/55 Noise-canceling Speaker Mic [Intrinsically Safe Approved Accessory]	\$ 77.20	96.50

KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic [Intrinsically Safe Approved Accessory] <b>Note:</b> Radio does not have an IP67 Immersion option; meets MIL STD810 rain standards.	\$ 91.20	114.00
KEP-1	3.5mm earphone kit for KMC-25/26/41M/42WM Speaker Mics [Intrinsically Safe Approved Accessory]	\$ 42.00	52.50
KCT-51	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector) [Intrinsically Safe Approved Accessory]	\$ 172.00	215.00
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black) [Intrinsically Safe Approved Accessory]	\$ 125.20	156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black) [Intrinsically Safe Approved Accessory]	\$ 147.20	184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT [Intrinsically Safe Approved Accessory]	\$ 100.80	126.00
KHS-15D-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approved Accessory]	\$ 336.00	420.00
KHS-15D-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approved Accessory]	\$ 294.40	368.00

SOFTWARE & USB OPTIONS		Contract	LIST
KPG-150AP	NEXEDGE OTAP Manager Windows Software. • License Includes 10 radios / 1 Serial Port* • To add more radios/serial ports, you must contact Kenwood Systems Division [1-800-TRUNKING] <b>Note:</b> NEXEDGE Type-D Trunking and DMR not supported.	\$ 440.00	550.00
KPG-AE1K	AES/DES Encryption Software Key Loader for KWD-AE31K Authentication by KPT-300LMC is required <b>Note:</b> KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A).	\$ 420.00	525.00
KPG-DE1K	DES Encryption Software Key Loader for KWD-AE31K Authentication by KPT-300LMC is required <b>Note:</b> KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D992A.1).	\$ 294.40	368.00
KWD-NX2G-10	Gen2 Enhanced Option for NX-*00/*10/*11/*20 Portables & Mobiles <b>Must order L-1812 for factory installation, or L-1813 for field-upgrade option</b>	\$ 13.60	17.00
KWD-LIC-USB	USB Hardware Key for activating KWD-NX2G-10 options to NX-*00/*10/*11/*20 series without ESN. KWD-LIC-USB stores KWD-NX2G-10 options which are purchased separately and includes KPG-97USB software for activating radios.  <b>Note:</b> - Must order L-1819. - Must purchase KWD-NX2G-10 separately. - KWD-LIC-USB Request Form that can be downloaded from Contract Tools is required to order. - KWD-LIC-USB cannot be rechargeable. Must purchase it per every orders. - KWD-LIC-USB can store up to 50,000 KWD-NX2G-10 Gen2 Upgrade Options. - The licenses (KWD-NX2G-10) installed to the KWD-LIC-USB is NOT eligible for warranty compensaton.	N/C	N/C

OPTION MODULES		Contract	LIST
KCT-48VU	External Vibration Unit [Intrinsically Safe Approved Accessory] <b>Note:</b> Audio accessories cannot be used when this option installed.	\$ 56.00	70.00
KCT-57MS	Man-Down Internal Tilt Switch (Non-Mercury) [Intrinsically Safe Approved Accessory]- Must be Kenwood installed for I.S.	\$ 17.60	22.00
KWD-AE30K	AES FIPS140-2 & DES Encryption Module (Multi-Key) Order a Labor Code L-1832 if installation is required. KWD-AE30K requires: a Motorola KVL3000 Plus/4000 key loader device. KWD-AE30K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1). [Intrinsically Safe Option]- Must be Kenwood installed for I.S.	\$ 680.00	850.00
KWD-AE31K	AES & DES Encryption Module (Multi-Key) Order a Labor Code L-1833 if installation is required. <b>Note:</b> Requires KPG-AE1/DE1 software key loader or Motorola KVL3000 Plus/4000 key loader device. KWD-AE31K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1) [Intrinsically Safe Option]- Must be Kenwood installed for I.S.	\$ 440.00	550.00

SERVICE RELATED ACCESSORIES		Contract	LIST
KPG-111DNK	Windows® Programming Software for NX-200/210/300/410/411/700/800/900/901 <b>Note:</b> Version 4.40 is required to program "G" models	\$ 82.60	103.25
KPG-36XM	USB Programming interface cable	\$ 126.80	158.50
INSTALLATION / TUNING CHARGES		Contract	LIST
L-961	Assemble KMB-23 with six KSC-32K's (Rapid Rate, 120 Volt version only)	\$ 13.60	17.00
L-1633	NX-210 Programming (with basic TX/RX check)	\$ 30.00	37.50

L-1667	Install VGS-1 Voice Guide & Storage Unit in NX-210	\$ 20.00	25.00
L-1671	NX-210/410/411 Portable KCT-57MS Installation (for NXDN® / FleetSync®)	\$ 16.00	20.00
L-1750	Configure NX-210/210G/410/411 for Intrinsically Safe <b>Must order an I.S. battery,</b>	\$ 56.00	70.00
L-1812	Install Gen2 Enhanced Option in NX series radio (Must purchase KWD-NX2G-10 separately)	\$ 20.00	25.00
L-1813	NX Series Radio Gen2 Enhanced Option FIELD-UPGRADE (Must purchase KWD-NX2G-10 separately)	NC	NC
L-1819	Create KWD-LIC-USB and store KWD-NX2G-10 (Must purchase KWD-NX2G-10 separately)	\$ 100.00	125.00
L-1832	Install KWD-AE30K in NX-210G/410/411 series Portable (Must purchase module separately)	\$ 60.00	75.00
L-1833	Install KWD-AE31K in NX-210G/410/411 series Portable (Must purchase module separately)	\$ 60.00	75.00

-- IMPORTANT NOTES --

Encryption modules, key loaders and radios containing encryption are export controlled by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export license to most countries. See [www.bis.gov](http://www.bis.gov) for more information regarding export regulations. DO NOT SHIP encryption items outside the U.S. without proper DOC/BIS Export Licenses and/or compliances.

Kenwood may request the following information to be submitted at time of order (this information must meet Kenwood internal approvals prior to shipment even if being returned to Kenwood later:

a) Initial Destination: Initial delivery point if different from Ultimate Destination  
(customer distribution center, headquarters, Contractship, manufacturer's representative)

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

b) Ultimate Destination: Final delivery point(s); deployment/distribution

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

c) Intended Use of Radios: Law enforcement, security, operations, etc.

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KWD-AE30 AES FIPS140-2 SCM , NIST Validation & Customer Shipping

A secure delivery method direct to the end user customer is required by the NIST AES FIPS 140-2 validation rules. For U.S. Federal Government entities the SCM must ship from JVCKENWOOD USA Corporation directly to the end user customer by a trusted carrier (FEDEX, UPS or a designated JVCKENWOOD USA Corporation employee); shipping/handling by a Contract or other entity is not acceptable. This may or may not be required by local/state government agencies or business/industrial users. Please check with the end use customer about their AES encryption handling requirements before ordering. Kenwood will not be responsible for shipments of KWD-AE30K modules to erroneous destinations specified on an order.



# NX-220/320

## NEXEDGE IS Packages



### All 20 series NX portables include:

- Belt Clip (KBH-12)
- 2-PIN Connector Cap
- Instruction Manual
- Premium Warranty: 3 Years\*

\* All Accessories / options: 1 Year

Order packages to include Battery, Charger & Antenna, or purchase Battery, Charger, and Antenna separately.

### --- Intrinsically Safe Model ---

\* Approved for Classes I, II & III, Div. 1, Groups C, D, E, F, G and are also approved for non-Incendive use in Classes I, II & III Div. 2, Groups A, B, C, D, F, G hazardous locations.

### STANDARD

#### GENERAL FEATURES

- 5 W (136-174 MHz) Models
- 5 W (400-470, 450-520 MHz) Models
- 260 CH-GID / 128 Zones
- 64 CH-GID / 4 Zones (Non Display Version)
- 12-Key Keypad Models
- 8 Character Alphanumeric Aliases
- Backlit LCD & Keys
- Function/Status LCD Icons
- Transmit/Busy/Call Alert/Warn LED
- On/Off Volume Knob
- 16-Position Mechanical Selector
- 4 Front PF Keys
- 3 Side PF Keys
- Emergency/AUX Key
- Built-in Motion Sensor
- 500 mW Speaker Audio
- Zone/CH# Voice Announcement
- KMC-48GPS Speaker Mic Option
- KPG-141D Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP54/55 Water & Dust Intrusion
- PC Serial Interface
- SDM Manual Input
- Transparent Data Mode

#### DIGITAL – GENERAL

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill/Check
- Short & Long Data Messages
- GPS Location with Voice
- NXDN® Scrambler Included

#### DIGITAL – CONVENTIONAL MODE

- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call
- Mixed FM/Digital Operation
- Conventional IP Networks
- Site Roaming

#### DIGITAL – TRUNKING MODE

- Individual Private Call
- Group Call & Broadcast Call
- Telephone Interconnect
- Transmission Trunked Mode
- Message Trunked Mode
- Call Queuing with Priority
- Late Entry (UID & GID)
- 4 Priority Monitor ID's
- Remote Group Add
- System Auto Select

#### DIGITAL - MULTI-SITE IP NETWORKS

##### NEXEDGE Generation1 System

- 48site Trunked IP Network
- Auto Roaming Registration
- Group Registration

##### NEXEDGE Generation1 System Bridge

- 8 Trunked Networks per radio (each in a zone)
- UID Lists for each network

##### NEXEDGE Generation2 System (option)

- 1,152 sites Wide Area System
- Direct Frequency Assignment

#### SCAN

- Single Zone / Multi-Zone / List Scan
- Single Priority Scan (Conventional)

#### ANALOG MODES – GENERAL

- 12.5 kHz Channels
- Conventional & LTR® Zones
- FleetSync®/II, MDC-1200, DTMF
- QT/DQT/Two-Tone (Conventional Zones Only)
- Voice Inversion Scrambler (16 Codes)

#### MPT ZONES (option)

- Single-Site Trunking
- Multi-Site Network Trunking
- 8 Network Capacity
- Network Roaming / Registration

#### FleetSync®/II

- PTT ID ANI / Caller ID
- Selective / Group Call
- Emergency, Status & Text Messages

#### MDC-1200

- PTT ID ANI / Caller ID
- Emergency, Radio Check & Inhibit

### SGS US I.S. APPROVED PACKAGES

### Contract

### LIST

#### Must Order L-1732 per I.S. Radio Package

NX-220-ISPK	136-174 MHz 5W, 64 CH IS Package : Radio + KNB-68LC (2000mAh I.S. battery)	\$ 452.24	565.30
NX-220-ISPK2	136-174 MHz 5W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys IS Package : Radio + KNB-68LC (2000mAh I.S. battery)	\$ 518.96	648.70
NX-220-ISPK3	136-174 MHz 5W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys, Full Keypad IS Package : Radio + KNB-68LC (2000mAh I.S. battery)	\$ 558.96	698.70
NX-320-ISPK	450-520 MHz 5W, 64 CH IS Package : Radio + KNB-68LC (2000mAh I.S. battery)	\$ 452.24	565.30
NX-320-ISPK2	450-520 MHz 5W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys IS Package : Radio + KNB-68LC (2000mAh I.S. battery)	\$ 518.96	648.70
NX-320-ISPK3	450-520 MHz 5W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys, Full Keypad IS Package : Radio + KNB-68LC (2000mAh I.S. battery)	\$ 558.96	698.70
NX-320-ISPK4	400-470 MHz 5W, 64 CH IS Package : Radio + KNB-68LC (2000mAh I.S. battery)	\$ 452.24	565.30



NX-320-ISPK5	400-470 MHz 5W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys IS Package : Radio + KNB-68LC (2000mAh I.S. battery)	\$ 518.96	648.70
<b>SGS US I.S. APPROVED PACKAGES, CON'T</b>		<b>Contract</b>	<b>LIST</b>
NX-320-ISPK6	400-470 MHz 5W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys, Full Keypad IS Package : Radio + KNB-68LC (2000mAh I.S. battery)	\$ 558.96	698.70
<b>ANTENNAS</b>		<b>Contract</b>	<b>LIST</b>
KRA-22M	VHF Low-profile helical antenna 148-162 MHz	\$ 10.96	13.70
KRA-22M2	VHF Low -profile helical antenna 162-174 MHz	\$ 10.96	13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$ 10.96	13.70
KRA-23M	UHF Low-profile helical antenna 450-490 MHz	\$ 10.96	13.70
KRA-23M2	UHF Low-profile helical antenna 470-512 MHz	\$ 10.96	13.70
KRA-23M3	UHF Low-profile helical antenna 403-430 MHz	\$ 10.96	13.70
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	14.00
KRA-27M	UHF whip antenna 440-490 MHz	\$ 11.20	14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$ 11.20	14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$ 11.20	14.00
<b>BATTERIES AND CHARGERS</b>		<b>Contract</b>	<b>LIST</b>
KNB-68LC	2000 mAh, Li-ion battery - requires KSC-25SK/25LSK/256K charger [Intrinsically Safe Option]	\$ 89.60	112.00
KSC-25LSK	100~240 volt rapid rate single unit charger for KNB-40LC(V)/55L/57L/68LC Li-ion Battery	\$ 38.64	48.30
KSC-25SK	110 volt Rapid rate single unit charger for KNB-26N/40LC(V)/55L/56N/57L/68LC	\$ 49.60	62.00
KSC-256K	Rapid rate 6-Unit charger for KNB-25A/26N/35L/40LC(V)/55L/56N/57L/68LC	\$ 504.00	630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	33.75
KMB-16	Six Unit Charger Adapter for the KSC-16/20/24/25/25L chargers (chargers not included)	\$ 138.40	173.00
KMB-23	Six Unit Charger Adapter for the KSC-16/20/24/25/25L/32 chargers (chargers not included)	\$ 152.80	191.00
KVC-4	Vehicular charger adapter for the KSC-16/18/20/24/25 chargers (chargers not included)	\$ 67.20	84.00
KVC-23	Rapid rate DC vehicular charger for TK-5x10/5x20, NX-5x00/NX-3x00/x00/x10/x20, TK-x180, TK-x170, & TK-x360 portables with Lithium Ion /Lithium Polymer/NiMH packs only.	\$ 240.00	300.00
<b>CARRYING ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KBH-12	Spring action belt clip	\$ 6.68	8.35
KBH-13DS	Leather swivel belt loop with portable D-Ring attachment	\$ 23.08	28.85
KLH-179K	Heavy-Duty Leather Case w/Swivel Belt Loop for NX-220K/320K/K4 (Non Display)	\$ 39.20	49.00
KLH-179K2	Heavy-Duty Leather Case w/Swivel Belt Loop for NX-220K2/320K2/K5 (Display)	\$ 39.20	49.00
KLH-179K3	Heavy-Duty Leather Case w/Swivel Belt Loop for NX-220K3/320K3/K6 (Full Keypad)	\$ 39.20	49.00
KLH-180K	Nylon carrying case for NX-220K/320K/K4 (Non Display)	\$ 21.04	26.30
KLH-180K2	Nylon carrying case for NX-220K2/320K2/K5 (Display)	\$ 21.04	26.30
KLH-180K3	Nylon carrying case for NX-220K3/320K3/K6 (Full Keypad)	\$ 21.04	26.30
<b>MICROPHONES &amp; AUDIO ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KMC-48GPS	GPS Speaker Microphone [Intrinsically Safe Approval Accessory]	\$ 212.00	265.00
KMC-45D	MIL-SPEC, IP54/55 Speaker microphone (Built-in 2.5mm miniature earphone jack) [Intrinsically Safe Approval Accessory]	\$ 68.80	86.00
KMC-21	Compact speaker microphone [Intrinsically Safe Approval Accessory]	\$ 41.20	51.50
KEP-2	2.5mm earphone kit for KMC-17/45 Speaker Mic [Intrinsically Safe Approval Accessory]	\$ 42.00	52.50
KHS-7	Single muff headset w/boom mic [Intrinsically Safe Approval Accessory]	\$ 56.00	70.00
KHS-7A	Lt. Wt Single muff headset w/boom mic & in-line PTT [Intrinsically Safe Approval Accessory]	\$ 84.00	105.00

MICROPHONES & AUDIO ACCESSORIES, CON'T		Contract	LIST
KHS-10D-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approval Accessory]	\$ 294.40	368.00
KHS-10D-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approval Accessory]	\$ 268.80	336.00

SOFTWARE & USB OPTIONS	Contract	LIST
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KPG-150AP	NEXEDGE OTAP Manager Windows Software. • License Includes 10 radios / 1 Serial Port* • To add more radios/serial ports, you must contact Kenwood Systems Division [1-800-TRUNKING] <b>Note:</b> NEXEDGE Type-D Trunking and DMR not supported.	\$ 440.00	550.00
KWD-MS10	Stationary & Motion Detection Must Order <b>L-1700</b> or <b>L-1835</b> to activate this feature.	\$ 48.00	60.00
KWD-NX2G-10	Gen2 Enhanced Option for NX-*00/*10/*11/*20 Portables & Mobiles Must order <b>L-1812</b> for factory installation, or <b>L-1813</b> for field-upgrade option.	\$ 13.60	17.00
KWD-LIC-USB	USB Hardware Key for activating KWD-NX2G-10 options to NX-*00/*10/*11/*20 series without ESN. KWD-LIC-USB stores KWD-NX2G-10 options which are purchased seperately and includes KPG-97USB software for activating radios.	N/C	N/C

Note:

- Must order L-1819.
- Must purchase KWD-NX2G-10 seperately.
- KWD-LIC-USB Request Form that can be downloaded from Contract Tools is required to order.
- KWD-LIC-USB cannot be rechargeable. Must purchase it per every orders.
- KWD-LIC-USB can store up to 50,000 KWD-NX2G-10 Gen2 Upgrade Options.
- The licenses (KWD-NX2G-10) installed to the KWD-LIC-USB is NOT eligible for warranty compensaton.

SERVICE RELATED ACCESSORIES	Contract	LIST
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KPG-141DNK	Windows® Programming Software for NX-220/320 (Compliant with FCC Part 90 Narrowbanding)	\$ 82.60	103.25
KPG-22UM	USB Programming interface cable	\$ 126.80	158.50

INSTALLATION / TUNING CHARGES	Contract	LIST
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L-836	Assemble KMB-16 with six KSC-25/25L	\$ 12.00	15.00
L-961	Assemble KMB-23 with six KSC-24/25/25L/32 (Rapid Rate, 120 Volt versions only)	\$ 13.60	17.00
L-1699	NX-220/320 Programming (with basic TX/RX check)	\$ 30.00	37.50
L-1700	Install KWD-MS10 Stationary & Motion Detection Option	NC	NC
L-1835	KWD-MS10 Stationary & Motion Detection Option FIELD-UPGRADE	NC	NC
L-1812	Install Gen2 Enhanced Option in NX series radio (Must purchase KWD-NX2G-10 seperately)	\$ 20.00	25.00
L-1813	NX Series Radio Gen2 Enhanced Option FIELD-UPGRADE (Must purchase KWD-NX2G-10 seperately)	NC	NC
L-1819	Create KWD-LIC-USB and store KWD-NX2G-10 (Must purchase KWD-NX2G-10 seperately)	\$ 100.00	125.00

TYPE-D FIRMWARE/TUNING	Contract	LIST
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KWD-NXD20K	Type-D Trunking Firmware. Must order <b>L-1782</b> . <b>Note:</b> Not compatible with any other firmware. Radio does not retain <b>Type-C</b> trunking features once the Type-D Firmware is installed.	NC	NC
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L-1782	Type-D Trunking Firmware FIELD-UPGRADE. <b>Note:</b> To place an order, please complete the <b>NEXEDGE Type-D Field Upgrade Form</b> available on Kenwood Tools under Forms. Required information includes the exact model #s and serial number for each radio to be updated.	NC	NC
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KPG-176DNK	Programming Software for NX-x20 Series Type-D functions	\$ 82.60	103.25
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MPT FIRMWARE/ACCESSORIES/TUNING	Contract	LIST
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KPG-143DNK	Windows® Programming Software for NX series MPT (Compliant with FCC Part 90 Narrowbanding) (Contract Level License ID included) Note: - Must order L-1727 for Network Level License ID & programming privileges. - Gen2 Enhanced Option (KWD-NX2G-10) for MPT will be available on 3Q FY2016.	\$ 82.60	103.25
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MPT FIRMWARE/ACCESSORIES/TUNING, CON'T	Contract	LIST
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KWD-NX10MPT	MPT Trunking Field Upgrade Kit for NX series radio Must order <b>L-1729</b> <b>Note:</b> Not compatible with any other firmware options. Radio does not retain LTR trunking features once the MPT option is installed.	\$ 53.36	66.70
L-1726	Install MPT option in NX series radio	\$ 20.00	25.00
L-1727	Network Level License ID for KPG-143D(N) NX series Programmer	\$ 126.66	158.33
L-1728	Retrofit Install of MPT option in NX series radio For previously purchased NX series radios. Order L-1728 through LMR order desk/rep. Ship radios to attn: Kenwood LMR Tuning, Long Beach for installation. Include Kenwood order number for L-1728 provided by order desk & copy of company P.O. or P.O. number. <b>Note:</b> see NX series MPT Introduction Sales Bulletin for details	\$ 68.00	85.00
L-1729	NX Series Radio MPT Firmware FIELD-UPGRADE (Must purchase KWD-NX10MPT separately)	NC	NC
L-1730	Install KCT-57MS (for MPT Emergency Call)	\$ 16.00	20.00
L-1732	Configure NX-220/320 for Intrinsically Safe	\$ 56.00	70.00

# NX-220/320

## NXDN Type-D Packages


**All 20 series NX portables include:**

- Belt Clip (KBH-12)
- 2-PIN Connector Cap
- Instruction Manual
- Premium Warranty: 3 Years\*

\* All Accessories / options: 1 Year

*Order packages to include Battery, Charger & Antenna, or purchase Battery, Charger, and Antenna separately.*

**STANDARD**
**GENERAL FEATURES**

- 5 W (136-174 MHz) Models
- 5 W (400-470, 450-520 MHz) Models
- 260 CH-GID / 128 Zones
- 64 CH-GID / 4 Zones (Non Display Version)
- 12-Key Keypad Models
- 8 Character Alphanumeric Aliases
- Backlit LCD & Keys
- Function/Status LCD Icons
- Transmit/Busy/Call Alert/Warn LED
- On/Off Volume Knob
- 16-Position Mechanical Selector
- 4 Front PF Keys
- 3 Side PF Keys
- Emergency/AUX Key
- Built-in Motion Sensor
- 500 mW Speaker Audio
- Zone/CH# Voice Announcement
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP54/55 Water & Dust Intrusion

**ANALOG MODES – GENERAL**

- 12.5 kHz Channels
- Conventional & LTR® Zones
- FleetSync®/II, MDC-1200, DTMF
- QT/DQT/Two-Tone
- (Conventional Zones Only)
- Voice Inversion Scrambler (16 Codes)

**FleetSync®/II**

- PTT ID ANI / Caller ID
- Selective / Group Call
- Emergency, Status & Text Messages

**MDC-1200**

- PTT ID ANI / Caller ID
- Emergency, Radio Check & Inhibit

**SCAN**

- Single Zone / Multi-Zone / List Scan
- Single Priority Scan (Conventional)

**DIGITAL – GENERAL**

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- Over-the-Air Alias
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- NXDN® Scrambler Included

**DIGITAL – CONVENTIONAL MODE**

- 6.25 & 12.5 kHz Channels
- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call
- Mixed FM/Digital Operation
- Conventional IP Networks
- Site Roaming

**DIGITAL – NXDN TYPE-D TRUNKING**

- 6.25 kHz Channels
- Individual Private Call
- Group Call
- Transmission Trunked Mode
- Late Entry (UID & GID)
- 4 Priority Monitor ID's

**RADIO AND NXDN TYPE-D SOFTWARE PACKAGES**

		<b>Contract</b>	<b>LIST</b>
NX-220K-TD	136-174 MHz 5W, 64 CH, Type-D	\$ 362.64	453.30
NX-220K2-TD	136-174 MHz 5W, 260 CH, 8 characters LCD, 4 PF Keys, Type-D	\$ 429.36	536.70
NX-220K3-TD	136-174 MHz 5W, 260 CH, 8 characters LCD, 4 PF Keys, Full Keypad, Type-D	\$ 469.36	586.70
NX-320K-TD	450-520 MHz 5W, 64 CH, Type-D	\$ 362.64	453.30
NX-320K2-TD	450-520 MHz 5W, 260 CH, 8 characters LCD, 4 PF Keys, Type-D	\$ 429.36	536.70
NX-320K3-TD	450-520 MHz 5W, 260 CH, 8 characters LCD, 4 PF Keys, Full Keypad, Type-D	\$ 469.36	586.70
NX-320K4-TD	400-470 MHz 5W, 64 CH, Type-D	\$ 362.64	453.30
NX-320K5-TD	400-470 MHz 5W, 260 CH, 8 characters LCD, 4 PF Keys, Type-D	\$ 429.36	536.70
NX-320K6-TD	400-470 MHz 5W, 260 CH, 8 characters LCD, 4 PF Keys, Full Keypad, Type-D	\$ 469.36	586.70

**Notes:**

1. All listed models are factory loaded with KWD-NXD20K (Firmware) and L-1781 (NXDN Type-D Installation Labor).
2. Must order KPG-176DNK, NXDN Type-D programming software, separately.
3. Radio does not operate on NXDN Type-C trunking. Do not order listed radios if you intent to use radios on Type-C trunking system.

**ANTENNAS**

		<b>Contract</b>	<b>LIST</b>
KRA-22M	VHF Low-profile helical antenna 148-162 MHz	\$ 10.96	13.70
KRA-22M2	VHF Low-profile helical antenna 162-174 MHz	\$ 10.96	13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$ 10.96	13.70
KRA-23M	UHF Low-profile helical antenna 450-490 MHz	\$ 10.96	13.70
KRA-23M2	UHF Low-profile helical antenna 470-512 MHz	\$ 10.96	13.70
KRA-23M3	UHF Low-profile helical antenna 403-430 MHz	\$ 10.96	13.70
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	14.00

**ANTENNAS, CON'T**

		<b>Contract</b>	<b>LIST</b>
KRA-27M	UHF whip antenna 440-490 MHz	\$ 11.20	14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$ 11.20	14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$ 11.20	14.00

<b>BATTERIES AND CHARGERS</b>		<b>Contract</b>	<b>LIST</b>
KBP-5	AA Alkaline Refillable Battery Pack (6 AA; 9V) cells not included	\$ 39.20	49.00
KNB-68LC	2000 mAh, Li-ion battery - requires KSC-25SK/25LSK/256K charger [Intrinsically Safe Option]	\$ 89.60	112.00
KNB-55L	1480 mAh, Li-ion battery - requires KSC-25SK/25LSK/256K charger	\$ 48.00	60.00
KNB-56N	1400 mAh, Ni-MH battery	\$ 52.00	65.00
KNB-57L	2000 mAh, Li-ion battery - requires KSC-25SK/25LSK/256K charger	\$ 78.40	98.00
KSC-25LSK	100~240 volt rapid rate single unit charger for KNB-40LC(V)/55L/57L/68LC Li-ion Battery	\$ 38.64	48.30
KSC-25SK	110 volt Rapid rate single unit charger for KNB-26N/40LC(V)/55L/56N/57L/68LC	\$ 49.60	62.00
KSC-256K	Rapid rate 6-Unit charger for KNB-25A/26N/35L/40LC(V)/55L/56N/57L/68LC	\$ 504.00	630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	33.75
KMB-16	Six Unit Charger Adapter for the KSC-16/20/24/25/25L chargers (chargers not included)	\$ 138.40	173.00
KMB-23	Six Unit Charger Adapter for the KSC-16/20/24/25/25L/32 chargers (chargers not included)	\$ 152.80	191.00
KVC-4	Vehicular charger adapter for the KSC-16/18/20/24/25 chargers (chargers not included)	\$ 67.20	84.00
KVC-23	Rapid rate DC vehicular charger for TK-5x10/5x20, NX-5x00/NX-3x00/x00/x10/x20, TK-x180, TK-x170, & TK-x360 portables with Lithium Ion /Lithium Polymer/NiMH packs only.	\$ 240.00	300.00
<b>CARRYING ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KBH-12	Spring action belt clip	\$ 6.68	8.35
KBH-13DS	Leather swivel belt loop with portable D-Ring attachment	\$ 23.08	28.85
KLH-179K	Heavy-Duty Leather Case w/Swivel Belt Loop for NX-220K/320K/K4 (Non Display)	\$ 39.20	49.00
KLH-179K2	Heavy-Duty Leather Case w/Swivel Belt Loop for NX-220K2/320K2/K5 (Display)	\$ 39.20	49.00
KLH-179K3	Heavy-Duty Leather Case w/Swivel Belt Loop for NX-220K3/320K3/K6 (Full Keypad)	\$ 39.20	49.00
KLH-180K	Nylon carrying case for NX-220K/320K/K4 (Non Display)	\$ 21.04	26.30
KLH-180K2	Nylon carrying case for NX-220K2/320K2/K5 (Display)	\$ 21.04	26.30
KLH-180K3	Nylon carrying case for NX-220K3/320K3/K6 (Full Keypad)	\$ 21.04	26.30
<b>MICROPHONES &amp; AUDIO ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KMC-48GPS	GPS Speaker Microphone [Intrinsically Safe Approval Accessory]	\$ 212.00	265.00
KMC-45D	MIL-SPEC, IP54/55 Speaker microphone (Built-in 2.5mm miniature earphone jack) [Intrinsically Safe Approval Accessory]	\$ 68.80	86.00
KMC-21	Compact speaker microphone [Intrinsically Safe Approval Accessory]	\$ 41.20	51.50
KEP-2	2.5mm earphone kit for KMC-17/45 Speaker Mic [Intrinsically Safe Approval Accessory]	\$ 42.00	52.50
KHS-7	Single muff headset w/boom mic [Intrinsically Safe Approval Accessory]	\$ 56.00	70.00
KHS-7A	Lt. Wt Single muff headset w/boom mic & in-line PTT [Intrinsically Safe Approval Accessory]	\$ 84.00	105.00
KHS-8BL	Two-Wire palm mic w/earphone (black)	\$ 82.60	103.25
KHS-9BL	Three-Wire lapel mic w/earphone (black)	\$ 132.80	166.00
KHS-10D-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approval Accessory]	\$ 294.40	368.00
KHS-10D-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approval Accessory]	\$ 268.80	336.00
KHS-22	Behind-the-Head Headset with flexible boom mic and in-line PTT single ear receiver (low profile wire head band)	\$ 32.80	41.00
KHS-26	Clip Mic w/earphone	\$ 22.40	28.00
<b>MICROPHONES &amp; AUDIO ACCESSORIES, CONT'</b>		<b>Contract</b>	<b>LIST</b>
KHS-27A	D-Ring Ear Hanger w/PTT & Mic	\$ 19.60	24.50
KHS-31C	C-Ring Ear Hanger w/PTT & Mic	\$ 24.00	30.00
<b>SOFTWARE &amp; USB OPTIONS</b>		<b>Contract</b>	<b>LIST</b>
KWD-MS10	Stationary & Motion Detection Must Order <b>L-1700</b> or <b>L-1835</b> to activate this feature.	\$ 48.00	60.00
KWD-NX2G-10	Gen2 Enhanced Option for NX-*00/*10/*11/*20 Portables & Mobiles Must order <b>L-1812</b> for factory installation, or <b>L-1813</b> for field-upgrade option.	\$ 13.60	17.00

KWD-LIC-USB	USB Hardware Key for activating KWD-NX2G-10 options to NX-*00/*10/*11/*20 series without ESN. KWD-LIC-USB stores KWD-NX2G-10 options which are purchased separately and includes KPG-97USB software for activating radios.	N/C	N/C
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Note:

- Must order L-1819.
- Must purchase KWD-NX2G-10 separately.
- KWD-LIC-USB Request Form that can be downloaded from Contract Tools is required to order.
- KWD-LIC-USB cannot be rechargeable. Must purchase it per every orders.
- KWD-LIC-USB can store up to 50,000 KWD-NX2G-10 Gen2 Upgrade Options.
- The licenses (KWD-NX2G-10) installed to the KWD-LIC-USB is NOT eligible for warranty compensaton.

SERVICE RELATED ACCESSORIES		Contract	LIST
KPG-176DNK	Programming Software for NX-x20 Series Type-D functions	\$ 82.60	103.25
KPG-22UM	USB Programming interface cable	\$ 126.80	158.50

INSTALLATION / TUNING CHARGES		Contract	LIST
L-836	Assemble KMB-16 with six KSC-25/25L	\$ 12.00	15.00
L-961	Assemble KMB-23 with six KSC-24/25/25L/32 (Rapid Rate, 120 Volt versions only)	\$ 13.60	17.00
L-1699	NX-220/320 Programming (with basic TX/RX check)	\$ 30.00	37.50
L-1700	Install KWD-MS10 Stationary & Motion Detection Option	NC	NC
L-1835	KWD-MS10 Stationary & Motion Detection Option FIELD-UPGRADE	NC	NC
L-1812	Install Gen2 Enhanced Option in NX series radio (Must purchase KWD-NX2G-10 separately)	\$ 20.00	25.00
L-1813	NX Series Radio Gen2 Enhanced Option FIELD-UPGRADE (Must purchase KWD-NX2G-10 separately)	NC	NC
L-1819	Create KWD-LIC-USB and store KWD-NX2G-10 (Must purchase KWD-NX2G-10 separately)	\$ 100.00	125.00

TYPE-D FIRMWARE/TUNING		Contract	LIST
KWD-NXD20K	Type-D Trunking Firmware. Must order <u>L-1782</u> . <b>Note:</b> Not compatible with any other firmware. Radio does not retain <b>Type-C</b> trunking features once the Type-D Firmware is installed.	NC	NC

L-1782	Type-D Trunking Firmware FIELD-UPGRADE. <b>Note:</b> To place an order, please complete the <b>NEXEDGE Type-D Field Upgrade Form</b> available on Kenwood Tools under Forms. Required information includes the exact model #s and serial number for each radio to be updated.	NC	NC
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**410 portable includes:**

- Belt Clip (KBH-11)
- Universal Connector Cap
- Instruction Manual
- Premium Warranty: 3 Years\*

\* All Accessories / options: 1 Year

Order packages to include Battery, Charger & Antenna, or purchase Battery, Charger, and Antenna separately.

\* Approved by CSA International Inc. for Classes I, II & III, Div. 1, Groups C, D, E, F, G and are also approved for non-incendive use in Class I, Div. 2, Groups A, B, C, D hazardous locations.

**Note:** Class I, Div 2 Group A & B Gases require use of a portable carrying case.

**STANDARD****GENERAL FEATURES**

- 3.0 W (806-870 MHz) Model
- 2.5 W (896-941 MHz) Model
- 512 CH-GID / 128 Zones
- 12-Key Keypad
- 14 Character Alphanumeric Aliases
- Backlit Dot Matrix LCD
- Function/Status LCD Icons
- Multi-Language Display
- Date & 12/24 Hour Time Clock
- Transmit/Busy/Call Alert/Warm LED
- On/Off Volume Knob
- 6 Front PF & Menu Keys
- 2 Side PF Keys
- Emergency/AUX Key
- 500 mW Speaker Audio
- KMC-47GPS Speaker Mic Option
- KPG-111D Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP54/55 Water & Dust Intrusion
- PC Serial Interface
- SDM Manual Input
- Transparent Data Mode

**DIGITAL – GENERAL**

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill/Check
- Short & Long Data Messages
- GPS Location with Voice
- NXDN® Scrambler Included
- DES Encryption Module Option
- AES & DES Encryption Module Option
- AES/DES Software Key Loader Option

**DIGITAL – CONVENTIONAL MODE**

- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call
- Mixed FM/Digital Operation
- Conventional IP Networks
- Site Roaming

**DIGITAL – TRUNKING MODE**

- Individual Private Call
- Group Call & Broadcast Call
- Transmission Trunked Mode
- Message Trunked Mode
- Call Queuing with Priority
- Late Entry (UID & GID)
- 4 Priority Monitor ID's
- Remote Group Add
- System Auto Select

**DIGITAL - MULTI-SITE IP NETWORKS**NEXEDGE Generation1 System

- 48site Trunked IP Network
- Auto Roaming Registration
- Group Registration

NEXEDGE Generation1 System Bridge

- 8 Trunked Networks per radio (each in a zone)
- UID Lists for each network

NEXEDGE Generation2 System (option)

- 1,152 sites Wide Area System
- Direct Frequency Assignment

**SCAN**

- Single Zone / Multi-Zone / List Scan
- Dual Priority Scan (Conventional)

**ANALOG MODES – GENERAL**

- 25\*\* & 12.5 kHz Channels
- NPSPAC Channels\*\*
- Conventional & LTR® Zones
- FleetSync®/II, MDC-1200, DTMF
- QT / DQT (Conventional Zones Only)
- Voice Inversion Scrambler
- Analog Scrambler Board Capability

**MPT ZONES (option)**

- Single-Site Trunking
- Multi-Site Network Trunking
- 8 Network Capacity
- Network Roaming / Registration

**FleetSync®/II**

- PTT ID ANI / Caller ID
- Selective / Group Call
- Emergency, Status & Text Messages

**MDC-1200**

- PTT ID ANI / Caller ID
- Emergency, Radio Check & Inhibit

\*\* 800 MHz model only.1

RADIO		Contract	LIST
NX-410K2	806-870MHz 3W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad	\$ 680.00	850.00
NX-411K2	896-941MHz 2.5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad	\$ 680.00	850.00
CSA APPROVED I.S. MODEL		Contract	LIST
Must Order L-1750 & an Intrinsically Safe Battery per radio			
NX-410-ISK2	806-870MHz 3W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Key (I.S.)	\$ 680.00	850.00
NX-411-ISK2	896-941MHz 2.5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Key (I.S.)	\$ 680.00	850.00
PACKAGE		Contract	LIST
NX-410K2-LKP	806-870MHz 3W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad Li-Ion Battery Package (NX-410K2 + KNB-33L + KSC-32 + KBH-11 + KRA-38K)	\$ 848.00	1,060.00
NX-411K2-LKP	896-941MHz 2.5W, 14 characters Alphanumeric LCD, 6 Control Keys, Full Keypad Li-Ion Battery Package (NX-411K2 + KNB-33L + KSC-32 + KBH-11 + KRA-38K)	\$ 848.00	1,060.00



ANTENNAS		Contract	LIST
KRA-32K	700/800 MHz Whip Antenna	\$ 28.00	35.00
KRA-36	700/800 MHz Stubby Antenna	\$ 20.00	25.00
KRA-38K	800/900 MHz Whip Antenna	\$ 28.00	35.00
KRA-39	900 MHz Stubby Antenna	\$ 20.00	25.00

BATTERIES AND CHARGERS		Contract	LIST
KNB-54N	2500 mAh, Ni-MH battery - requires KSC-32/326K charger	\$ 70.00	87.50
KNB-33L	2000 mAh, Li-ion battery - requires KSC-32/326K charger	\$ 84.00	105.00
KNB-41NC	2500 mAh, Ni-MH battery - requires KSC-32/326K charger [FM & CSA-us ntrinsically Safe Option]	\$ 109.20	136.50
KNB-73LCM	2000 mAh, Li-ion battery - requires KSC-32/326K charger [CSA-us ntrinsically Safe Option]	\$ 111.20	139.00
KNB-43L	3300 mAh, Li-Polymer battery - requires KSC-32/326K charger	\$ 130.40	163.00
KBP-6	AA Alkaline Refillable Battery Pack (6 AA; 9V) cells not included <b>Note:</b> the color of the case is orange.	\$ 54.80	68.50
KSC-32	Rapid rate single unit charger for KNB-31A/32N/33L/41NC/43L/47L/48L/50NC <b>Note:</b> Includes 110/220V auto-switching AC adapter with U.S.-style line cord plug; requires plug adapter for 220V Euro-style outlets (not supplied).	\$ 56.00	70.00
KSC-326K	Rapid rate 6-unit charger for KNB-31A/32N/33L/41NC/43L/47L/48L/50NC	\$ 504.00	630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	33.75
KMB-23	Six Unit Charger Adapter for the KSC-16/20/24/25/25L/32 chargers (chargers not included)	\$ 152.80	191.00
KVC-15	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC-mobile bracket & cigarette lighter cable DC adapter)	\$ 95.20	119.00
KVC-23	Rapid rate DC vehicular charger for TK-5x10/5x20, NX-5x00/x00/x10/x20, TK- x180, TK-x170, & TK-x360 portables with Lithium Ion /Lithium Polymer/NiMH packs only	\$ 240.00	300.00

CARRYING ACCESSORIES		Contract	LIST
KBH-10	Low profile spring action belt clip (for use with KNB-33L Only)	\$ 6.68	8.35
KBH-11	Spring action belt clip (2.5")	\$ 11.76	14.70
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$ 21.04	26.30
KLH-6SW	Leather swivel belt loop / detachable swivel D-Ring back	\$ 17.60	22.00
KLH-137ST	Firemen's Heavy-Duty Leather Shoulder Strap for a Heavy-Duty Leather Case (KLH-75B/76B/78B/79B//92/122/123/133/148/154)	\$ 29.40	36.75
KLH-154K2	Heavy duty leather carrying case for NX-210K2/410K2/411K2 <b>Note:</b> No belt loop flap is included. Must order KLH-6SW for belt loop.	\$ 35.40	44.25

MICROPHONES & AUDIO ACCESSORIES		Contract	LIST
KMC-51DM	MIL-SPEC, IP54/55 DSP Digital Noise-canceling Speaker Mic <b>[see note 1]</b> [Intrinsically Safe Approved Accessory] * CSA Intrinsically Safe Approved except for Group C gases	\$ 200.00	250.00
KMC-52WDM	MIL-SPEC, IP67 (Immersion) DSP Digital Noise-canceling Speaker Mic <b>[see note 1]</b> <b>Note:</b> Radio does not have an IP67 Immersion option; meets MIL STD810 rain standards [Intrinsically Safe Approved Accessory] * CSA Intrinsically Safe Approved except for Group C gases	\$ 240.00	300.00
<b>[Note 1]:</b> To adjust microphone settings different from factory default, download KPG-147NC configuration software and special configuration firmware from Kenwood Tools (no charge).			
KMC-47GPSD	GPS Speaker Microphone [Intrinsically Safe Approved Accessory] * CSA Intrinsically Safe Approved except for Group C gases	\$ 232.00	290.00
KMC-40	MIL-SPEC, Speaker Mic. with Antenna Connector [Intrinsically Safe Approved Accessory] <b>Note:</b> 5/16" Coax cable hex wrench included (antenna is not included).	\$ 200.00	250.00
KMC-41M	MIL-SPEC, IP54/55 Noise-canceling Speaker Mic [Intrinsically Safe Approved Accessory]	\$ 77.20	96.50
KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic [Intrinsically Safe Approved Accessory] <b>Note:</b> Radio does not have an IP67 Immersion option; meets MIL STD810 rain standards	\$ 91.20	114.00



KEP-1	3.5mm earphone kit for KMC-25/26/41M/42WM Speaker Mics [Intrinsically Safe Approved Accessory]	\$ 42.00	52.50
<b>MICROPHONES &amp; AUDIO ACCESSORIES - CON'T</b>		<b>Contract</b>	<b>LIST</b>
KCT-51	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector) [Intrinsically Safe Approved Accessory]	\$ 172.00	215.00
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black) [Intrinsically Safe Approved Accessory]	\$ 125.20	156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black) [Intrinsically Safe Approved Accessory]	\$ 147.20	184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT [Intrinsically Safe Approved Accessory]	\$ 100.80	126.00
KHS-15D-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approved Accessory]	\$ 336.00	420.00
KHS-15D-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approved Accessory]	\$ 294.40	368.00
<b>SOFTWARE OPTIONS</b>		<b>Contract</b>	<b>LIST</b>
KPG-150AP	NEXEDGE OTAP Manager Windows Software. • License Includes 10 radios / 1 Serial Port* • To add more radios/serial ports, you must contact Kenwood Systems Division [1-800-TRUNKING] <b>Note:</b> NEXEDGE Type-D Trunking and DMR not supported.	\$ 440.00	550.00
KPG-AE1K	AES/DES Encryption Software Key Loader for KWD-AE31K Authentication by KPT-300LMC is required Note: KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A).	\$ 420.00	525.00
KPG-DE1K	DES Encryption Software Key Loader for KWD-AE31K Authentication by KPT-300LMC is required Note: KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D992A.1).	\$ 294.40	368.00
KWD-NX2G-10	Gen2 Enhanced Option for NX-*00/*10/*11/*20 Portables & Mobiles <b>Must order L-1812 for factory installation, or L-1813 for field-upgrade option</b> Note: <b>MPT</b> Firmware and FPU do <b>NOT</b> compatible. MPTs will be available on <b>3Q FY2016</b> .	\$ 13.60	17.00
KWD-LIC-USB	USB Hardware Key for activating KWD-NX2G-10 options to NX-*00/*10/*11/*20 series without ESN. KWD-LIC-USB stores KWD-NX2G-10 options which are purchased seperately and includes KPG-97USB software for activating radios.  Note: - Must order L-1819. - Must purchase KWD-NX2G-10 seperately. - KWD-LIC-USB Request Form that can be downloaded from Contract Tools is required to order. - KWD-LIC-USB cannot be rechargeable. Must purchase it per every orders. - KWD-LIC-USB can store up to 50,000 KWD-NX2G-10 Gen2 Upgrade Options. - The licenses (KWD-NX2G-10) installed to the KWD-LIC-USB is NOT eligible for warranty compensaton.	N/C	N/C
<b>OPTION MODULES</b>		<b>Contract</b>	<b>LIST</b>
KWD-AE30K	AES FIPS140-2 & DES Encryption Module (Multi-Key) Order a Labor Code L-1832 if installation is required. KWD-AE30K requires: a Motorola KVL3000 Plus/4000 key loader device. KWD-AE30K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1). [Intrinsically Safe Option]- Must be Kenwood installed for I.S.	\$ 680.00	850.00
KWD-AE31K	AES & DES Encryption Module (Multi-Key) Order a Labor Code L-1833 if installation is required. Note: Requires KPG-AE1/DE1 software key loader or Motorola KVL3000 Plus/4000 key loader device. KWD-AE31K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1) [Intrinsically Safe Option]- Must be Kenwood installed for I.S.	\$ 440.00	550.00
KCT-48VU	External Vibration Unit [Intrinsically Safe Approved Accessory] <b>Note:</b> Audio accessories cannot be used when this option installed.	\$ 56.00	70.00
KCT-57MS	Man-Down Internal Tilt Switch (Non-Mercury) [Intrinsically Safe Approved Accessory]- Must be Kenwood installed for I.S.	\$ 17.60	22.00
<b>SERVICE RELATED ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KPG-111DNK	Windows® Programming Software for NX-200/210/300/410/411/700/800/900/901 (Compliant with FCC Part 90 Narrowbanding)	\$ 82.60	103.25
<b>INSTALLATION / TUNING CHARGES</b>		<b>Contract</b>	<b>LIST</b>
L-961	Assemble KMB-23 with six KSC-32K's (Rapid Rate, 120 Volt version only)	\$ 13.60	17.00
L-1671	NX-210/410/411 Portable KCT-57MS Installation (for NXDN® / FleetSync®)	\$ 16.00	20.00
L-1691	NX-410/411 Programming (with basic TX/RX check)	\$ 30.00	37.50

L-1750	Configure NX-210/410/411 for Intrinsically Safe <b>Must order an I.S. battery,</b>	\$ 56.00	70.00
L-1812	Install Gen2 Enhanced Option in NX series radio (Must purchase KWD-NX2G-10 separately)	\$ 20.00	25.00
L-1813	NX Series Radio Gen2 Enhanced Option FIELD-UPGRADE (Must purchase KWD-NX2G-10 separately)	NC	NC
L-1819	Create KWD-LIC-USB and store KWD-NX2G-10 (Must purchase KWD-NX2G-10 separately)	\$ 100.00	125.00
L-1832	Install KWD-AE30K in NX-210G/410/411 series Portable (Must purchase module separately)	\$ 60.00	75.00
L-1833	Install KWD-AE31K in NX-210G/410/411 series Portable (Must purchase module separately)	\$ 60.00	75.00
<b>MPT FIRMWARE/ACCESSORIES/TUNING</b>		<b>Contract</b>	<b>LIST</b>
KPG-143DNK	Windows® Programming Software for NX series MPT (Compliant with FCC Part 90 Narrowbanding) (Contract Level License ID included) Note: - Must order L-1727 for Network Level License ID & programming privileges. - Gen2 Enhanced Option (KWD-NX2G-10) for MPT will be available on 3Q FY2016.	\$ 82.60	103.25
KWD-NX10MPT	MPT Trunking Field Upgrade Kit for NX series radio Must order <b>L-1729</b> <b>Note:</b> Not compatible with any other firmware options. Radio does not retain LTR trunking features once the MPT option is installed.	\$ 53.36	66.70
L-1726	Install MPT option in NX series radio	\$ 20.00	25.00
L-1727	Network Level License ID for KPG-143D(N) NX series Programmer	\$ 126.66	158.33
L-1728	Retrofit Install of MPT option in NX series radio For previously purchased NX series radios. Order L-1728 through LMR order desk/rep. Ship radios to attn: Kenwood LMR Tuning, Long Beach for installation. Include Kenwood order number for L-1728 provided by order desk & copy of company P.O. or P.O. number. <b>Note:</b> see NX series MPT Introduction Sales Bulletin for details.	\$ 68.00	85.00
L-1729	NX Series Radio MPT Firmware FIELD-UPGRADE (Must purchase KWD-NX10MPT separately)	NC	NC
L-1730	Install KCT-57MS (for MPT Emergency Call)	\$ 16.00	20.00

-- IMPORTANT NOTES --

Encryption modules, key loaders and radios containing encryption are export controlled by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export license to most countries. See [www.bis.gov](http://www.bis.gov) for more information regarding export regulations. DO NOT SHIP encryption items outside the U.S. without proper DOC/BIS Export Licenses and/or compliances.

Kenwood may request the following information to be submitted at time of order (this information must meet Kenwood internal approvals prior to shipment even if being returned to Kenwood later:

a) Initial Destination: Initial delivery point if different from Ultimate Destination  
(customer distribution center, headquarters, Contractship, manufacturer's representative)

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

b) Ultimate Destination: Final delivery point(s); deployment/distribution

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

c) Intended Use of Radios: Law enforcement, security, operations, etc.

KWD-AE30 AES FIPS140-2 SCM , NIST Validation & Customer Shipping

A secure delivery method direct to the end user customer is required by the NIST AES FIPS 140-2 validation rules. For U.S. Federal Government entities the SCM must ship from JVCKENWOOD USA Corporation directly to the end user customer by a trusted carrier (FEDEX, UPS or a designated JVCKENWOOD USA Corporation employee); shipping/handling by a Contract or other entity is not acceptable. This may or may not be required by local/state government agencies or business/industrial users. Please check with the end use customer about their AES encryption handling requirements before ordering. Kenwood will not be responsible for shipments of KWD-AE30K modules to erroneous destinations specified on an order.

**All 420 series NX portables include:**

- Belt Clip (KBH-12)
- Antenna (KRA-38K)
- 2-PIN Connector Cap
- Instruction Manual
- Premium Warranty: 3 Years\*

\* All Accessories / options: 1 Year

Order packages to include Battery, & Charger, or purchase Battery, & Charger separately.

--- Must Order **L-1732** for Intrinsically Safe Option ---

\* Approved for Classes I, II & III, Div. 1, Groups C, D, E, F, G and are also approved for non-Incendive use in Classes I, II & III Div. 2, Groups A, B, C, D, F, G hazardous locations.

**STANDARD****GENERAL FEATURES**

- 3.0 W (806 - 870 MHz)
- 260 CH-GID / 128 Zones
- 4 Front PF Keys, 12-Key Keypad
- 8 Character Alphanumeric Aliases
- Backlit LCD & Keys
- Function / Status LCD Icons
- Transmit / Busy / Call Alert / Warn LED
- On / Off Volume Knob
- 16-Position Selector
- 3 Side PF Keys
- Emergency / AUX Key
- Built-in Motion Sensor
- 500 mW Speaker Audio
- Zone / CH# Voice Announcement
- KMC-48GPS Speaker Mic Option
- KPG-141D/DN Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP54/55 Dust & Water Intrusion
- PC Serial Interface
- SDM Manual Input
- Transparent Data Mode

**DIGITAL – GENERAL**

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun / Kill/Check
- Short & Long Data Messages
- GPS Location with Voice
- NXDN® Scrambler Included

**DIGITAL – CONVENTIONAL MODE**

- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call
- Mixed FM / Digital Operation
- Conventional IP Networks
- Site Roaming

**DIGITAL – TRUNKING MODE**

- Individual Private Call
- Group Call & Broadcast Call
- Telephone Interconnect
- Transmission Trunked Mode
- Message Trunked Mode
- Call Queuing with Priority
- Late Entry (UID & GID)
- 4 Priority Monitor ID's
- Remote Re-Grouping
- System Auto Select

**DIGITAL - MULTI-SITE IP NETWORKS****NEXEDGE Generation1 System**

- 48site Trunked IP Network
- Auto Roaming Registration
- Group Registration

**NEXEDGE Generation1 System Bridge**

- 8 Trunked Networks per radio (each in a zone)
- UID Lists for each network

**NEXEDGE Generation2 System (option)**

- 1,152 sites Wide Area System
- Direct Frequency Assignment

**SCAN**

- Single Zone / Multi-Zone / List Scan
- Single Priority Scan (Conventional)

**ANALOG MODES – GENERAL**

- 25 & 12.5 kHz Channels
- NPSPAC Channels
- Conventional & LTR® Zones
- FleetSync® / II, MDC-1200, DTMF
- QT / DQT (Conventional Zones only)
- Voice Inversion Scrambler (16 Codes)

**MPT ZONES (option)**

- Single-Site Trunking
- Multi-Site Network Trunking
- 8 Network Capacity
- Network Roaming / Registration

**FleetSync®/II**

- PTT ID ANI / Caller ID
- Selective / Group Call
- Emergency, Status & Text Messages

**MDC-1200**

- PTT ID ANI / Caller ID
- Emergency, Radio Check & Inhibit

RADIO		Contract	LIST
NX-420K3	806 - 870 MHz 3W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys, Full Keypad	\$ 440.00	550.00
Li-ion VALUE PACKAGES		Contract	LIST
NX-420K3-SLKVP	Li-ion Value Pack (NX-420K3 + KNB-55L + KSC-25LSK)	\$ 526.64	658.30
NX-420K3-LKVP	Hi-Cap Li-ion Value Pack (NX-420K3 + KNB-57L + KSC-25LSK)	\$ 557.04	696.30
PACKAGES		Contract	LIST
NX-420K3-SLKP	Standard Slim Package (NX-420K3 + KNB-55L + KSC-25SK)	\$ 537.60	672.00
NX-420K3-LKP	Premium Package (NX-420K3 + KNB-57L + KSC-25SK)	\$ 568.00	710.00
SGS US I.S. APPROVED MODELS		Contract	LIST
Must Order L-1732 & an Intrinsically Safe Battery per radio			
NX-420-ISK3	806 - 870 MHz 3W, 260 CH, 8 characters Alphanumeric LCD, 4 PF Keys, Full Keypad	\$ 440.00	550.00
ANTENNAS		Contract	LIST
KRA-24M	800 MHz Whip Antenna 1/4 wave end feed	\$ 29.40	36.75

KRA-32K	700/800 MHz Whip Antenna	\$ 28.00	35.00
KRA-36	700/800 MHz Stubby Antenna	\$ 20.00	25.00
KRA-38K	800/900 MHz Whip Antenna	\$ 28.00	35.00
<b>BATTERIES AND CHARGERS</b>		<b>Contract</b>	<b>LIST</b>
KBP-5	AA Alkaline Refillable Battery Pack (6 AA; 9V) cells not included	\$ 39.20	49.00
KMB-16	Six Unit Charger Adapter for the KSC-16/20/24/25/25L chargers (chargers not included)	\$ 138.40	173.00
KMB-23	Six Unit Charger Adapter for the KSC-16/20/24/25/25L/32 chargers (chargers not included)	\$ 152.80	191.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$ 27.00	33.75
KNB-68LC	2000 mAh, Li-ion battery - requires KSC-25SK/25LSK/256K charger [Intrinsically Safe Option]	\$ 89.60	112.00
KNB-55L	1480 mAh, Li-ion battery - requires KSC-25SK/25LSK/256K charger	\$ 48.00	60.00
KNB-56N	1400 mAh, Ni-MH battery	\$ 52.00	65.00
KNB-57L	2000 mAh, Li-ion battery - requires KSC-25SK/25LSK/256K charger	\$ 78.40	98.00
KSC-25SK	110 volt Rapid rate single unit charger for KNB-26N/40LC(V)/55L/56N/57L/68LC	\$ 49.60	62.00
KSC-256K	Rapid rate 6-Unit charger for KNB-25A/26N/35L/40LC(V)/55L/56N/57L/68LC	\$ 504.00	630.00
KSC-25LSK	100~240 volt rapid rate single unit charger for KNB-40LC(V)/55L/57L/68LC Li-ion Battery	\$ 38.64	48.30
KVC-4	Vehicular charger adapter for the KSC-16/18/20/24/25 chargers (chargers not included)	\$ 67.20	84.00
KVC-23	Rapid rate DC vehicular charger for TK-5x10/5x20, NX-5x00/x00/x10/x20, TK-x180, TK-x170, & TK-x360 portables with Lithium Ion /Lithium Polymer/NiMH packs only	\$ 240.00	300.00

<b>CARRYING ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KBH-12	Spring action belt clip	\$ 6.68	8.35
KBH-13DS	Leather swivel belt loop with portable D-Ring attachment	\$ 23.08	28.85
KLH-179K3	Heavy-Duty Leather Case w/Swivel Belt Loop for NX-220K3/320K3/K6/420K3 (Full Keypad)	\$ 39.20	49.00
KLH-180K3	Nylon carrying case for NX-220K3/320K3/K6/420K3 (Full Keypad)	\$ 21.04	26.30

<b>MICROPHONES &amp; AUDIO ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KMC-48GPS	GPS Speaker Microphone [Intrinsically Safe Approval Accessory]	\$ 212.00	265.00
KMC-45D	MIL-SPEC, IP54/55 Speaker microphone (Built-in 2.5mm miniature earphone jack) [Intrinsically Safe Approval Accessory]	\$ 68.80	86.00
KMC-21	Compact speaker microphone [Intrinsically Safe Approval Accessory]	\$ 41.20	51.50
KEP-2	2.5mm earphone kit for KMC-17/45 Speaker Mic [Intrinsically Safe Approval Accessory]	\$ 42.00	52.50
KHS-7	Single muff headset w/boom mic [Intrinsically Safe Approval Accessory]	\$ 56.00	70.00
KHS-7A	Lt. Wt Single muff headset w/boom mic & in-line PTT [Intrinsically Safe Approval Accessory]	\$ 84.00	105.00
KHS-8BL	Two-Wire palm mic w/earphone (black)	\$ 82.60	103.25
KHS-9BL	Three-Wire lapel mic w/earphone (black)	\$ 132.80	166.00
KHS-10D-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approval Accessory]	\$ 294.40	368.00
KHS-10D-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & in-line PTT [Intrinsically Safe Approval Accessory]	\$ 268.80	336.00
KHS-22	Behind-the-Head Headset with flexible boom mic and in-line PTT single ear receiver (low profile wire head band)	\$ 32.80	41.00

<b>MICROPHONES &amp; AUDIO ACCESSORIES, CON'T</b>		<b>Contract</b>	<b>LIST</b>
KHS-26	Clip Mic w/earphone	\$ 22.40	28.00
KHS-27A	D-Ring Ear Hanger w/PTT & Mic	\$ 19.60	24.50
KHS-31C	C-Ring Ear Hanger w/PTT & Mic	\$ 24.00	30.00

<b>SOFTWARE OPTIONS</b>		<b>Contract</b>	<b>LIST</b>
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KPG-150AP	NEXEDGE OTAP Manager Windows Software. • License Includes 10 radios / 1 Serial Port* • To add more radios/serial ports, you must contact Kenwood Systems Division [1-800-TRUNKING] <b>Note:</b> NEXEDGE Type-D Trunking and DMR not supported.	\$ 440.00	550.00
KWD-MS10	Stationary & Motion Detection Must Order <b>L-1700</b> or <b>L-1835</b> to activate this feature.	\$ 48.00	60.00
KWD-NX2G-10	Gen2 Enhanced Option for NX-*00/*10/*11/*20 Portables & Mobiles Must order <b>L-1812</b> for factory installation, or <b>L-1813</b> for field-upgrade option Note: <b>MPT</b> Firmware and FPU do <b>NOT</b> compatible. MPTs will be available on <b>3Q FY2016</b> .	\$ 13.60	17.00
KWD-LIC-USB	USB Hardware Key for activating KWD-NX2G-10 options to NX-*00/*10/*11/*20 series without ESN. KWD-LIC-USB stores KWD-NX2G-10 options which are purchased seperately and includes KPG-97USB software for activating radios.  Note: - Must order L-1819. - Must purchase KWD-NX2G-10 seperately. - KWD-LIC-USB Request Form that can be downloaded from Contract Tools is required to order. - KWD-LIC-USB cannot be rechargeable. Must purchase it per every orders. - KWD-LIC-USB can store up to 50,000 KWD-NX2G-10 Gen2 Upgrade Options. - The licenses (KWD-NX2G-10) installed to the KWD-LIC-USB is NOT eligible for warranty compensaton.	N/C	N/C

SERVICE RELATED ACCESSORIES		Contract	LIST
KPG-141DNK	Windows® Programming Software for NX-220/320/420 (Compliant with FCC Part 90 Narrowbanding)	\$ 82.60	103.25
KPG-22UM	USB Programming interface cable	\$ 126.80	158.50
INSTALLATION / TUNING CHARGES		Contract	LIST
L-836	Assemble KMB-16 with six KSC-25/25L	\$ 12.00	15.00
L-961	Assemble KMB-23 with six KSC-24/25/25L/32 (Rapid Rate, 120 Volt versions only)	\$ 13.60	17.00
L-1699	NX-220/320/420 Programming (with basic TX/RX check)	\$ 30.00	37.50
L-1700	Install KWD-MS10 Stationary & Motion Detection Option	NC	NC
L-1835	KWD-MS10 Stationary & Motion Detection Option FIELD-UPGRADE	NC	NC
L-1732	Configure NX-220/320/420 for Intrinsically Safe <b>Must Order an I.S. Battery</b>	\$ 56.00	70.00
L-1812	Install Gen2 Enhanced Option in NX series radio (Must purchase KWD-NX2G-10 separately)	\$ 20.00	25.00
L-1813	NX Series Radio Gen2 Enhanced Option FIELD-UPGRADE (Must purchase KWD-NX2G-10 separately)	NC	NC
L-1819	Create KWD-LIC-USB and store KWD-NX2G-10 (Must purchase KWD-NX2G-10 separately)	\$ 100.00	125.00
MPT FIRMWARE/ACCESSORIES/TUNING		Contract	LIST
KPG-143DNK	Windows® Programming Software for NX series MPT (Compliant with FCC Part 90 Narrowbanding) (Contract Level License ID included) Note: - Must order L-1727 for Network Level License ID & programming privileges. - Gen2 Enhanced Option (KWD-NX2G-10) for MPT will be available on 3Q FY2016.	\$ 82.60	103.25
KWD-NX10MPT	MPT Trunking Field Upgrade Kit for NX series radio Must order <b>L-1729</b> <b>Note:</b> Not compatible with any other firmware options. Radio does not retain LTR trunking features once the MPT option is installed.	\$ 53.36	66.70
L-1726	Install MPT option in NX series radio	\$ 20.00	25.00
L-1727	Network Level License ID for KPG-143D(N) NX series Programmer	\$ 126.66	158.33
MPT FIRMWARE/ACCESSORIES/TUNING, CON'T		Contract	LIST
L-1728	Retrofit Install of MPT option in NX series radio For previously purchased NX series radios. Order L-1728 through LMR order desk/rep. Ship radios to attn: Kenwood LMR Tuning, Long Beach for installation. Include Kenwood order number for L-1728 provided by order desk & copy of company P.O. or P.O. number. <b>Note:</b> see NX series MPT Introduction Sales Bulletin for details	\$ 68.00	85.00
L-1729	NX Series Radio MPT Firmware FIELD-UPGRADE (Must purchase KWD-NX10MPT separately)	NC	NC
L-1730	Install KCT-57MS (for MPT Emergency Call)	\$ 16.00	20.00

**NX-240V/340U**

VHF/UHF Digital &amp; FM Analog Portable Radios

**All 40 series NX portables include:**

- Li-ion Battery (KNB-45L)
- Fast Charger (KSC-35SK)
- Antenna [KRA-26M(VHF)/27M(UHF)]
- Belt Clip (KBH-10)
- 2-PIN Connector Cap
- Instruction Manual
- Premium Warranty: 3 Years\*

\* All Accessories / options: 1 Year

**STANDARD****GENERAL FEATURES**

- 5 W (136-174 MHz) VHF
- 5 W (450-520, 400-470 MHz) UHF
- Max. 16 CH per Zone
- 2 Conventional Zones
- Transmit / Busy / Call Alert / Scan / Warn LED
- 4-Color LED (Blue/Red/Green/Orange)
- On/Off Volume Knob
- 2 PF Keys
- 1.0 W Speaker Audio
- 16-Position Mechanical Selector
- Zone / CH# Voice Announcement
- KMC-48GPS Speaker Mic Option
- VOX Ready
- Emergency Call Features
- Lone Worker Alert (per CH)
- Time Out Timer
- Busy Channel Lockout
- Low Battery Warning
- Battery Saver
- KPG-170D Windows FPU
- Wireless Cloning
- Password Protected
- MIL-STD-810 C/D/E/F/G
- IP-54/55 Water & Dust Intrusion

**GENERAL FEATURES**

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias (TX Only)
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill
- Remote Check
- GPS Location with Voice
- NXDN® Scrambler Included

**DIGITAL – CONVENTIONAL MODE**

- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call
- Site Roaming

**DIGITAL – TYPE-D TRUNKING MODE \***

- Individual Call
- Group Call & All Group Call
- Emergency Call
- Paging Call
- Transmission Trunked Mode
- Late Entry
- ESN Validation
- Status Messaging

\* Hardware Version 2.0 can be available.**SCAN**

- Single Zone Scan
- Single Priority Scan (Conventional)

**ANALOG MODES – GENERAL**

- 12.5 kHz Channels
- Conventional Zones
- FleetSync®/II, MDC-1200, DTMF
- QT/DQT/Two-Tone (Conv. Zones Only)
- Voice Inversion Scrambler (16 Codes)

**FleetSync®/II**

- PTT ID ANI
- Selective / Group Call
- Paging Call
- Emergency Status
- Send GPS Data

**MDC-1200**

- PTT ID ANI / Caller ID
- Emergency, Radio Check & Inhibit

<b>RADIO</b>		<b>Contract</b>	<b>LIST</b>
NX-240VK	136-174 MHz VHF 5W, 16 Ch / 2 Zones	\$ 282.00	352.50
NX-340UK	450-520 MHz UHF 5W, 16 Ch / 2 Zones	\$ 294.00	367.50
NX-340UK2	400-470 MHz UHF 5W, 16 Ch / 2 Zones	\$ 294.00	367.50

<b>ANTENNAS</b>		<b>Contract</b>	<b>LIST</b>
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	14.00
KRA-27M	UHF whip antenna 440-490 MHz	\$ 11.20	14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$ 11.20	14.00
KRA-27M3	UHF whip antenna 403-430 MHz	\$ 11.20	14.00
KRA-41M	VHF stubby antenna 148-162 MHz	\$ 10.96	13.70



KRA-41M2	VHF stubby antenna 162-174 MHz	\$ 10.96	13.70
KRA-41M3	VHF stubby antenna 136-150 MHz	\$ 10.96	13.70
KRA-42M	UHF stubby antenna 440-490 MHz	\$ 10.96	13.70
KRA-42M2	UHF stubby antenna 470-520 MHz	\$ 10.96	13.70
KRA-42M3	UHF stubby antenna 403-430 MHz	\$ 10.96	13.70
KRA-22M	VHF low profile antenna 148-162 MHz	\$ 10.96	13.70
KRA-22M2	VHF low profile antenna 162-174 MHz	\$ 10.96	13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$ 10.96	13.70

ANTENNAS, CON'T		Contract	LIST
KRA-23M	UHF low profile antenna 450-490 MHz	\$ 10.96	13.70
KRA-23M2	UHF low profile antenna 470-520 MHz	\$ 10.96	13.70
KRA-23M3	UHF low profile antenna 403-430 MHz	\$ 10.96	13.70

BATTERIES AND CHARGERS		Contract	LIST
KMB-28AK	Six Unit Charger Adapter for the KSC-35SK chargers (chargers not included) <b>Note:</b> The six KSC-xx AC wall Adapters are NOT used in the KMB-28 installation A supplied in-line AC-DC switching power supply with six DC plugs supply the six installed KSC-xx charger bases. This unit is lower profile and less weight than similar Kenwood six unit charger adapters.	\$ 166.80	208.50
KNB-45L	2000 mAh, Li-ion battery - requires KSC-35K/SK charger	\$ 50.40	63.00
KNB-69L	2550 mAh, Li-ion battery - requires KSC-35K/SK charger	\$ 60.00	75.00
KNB-29N	1500 mAh, NiMH battery - requires KSC-43K charger	\$ 29.40	36.75
KSC-35SK	110~220 volt Fast rate single unit charger for KNB-45L/69L	\$ 25.20	31.50
KSC-43K	110~220 volt Fast rate single unit charger for KNB-29N/45L/69L	\$ 29.36	36.70
KVC-22	110~220 volt Fast rate DC vehicular charger adapter for KSC-35SK charger & KNB-45L Li-ion battery (charger not included)	\$ 29.36	36.70

CARRYING ACCESSORIES		Contract	LIST
KBH-10	Spring action belt clip	\$ 6.68	8.35
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$ 21.04	26.30
KLH-187	Nylon case for TK-*200/*202/*300/*302/*400/*402, NX-x40, TK-Dx40 Series	\$ 11.76	14.70

MICROPHONES & AUDIO ACCESSORIES		Contract	LIST
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KMC-45D	MIL-SPEC, IP54/55 Speaker microphone (Built-in 2.5mm miniature earphone jack)	\$ 68.80	86.00
KMC-48GPS	GPS Speaker Microphone	\$ 212.00	265.00
KEP-1	3.5mm earphone kit for KMC-48GPS Speaker Mics	\$ 42.00	52.50
KEP-2	2.5mm earphone kit for KMC-17/45 Speaker Mic	\$ 42.00	52.50
KMC-21	Compact speaker microphone	\$ 41.20	51.50
KHS-10D-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & in-line PTT	\$ 294.40	368.00
KHS-10D-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & in-line PTT	\$ 268.80	336.00
KHS-7	Single muff headset w/boom mic	\$ 56.00	70.00
KHS-7A	Lt. Wt Single muff headset w/boom mic & in-line PTT	\$ 84.00	105.00
KHS-8BL	Two-Wire palm mic w/earphone (black)	\$ 82.60	103.25
KHS-9BL	Three-Wire lapel mic w/earphone (black)	\$ 132.80	166.00
KHS-22	Behind-the-Head Headset with flexible boom mic and in-line PTT single ear receiver (low profile wire head band)	\$ 32.80	41.00
KHS-26	Clip Mic w/earphone	\$ 22.40	28.00
KHS-27A	D-Ring Ear Hanger w/PTT & Mic	\$ 19.60	24.50
KHS-31C	C-Ring Ear Hanger w/PTT & Mic	\$ 24.00	30.00

SERVICE RELATED ACCESSORIES		Contract	LIST
KPG-170DK	Windows® Programming Software for NX-240V/340U (Compliant with FCC Part 90 Narrowbanding)	\$ 82.60	103.25
KPG-22UM	USB Programming interface cable	\$ 126.80	158.50

<b>TYPE-D TRUNKING ACTIVATION/TUNING</b>		<b>Contract</b>	<b>LIST</b>
KWD-NXD40K	Type-D Trunking Option. Must order <b>L-1800</b> or <b>L-1801</b> . <b>Note:</b> Compatible with firmware version 3.00 or later. Only Hardware <b>Version 2.0</b> can be available.	\$ 8.00	10.00
L-1800	Factory Activation of Type-D Trunking Option.	NC	NC
<b>TYPE-D TRUNKING ACTIVATION/TUNING, CON'T</b>		<b>Contract</b>	<b>LIST</b>
L-1801	Type-D Trunking Option FIELD-UPGRADE. To place an order, please complete the <b>NEXEDGE Type-D Field Upgrade Form</b> available on Kenwood Tools under Forms. Required information includes the exact model #s and serial number for each radio to be updated.	NC	NC
<b>INSTALLATION / TUNING CHARGES</b>		<b>Contract</b>	<b>LIST</b>
L-1767	NX-240V/340U Programming (with basic TX/RX check)	\$ 30.00	37.50





# TK-D240V/340U

## VHF/UHF Digital & FM Analog Portable Radios

### STANDARD



#### All 40 series DMR portables include:

- Li-ion Battery (KNB-45L)
- Fast Charger (KSC-35SK)
- Antenna [KRA-26M(VHF)/27M(UHF)]
- Belt Clip (KBH-10)
- 2-PIN Connector Cap
- Instruction Manual
- Standard Warranty: 2 Years\*\*

\*\* All Accessories / options: 1 Year

Because of spurious signal (birdie), the following frequencies (and  $\pm 10\text{kHz}$  ranges) are not allowed;

- 147.0000 • 422.4000 • 483.0000
- 153.6000 • 441.0000 • 499.2000
- 168.0000 • 441.6000 • 504.0000
- 172.8000 • 460.8000 • 518.4000
- 403.2000 • 462.0000
- 420.0000 • 480.0000

#### GENERAL FEATURES

- 5 W (136-174 MHz) VHF
- 4 W (450-520, 400-470 MHz) UHF
- Max. 16 CH per Zone
- 2 Conventional Zones
- Transmit / Busy / Call Alert / Scan / Warn LED
- On/Off Volume Knob
- 2 PF Keys
- 1.0 W Speaker Audio
- 16-Position Mechanical Selector
- Digital/Analog Mixed Mode
- Zone / CH# Voice Announcement
- VOX Ready
- Emergency Call Features
- Lone Worker Alert (per CH)
- Time Out Timer
- Busy Channel Lockout
- Low Battery Warning
- Battery Saver
- KPG-166DN Windows FPU
- Password Protected (Read/Write)
- MIL-STD-810 C/D/E/F/G
- IP54/55 Dust & Water Protection

#### GENERAL FEATURES

- DMR Tier II Conventional
- AMBE+2™ VOCODER
- 12.5 kHz Channels
- Call Interrupt (Direct & Repeater Mode)
- Paging Call
- Emergency Call
- All Group Call
- Late Entry
- Status Messaging
- Remote Monitor

#### DIGITAL – CONVENTIONAL MODE

- Individual & Group Selective Call
- Conventional IP Networks

#### SCAN

- Single Zone Scan
- Single Priority Scan (Conventional)

#### ANALOG MODES – GENERAL

- 12.5 kHz Channels
- Conventional Zones
- DTMF
- QT/DQT, Two-Tone
- Voice Inversion Scrambler (16 Codes)

#### FleetSync®

- PTT ID ANI
- Selective / Group Call
- Paging Call
- Emergency Status

RADIO		Contract	LIST
TK-D240VK	136-174 MHz VHF 5W, 16 Ch / 2 Zones	\$ 294.00	367.50
TK-D340UK	450-520 MHz UHF 4W, 16 Ch / 2 Zones	\$ 294.00	367.50
TK-D340UK2	400-470 MHz UHF 4W, 16 Ch / 2 Zones	\$ 294.00	367.50

ANTENNAS		Contract	LIST
KRA-26M	VHF helical antenna 146-162 MHz	\$ 11.20	14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$ 11.20	14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$ 11.20	14.00
KRA-27M	UHF whip antenna 440-490 MHz	\$ 11.20	14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$ 11.20	14.00
KRA-27M3	UHF whip antenna 403-430 MHz	\$ 11.20	14.00
KRA-41M	VHF stubby antenna 148-162 MHz	\$ 10.96	13.70
KRA-41M2	VHF stubby antenna 162-174 MHz	\$ 10.96	13.70
KRA-41M3	VHF stubby antenna 136-150 MHz	\$ 10.96	13.70
KRA-42M	UHF stubby antenna 440-490 MHz	\$ 10.96	13.70
KRA-42M2	UHF stubby antenna 470-520 MHz	\$ 10.96	13.70
KRA-42M3	UHF stubby antenna 403-430 MHz	\$ 10.96	13.70

KRA-22M	VHF low profile antenna 148-162 MHz	\$ 10.96	13.70
KRA-22M2	VHF low profile antenna 162-174 MHz	\$ 10.96	13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$ 10.96	13.70
<b>ANTENNAS, CON'T</b>		<b>Contract</b>	<b>LIST</b>
KRA-23M	UHF low profile antenna 450-490 MHz	\$ 10.96	13.70
KRA-23M2	UHF low profile antenna 470-520 MHz	\$ 10.96	13.70
KRA-23M3	UHF low profile antenna 403-430 MHz	\$ 10.96	13.70
<b>BATTERIES AND CHARGERS</b>		<b>Contract</b>	<b>LIST</b>
KMB-28AK	Six Unit Charger Adapter for the KSC-35SK chargers (chargers not included) <b>Note:</b> The six KSC-xx AC wall Adapters are NOT used in the KMB-28 installation A supplied in-line AC-DC switching power supply with six DC plugs supply the six installed KSC-xx charger bases. This unit is lower profile and less weight than similar Kenwood six unit charger adapters.	\$ 166.80	208.50
KNB-45L	2000 mAh, Li-ion battery - requires KSC-35K/SK charger	\$ 50.40	63.00
KNB-69L	2550 mAh, Li-ion battery - requires KSC-35K/SK charger	\$ 60.00	75.00
KNB-29N	1500 mAh, Ni-MH battery - requires KSC-43K charger	\$ 29.40	36.75
KSC-35SK	110~220 volt Fast rate single unit charger for KNB-45L/69L	\$ 25.20	31.50
KSC-43K	110~220 volt Fast rate single unit charger for KNB-29N/45L/69L	\$ 29.36	36.70
KVC-22	110~220 volt Fast rate DC vehicular charger adapter for KSC-35SK charger & KNB-45L Li-ion battery (charger not included)	\$ 29.36	36.70
<b>CARRYING ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KBH-10	Spring action belt clip	\$ 6.68	8.35
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$ 21.04	26.30
KLH-187	Nylon case for TK-*200/*202/*300/*302/*400/*402, NX-x40, TK-Dx40 Series	\$ 11.76	14.70
<b>MICROPHONES &amp; AUDIO ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KMC-45D	MIL-SPEC, IP54/55 Speaker microphone (Built-in 2.5mm miniature earphone jack) <b>Note:</b> KMC-45 (Non D version) is not compatible with TDMA operation.	\$ 68.80	86.00
KEP-2	2.5mm earphone kit for KMC-17/45 Speaker Mic	\$ 42.00	52.50
KMC-21	Compact speaker microphone	\$ 41.20	51.50
KHS-10D-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & in-line PTT	\$ 294.40	368.00
KHS-10D-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & in-line PTT	\$ 268.80	336.00
KHS-7	Single muff headset w/boom mic	\$ 56.00	70.00
KHS-7A	Lt. Wt Single muff headset w/boom mic & in-line PTT <b>Note:</b> Available for Analog only. NOT compatible with Digital (TDMA) operations.	\$ 84.00	105.00
KHS-8BL	Two-Wire palm mic w/earphone (black) <b>Note:</b> Available for Analog only. NOT compatible with Digital (TDMA) operations.	\$ 82.60	103.25
KHS-9BL	Three-Wire lapel mic w/earphone (black) <b>Note:</b> Available for Analog only. NOT compatible with Digital (TDMA) operations.	\$ 132.80	166.00
KHS-22	Behind-the-Head Headset with flexible boom mic and in-line PTT single ear receiver (low profile wire head band)	\$ 32.80	41.00
KHS-26	Clip Mic w/earphone	\$ 22.40	28.00
KHS-27A	D-Ring Ear Hanger w/PTT & Mic	\$ 19.60	24.50
KHS-31C	C-Ring Ear Hanger w/PTT & Mic	\$ 24.00	30.00
<b>SERVICE RELATED ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KPG-166DNK	Windows® Programming Software for TK-D240V/340U/740HV/840HU	\$ 82.60	103.25
KPG-22UM	USB Programming interface cable	\$ 126.80	158.50
<b>INSTALLATION / TUNING CHARGES</b>		<b>Contract</b>	<b>LIST</b>
L-1798	TK-D240V/340U Programming (with basic TX/RX check)	\$ 30.00	37.50

# TK-690/790/890

VHF/UHF FM Mobile Radios



## All 90 BK series mobiles include:

- RF Deck Only  
(Configuration Set & Assembly Labor Code must be order for a Complete Mobile.)
- Standard Warranty: 2 Years\*

\* All Accessories / options: 1 Year

## Important Information (TK-890; UHF)

\* The lowest receive channel spread range is the factory default tuning if not otherwise specified. Refer to the table (right); order L-850 (no charge) and specify receive spread at the time of ordering. Out of range orders cannot be accepted.

\* TX Power is derated  
at 470-480 MHz for TK-890HBK:  
- 450-469 MHz (100 W)  
- 470-480 MHz (75 W)

## STANDARD

### GENERAL FEATURES

- 45W & 110W (148-174 MHz)
- 40W (450-490, 480-512 MHz)
- 100W-75W (450-480 MHz)
- 110W (29.7-37.0, 35.0-43.0, 39.0-50.0 MHz)
- 160 Channels
- Dual Priority Scan
- Single / Multi Group Scan
- QT / DQT
- Operator Selectable Tone
- Two-Tone Decode1
- DTMF Encode/ Decode / Stun
- Encryption / ANI Board Control
- Emergency Call Features
- Companded Audio
- Intercom
- Public Address
- Time Out Timer
- Busy Channel Lockout
- Ignition Sense
- Timed Power Off
- DB-25 Accessory Connector
- 7 Programmable AUX Inputs
- 6 Programmable AUX Outputs
- Windows® Programming & Tuning
- Windows® Firmware Uploading
- Panel Tuning
- Cloning
- MIL-STD-810 C/D/E/F/G
- MIL-Spec Noise-Cancel Mic (included)
- MIL-Spec 12-Key DTMF Mic Option

### FleetSync®

- PTT ID Digital ANI
- Emergency Status

### MOUNTING CONFIGURATIONS

- Dash Mount
- Single Head Remote Mount
- Dual Head Remote Mount
- Dual Band Remote Mount
- Dual Head / Dual Band Remote Mount

### FRONT PANELS / CONTROL HEADS

- Backlit Dot Matrix LCD
- 3-Digit Sub-Display
- Function/Status LCD Icons
- Transmit LED
- Busy, Call Alert, Warn LED
- LCD Dimmer Control
- Power On/Off Switch
- Rotary Volume Knob
- Rotary Selector Knob
- Backlit Keys
- PF Key Label Inserts
- Microphone Jack
- MILSTD 810 512.X Driven Rain

### KCH-10 FRONT PANEL

- 8-Character Alphanumeric Aliases
- 5 PF Keys
- UP/DOWN Keys
- Built-in Front Speaker

### KCH-11 FRONT PANEL

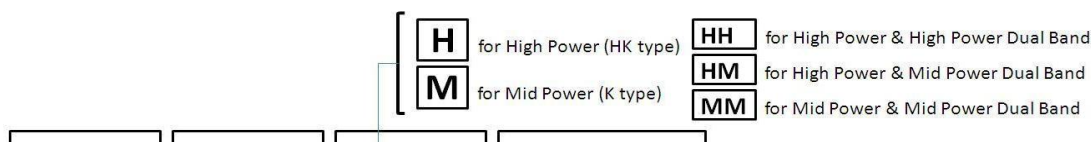
- 14-Character Alphanumeric Aliases
- 13 PF Keys
- UP/DOWN Keys
- External Speaker Required

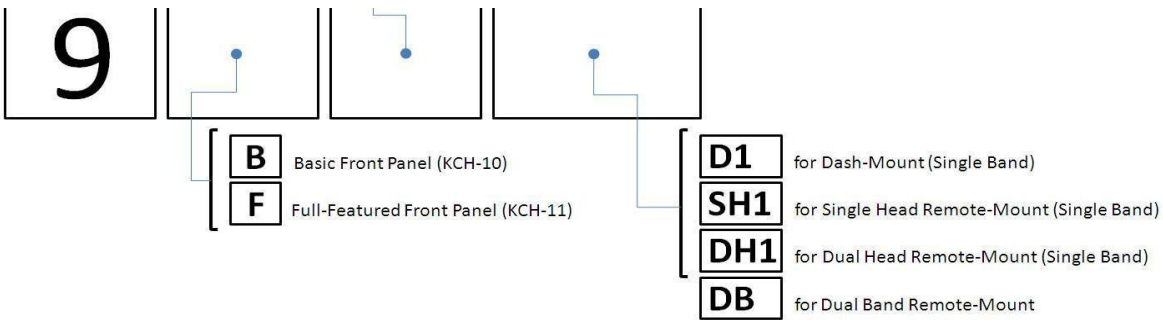
Model	RF Deck Freq. Range	RX Ch. Spread	TX Ch. Spread
TK-890BK/K	450-490	20 MHz	40 MHz
	Factory Default:	450-470	450-490
	Order L-850:	460-480 470-490	450-490 450-490
TK-890BK2	480-512	20 MHz	32 MHz
	Factory Default:	480-500	480-512
	Order L-850:	492-512	480-512
TK-890HBK	450-480	20 MHz	30 MHz
	Factory Default:	450-470	450-480
	Order L-850:	460-480	450-480

RADIO		Contract	LIST
TK-690HBK	29.7-37.0 MHz, 110W, 160 Channels (R.F. DECK ONLY)	\$ 856.80	1,071.00
TK-690HBK2	35.0-43.0 MHz, 110W, 160 Channels (R.F. DECK ONLY)	\$ 856.80	1,071.00
TK-690HBK3	39.0-50.0 MHz, 110W, 160 Channels (R.F. DECK ONLY)	\$ 856.80	1,071.00
TK-790BK	148-174 MHz, 45W, 160 Channels (R.F. DECK ONLY)	\$ 613.60	767.00
TK-790HBK	148-174 MHz, 110W, 160 Channels (R.F. DECK ONLY)	\$ 991.20	1,239.00
TK-890BK	450-490 MHz, 40W, 160 Channels (R.F. DECK ONLY)	\$ 655.20	819.00
TK-890HBK	450-480 MHz, 100/75W, 160 Channels (R.F. DECK ONLY)	\$ 1,033.60	1,292.00

## ACCESSORY CONFIGURATION SETS

### CONFIGURATION SET DEFINITIONS





**Note:** All KCH-10 / Basic Control Head configurations are shipped with the control heads 4W internal speaker enabled. Order L-891 to enable the 13W external speaker output for KES-5 speaker use. This will disconnect the control heads internal 4W speaker !

**Note:** Order an Labor code for each model if factory packaging is required:

**L-846** Package Dash/Single Head Remote\*

**L-847** Package Dual Head Remote

**L-848** Package Dual Band Remote

**L-849** Package Dual Band Dual Head Remote

(\* TK-790K/890K are pre-packaged & fully assembled: basic front, medium power, dash mount mobiles. No need to use the assembly labor code L-846.)

Single Band Dash Mount		Contract	LIST
9BHD1	KCH-10, KCT-23M2, KMB-9, KMC-27	\$ 261.20	326.50
9BMD1	KCH-10, KCT-23M, KMB-5, KMC-27	\$ 237.20	296.50
9FHD1	KCH-11, KCT-23M2, KMB-9, KMC-27, KES-5	\$ 377.40	471.75
9FMD1	KCH-11, KCT-23M, KMB-5, KMC-27, KES-5	\$ 353.40	441.75
Single Band Single Head Remote Mount		Contract	LIST
9BHS1	KCH-10, KRK-5, KCT-22M2, KCT-23M4, KMB-9, KMC-27	\$ 451.20	564.00
9BMS1	KCH-10, KRK-5, KCT-22M2, KCT-23M3, KMB-5, KMC-27	\$ 424.60	530.75
9FHS1	KCH-11, KRK-5, KCT-22M2, KCT-23M4, KMB-9, KMC-27, KES-5	\$ 567.40	709.25
9FMS1	KCH-11, KRK-5, KCT-22M2, KCT-23M3, KMB-5, KMC-27, KES-5	\$ 540.80	676.00
Single Band Dual Head Remote Mount		Contract	LIST
9BHDH1	KCH-10(x2), KRK-6DH, KCT-22M2(x2), KCT-23M4, KMB-9, KMC-27(x2)	\$ 803.20	1,004.00
9BMDH1	KCH-10(x2), KRK-6DH, KCT-22M2(x2), KCT-23M3, KMB-5, KMC-27(x2)	\$ 776.60	970.75
9FHDH1	KCH-11(x2), KRK-6DH, KCT-22M2(x2), KCT-23M4, KMB-9, KMC-27(x2), KES-5(x2)	\$ 1,035.60	1,294.50
9FMDH1	KCH-11(x2), KRK-6DH, KCT-22M2(x2), KCT-23M3, KMB-5, KMC-27(x2), KES-5(x2)	\$ 1,009.00	1,261.25
Dual Band Single Head Remote Mount		Contract	LIST
9BHHDB	KCH-10, KRK-7DB, KMC-27, KCT-22M2, KCT-23M4(x2), KMB-9(x2)	\$ 609.20	761.50
9BHMDDB	KCH-10, KRK-7DB, KMC-27, KCT-22M2, KCT-23M3, KCT-23M4, KMB-5, KMB-9	\$ 582.60	728.25
9BMMDDB	KCH-10, KRK-7DB, KMC-27, KCT-22M2, KCT-23M3(x2), KMB-5(x2)	\$ 556.00	695.00
9FHHDB	KCH-11, KRK-7DB, KMC-27, KES-5, KCT-22M2, KCT-23M4(x2), KMB-9(x2)	\$ 725.40	906.75
9FHMDDB	KCH-11, KRK-7DB, KMC-27, KES-5, KCT-22M2, KCT-23M3/KCT-23M4, KMB-5/KMB-9	\$ 698.80	873.50
9FMMDDB	KCH-11 KRK-7DB, KMC-27, KES-5, KCT-22M2, KCT-23M3(x2), KMB-5(x2)	\$ 672.20	840.25
Dual Band Dual Head Remote Mount		Contract	LIST
9BBHH	KCH-10(x2), KMC-27(x2), KRK-8DBH, KCT-22M2(x2), KCT-23M4(x2), KMB-9(x2)	\$ 894.00	1,117.50
9BBHM	KCH-10(x2), KMC-27(x2), KRK-8DBH, KCT-22M2(x2), KCT-23M3, KCT-23M4, KMB-5, KMB-9	\$ 867.40	1,084.25
9BBMM	KCH-10(x2), KMC-27(x2), KRK-8DBH, KCT-22M2(x2), KCT-23M3(x2), KMB-5(x2)	\$ 840.80	1,051.00
Dual Band Dual Head Remote Mount, CON'T		Contract	LIST
9FFHH	KCH-11(x2), KMC-27(x2), KRK-8DBH, KCT-22M2(x2), KCT-23M4(x2), KMB-9(x2), KES-5(x2)	\$ 1,126.40	1,408.00

9FFHM	KCH-11(x2), KMC-27(x2), KRK-8DBH, KCT-22M2(x2), KCT-23M3, KCT-23M4, KMB-5, KMB-9, KES-5(x2)	\$ 1,099.80	1,374.75
9FFMM	KCH-11(x2), KMC-27(x2), KRK-8DBH, KCT-22M2(x2), KCT-23M3(x2), KMB-5(x2), KES-5(x2)	\$ 1,073.20	1,341.50

<b>FRONT PANELS &amp; REMOTE KITS</b> (Order Configuration Sets for full install accessories)		<b>Contract</b>	<b>LIST</b>
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KCH-10	Basic Control Panel	\$ 117.60	147.00
KCH-11	Full Featured Control Panel	\$ 184.80	231.00
KRK-5	Single Control Head Remote Mount Kit	\$ 117.60	147.00
KRK-6DH	Dual Control Head Remote Mount Kit	\$ 201.60	252.00
KRK-7DB	Dual Band Control Head Remote Mount Kit	\$ 210.00	262.50
KRK-8DBH	Dual Band Dual Head Remote Mount Kit	\$ 226.80	283.50

<b>CABLES</b>		<b>Contract</b>	<b>LIST</b>
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KCT-18	Ignition sense cable	\$ 10.96	13.70
KCT-22M	Control cable - 8 Feet	\$ 58.80	73.50
KCT-22M2	Control cable - 17 Feet (Standard accessory config. set cable)	\$ 67.20	84.00
KCT-22M3	Control cable (25 Feet)	\$ 75.60	94.50
KCT-23M	DC Cable (35/45W Dash mount)	\$ 25.20	31.50
KCT-23M2	DC Cable (75/110W Dash mount)	\$ 31.00	38.75
KCT-23M3	DC Cable (35/45W Remote mount)	\$ 27.80	34.75
KCT-23M4	DC Cable (75/110W Remote mount)	\$ 36.20	45.25

<b>MOBILE INSTALLATION ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
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KLF-2	Line Filter (suppresses alternator whine, 25dB, 25A max)	\$ 33.60	42.00
KMB-10	Key Lock Adapter for use with KMB-4/5/6	\$ 21.04	26.30
KMB-5	Medium Power Mounting Bracket (35W/45W models)	\$ 11.20	14.00
KMB-9	Heavy Duty Mounting Bracket with built-in key lock	\$ 29.40	36.75

<b>MICROPHONES AND SPEAKERS</b>		<b>Contract</b>	<b>LIST</b>
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KES-5	External Speaker (40W max input)	\$ 49.00	61.25
KMC-27	Rugged standard microphone with noise canceling, MIL-STD and driven rain features	\$ 83.20	104.00
KMC-28	DTMF microphone (MIL-SPEC, Noise canceling)	\$ 130.40	163.00
KMC-9B	Desk top microphone	\$ 77.20	96.50

<b>SERVICE RELATED ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
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KPG-43UM	USB Programming interface cable	\$ 126.80	158.50
KPG-44DNK	Windows® Programming Software for TK-690/790/890 (Compliant with FCC Part 90 Narrowbanding)	\$ 54.80	68.50

Contact Kenwood Parts for Price and Availability 800-367-7514 on the following:

K29-5276-03	Key Inserts for 90-series mobile (AN, D/A, DIM, HA, HC, IC, MON, OPT, OST, PA)	---	---
K29-5277-03	Key Inserts for 90-series mobile (RCL, RPT, SCN, SP, SPM, SQ, TA, <up arrow>, <down arrow>)	---	---
K29-5305-03	Key Inserts for 90-series mobile (CH1, CH2, CH3, CH4, CH5, AUXA, AUXB, AUXC, EMG, ORG)	---	---
S76-0434-05	1 Amp Relay for 90-series mobile	---	---

<b>INSTALLATION / TUNING CHARGES</b>		<b>Contract</b>	<b>LIST</b>
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L-846	Package Dash/Single Head Remote for 90-series mobiles	\$ 13.60	17.00
L-847	Package Dual Head Remote for 90-series mobiles	\$ 27.20	34.00
L-848	Package Dual Band Remote for 90-series mobiles	\$ 27.20	34.00
L-849	Package Dual Band Dual Head Remote for 90-series mobiles	\$ 40.00	50.00
L-850	Tune TK-890 receiver channel spread (20 MHz max.); specify receive spread	NC	NC
L-854	90 Mobile Programming (with basic TX/RX check)	\$ 24.00	30.00
L-858	Modify 90-series mobile Single Band (Single Head) Mobile for Pyramid Vehicular Repeater	\$ 60.00	75.00
L-859	Modify 90-series mobile Single Band (Dual Head) Mobile for Pyramid Vehicular Repeater	\$ 60.00	75.00
L-861	Install Horn Alert output relay for 90-series mobiles (1 amp max.) --- Part #S76-0407-05 Relay incl.	\$ 56.00	70.00

L-862	<p>Install Key Inserts for 90-series mobiles</p> <p><b>Note:</b> For new radio tune orders only. Installs only the included KCH-10/11 key inserts. Must specify keys and placement (see Service Manuals for placement diagram, pg. 14). Also, see Service Manuals for technical details (pg. 14). Other Key Inserts are available from Parts Dept. See the "Service Related Accessories" section of the 90-series mobiles price pages for more information.</p>	\$ 12.00	15.00
L-864	<p>KCT-22A Extended Control Head Cable (up to 50 ft. max.)</p> <p><b>Note:</b> Please specify exact length at 1ft. increments when ordering.</p> <p><b>Caution:</b> Extended control head cables exhibit a loss in speaker audio power to the control heads. For either type control head (KCH-10/11), it is recommended that the 13W audio output modification be implemented to drive extended cable runs and a KES-5 external speaker be used. Refer to the service manual pg. 15-17 for 13W modifications. Installing new radio firmware (hex files) via the KPG-44D software nor checking the firmware "checksum" is not possible through an extended control head cable. A standard KCT-22 cable of 25 ft. or less should be used when this has to be done. Normal KPG-44D radio parameter programming is possible at extended lengths.</p>	\$ 152.00	190.00
L-865	<p>KCT-22A Extended Control Head Cable (up to 100 ft. max.)</p> <p><b>Note:</b> Please specify exact length at 1ft. increments when ordering.</p> <p><b>Caution:</b> Extended control head cables exhibit a loss in speaker audio power to the control heads. For either type control head (KCH-10/11), it is recommended that the 13W audio output modification be implemented to drive extended cable runs and a KES-5 external speaker be used. Refer to the service manual pg. 15-17 for 13W modifications. Installing new radio firmware (hex files) via the KPG-44D software nor checking the firmware "checksum" is not possible through an extended control head cable. A standard KCT-22 cable of 25 ft. or less should be used when this has to be done. Normal KPG-44D radio parameter programming is possible at extended lengths.</p>	\$ 196.00	245.00
L-866	<p>KCT-23A-K2 Two Conductor 75/110W High Power DC Cable (2 Conductor: 1x23 ft. positive, 1x23 ft. negative; AWG #10)</p> <p><b>Note:</b> This cable substitutes for the ff. DC Cables: --&gt; KCT-23M2 75/110W Dash Mount DC Cable: 4 Conductor: 2x10 ft. positive, 2x10 ft. negative --&gt; KCT-23M4 75/110W Remote Mount DC Cable: 4 Conductor: 2x23 ft. positive, 2x23 ft. negative</p>	\$ 60.00	75.00
L-867	Jumper foil for SB to pin 14 of accessory connector for 90-series mobile (Ref. 90-Series Mobile Service Manual, page 17/18)	\$ 20.00	25.00
L-870	Simultaneous transpond and alert feature up-grade for 90-series mobiles & portables	\$ 40.00	50.00
L-883	Modify 90-series mobile for KCT-18	\$ 20.00	25.00
L-891	External speaker modification for 90-series mobile Control Head (13W)	\$ 8.00	10.00
L-903	R640 mic input modification for 90-series mobile	\$ 13.60	17.00
L-910	<p>Install firmware 094F (90-series mobile * and # DTMF without PTT)</p> <p><b>Note:</b> The firmware 094F gives the 90-series mobile the ability to generate a DTMF tone from the * and # keys without pushing the PTT button.</p>	\$ 13.60	17.00
L-912	90-Series mobile low imp. mic. Input at RF deck	\$ 8.00	10.00
L-917	<p>EXT PTT / Local KMC-27 mic disable</p> <p><b>Purpose:</b> Disables the KMC-27 mobile hand mic element when 90-series mobile external PTT is active. For use with data modems, GPS AVL data units, headset systems (motorcycles, ambulance, fire engines), vehicle intercom</p>	\$ 13.60	17.00
L-921	Modify 90-series mobile Dual Band (Single Head) for Pyramid Vehicular Repeater	\$ 60.00	75.00
L-922	Modify 90-series mobile Dual Band (Dual Head) for Pyramid Vehicular Repeater	\$ 60.00	75.00



## STANDARD

**All NX series mobiles include:**

- Standard Microphone (KMC-35)
- Mounting Bracket
- DC Cable
- Blade Fuse
- Instruction Manual
- Premium Warranty: 3 Years\*

\* All Accessories / options: 1 Year

\* TX Power is derated at 490-512 MHz

NX-800K: 450-489 MHz (30 W)  
490-512 MHz (25 W)  
NX-800HK: 450-489 MHz (45 W)  
490-512 MHz (40 W)

**GENERAL FEATURES**

- 30W / 50W (136-174 MHz) Models
- 30W / 45W (400-470, 450-520 MHz) Models
- 512 CH-GID / 128 Zones
- Dash & Remote Mount
- 14 Character Alphanumeric Aliases
- Backlit Dot Matrix LCD
- Function/Status LCD Icons
- Multi-Language Display
- Date & 12/24 Hour Time Clock
- Transmit/Busy/Call Alert/Warn LED
- On/Off Power Control
- 4 Up/Down Selectors
- 6 Front PF Keys
- Emergency/AUX Key
- 4W Speaker Audio
- DB-25 Accessory Connector
- 9 Programmable AUX I/Os
- 2 Programmable AUX Outputs
- KPG-111D Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP-54/55 Water & Dust Intrusion
- PC Serial Interface
- SDM Manual Input
- Transparent Data Mode
- GPS Receiver Option

**DIGITAL – GENERAL**

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill/Check
- Short & Long Data Messages
- GPS Location with Voice
- NXDN® Scrambler Included
- DES Encryption Module Option
- AES & DES Encryption Module Option
- AES/DES Software Key Loader Option

**DIGITAL CONVENTIONAL MODE**

- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call
- Mixed FM/Digital Operation
- Conventional IP Networks
- Site Roaming

**DIGITAL TRUNKING MODE**

- Individual Private Call
- Group Call & Broadcast Call
- Telephone Interconnect
- Transmission Trunked Mode
- Message Trunked Mode
- Call Queuing with Priority
- Late Entry (UID & GID)
- 4 Priority Monitor ID's
- Remote Group Add
- System Auto Select

**DIGITAL - MULTI-SITE IP NETWORKS**NEXEDGE Generation1 System

- 48site Trunked IP Network
- Auto Roaming Registration
- Group Registration

NEXEDGE Generation1 System Bridge

- 8 Trunked Networks per radio (each in a zone)
- UID Lists for each network

NEXEDGE Generation2 System (option)

- 1,152 sites Wide Area System
- Direct Frequency Assignment

**SCAN**

- Single Zone / Multi-Zone / List Scan
- Dual Priority Scan (Conventional)

**ANALOG MODES - GENERAL**

- 25 & 12.5 kHz Channels
- Conventional & LTR® Zones
- FleetSync®/II, MDC-1200, DTMF
- QT / DQT & Two-Tone (Conventional Zones Only)
- Voice Inversion Scrambler
- Analog Scrambler Board Capability

**MPT ZONES (option)**

- Single-Site Trunking
- Multi-Site Network Trunking
- 8 Network Capacity
- Network Roaming / Registration

**FleetSync®/II (FM)**

- PTT ID ANI / Caller ID
- Selective / Group Call
- Emergency, Status & Text Messages

**MDC-1200**

- PTT ID ANI / Caller ID
- Emergency, Radio Check & Inhibit

MODEL		Contract	LIST
NX-700K	136-174 MHz 30W, 512 CH / 128 Zone	\$ 580.00	725.00
NX-700HK	136-174 MHz 50W, 512 CH / 128 Zone	\$ 680.00	850.00
NX-800K	450-520 MHz 30W, 512 CH / 128 Zone	\$ 580.00	725.00
NX-800K2	400-470 MHz 30W, 512 CH / 128 Zone	\$ 580.00	725.00
NX-800HK	450-520 MHz 45W, 512 CH / 128 Zone	\$ 680.00	850.00
NX-800HK2	400-470 MHz 45W, 512 CH / 128 Zone	\$ 680.00	850.00
MOBILE INSTALLATION ACCESSORIES		Contract	LIST
KAP-2	Horn Alert/P.A. Relay Option	\$ 50.40	63.00
KCT-46	Ignition sense cable (plugs directly into mobile chassis ignition sense line)	\$ 10.96	13.70
KLF-2	Line Filter (suppresses alternator whine, 25dB, 25A max).	\$ 33.60	42.00
KMB-10	Key lock adapter	\$ 21.04	26.30
KRK-10	Remote Control Kit (a remote control cable (23 ft) is included)	\$ 84.00	105.00

<b>MOBILE INSTALLATION ACCESSORIES, CON'T</b>		<b>Contract</b>	<b>LIST</b>
KRK-13	Dual Control Head Kit (a control head, remote cables, and KMC-35 microphone included) <b>Note:</b> some operations have limitations. Please refer to Application Note avlb. on Kenwood Tools. <b>Order:</b> L-1776 if installation is required.	\$ 766.40	958.00
KCT-23M	DC Cable (35-50W Dash mount; pos/neg. 10 ft. leads)	\$ 25.20	31.50
KCT-23M3	DC Cable (35-50W Remote mount; pos.23 ft.; neg. 3.3. ft. leads)	\$ 27.80	34.75
<b>CONTROL STATION INSTALLATION ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KMC-9C	Control Station Desktop Microphone (8-pin mod. plug)	\$ 68.80	86.00
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: Compatible with FDMA (analog / NXDN) and TDMA operations.</b>	\$ 144.00	180.00
KMB-34	Control Station Mounting Case for KPS-15 Power Supply and Mobiles (excludes TK-5x10/6110 series). (mobile mounting hardware included)	\$ 38.40	48.00
KPS-15	DC Switching Power Supply (117/230 VAC; 23A max. continuous, 25A peak)	\$ 138.40	173.00
<b>MICROPHONES AND SPEAKERS</b>		<b>Contract</b>	<b>LIST</b>
KMC-35	MIL-SPEC Standard electret mobile microphone (8-pin mod. plug) - same as supplied	\$ 42.00	52.50
KMC-36	MIL-SPEC Standard electret mobile microphone with 12 keypad (8-pin mod. plug)	\$ 75.60	94.50
KMC-9C	Control Station Desktop Microphone (8-pin mod. plug)	\$ 68.80	86.00
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: Compatible with FDMA (analog / NXDN) and TDMA operations.</b>	\$ 144.00	180.00
KES-3S	External speaker (compact low profile; black case; 3.5 mm phono plug-in)	\$ 35.40	44.25
KES-5	External speaker, 40W max input <b>Note:</b> requires KAP-2 (PA/HA unit) installed	\$ 49.00	61.25
<b>SOFTWARE &amp; USB OPTIONS</b>		<b>Contract</b>	<b>LIST</b>
KPG-150AP	NEXEDGE OTAP Manager Windows Software. • License Includes 10 radios / 1 Serial Port* • To add more radios/serial ports, you must contact Kenwood Systems Division [1-800-TRUNKING]	\$ 440.00	550.00
KPG-AE1K	AES/DES Encryption Software Key Loader for KWD-AE31K Authentication by KPT-300LMC is required Note: KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A).	\$ 420.00	525.00
KPG-DE1K	DES Encryption Software Key Loader for KWD-AE31K Authentication by KPT-300LMC is required Note: KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D992A.1).	\$ 294.40	368.00
KWD-NX2G-10	Gen2 Enhanced Option for NX-*00/*10/*11/*20 Portables & Mobiles <b>Must order L-1812 for factory installation, or L-1813 for field-upgrade option</b> Note: <b>MPT</b> Firmware and FPU do <b>NOT</b> compatible. MPTs will be available on <b>3Q FY2016</b> .	\$ 13.60	17.00
KWD-LIC-USB	USB Hardware Key for activating KWD-NX2G-10 options to NX-*00/*10/*11/*20 series without ESN. KWD-LIC-USB stores KWD-NX2G-10 options which are purchased seperately and includes KPG-97USB software for activating radios.  Note: - Must order L-1819. - Must purchase KWD-NX2G-10 seperately. - KWD-LIC-USB Request Form that can be downloaded from Contract Tools is required to order. - KWD-LIC-USB cannot be rechargeable. Must purchase it per every orders. - KWD-LIC-USB can store up to 50,000 KWD-NX2G-10 Gen2 Upgrade Options. - The licenses (KWD-NX2G-10) installed to the KWD-LIC-USB is NOT eligible for warranty compensaton.	N/C	N/C
<b>OPTION MODULES</b>		<b>Contract</b>	<b>LIST</b>
KWD-AE30K	AES FIPS140-2 & DES Encryption Module (Multi-Key) Order a Labor Code L-1830 if installation is required. KWD-AE30K requires: a Motorola KVL3000 Plus/4000 key loader device. KWD-AE30K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1).	\$ 680.00	850.00
<b>OPTION MODULES, CON'T</b>		<b>Contract</b>	<b>LIST</b>
KWD-AE31K	AES & DES Encryption Module (Multi-Key) Order a Labor Code L-1831 if installation is required. Note: Requires KPG-AE1/DE1 software key loader or Motorola KVL3000 Plus/4000 key loader device. KWD-AE31K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1)	\$ 440.00	550.00



<b>FleetSync® &amp; NEXEDGE® AVL &amp; MESSAGING</b>		<b>Contract</b>	<b>LIST</b>
GA25MCX	Garmin On-dash Style Magnetic base GPS Antenna for GPS15XL-W <b>Note:</b> shipped loose only; Install GA25MCX antenna to GPS15XL-W before vehicle install; Refer to 180/NX-Series In-depth Technical Manuals for mobile installation.	\$ 49.60	62.00
GPS15XL-W	Garmin Internal GPS Receiver Board for FleetSync & NEXEDGE AVL <b>Note:</b> • Conventional & LTR operation • NEXEDGE® Conventional & Trunking operation • Requires GA25 MCX GPS antenna • Refer to 180/NX-Series & KAS-10 In-Depth Technical Manuals for installation, programming & KAS-10 software setup. Refer to www.garmin.com for GPS-15L-W technical specifications. • Option: Order <b>L-1098</b> for Kenwood Long Beach installation	\$ 104.20	130.25
KAS-10	FleetSync & NEXEDGE AVL & Messaging Software with NEXEDGE Trunking VoIP Dispatch <b>Note:</b> - Users can chose to operate Messaging, AVL or VoIP or all three if desired. Compatible with Windows® XP, VISTA & 7 and Microsoft® MapPoint® 2006/2009/2010 (certain format bitmap images can be imported). Refer to KAS-10 product spec sheets and manuals for details. - NEXEDGE Gen2, Type-D Trunking and DMR System not supported.	\$ 347.20	434.00
<b>SERVICE RELATED ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KPG-46XM	USB Programming interface cable	\$ 126.80	158.50
KPG-111DNK	Windows® Programming Software for NX-200/210/300/410/411/700/800/900/901 (Compliant with FCC Part 90 Narrowbanding)	\$ 82.60	103.25
<b>INSTALLATION / TUNING CHARGES</b>		<b>Contract</b>	<b>LIST</b>
L-1085	NX-700/800 Programming (with basic TX/RX check)	\$ 30.00	37.50
L-1094	Install KAP-2 (Default) HR1/Internal Sp./PA	\$ 20.00	25.00
L-1098	Install Garmin GPS15XL-W in NX-Series mobile for FleetSync® AVL	\$ 80.00	100.00
L-1099	Assemble NX-700/800/900/901 with KRK-10 Remote Kit	\$ 33.60	42.00
L-1830	Install KWD-AE30K in NX-700/800/900/901 series Mobile (Must purchase module separately)	\$ 60.00	75.00
L-1831	Install KWD-AE31K in NX-700/800/900/901 series Mobile (Must purchase module separately)	\$ 60.00	75.00
<b>INSTALLATION / TUNING CHARGES, CON'T</b>		<b>Contract</b>	<b>LIST</b>
L-1776	Assemble NX-700/800/900/901 with KRK-13 Dual Remote Kit	\$ 33.60	42.00
L-1812	Install Gen2 Enhanced Option in NX series radio (Must purchase KWD-NX2G-10 separately)	\$ 20.00	25.00
L-1813	NX Series Radio Gen2 Enhanced Option FIELD-UPGRADE (Must purchase KWD-NX2G-10 separately)	NC	NC
L-1819	Create KWD-LIC-USB and store KWD-NX2G-10 (Must purchase KWD-NX2G-10 separately)	\$ 100.00	125.00
<b>MPT FIRMWARE/ACCESSORIES/TUNING</b>		<b>Contract</b>	<b>LIST</b>
KPG-143DNK	Windows® Programming Software for NX series MPT (Compliant with FCC Part 90 Narrowbanding) (Contract Level License ID included) <b>Note:</b> - Must order L-1727 for Network Level License ID & programming privileges. - Gen2 Enhanced Option (KWD-NX2G-10) for MPT will be available on 3Q FY2016.	\$ 82.60	103.25
KWD-NX10MPT	MPT Trunking Field Upgrade Kit for NX series radio Must order <b>L-1729</b> <b>Note:</b> Not compatible with any other firmware options. Radio does not retain LTR trunking features once the MPT option is installed.	\$ 53.36	66.70
L-1726	Install MPT option in NX series radio	\$ 20.00	25.00
L-1727	Network Level License ID for KPG-143D(N) NX series Programmer	\$ 126.66	158.33
L-1728	Retrofit Install of MPT option in NX series radio For previously purchased NX series radios. Order L-1728 through LMR order desk/rep. Ship radios to attn: Kenwood LMR Tuning, Long Beach for installation. Include Kenwood order number for L-1728 provided by order desk & copy of company P.O. or P.O. number. <b>Note:</b> see NX series MPT Introduction Sales Bulletin for details	\$ 68.00	85.00
L-1729	NX Series Radio MPT Firmware FIELD-UPGRADE (Must purchase KWD-NX10MPT separately)	NC	NC

-- IMPORTANT NOTES --

**Encryption modules, key loaders and radios containing encryption are export controlled by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export**

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**KWD-AE30 AES FIPS140-2 SCM , NIST Validation & Customer Shipping**

A secure delivery method direct to the end user customer is required by the NIST AES FIPS 140-2 validation rules. For U.S. Federal Government entities the SCM must ship from JVCKENWOOD USA Corporation directly to the end user customer by a trusted carrier (FEDEX, UPS or a designated JVCKENWOOD USA Corporation employee); shipping/handling by a Contract or other entity is not acceptable. This may or may not be required by local/state government agencies or business/industrial users. Please check with the end use customer about their AES encryption handling requirements before ordering. Kenwood will not be responsible for shipments of KWD-AE30K modules to erroneous destinations specified on an order.

## STANDARD

**NX-900 mobile includes:**

- Standard Microphone (KMC-35)
- Mounting Bracket
- DC Cable
- Blade Fuse
- Instruction Manual
- Premium Warranty: 3 Years\*

\* All Accessories / options: 1 Year

**GENERAL FEATURES**

- 15W (806-870 MHz) Model
- 15W (896-941 MHz) Model
- 512 CH-GID / 128 Zones
- Dash & Remote Mount
- 14 Character Alphanumeric Aliases
- Backlit Dot Matrix LCD
- Function/Status LCD Icons
- Multi-Language Display
- Date & 12/24 Hour Time Clock
- Transmit/Busy/Call Alert/Warn LED
- On/Off Power Control
- 4 Up/Down Selectors
- 6 Front PF Keys
- Emergency/AUX Key
- 4W Speaker Audio
- DB-25 Accessory Connector
- 9 Programmable AUX I/Os
- 2 Programmable AUX Outputs
- KPG-111D Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP54/55 Water & Dust Intrusion
- PC Serial Interface
- SDM Manual Input
- Transparent Data Mode
- GPS Receiver Option

**DIGITAL – GENERAL**

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill
- Remote Check
- Short & Long Data Messages
- GPS Location with Voice
- NXDN® Scrambler Included
- DES Encryption Module Option
- AES & DES Encryption Module Option
- AES/DES Software Key Loader Option

**DIGITAL CONVENTIONAL MODE**

- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call
- Mixed FM/Digital Operation
- Conventional IP Networks
- Site Roaming

**DIGITAL TRUNKING MODE**

- Individual Private Call
- Group Call & Broadcast Call
- Telephone Interconnect
- Transmission Trunked Mode
- Message Trunked Mode
- Call Queuing with Priority
- Late Entry (UID & GID)
- 4 Priority Monitor ID's
- Remote Group Add
- System Auto Select

**DIGITAL - MULTI-SITE IP NETWORKS**NEXEDGE Generation1 System

- 48site Trunked IP Network
- Auto Roaming Registration
- Group Registration

NEXEDGE Generation1 System Bridge

- 8 Trunked Networks per radio (each in a zone)
- UID Lists for each network

NEXEDGE Generation2 System (option)

- 1,152 sites Wide Area System
- Direct Frequency Assignment

**SCAN**

- Single Zone / Multi-Zone / List Scan
- Dual Priority Scan (Conventional)

**ANALOG MODES - GENERAL**

- 25\*\* & 12.5 kHz Channels
- NPSPAC Channels\*
- Conventional & LTR® Zones
- FleetSync®/II, MDC-1200, DTMF
- QT / DQT (Conventional Zones Only)
- Voice Inversion Scrambler
- Analog Scrambler Board Capability

**MPT ZONES (option)**

- Single-Site Trunking
- Multi-Site Network Trunking
- 8 Network Capacity
- Network Roaming / Registration

**FleetSync®/II (FM)**

- PTT ID ANI / Caller ID
- Selective / Group Call
- Emergency, Status & Text Messages

**MDC-1200**

- PTT ID ANI / Caller ID
- Emergency, Radio Check & Inhibit

\* 800 MHz model only.

MODEL		Contract	LIST
NX-900K	806-870 MHz 15W, 512 CH / 128 Zone	\$ 796.00	995.00
NX-901K	896-941 MHz 15W, 512 CH / 128 Zone	\$ 796.00	995.00
MOBILE INSTALLATION ACCESSORIES		Contract	LIST
KAP-2	Horn Alert/P.A. Relay Option	\$ 50.40	63.00
KCT-46	Ignition sense cable (plugs directly into mobile chassis ignition sense line).	\$ 10.96	13.70
KLF-2	Line Filter (suppresses alternator whine, 25dB, 25A max).	\$ 33.60	42.00
KMB-10	Key lock adapter	\$ 21.04	26.30
KRK-10	Remote Control Kit (a remote control cable (23 ft) is included)	\$ 84.00	105.00

KRK-13	Dual Control Head Kit (a control head, remote cables, and KMC-35 microphone included) <b>Note:</b> some operations have limitations. Please refer to Application Note avlb. on Kenwood Tools. <b>Order:</b> L-1776 if installation is required.	\$ 766.40	958.00
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KCT-23M	DC Cable (35-50W Dash mount; pos/neg. 10 ft. leads)	\$ 25.20	31.50
KCT-23M3	DC Cable (35-50W Remote mount; pos.23 ft.; neg. 3.3. ft. leads)	\$ 27.80	34.75

CONTROL STATION INSTALLATION ACCESSORIES	Contract	LIST
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KMC-9C	Control Station Desktop Microphone (8-pin mod. plug)	\$ 68.80	86.00
KMB-34	Control Station Mounting Case for KPS-15 Power Supplies (mobile mounting hardware included)	\$ 38.40	48.00
KPS-15	DC Switching Power Supply (117/230 VAC; 23A max. continuous, 25A peak)	\$ 138.40	173.00

MICROPHONES AND SPEAKERS	Contract	LIST
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KMC-35	MIL-SPEC Standard electret mobile microphone (8-pin mod. plug) - same as supplied	\$ 42.00	52.50
KMC-36	MIL-SPEC Standard electret mobile microphone with 12 keypad (8-pin mod. plug)	\$ 75.60	94.50
KMC-9C	Control Station Desktop Microphone (8-pin mod. plug)	\$ 68.80	86.00
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: Compatible with FDMA (analog / NXDN) and TDMA operations.</b>	\$ 144.00	180.00
KES-3S	External speaker (compact low profile; black case; 3.5 mm phono plug-in)	\$ 35.40	44.25
KES-5	External speaker, 40W max input <b>Note:</b> requires KAP-2 (PA/HA unit) installed.	\$ 49.00	61.25

SOFTWARE & USB OPTIONS	Contract	LIST
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KPG-150AP	NEXEDGE OTAP Manager Windows Software. • License Includes 10 radios / 1 Serial Port* • To add more radios/serial ports, you must contact Kenwood Systems Division [1-800-TRUNKING].	\$ 440.00	550.00
KPG-AE1K	AES/DES Encryption Software Key Loader for KWD-AE31K Authentication by KPT-300LMC is required Note: KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A).	\$ 420.00	525.00
KPG-DE1K	DES Encryption Software Key Loader for KWD-AE31K Authentication by KPT-300LMC is required Note: KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D992A.1).	\$ 294.40	368.00
KWD-NX2G-10	Gen2 Enhanced Option for NX-*00/*10/*11/*20 Portables & Mobiles <b>Must order L-1812 for factory installation, or L-1813 for field-upgrade option</b> Note: <b>MPT</b> Firmware and FPU do <b>NOT</b> compatible. MPTs will be available on <b>3Q FY2016</b> .	\$ 13.60	17.00
KWD-LIC-USB	USB Hardware Key for activating KWD-NX2G-10 options to NX-*00/*10/*11/*20 series without ESN. KWD-LIC-USB stores KWD-NX2G-10 options which are purchased seperately and includes KPG-97USB software for activating radios.  Note: - Must order L-1819. - Must purchase KWD-NX2G-10 seperately. - KWD-LIC-USB Request Form that can be downloaded from Contract Tools is required to order. - KWD-LIC-USB cannot be rechargeable. Must purchase it per every orders. - KWD-LIC-USB can store up to 50,000 KWD-NX2G-10 Gen2 Upgrade Options. - The licenses (KWD-NX2G-10) installed to the KWD-LIC-USB is NOT eligible for warranty compensaton.	N/C	N/C

OPTION MODULES	Contract	LIST
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KWD-AE30K	AES FIPS140-2 & DES Encryption Module (Multi-Key) Order a Labor Code L-1830 if installation is required. KWD-AE30K requires: a Motorola KVL3000 Plus/4000 key loader device. KWD-AE30K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1).	\$ 680.00	850.00
KWD-AE31K	AES & DES Encryption Module (Multi-Key) Order a Labor Code L-1831 if installation is required. Note: Requires KPG-AE1/DE1 software key loader or Motorola KVL3000 Plus/4000 key loader device. KWD-AE31K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1)	\$ 440.00	550.00

FleetSync® & NEXEDGE® AVL & MESSAGING	Contract	LIST
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GA25MCX	Garmin On-dash Style Magnetic base GPS Antenna for GPS15XL-W <b>Note:</b> shipped loose only; Install GA25MCX antenna to GPS15XL-W before vehicle install; Refer to 180/NX-Series In-depth Technical Manuals for mobile installation.	\$ 49.60	62.00
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FleetSync® & NEXEDGE® AVL & MESSAGING, CONT	Contract	LIST
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GPS15XL-W	Garmin Internal GPS Receiver Board for FleetSync & NEXEDGE AVL <b>Note:</b> • Conventional & LTR operation. • NEXEDGE® Conventional & Trunking operation. • Requires GA25 MCX GPS antenna. • Refer to 180/NX-Series & KAS-10 In-Depth Technical Manuals for installation, programming & KAS-10 software setup. Refer to www.garmin.com for GPS-15L-W technical specifications. • Option: Order <b>L-1098</b> for Kenwood Long Beach installation.	\$ 104.20	130.25
KAS-10	FleetSync & NEXEDGE AVL & Messaging Software with NEXEDGE Trunking VoIP Dispatch <b>Note:</b> - Users can chose to operate Messaging, AVL or VoIP or all three if desired. Compatible with Windows® XP, VISTA & 7 and Microsoft® MapPoint® 2006/2009/2010 (certain format bitmap images can be imported). Refer to KAS-10 product spec sheets and manuals for details. - NEXEDGE Gen2, Type-D Trunking and DMR System not supported.	\$ 347.20	434.00
<b>SERVICE RELATED ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KPG-111DNK	Windows® Programming Software for NX-200/210/300/410/411/700/800/900/901 (Compliant with FCC Part 90 Narrowbanding).	\$ 82.60	103.25
KPG-46XM	USB Programming interface cable	\$ 126.80	158.50
<b>INSTALLATION / TUNING CHARGES</b>		<b>Contract</b>	<b>LIST</b>
L-1094	Install KAP-2 (Default) HR1/Internal Sp./PA	\$ 20.00	25.00
L-1098	Install Garmin GPS15XL-W in NX-Series mobile for FleetSync® AVL	\$ 80.00	100.00
L-1099	Assemble NX-700/800/900/901 with KRK-10 Remote Kit	\$ 33.60	42.00
L-1687	NX-700/800/900/901 Flow Control Modification	\$ 48.00	60.00
L-1692	NX-900/901 Programming (with basic TX/RX check)	\$ 30.00	37.50
L-1776	Assemble NX-700/800/900/901 with KRK-13 Dual Remote Kit	\$ 33.60	42.00
L-1812	Install Gen2 Enhanced Option in NX series radio (Must purchase KWD-NX2G-10 separately)	\$ 20.00	25.00
L-1813	NX Series Radio Gen2 Enhanced Option FIELD-UPGRADE (Must purchase KWD-NX2G-10 separately)	NC	NC
L-1819	Create KWD-LIC-USB and store KWD-NX2G-10 (Must purchase KWD-NX2G-10 separately)	\$ 100.00	125.00
L-1830	Install KWD-AE30K in NX-700/800/900/901 series Mobile (Must purchase module separately)	\$ 60.00	75.00
L-1831	Install KWD-AE31K in NX-700/800/900/901 series Mobile (Must purchase module separately)	\$ 60.00	75.00
<b>MPT FIRMWARE/ACCESSORIES/TUNING</b>		<b>Contract</b>	<b>LIST</b>
KPG-143DNK	Windows® Programming Software for NX series MPT (Compliant with FCC Part 90 Narrowbanding) (Contract Level License ID included) <b>Note:</b> - Must order L-1727 for Network Level License ID & programming privileges. - Gen2 Enhanced Option (KWD-NX2G-10) for MPT will be available on 3Q FY2016.	\$ 82.60	103.25
KWD-NX10MPT	MPT Trunking Field Upgrade Kit for NX series radio Must order <b>L-1729</b> <b>Note:</b> Not compatible with any other firmware options. Radio does not retain LTR trunking features once the MPT option is installed.	\$ 53.36	66.70
L-1726	Install MPT option in NX series radio	\$ 20.00	25.00
L-1727	Network Level License ID for KPG-143D(N) NX series Programmer	\$ 126.66	158.33
L-1728	Retrofit Install of MPT option in NX series radio For previously purchased NX series radios. Order L-1728 through LMR order desk/rep. Ship radios to attn: Kenwood LMR Tuning, Long Beach for installation. Include Kenwood order number for L-1728 provided by order desk & copy of company P.O. or P.O. number. <b>Note:</b> see NX series MPT Introduction Sales Bulletin for details.	\$ 68.00	85.00
L-1729	NX Series Radio MPT Firmware FIELD-UPGRADE (Must purchase KWD-NX10MPT separately)	NC	NC

# NX-720HG/820HG

## NXDN Type-D Packages

### STANDARD



#### All NX-x20 series mobiles include:

- Standard Microphone (KMC-35)
- Mounting Bracket
- DC Cable
- 15A Fuse
- Instruction Manual
- Premium Warranty: 3 Years\*

\* All Accessories / options: 1 Year

#### GENERAL FEATURES

- 50W (136-174 MHz) Model
- 45W (400-470, 450-520 MHz) Models
- 260 CH-GID / 128 Zones
- 10 Character Alphanumeric Aliases
- Backlit LCD & Keys
- Function/Status LCD Icons
- Transmit/Busy/Call Alert/Warn LED
- Blue Function/Status LED
- On/Off Power Control
- 4 Up/Down Selectors
- 6 Front PF Keys
- Emergency/AUX Key
- 4W Speaker Audio
- Zone / CH Number Voice Announcement
- DB-15 Accessory Connector
- 6 Programmable AUX I/Os
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP-54 Water & Dust Intrusion
- Built-in GPS Receiver

#### ANALOG MODE - GENERAL

- 12.5 kHz Channels
- Conventional & LTR® Zones
- FleetSync®/II, MDC-1200, DTMF
- QT / DQT & Two-Tone (Conventional Zones Only)
- Voice Inversion Scrambler (16 Codes)

#### FleetSync® /II (FM)

- PTT ID ANI / Caller ID
- Selective / Group Call
- Emergency, Status & Text Messages

#### MDC-1200

- PTT ID ANI / Caller ID
- Emergency, Radio Check & Inhibit

#### SCAN

- Single Zone / Multi-Zone / List Scan
- Dual Priority Scan (Conventional)

#### DIGITAL – GENERAL

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- Over-the-Air Alias
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- NXDN® Scrambler Included

#### DIGITAL CONVENTIONAL MODE

- 6.25 & 12.5 kHz Channels
- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call
- Mixed FM/Digital Operation
- Conventional IP Networks
- Site Roaming
- Short & Long Data Messages
- Transparent Data Mode
- Over-the-Air Programming
- GPS Location with Voice
- Remote Stun/Kill/Check

#### DIGITAL – NXDN TYPE-D TRUNKING

- 6.25 kHz Channels
- Individual Private Call
- Group Call
- Transmission Trunked Mode
- Late Entry (UID & GID)
- 4 Priority Monitor ID's

MODEL		Contract	LIST
NX-720HGK-TD	136-174 MHz 50W, 260 CH / 128 Zone, Type-D	\$ 553.36	691.70
NX-820HGK-TD	450-520 MHz 45W, 260 CH / 128 Zone, Type-D	\$ 553.36	691.70
NX-820HGK2-TD	400-470 MHz 45W, 260 CH / 128 Zone, Type-D	\$ 553.36	691.70

#### Notes:

1. All listed models are factory loaded with KWD-NXD20K (Firmware) and L-1781 (NXDN Type-D Installation Labor).
2. Must order KPG-176DNK, NXDN Type-D programming software, separately.
3. Radio does not operate on NXDN Type-C trunking. Do not order listed radios if you intent to use radios on Type-C trunking system.

MOBILE INSTALLATION ACCESSORIES		Contract	LIST
KCT-60M	DB15-to-15pin Molex Adapter Cable	\$ 23.20	29.00
KCT-18	Ignition sense cable (requires KCT-60M Acc. Cable Option)	\$ 10.96	13.70
KCT-36	Extension Cable for KCT-34/35/39/40M/60M; 117.6 inches (9.8 ft.)	\$ 35.00	43.75
KLF-2	Line Filter (suppresses alternator whine, 25dB, 25A max).	\$ 33.60	42.00
KMB-10	Key lock adapter	\$ 21.04	26.30
CONTROL STATION INSTALLATION ACCESSORIES		Contract	LIST
KMB-34	Control Station Mounting Case for KPS-15 Power Supply and Mobiles (excludes TK-5x10/6110 series). (mobile mounting hardware included)	\$ 38.40	48.00
KPS-15	DC Switching Power Supply (117/230 VAC; 23A max. continuous, 25A peak)	\$ 138.40	173.00
MICROPHONES AND SPEAKERS		Contract	LIST
KMC-35	MIL-SPEC Standard electret mobile microphone (8-pin mod. plug) - same as supplied	\$ 42.00	52.50
KMC-36	MIL-SPEC Standard electret mobile microphone with 12-key DTMF (8-pin mod. plug)	\$ 75.60	94.50
KMC-9C	Control Station Desktop Microphone (8-pin mod. plug)	\$ 68.80	86.00

<b>MICROPHONES AND SPEAKERS, CON'T</b>		<b>Contract</b>	<b>LIST</b>
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: Compatible with FDMA (Analog / NXDN) and TDMA operations.</b>	\$ 144.00	180.00
KES-3S	External speaker (compact low profile; black case; 3.5 mm phono plug-in)	\$ 35.40	44.25
KES-5	External speaker, 40W max input <b>Note:</b> requires KCT-60M installed.	\$ 49.00	61.25

<b>SOFTWARE &amp; USB OPTIONS</b>		<b>Contract</b>	<b>LIST</b>
KWD-NX2G-10	Gen2 Enhanced Option for NX-*00/*10/*11/*20 Portables & Mobiles <b>Must order L-1812 for factory installation, or L-1813 for field-upgrade option</b>	\$ 13.60	17.00
KWD-LIC-USB	USB Hardware Key for activating KWD-NX2G-10 options to NX-*00/*10/*11/*20 series without ESN. KWD-LIC-USB stores KWD-NX2G-10 options which are purchased seperately and includes KPG-97USB software for activating radios.	N/C	N/C

Note:

- Must order L-1819.
- Must purchase KWD-NX2G-10 seperately.
- KWD-LIC-USB Request Form that can be downloaded from Contract Tools is required to order.
- KWD-LIC-USB cannot be rechargeable. Must purchase it per every orders.
- KWD-LIC-USB can store up to 50,000 KWD-NX2G-10 Gen2 Upgrade Options.
- The licenses (KWD-NX2G-10) installed to the KWD-LIC-USB is NOT eligible for warranty compensaton.

<b>FleetSync® AVL &amp; MESSAGING</b>		<b>Contract</b>	<b>LIST</b>
KAS-10	FleetSync & NEXEDGE AVL & Messaging Software with NEXEDGE Trunking VoIP Dispatch <b>Note:</b> - Users can chose to operate Messaging, AVL or VoIP or all three if desired. Compatible with Windows® XP, VISTA & 7 and Microsoft® MapPoint® 2006/2009/2010 (certain format bitmap images can be imported). Refer to KAS-10 product spec sheets and manuals for details. - NEXEDGE Gen2, Type-D Trunking and DMR System not supported.	\$ 347.20	434.00
KRA-40GM	GPS Antenna	\$ 33.60	42.00

<b>SERVICE RELATED ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KPG-46XM	USB Programming interface cable	\$ 126.80	158.50
KPG-176DNK	Programming Software for NX-x20 Series Type-D functions	\$ 82.60	103.25

<b>INSTALLATION / TUNING CHARGES</b>		<b>Contract</b>	<b>LIST</b>
L-1751	NX-720HG/820HG Programming (with basic TX/RX check)	\$ 30.00	37.50
L-1812	Install Gen2 Enhanced Option in NX series radio (Must purchase KWD-NX2G-10 separately)	\$ 20.00	25.00
L-1813	NX Series Radio Gen2 Enhanced Option FIELD-UPGRADE (Must purchase KWD-NX2G-10 separately)	NC	NC
L-1819	Create KWD-LIC-USB and store KWD-NX2G-10 (Must purchase KWD-NX2G-10 separately)	\$ 100.00	125.00

<b>TYPE-D FIRMWARE/TUNING</b>		<b>Contract</b>	<b>LIST</b>
KWD-NXD20K	Type-D Trunking Firmware. Must order <b>L-1782</b> . <b>Note:</b> Not compatible with any other firmware. Radio does not retain <b>Type-C</b> trunking features once the Type-D Firmware is installed.	NC	NC
L-1782	Type-D Trunking Firmware FIELD-UPGRADE. <b>Note:</b> To place an order, please complete the <b>NEXEDGE Type-D Field Upgrade Form</b> available on Kenwood Tools under Forms. Required information includes the exact model #s and serial number for each radio to be updated.	NC	NC



## STANDARD



## All NX-x20 series mobiles include:

- Standard Microphone (KMC-35)
- Mounting Bracket
- DC Cable
- 15A Fuse
- Instruction Manual
- Premium Warranty: 3 Years\*

\* All Accessories / options: 1 Year

## GENERAL FEATURES

- 15W (806-870 MHz) Model
- 260 CH-GID / 128 Zones
- 10 Character Alphanumeric Aliases
- Backlit LCD & Keys
- Function/Status LCD Icons
- Transmit/Busy/Call Alert/Warn LED
- Blue Function/Status LED
- On/Off Power Control
- 4 Up/Down Selectors
- 6 Front PF Keys
- Emergency/AUX Key
- 4W Speaker Audio
- Zone / CH Number Voice Announcement
- DB-15 Accessory Connector
- 6 Programmable AUX I/Os
- KPG-141D Windows® FPU
- Flash Firmware Upgrading
- MIL-STD-810 C/D/E/F/G
- IP-54 Water & Dust Intrusion
- PC Serial Interface
- SDM Manual Input
- Transparent Data Mode
- Built-in GPS Receiver

## DIGITAL GENERAL

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Over-the-Air Programming
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill
- Remote Check
- Short & Long Data Messages
- GPS Location with Voice
- NXDN® Scrambler Included

## DIGITAL CONVENTIONAL MODE

- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call
- Mixed FM/Digital Operation
- Conventional IP Networks
- Site Roaming

## DIGITAL TRUNKING MODE

- Individual Private Call
- Group Call & Broadcast Call
- Telephone Interconnect
- Transmission Trunked Mode
- Message Trunked Mode
- Call Queuing with Priority
- Late Entry (UID & GID)
- 4 Priority Monitor ID's
- Remote Group Add
- System Auto Select

## DIGITAL - MULTI-SITE IP NETWORKS

## NEXEDGE Generation1 System

- 48site Trunked IP Network
- Auto Roaming Registration
- Group Registration

## NEXEDGE Generation1 System Bridge

- 8 Trunked Networks per radio (each in a zone)
- UID Lists for each network

## NEXEDGE Generation2 System (option)

- 1,152 sites Wide Area System
- Direct Frequency Assignment

## SCAN

- Single Zone / Multi-Zone / List Scan
- Dual Priority Scan (Conventional)

## FM MODES - GENERAL

- 25 & 12.5 kHz Channels
- NPSPAC Channels
- Conventional & LTR® or MPT Zones
- FleetSync®/II, MDC-1200, DTMF
- QT / DQT (Conventional Zones Only)
- Voice Inversion Scrambler (16 Codes)

## MPT ZONES\*

- Single-Site Trunking
- Multi-Site Network Trunking
- 8 Network Capacity
- Network Roaming / Registration

## FleetSync®/II (FM)

- PTT ID ANI / Caller ID
- Selective / Group Call
- Emergency, Status & Text Messages

## MDC-1200

- PTT ID ANI / Caller ID
- Emergency, Radio Check & Inhibit

MODEL		Contract	LIST
NX-920GK	806-870 MHz 15W, 260 CH / 128 Zone	\$ 689.60	862.00
MOBILE INSTALLATION ACCESSORIES		Contract	LIST
KCT-18	Ignition sense cable (requires KCT-60M Acc. Cable Option)	\$ 10.96	13.70
KCT-36	Extension Cable for KCT-34/35/39/40M/60M; 117.6 inches (9.8 ft)	\$ 35.00	43.75
KCT-60M	DB15-to-15pin Molex Adapter Cable	\$ 23.20	29.00
KLF-2	Line Filter (suppresses alternator whine, 25dB, 25A max).	\$ 33.60	42.00
KMB-10	Key lock adapter	\$ 21.04	26.30
CONTROL STATION INSTALLATION ACCESSORIES		Contract	LIST
KMC-9C	Control Station Desktop Microphone (8-pin mod. plug)	\$ 68.80	86.00
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: Compatible with FDMA (analog / NXDN) and TDMA operations.</b>	\$ 144.00	180.00
KMB-34	Control Station Mounting Case for KPS-15 Power Supply and Mobiles (excludes TK-5x10/6110 series). (mobile mounting hardware included)	\$ 38.40	48.00
KPS-15	DC Switching Power Supply (117/230 VAC; 23A max. continuous, 25A peak)	\$ 138.40	173.00



MICROPHONES AND SPEAKERS		Contract	LIST
KMC-35	MIL-SPEC Standard electret mobile microphone (8-pin mod. plug) - same as supplied	\$ 42.00	52.50
KMC-36	MIL-SPEC Standard electret mobile microphone with 12-key DTMF (8-pin mod. plug)	\$ 75.60	94.50
KMC-9C	Control Station Desktop Microphone (8-pin mod. plug)	\$ 68.80	86.00
KES-3S	External speaker (compact low profile; black case; 3.5 mm phono plug-in)	\$ 35.40	44.25
KES-5	External speaker, 40W max input <b>Note:</b> requires KCT-60M installed.	\$ 49.00	61.25
SOFTWARE OPTIONS		Contract	LIST
KPG-150AP	NEXEDGE OTAP Manager Windows Software. • License Includes 10 radios / 1 Serial Port* • To add more radios/serial ports, you must contact Kenwood Systems Division [1-800-TRUNKING].	\$ 440.00	550.00
KWD-NX2G-10	Gen2 Enhanced Option for NX-*00/*10/*11/*20 Portables & Mobiles <b>Must order L-1812 for factory installation, or L-1813 for field-upgrade option</b> <b>Note:</b> <b>MPT</b> Firmware and FPU do <b>NOT</b> compatible. MPTs will be available on <b>3Q FY2016</b> .	\$ 13.60	17.00
KWD-LIC-USB	USB Hardware Key for activating KWD-NX2G-10 options to NX-*00/*10/*11/*20 series without ESN. KWD-LIC-USB stores KWD-NX2G-10 options which are purchased separately and includes KPG-97USB software for activating radios.  <b>Note:</b> - Must order L-1819. - Must purchase KWD-NX2G-10 separately. - KWD-LIC-USB Request Form that can be downloaded from Contract Tools is required to order. - KWD-LIC-USB cannot be rechargeable. Must purchase it per every orders. - KWD-LIC-USB can store up to 50,000 KWD-NX2G-10 Gen2 Upgrade Options. - The licenses (KWD-NX2G-10) installed to the KWD-LIC-USB is NOT eligible for warranty compensaton.	N/C	N/C
FleetSync® & NEXEDGE® AVL & MESSAGING		Contract	LIST
KAS-10	FleetSync & NEXEDGE AVL & Messaging Software with NEXEDGE Trunking VoIP Dispatch <b>Note:</b> - Users can chose to operate Messaging, AVL or VoIP or all three if desired. Compatible with Windows® XP, VISTA & 7 and Microsoft® MapPoint® 2006/2009/2010 (certain format bitmap images can be imported). Refer to KAS-10 product spec sheets and manuals for details. - NEXEDGE Gen2, Type-D Trunking and DMR System not supported.	\$ 347.20	434.00
KRA-40GM	GPS Antenna	\$ 33.60	42.00
SERVICE RELATED ACCESSORIES		Contract	LIST
KPG-141DNK	Windows® Programming Software for NX-220/320/420/720/820/920 (Compliant with FCC Part 90 Narrowbanding).	\$ 82.60	103.25
KPG-46XM	USB Programming interface cable	\$ 126.80	158.50
INSTALLATION / TUNING CHARGES		Contract	LIST
L-1727	Network Level License ID for KPG-143D(N) NX series Programmer	\$ 126.66	158.33
L-1751	NX-720HG/820HG/920G Programming (with basic TX/RX check)	\$ 30.00	37.50
L-1812	Install Gen2 Enhanced Option in NX series radio (Must purchase KWD-NX2G-10 separately)	\$ 20.00	25.00
L-1813	NX Series Radio Gen2 Enhanced Option FIELD-UPGRADE (Must purchase KWD-NX2G-10 separately)	NC	NC
L-1819	Create KWD-LIC-USB and store KWD-NX2G-10 (Must purchase KWD-NX2G-10 separately)	\$ 100.00	125.00
MPT FIRMWARE/ACCESSORIES/TUNING		Contract	LIST
KPG-143DNK	Windows® Programming Software for NX series MPT (Compliant with FCC Part 90 Narrowbanding) (Contract Level License ID included) <b>Note:</b> - Must order L-1727 for Network Level License ID & programming privileges. - Gen2 Enhanced Option (KWD-NX2G-10) for MPT will be available on 3Q FY2016.	\$ 82.60	103.25
KWD-NX10MPT	MPT Trunking Field Upgrade Kit for NX series radio Must order <b>L-1729</b> <b>Note:</b> Refer to NX series MPT Price Pages. Not compatible with any other firmware options. Radio does not retain LTR trunking features once the MPT option is installed.	\$ 53.36	66.70

L-1726	Install MPT option in NX series radio	\$ 20.00	25.00
L-1728	Retrofit Install of MPT option in NX series radio For previously purchased NX series radios. Order L-1728 through LMR order desk/rep. Ship radios to attn: Kenwood LMR Tuning, Long Beach for installation. Include Kenwood order number for L-1728 provided by order desk & copy of company P.O. or P.O. number. <u>Note:</u> see NX series MPT Introduction Sales Bulletin for details.	\$ 68.00	85.00
L-1729	NX Series Radio MPT Firmware FIELD-UPGRADE (Must purchase KWD-NX10MPT separately).	NC	NC

NEXEDGE®

# NX-740HV/840HU

VHF/UHF Digital &amp; FM Analog Mobile Radios

## STANDARD

**All NX-x40 series mobiles include:**

- Standard Microphone (KMC-35)
- Mounting Bracket
- DC Cable
- 15A Fuse
- Instruction Manual
- Premium Warranty: 3 Years\*

\* All Accessories / options: 1 Year

**GENERAL FEATURES**

- 50 W (136-174 MHz) Model
- 45 W (450-520 MHz) Model
- Max. 16 CH per Zone
- 2 Conventional Zones
- 2-Digit LED Channel Display
- Function/Status LED Dots
- Backlit Keys
- Transmit /Busy / Call Alert LED
- Blue Function/Status LED
- 9 Programmable Function Keys
- Emergency / AUX Key
- 4W Speaker Audio
- Voice CH# Announcement
- DB15 Accessory Interface
- 8 Programmable I/O Ports
- KPG-175DN Windows® FPU
- MIL-STD-810 C/D/E/F
- IP-54 Water & Dust Intrusion
- PC Serial Interface
- GPS Receiver Option

**DIGITAL COMMON**

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias (TX Only)
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging
- Remote Stun/Kill
- Remote Check
- GPS Location with Voice
- NXDN® Scrambler Included

**DIGITAL CONVENTIONAL MODE**

- 64 Radio Access Numbers (RAN)
- Individual & Group Selective Call
- Conventional IP Networks
- Site Roaming

**DIGITAL – TYPE-D TRUNKING MODE \***

- Individual Call
- Group Call & All Group Call
- Emergency Call
- Paging Call
- Transmission Trunked Mode
- Late Entry
- ESN Validation
- Status Messaging
- \* Hardware Version 2.0 can be available.

**SCAN**

- Single Zone Scan
- Single Priority Scan

**ANALOG MODE - GENERAL**

- 12.5 kHz Channels
- Conventional Zones
- FleetSync®, MDC-1200, DTMF
- QT/DQT/Two-Tone
- Voice Inversion Scrambler (16 Codes)

**FleetSync®**

- PTT ID ANI
- Selective / Group Call
- Emergency Status
- Send GPS Data

**MDC-1200**

- PTT ID ANI
- Emergency, Radio Check & Inhibit

MODEL		Contract	LIST
NX-740HVK	136-174 MHz VHF 50W, 16 Ch / 2 Zones	\$ 348.00	435.00
NX-840HUK	450-520 MHz UHF 45W, 16 Ch / 2 Zones	\$ 348.00	435.00
MOBILE INSTALLATION ACCESSORIES		Contract	LIST
KCT-60M	DB15-to-15pin Molex Adapter Cable	\$ 23.20	29.00
KCT-18	Ignition sense cable (requires KCT-60M Acc. Cable Option)	\$ 10.96	13.70
KCT-36	Extension Cable for KCT-34/35/39/40M/60M; 117.6 inches (9.8 ft)	\$ 35.00	43.75
KLF-2	Line Filter (suppresses alternator whine, 25dB, 25A max).	\$ 33.60	42.00
KMB-10	Key lock adapter	\$ 21.04	26.30
CONTROL STATION INSTALLATION ACCESSORIES		Contract	LIST
KMC-9C	Control Station Desktop Microphone (8-pin mod. plug)	\$ 68.80	86.00
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: Compatible with FDMA (analog / NXDN) and TDMA operations.</b>	\$ 144.00	180.00
KMB-34	Control Station Mounting Case for KPS-15 Power Supply and Mobiles (excludes TK-5x10/6110 series). (mobile mounting hardware included)	\$ 38.40	48.00
KPS-15	DC Switching Power Supply (117/230 VAC; 23A max. continuous, 25A peak)	\$ 138.40	173.00
MICROPHONES AND SPEAKERS		Contract	LIST
KMC-35	MIL-SPEC Standard electret mobile microphone (8-pin mod. plug)-same as supplied	\$ 42.00	52.50
KMC-36	MIL-SPEC Standard electret mobile microphone with 12-key DTMF (8-pin mod. plug)	\$ 75.60	94.50
KES-3S	External speaker (compact low profile; black case; 3.5 mm phono plug-in)	\$ 35.40	44.25
KES-5	External speaker, 40W max input <b>Note:</b> requires KCT-60M installed.	\$ 49.00	61.25
FleetSync® & NEXEDGE® AVL & MESSAGING		Contract	LIST

GPS15XL-W	Garmin Internal GPS Receiver Board for NEXEDGE/FleetSync AVL <b>Note:</b> • Conventional operation only. • Requires GA25 MCX GPS antenna. • Refer to <a href="http://www.garmin.com">www.garmin.com</a> for GPS-15XL-W technical specifications. • Option: Order <b>L-1779</b> for Kenwood Long Beach installation.	\$ 104.20	130.25
GA25MCX	Garmin On-dash Style Magnetic base GPS Antenna for GPS15XL-W <b>Note:</b> shipped loose only; Install GA25MCX antenna to GPS15XL-W before vehicle install.	\$ 49.60	62.00
<b>SERVICE RELATED ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KPG-46XM	USB Programming interface cable	\$ 126.80	158.50
KPG-175DNK	Windows® Programming Software for NX-740HV840HU	\$ 82.60	103.25
<b>TYPE-D TRUNKING ACTIVATION/TUNING</b>		<b>Contract</b>	<b>LIST</b>
KWD-NXD40K	Type-D Trunking Option. Must order <b>L-1800</b> or <b>L-1801</b> . <b>Note:</b> Compatible with firmware version 3.00 or later. Only Hardware <b>Version 2.0</b> can be available.	\$ 8.00	10.00
L-1800	Factory Activation of Type-D Trunking Option.	NC	NC
L-1801	Type-D Trunking Option FIELD-UPGRADE. To place an order, please complete the <b>NEXEDGE Type-D Field Upgrade Form</b> available on Kenwood Tools under Forms. Required information includes the exact model #s and serial number for each radio to be updated.	NC	NC
<b>INSTALLATION / TUNING CHARGES</b>		<b>Contract</b>	<b>LIST</b>
L-1778	NX-740H/840H Programming (with basic TX/RX check)	\$ 30.00	37.50
L-1779	Install Garmin GPS15XL-W in NX-x40 Series mobile <b>Note:</b> The KGS-3 & GPS15XL-W are not compatible with KGP-2A/2B AVL systems.	\$ 80.00	100.00



# TK-D740HV/840HU

VHF/UHF Digital & FM Analog Mobile Radios

## STANDARD



### All 40 series DMR mobiles include:

- Standard Microphone (KMC-35)
- Mounting Bracket
- DC Cable
- 15A Fuse
- Instruction Manual
- Standard Warranty: 2 Years\*\*

\*\* All Accessories / options: 1 Year

Because of spurious signal (birdie), the following frequencies (and  $\pm 10$  kHz ranges) are not allowed;

- 149.7000 • 422.4000 • 480.0000
- 172.8000 • 441.6000 • 499.2000
- 403.2000 • 460.8000 • 518.4000

### GENERAL FEATURES

- 50 W (136-174 MHz) Model
- 45 W (450-520, 400-470 MHz) Model
- Max. 16 CH per Zone
- 2 Conventional Zones
- 2-Digit LED Channel Display
- Function/Status LED Dots
- Backlit Keys
- Transmit / Busy / Call Alert LED
- 9 Programmable Function Keys
- Emergency / AUX Key
- 4W Speaker Audio
- Digital/Analog Mixed Mode
- Voice CH# Announcement
- DB15 Accessory Interface
- 8pin Programmable I/O Ports
- KPG-166DN Windows® FPU
- MIL-STD-810 C/D/E/F/G
- IP54 Dust & Water Protection
- PC Serial Interface
- GPS Receiver Option

### DIGITAL COMMON

- DMR Tier II Conventional
- AMBE+2™ VOCODER
- 12.5 kHz Channels
- Call Interrupt (Direct & Repeater Mode)
- Paging Call
- Emergency Call
- All Group Call
- Late Entry
- Status Messaging
- Remote Monitor

### DIGITAL CONVENTIONAL MODE

- Individual & Group Selective Call
- Conventional IP Networks

### SCAN

- Single/Multi Zone Scan
- Single Priority Scan (Conventional)

### ANALOG MODE - GENERAL

- 12.5 kHz Channels
- Conventional Zones
- DTMF
- QT/DQT, Two-Tone
- Voice Inversion Scrambler (16 Codes)

### FleetSync®

- PTT ID ANI
- Selective / Group Call
- Emergency Status
- Send GPS Data

\*1 Status Message for FleetSync is **NOT** supported.

\*2 Please see important notice in the GPS15XL-W.

MODEL		Contract	LIST
TK-D740HVK	136-174 MHz VHF 50W, 16 Ch / 2 Zones	\$ 348.00	435.00
TK-D840HUK	450-520 MHz UHF 45W, 16 Ch / 2 Zones	\$ 348.00	435.00
MOBILE INSTALLATION ACCESSORIES		Contract	LIST
KCT-60M	DB15-to-15pin Molex Adapter Cable	\$ 23.20	29.00
KCT-18	Ignition sense cable (requires KCT-60M Acc. Cable Option)	\$ 10.96	13.70
KCT-36	Extension Cable for KCT-34/35/39/40M/60M; 117.6 inches (9.8 ft)	\$ 35.00	43.75
KLF-2	Line Filter (suppresses alternator whine, 25dB, 25A max).	\$ 33.60	42.00
KMB-10	Key lock adapter	\$ 21.04	26.30
CONTROL STATION INSTALLATION ACCESSORIES		Contract	LIST
KMC-9C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note:</b> Available for Analog only. NOT compatible with Digital (TDMA) operations.	\$ 68.80	86.00
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: Compatible with FDMA (analog / NXDN) and TDMA (DMR) operations.</b>	\$ 144.00	180.00
KMB-34	Control Station Mounting Case for KPS-15 Power Supply and Mobiles (excludes TK-5x10/6110 series). (mobile mounting hardware included)	\$ 38.40	48.00
KPS-15	DC Switching Power Supply (117/230 VAC; 23A max. continuous, 25A peak)	\$ 138.40	173.00
MICROPHONES AND SPEAKERS		Contract	LIST
KMC-35	MIL-SPEC Standard electret mobile microphone (8-pin mod. plug)-same as supplied	\$ 42.00	52.50
KMC-36	MIL-SPEC Standard electret mobile microphone with 12-key DTMF (8-pin mod. plug)	\$ 75.60	94.50
KES-3S	External speaker (compact low profile; black case; 3.5 mm phono plug-in)	\$ 35.40	44.25
KES-5	External speaker, 40W max input <b>Note:</b> requires KCT-60M installed	\$ 49.00	61.25
FleetSync® & NEXEDGE® AVL & MESSAGING		Contract	LIST

GPS15XL-W	Garmin Internal GPS Receiver Board for DMR/FleetSync® AVL Important Notice: Firmware version 1.2 or later to use GPS functions require to be updated WITHOUT a GPS Receiver initially. Once firmware is updated 1.2 or later, it may be allowed any firmware version up with installed GPS Receiver. Please see Contract Tools under support for the detail. Note: • Conventional operation only • Requires GA25 MCX GPS antenna • Refer to <a href="http://www.garmin.com">www.garmin.com</a> for GPS-15XL-W technical specifications. • Option: Order L-1834 for Kenwood Long Beach installation	\$ 104.20	130.25
GA25MCX	Garmin On-dash Style Magnetic base GPS Antenna for GPS15XL-W <u>Note:</u> shipped loose only; Install GA25MCX antenna to GPS15XL-W before vehicle install.	\$ 49.60	62.00
<b>SERVICE RELATED ACCESSORIES</b>		<b>Contract</b>	<b>LIST</b>
KPG-46XM	USB Programming interface cable	\$ 126.80	158.50
KPG-166DNK	Windows® Programming Software for TK-D240V/340U/740HV/840HU	\$ 82.60	103.25
<b>INSTALLATION / TUNING CHARGES</b>		<b>Contract</b>	<b>LIST</b>
L-1799	TK-D740HV/840HU Programming (with basic TX/RX check)	\$ 30.00	37.50
L-1834	Install Garmin GPS15XL-W in TK-Dx40 Series mobile <u>Note:</u> The KGS-3 & GPS15XL-W are not compatible with KGP-2A/2B AVL systems.	\$ 80.00	100.00

**ATLAS Price Guide | April 2019**

		<b>Contract Price</b>	<b>List Price</b>
336-1212-101	<b>ATLAS 1200 P25 STATION 100W VHF 148-174MHz</b> Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode VHF station.	\$ 10,800.00	\$ 13,500.00
336-1224-101	<b>ATLAS 1200 P25 STATION 100W UHF 450-485MHz</b> Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode UHF station.	\$ 10,800.00	\$ 13,500.00
336-1241-101	<b>ATLAS 1200 P25 STATION 100W 800 MHZ</b> Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode 800 MHz station.	\$ 12,200.00	\$ 15,250.00
336-1224-102	<b>ATLAS 1200 P25 STATION 100W UHF (450-485MHz) 1PPM STAB</b> Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode UHF station with high stability.	\$ 13,180.00	\$ 16,475.00
336-1200-082	<b>ATLAS 1200 P25 BASE STATION DFSI LICENSE KEY</b> Includes one license key for P25 DFSI (Digital Fixed Station Interface).	\$ 1,320.00	\$ 1,650.00
336-1200-000	<b>ATLAS 1200 TOOLS PROGRAMMING KIT</b> Includes programming software and cable.	\$ 236.00	\$ 295.00
336-1200-091	<b>ATLAS 1200 POWER SUPPLY KIT ATLAS 1-STATION VHF/UHF 120/240VAC</b> Includes single power supply, rack mount kit and power cable.	\$ 720.00	\$ 900.00
336-1200-092	<b>ATLAS 1200 POWER SUPPLY KIT ATLAS 1-STATION 700/800 120/240VAC</b> Includes single power supply, rack mount kit and power cable.	\$ 1,240.00	\$ 1,550.00

# NXR-710/810

## UHF/VHF Low Power Base Stations and Repeaters



BASE STATION		CONTRACT	LIST
NXB7100PS	Low Power Base Station, 136-174MHz (NXR-710K, KSGPS20200)	\$ 1,924.00	2,405.00
NXB8101PS	Low Power Base Station, 450-520MHz (NXR-810K, KSGPS20200)	\$ 1,924.00	2,405.00
NXB8102PS	Low Power Base Station, 400-470MHz (NXR-810K2, KSGPS20200)	\$ 1,924.00	2,405.00
REPEATER STATION		CONTRACT	LIST
NXR7100PS	Low Power Repeater Station, 136-174MHz (NXR-710K, KSGPS20200)	\$ 1,924.00	2,405.00
NXR8101PS	Low Power Repeater Station, 450-520MHz (NXR-810K, KSGPS20200)	\$ 1,924.00	2,405.00
NXR8102PS	Low Power Repeater Station, 400-470MHz (NXR-810K2, KSGPS20200)	\$ 1,924.00	2,405.00
REPEATER STATION WITH DUPLEXER		CONTRACT	LIST
Note: Duplexers are not available for all frequencies. The default range of duplexers are between 148-160 MHz (VHF) with a 5MHz split between TX and RX, and between 450-460MHz (UHF). Other frequencies or VHF band splits may be available by special order (non-returnable and non-refundable). Pricing for special order duplexers may be higher.			
NXR7100PSD	Low Power Repeater Station with Duplexer, 148-160MHz (NXR-710K, KSGPS20200, KSGDX62001, KSGCB20008, KSGCB20010)	\$ 2,480.00	3,100.00
NXR8101PSD	Low Power Repeater Station with Duplexer, 450-460MHz (NXR-810K, KSGPS20200, KSGDX63002, KSGCB20008, KSGCB20010)	\$ 2,480.00	3,100.00
NXR8102PSD	Low Power Repeater Station with Duplexer, 450-460MHz (NXR-810K2, KSGPS20200, KSGDX63002, KSGCB20008, KSGCB20010)	\$ 2,480.00	3,100.00
REPEATER STATION WITH CONVENTIONAL IP NETWORK FUNCTIONALITY		CONTRACT	LIST
NXR7100PSI	Low Power Repeater Station, 136-174MHz (NXR-710K, KSGPS20200, KTI-3M)	\$ 2,136.00	2,670.00
NXR8101PSI	Low Power Repeater Station, 450-520MHz (NXR-810K, KSGPS20200, KTI-3M)	\$ 2,136.00	2,670.00
NXR8102PSI	Low Power Repeater Station, 400-470MHz (NXR-810K2, KSGPS20200, KTI-3M)	\$ 2,136.00	2,670.00
REPEATER STATION WITH DUPLEXER AND IP NETWORK FUNCTIONALITY		CONTRACT	LIST
Note: Duplexers are not available for all frequencies. The default range of duplexers are between 148-160 MHz (VHF) with a 5MHz split between TX and RX, and, and between 450-460MHz (UHF). Other frequencies or VHF band splits may be available by special order (non-returnable and non-refundable). Pricing for special order duplexers may be higher. Duplexer and KTI-3M are mounted inside the Repeater; a separate Rack-Mount Power Supply is provided			
NXR7100PSDI	Low Power Repeater Station with Duplexer, 148-160MHz (NXR-710K, KSGPS20201, KSGDX62001, KTI-3M, KSGCB20008, KSGCB20010)	\$ 2,832.00	3,540.00
NXR8101PSDI	Low Power Repeater Station with Duplexer, 450-460MHz (NXR-810K, KSGPS20201, KSGDX63002, KTI-3M, KSGCB20008, KSGCB20010)	\$ 2,832.00	3,540.00
NXR8102PSDI	Low Power Repeater Station with Duplexer, 450-460MHz (NXR-810K2, KSGPS20201, KSGDX63002, KTI-3M, KSGCB20008, KSGCB20010)	\$ 2,832.00	3,540.00
BASIC ACCESSORIES		CONTRACT	LIST
KPG-46UM	Programming Cable	\$ 126.80	158.50
KPG-129DNK	Programming Software (NXR-710/810)	\$ 82.60	103.25
B51-8901-00	NXR-710 Service Manual	\$ 40.00	50.00
B51-8902-00	NXR-810 Service Manual	\$ 40.00	50.00
KMC-9C	Desktop Microphone	\$ 68.80	86.00



KSGMT30001	2RU Desktop Enclosure - 16" deep by 20.5" wide by 5" high	\$ 160.00	200.00
KSGMT30004	4RU Desktop Enclosure - 16" deep by 20.5" wide by 8.5" high	\$ 172.00	215.00

COMPONENTS		CONTRACT	LIST
NXR-710K	Repeater, Digital, VHF, 136-174MHz, 25-50W	\$ 1,720.00	2,150.00
NXR-810K	Repeater, Digital, UHF, 450-520MHz, 1-40W	\$ 1,720.00	2,150.00
NXR-810K2	Repeater, Digital, UHF, 400-470MHz, 1-40W	\$ 1,720.00	2,150.00
KSGPS20200	DC Switching Power Supply	\$ 204.00	255.00
KSGDX62001	Duplexer, VHF, 148-160MHz, 6 cavities, 4.5MHz sep, N-F <b>Note:</b> This is the default frequency range. Other ranges may be available by special order.	\$ 476.00	595.00

COMPONENTS, CON'T		CONTRACT	LIST
KSGDX63002	Duplexer, UHF, 450-460MHz, 6 cavities, 5MHz sep, N-F <b>Note:</b> This is the default frequency range. Other ranges may be available by special order.	\$ 476.00	595.00
KSGCB20008	Cable, 10" 90 deg N-M to 90 deg BNC-M, RG-142 coaxial	\$ 40.00	50.00
KSGCB20010	Cable, 10", 90 deg N-M to 90 deg N-M, RG-142 coaxial	\$ 40.00	50.00
KTI-3M	Network Interface Unit	\$ 212.00	265.00
KSGPS20201	Power Supply, 20A, no meter, RM-2512 w/BB6 & 8 place fuse	\$ 344.00	430.00

# NXR-5700

VHF Digital & FM Base Repeaters - 136-174MHz



## GENERAL:

- Conventional / Conventional IP Network
- NEXEDGE Gen1 System
- NEXEDGE Gen2 System
- Occupies 1 RU
- Wideband Coverage
- 25/5/0.5 W RF Output Power
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.
- Built-in 0.5 ppm TCXO
- LED Status Indicators
- USB 2.0 Type-B Interface
- Programming information is required to properly configure each system. Please contact your Kenwood Systems Regional Manager for assistance.

## GENERAL OPTIONS:

- External amplifier with built-in T/R antenna switching for simplex operation
- Wire line remote control
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is available
- Multi-channel combining systems quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3") and 45 RU (7") open equipment racks.
- Amplifier choices include 50W, 110W, 150W or 250W options.
- Custom configurations are available; contact your Kenwood Systems Regional Sales Manager for details.

## TRUNKING OPTIONS

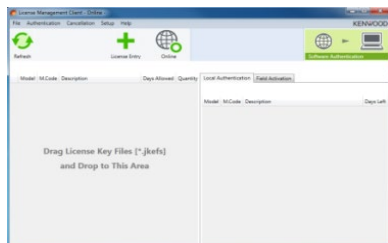
- Enabling of Trunking feature
- Secondary, restricted-level service keys for management of less critical system parameters available. Each trunking system requires an Ethernet switch per site. Routers are optional for a single-site system but required for multi-site systems.
- System switches and routers are recommended, but most commercially available network equipment is compatible.

## NXR-5700 REPEATER

		CONTRACT	LIST
NXR-5700K	Repeater, Digital, VHF, 136-174MHz, 25W, 0.5ppm TCXO built-in	\$ 4,266.40	5,333.00

## LICENSING SYSTEM

CONTRACT LIST



## KPT-300LMC

### License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the "[Account Request Form](#)" and return to the Kenwood Systems Order Desk.

Note: KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	NC	NC

## SOFTWARE LICENSE OPTIONS

CONTRACT LIST

### TO PLACE AN ORDER FOR SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

### Software License Key Discount Structure

1 License Key	---
2 ~ 4 License Keys	10% OFF

5 ~ 14 License Keys      **35% OFF**

15 ~ 24 License Keys      **40% OFF**

SOFTWARE LICENSE OPTIONS		CONTRACT	LIST
KPG-D2NK	License Key for KPG-D2NK Programming Software for NXR-5000 Repeater (Windows® Vista/7/8/8.1) <b>Note:</b> - Requires KPT-300LMC for authentication. - To program NXR-5000, Type A/B USB Cable (KSGCB10206) may be required.	\$ 82.60	103.25

#### RADIO FEATURE LICENSE OPTIONS

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

**\* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:**

1. Complete the attached Radio Feature Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

*Note: Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transferred radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.*

KWD-NX50VTR	License Key for NXR-5000 Vote System	\$ 400.00	500.00
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BASIC ACCESSORIES		CONTRACT	LIST
KXK-3M3	6.25KHz "Very Narrow Band" Option High Stability Reference Oscillator	\$ 2,666.40	3,333.00
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KSGCB10206	Programming USB A/B Cable	\$ 13.60	17.00
B5B-7216-10	NXR-5700 Service Manual	\$ 40.00	50.00

#### RF BASE STATION AMPLIFIER OPTIONS

Note: Includes Two Cables for Radio Connectivity

KSGPA22423	136-174MHz, 3W Input, 25-50W Output	\$ 1,592.00	1,990.00
KSGPA22400	136-144MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22410	144-152MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22420	152-162MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22430	162-174MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22451	136-144MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22452	144-152MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22453	152-162MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22454	162-174MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22258	152-162MHz, 3W Input, 250W Output	\$ 3,680.00	4,600.00
KSGPA22523	136-174MHz, 25W Input, 25-50W Output	\$ 1,592.00	1,990.00
KSGPA22510	144-152MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22520	152-162MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22530	162-174MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22552	144-152MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22553	152-162MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22554	162-174MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00

#### RF REPEATER STATION AMPLIFIER OPTIONS

Note: Includes One Cable for Radio Connectivity

KSGPA22403	136-174MHz, 3W Input, 25-50W Output	\$ 1,332.00	1,665.00
KSGPA22411	136-144MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22412	144-152MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00

KSGPA22413	152-162MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22414	162-174MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22441	136-144MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00

RF REPEATER STATION AMPLIFIER OPTIONS, CONT	CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA22442	144-152MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22443	152-162MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22444	162-174MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22253	152-162MHz, 3W Input, 250W Output	\$ 3,248.00	4,060.00
KSGPA22503	136-174MHz, 25W Input, 25-50W Output	\$ 1,332.00	1,665.00
KSGPA22512	144-152MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22513	152-162MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22514	162-174MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22542	144-152MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22543	152-162MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22544	162-174MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00

POWER SUPPLY OPTIONS	CONTRACT	LIST
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KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS	CONTRACT	LIST
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KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

WIRELINE REMOTE CONTROL OPTIONS	CONTRACT	LIST
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KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTM20016	16 Channel Tone Termination Panel <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 759.00	948.75
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00

Gen1 TRUNKING CONFIGURATIONS	CONTRACT	LIST
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KSGPG91800	Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater.	\$ 1,200.00	1,500.00
KSGPG91810	Multi-Site Networking Feature <b>Note:</b> One required for each networked site.	\$ 9,333.60	11,667.00

Gen1 TRUNKING CONFIGURATIONS, CON'T		CONTRACT	LIST
KSGPGKEYSM	System Manager Software and Secure USB Key Package (KPG-110SMK, KSGPGKEY01) <b>Note:</b> Only required when used as a trunking system. Software/Key package discount has been applied. (See component pricing below.)	\$ 466.40	583.00
KPG-110SMK	System Manager Trunking Software <b>Note:</b> Additional Programming Software (One copy included with KSGPGKEYSM) Software cannot be opened without a valid KSGPGKEY01 or KSGPGKEY02 secure USB key..	\$ 367.20	459.00
KSGPGKEY01	Grade-1 Unlimited Access Secure USB Programming Key	\$ 133.60	167.00
KSGPGKEY02	Grade-2 Limited Access Secure USB Programming Key	\$ 133.60	167.00
USB KEY FUNCTION OR CAPABILITY		<b>GRADE-1 (BLUE)</b>	<b>GRADE-2 (YELLOW)</b>
PROGRAM GENERAL SYSTEM PARAMETERS		✓	✓
ADD / DELETE / EDIT USERS. TALKGROUPS, CLASSES OF SERVICE, ECT.		✓	✓
ASSIGN OR EDIT REPEATER NETWORK IP ADDRESSES		✓	
ADD NEW REPEATER CHANNEL(S)		✓	
SWAP OUT SPARE REPEATERS		✓	
CONSTRUCT OR ADD NEW SITES		✓	
Gen2 TRUNKING CONFIGURATIONS		CONTRACT	LIST
<a href="#">Please see the NEXEDGE Gen2 Page.</a>			
ETHERNET SWITCH & ROUTER OPTIONS		CONTRACT	LIST
Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00
EXTERNAL TRUNKING CONTROLLER OPTIONS		CONTRACT	LIST
KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00
MISC STATION OPTIONS		CONTRACT	LIST
KSGDX12556	6 Cavity VHF BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty, minimum TX-RX 400 KHz. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ -	255.00
		\$ 204.00	
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00
COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
COMPONENTS, CON'T		CONTRACT	LIST
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00

KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGCB20112	Coaxial BNC 12" Canble	\$ 22.40	28.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USR	\$ 172.00	215.00
KSGCB22154	Cable,54",DB-9 Female (Controller) to DB-25 Male(Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# NXR-5800

UHF Digital & FM Base Repeaters - 400-520MHz



## GENERAL:

- Conventional / Conventional IP Network
- NEXEDGE Gen1 Network
- NEXEDGE Gen2 Network
- Occupies 1 RU
- Wideband Coverage
- 25/5/0.5 W RF Output Power
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.
- Built-in 0.5 ppm TCXO
- LED Status Indicators
- USB 2.0 Type-B Interface
- Programming information is required to properly configure each system. Please contact your Kenwood Systems Regional Manager for assistance.

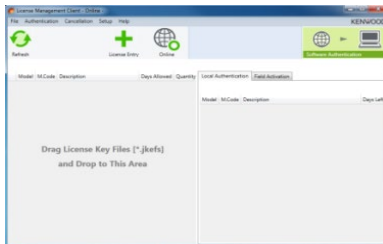
## GENERAL OPTIONS:

- External amplifier with built-in T/R antenna switching for simplex operation
- Wire line remote control
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is available
- Multi-channel combining systems quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 50W, 110W, 150W or 250W options.
- Custom configurations are available; contact your Kenwood Systems Regional Sales Manager for details.

## TRUNKING OPTIONS

- Enabling of Trunking feature
- Secondary, restricted-level service keys for management of less critical system parameters available. Each trunking system requires an Ethernet switch per site. Routers are optional for a single-site system but required for multi-site systems.
- System switches and routers are recommended, but most commercially available network equipment is compatible.

NXR-5800 REPEATER		CONTRACT	LIST
NXR-5800K	Repeater, Digital, UHF, 450-520MHz, 25W, 0.5ppm TCXO built-in	\$ 4,266.40	5,333.00
NXR-5800K3	Repeater, Digital, UHF, 400-470MHz, 25W, 0.5ppm TCXO built-in	\$ 4,266.40	5,333.00



## KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the "[Account Request Form](#)" and return to the Kenwood Systems Order Desk.

Note: KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	NC	NC

SOFTWARE LICENSE OPTIONS	CONTRACT	LIST
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## TO PLACE AN ORDER FOR SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

## Software License Key Discount Structure

1 License Key	---
2 ~ 4 License Keys	10% OFF



5 ~ 14 License Keys      **35% OFF**

15 ~ 24 License Keys      **40% OFF**

SOFTWARE LICENSE OPTIONS		CONTRACT	LIST
KPG-D2NK	License Key for KPG-D2NK Programming Software for NXR-5000 Repeater (Windows® Vista/7/8/8.1) <b>Note:</b> - Requires KPT-300LMC for authentication. - To program NXR-5000, Type A/B USB Cable (KSGCB10206) may be required.	\$ 82.60	103.25

#### RADIO FEATURE LICENSE OPTIONS

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

**\* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:**

1. Complete the attached Radio Feature Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

*Note: Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transferred radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.*

KWD-NX50VTR	License Key for NXR-5000 Vote System	\$ 400.00	500.00
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BASIC ACCESSORIES		CONTRACT	LIST
KXK-3M3	6.25KHz "Very Narrow Band" Option High Stability Reference Oscillator	\$ 2,666.40	3,333.00
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KSGCB10206	Programming USB A/B Cable	\$ 13.60	17.00
B5B-7217-10	NXR-5800 Service Manual	\$ 40.00	50.00

#### RF BASE STATION AMPLIFIER OPTIONS

Note: Includes Two Cables for Radio Connectivity.

KSGPA23421	406-450MHz, 3W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23423	450-512MHz, 3W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23400	406-450MHz, 3W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23420	450-512MHz, 3W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23451	406-450MHz, 3W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23453	450-512MHz, 3W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23521	406-450MHz, 25W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23523	450-512MHz, 25W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23500	406-450MHz, 25W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23520	450-512MHz, 25W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23551	406-450MHz, 25W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23553	450-512MHz, 25W Input, 150W Output	\$ 3,648.00	4,560.00

#### RF REPEATER STATION AMPLIFIER OPTIONS

Note: Includes One Cable for Radio Connectivity.

KSGPA23401	406-450MHz, 3W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23403	450-512MHz, 3W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23411	406-450MHz, 3W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23413	450-512MHz, 3W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23441	406-450MHz, 3W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23443	450-512MHz, 3W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23501	406-450MHz, 25W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23503	450-512MHz, 25W Input, 20-40W Output	\$ 1,332.00	1,665.00



KSGPA23511	406-450MHz, 25W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23513	450-512MHz, 25W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23541	406-450MHz, 25W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23543	450-512MHz, 25W Input, 150W Output	\$ 3,152.00	3,940.00
<b>POWER SUPPLY OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00
<b>MOUNTING CONFIGURATIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00
<b>WIRELINE REMOTE CONTROL OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTM20016	16 Channel Tone Termination Panel <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 759.00	948.75
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00
<b>Gen1 TRUNKING CONFIGURATIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGPG91800	Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater.	\$ 1,200.00	1,500.00
KSGPG91810	Multi-Site Networking Feature <b>Note:</b> One required for each networked site.	\$ 9,333.60	11,667.00
KSGPGKEYSM	System Manager Software and Secure USB Key Package (KPG-110SMK, KSGPGKEY01) <b>Note:</b> Only required when used as a trunking system. Software/Key package discount has been applied. (See component pricing below.)	\$ 466.40	583.00
KPG-110SMK	System Manager Trunking Software <b>Note:</b> Additional Programming Software (One copy included with KSGPGKEYSM) Software cannot be opened without a valid KSGPGKEY01 or KSGPGKEY02 secure USB key..	\$ 367.20	459.00
KSGPGKEY01	Grade-1 Unlimited Access Secure USB Programming Key	\$ 133.60	167.00
KSGPGKEY02	Grade-2 Limited Access Secure USB Programming Key	\$ 133.60	167.00
USB KEY FUNCTION OR CAPABILITY		<b>GRADE-1 (BLUE)</b>	<b>GRADE-2 (YELLOW)</b>
PROGRAM GENERAL SYSTEM PARAMETERS		✓	✓
ADD / DELETE / EDIT USERS. TALKGROUPS, CLASSES OF SERVICE, ECT.		✓	✓
ASSIGN OR EDIT REPEATER NETWORK IP ADDRESSES		✓	
ADD NEW REPEATER CHANNEL(S)		✓	
SWAP OUT SPARE REPEATERS		✓	
CONSTRUCT OR ADD NEW SITES		✓	

Gen2 TRUNKING CONFIGURATIONS		CONTRACT	LIST
<a href="#">Please see the NEXEDGE Gen2 Page.</a>			
ETHERNET SWITCH & ROUTER OPTIONS		CONTRACT	LIST
Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT1000) sold separately.	\$ 300.00	375.00
EXTERNAL TRUNKING CONTROLLER OPTIONS		CONTRACT	LIST
KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00
MISC STATION OPTIONS		CONTRACT	LIST
KSGDX13546	6 Cavity UHF BpBr Duplexer (450-470MHz Only) <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
KSGDX23101	4 Cavity UHF BpBr Duplexer (450-470MHz Only) <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty. Includes one LMR-400 interface cable.	\$ 1,420.00	1,775.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00
COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGCB20112	Coaxial BNC 12" Canble	\$ 22.40	28.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USR	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male(Modem)	\$ 32.00	40.00
COMPONENTS, CON'T		CONTRACT	LIST
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00

KSGUT10001	1RU Mounting Tray <u>Note:</u> Provides mounting space for up to two accessories.	\$ 40.00	50.00
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# NXR-5900

800MHz Digital & FM Base Repeaters - 806-825, 851-870 MHz



## GENERAL:

- Conventional / Conventional IP Network
- NEXEDGE Gen1 Network
- NEXEDGE Gen2 Network \*
- Occupies 1 RU
- Wideband Coverage
- 0.36 W RF Output Power
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.
- Built-in 0.5 ppm TCXO
- LED Status Indicators
- USB 2.0 Type-B Interface
- Programming information is required to properly configure each system. Please contact your Kenwood Systems Regional Manager for assistance.

## GENERAL OPTIONS:

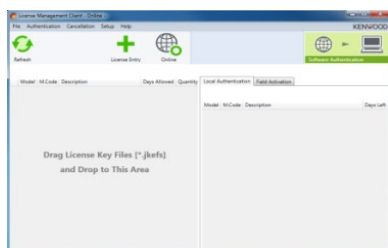
- External amplifier with built-in T/R antenna switching for simplex operation
- Wire line remote control
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is available
- Multi-channel combining systems quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3") and 45 RU (7") open equipment racks.
- Amplifier choices include 75W and 130W options.
- Custom configurations are available; contact your Kenwood Systems Regional Sales Manager for details.

## TRUNKING OPTIONS

- Enabling of Trunking feature
- Secondary, restricted-level service keys for management of less critical system parameters available. Each trunking system requires an Ethernet switch per site. Routers are optional for a single-site system but required for multi-site systems.
- System switches and routers are recommended, but most commercially available network equipment is compatible.

## NXR-5900 REPEATER

		CONTRACT	LIST
NXR-5900K	Repeater, Digital, RX 806-825 MHz, TX 821-870 MHz	\$ 4,600.00	5,750.00



Note: KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.



## KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the "[Account Request Form](#)" and return to the Kenwood Systems Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	NC	NC

## SOFTWARE LICENSE OPTIONS

CONTRACT LIST

### TO PLACE AN ORDER FOR SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvkenwood.com](mailto:systemsorderdesk@us.jvkenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

### Software License Key Discount Structure

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF

SOFTWARE LICENSE OPTIONS		CONTRACT	LIST
KPG-D2NK	License Key for KPG-D2NK Programming Software for NXR-5000 Repeater (Windows® Vista/7/8/8.1) <b>Note:</b> - Requires KPT-300LMC for authentication. - To program NXR-5000, Type A/B USB Cable (KSGCB10206) may be required.	\$ 82.60	103.25

#### RADIO FEATURE LICENSE OPTIONS

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

#### \* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:

1. Complete the attached Radio Feature Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

**Note:** Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transferred radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.

KWD-NX50VTR	License Key for NXR-5000 Vote System	\$ 400.00	500.00
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BASIC ACCESSORIES		CONTRACT	LIST
KXK-3M3	6.25KHz "Very Narrow Band" Option High Stability Reference Oscillator <b>Note:</b> Only one KXK-3M3 required per site for 6.25KHz operation.	\$ 2,666.40	3,333.00
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KSGCB10206	Programming USB A/B Cable	\$ 13.60	17.00
B5B-7278-00	NXR-5900 Service Manual	\$ 40.00	50.00

RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA24181	764-870MHz, 250mW Input, 75W Output	\$ 2,320.00	2,900.00
KSGPA24131	764-870MHz, 250mW Input, 130W Output	\$ 3,064.00	3,830.00

POWER SUPPLY OPTIONS		CONTRACT	LIST
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 130W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 130W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS		CONTRACT	LIST
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

WIRELINE REMOTE CONTROL OPTIONS		CONTRACT	LIST
KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00

KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00

Gen1 TRUNKING CONFIGURATIONS		CONTRACT	LIST
KSGPG91800	Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater.	\$ 1,200.00	1,500.00
KSGPG91810	Multi-Site Networking Feature <b>Note:</b> One required for each networked site.	\$ 9,333.60	11,667.00
KSGPGKEYSM	System Manager Software and Secure USB Key Package (KPG-110SMK, KSGPGKEY01) <b>Note:</b> Only required when used as a trunking system. Software/Key package discount has been applied. (See component pricing below.)	\$ 466.40	583.00
KPG-110SMK	System Manager Trunking Software <b>Note:</b> Additional Programming Software (One copy included with KSGPGKEYSM) Software cannot be opened without a valid KSGPGKEY01 or KSGPGKEY02 secure USB key..	\$ 367.20	459.00
KSGPGKEY01	Grade-1 Unlimited Access Secure USB Programming Key	\$ 133.60	167.00
KSGPGKEY02	Grade-2 Limited Access Secure USB Programming Key	\$ 133.60	167.00

USB KEY FUNCTION OR CAPABILITY	GRADE-1 (BLUE)	GRADE-2 (YELLOW)
PROGRAM GENERAL SYSTEM PARAMETERS	✓	✓
ADD / DELETE / EDIT USERS. TALKGROUPS, CLASSES OF SERVICE, ECT.	✓	✓
ASSIGN OR EDIT REPEATER NETWORK IP ADDRESSES	✓	
ADD NEW REPEATER CHANNEL(S)	✓	
SWAP OUT SPARE REPEATERS	✓	
CONSTRUCT OR ADD NEW SITES	✓	

Gen2 TRUNKING CONFIGURATIONS	CONTRACT	LIST
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[Please see the NEXEDGE Gen2 Page.](#)

ETHERNET SWITCH & ROUTER OPTIONS	CONTRACT	LIST
<b>Note:</b> One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment.		

KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT1000) sold separately.	\$ 300.00	375.00

EXTERNAL TRUNKING CONTROLLER OPTIONS		CONTRACT	LIST
KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00

MISC STATION OPTIONS		CONTRACT	LIST
KSGDX14644	4 Cavity 800MHz BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty, minimum TX-RX 5MHz. Includes RF cables, mounting and tuning. Includes one LMR-400 interface cable.	\$ 1,860.00	2,325.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00

COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00

KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USB	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male(Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# NXR-5901

900MHz Digital & FM Base Repeaters - 896-902, 935-941 MHz



## GENERAL:

- Conventional / Conventional IP Network
- NEXEDGE Gen1 Network
- NEXEDGE Gen2 Network \*
- Occupies 1 RU
- Wideband Coverage
- 0.36 W RF Output Power
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.
- Built-in 0.5 ppm TCXO
- LED Status Indicators
- USB 2.0 Type-B Interface
- Programming information is required to properly configure each system. Please contact your Kenwood Systems Regional Manager for assistance.

## GENERAL OPTIONS:

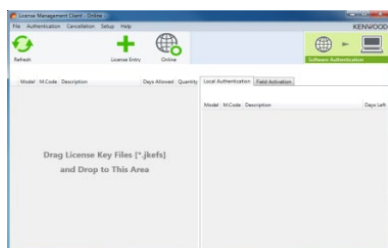
- External amplifier with built-in T/R antenna switching for simplex operation
- Wire line remote control
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is available
- Multi-channel combining systems quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 75W and 130W options.
- Custom configurations are available; contact your Kenwood Systems Regional Sales Manager for details.

## TRUNKING OPTIONS

- Enabling of Trunking feature
- Secondary, restricted-level service keys for management of less critical system parameters available. Each trunking system requires an Ethernet switch per site. Routers are optional for a single-site system but required for multi-site systems.
- System switches and routers are recommended, but most commercially available network equipment is compatible.

## NXR-5901 REPEATER

		CONTRACT	LIST
NXR-5901K	Repeater, Digital, RX 896-902MHz, TX 935-941MHz	\$ 4,600.00	5,750.00



Note: KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.



## KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the "[Account Request Form](#)" and return to the Kenwood Systems Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	NC	NC

## SOFTWARE LICENSE OPTIONS

CONTRACT LIST

### TO PLACE AN ORDER FOR SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvkenwood.com](mailto:systemsorderdesk@us.jvkenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

### Software License Key Discount Structure

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF



SOFTWARE LICENSE OPTIONS		CONTRACT	LIST
KPG-D2NK	License Key for KPG-D2NK Programming Software for NXR-5000 Repeater (Windows® Vista/7/8/8.1) <b>Note:</b> - Requires KPT-300LMC for authentication. - To program NXR-5000, Type A/B USB Cable (KSGCB10206) may be required.	\$ 82.60	103.25

#### RADIO FEATURE LICENSE OPTIONS

PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

**\* TO PLACE AN ORDER FOR RADIO FEATURE LICENSES:**

1. Complete the attached Radio Feature Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the request form. A hard copy will follow by mail for your records.

**Note:** Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transferred radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.

KWD-NX50VTR	License Key for NXR-5000 Vote System	\$ 400.00	500.00
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BASIC ACCESSORIES		CONTRACT	LIST
KXK-3M3	6.25KHz "Very Narrow Band" Option High Stability Reference Oscillator <b>Note:</b> Only one KXK-3M3 required per site for 12.5kHa and 6.25KHz operation.	\$ 2,666.40	3,333.00
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KSGCB10206	Programming USB A/B Cable	\$ 13.60	17.00
B5B-7278-00	NXR-5901 Service Manual	\$ 40.00	50.00

RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA25172	928-943MHz, 250mW Input, 75W Output	\$ 2,320.00	2,900.00
KSGPA25132	935-940MHz, 250mW Input, 130W Output	\$ 3,064.00	3,830.00

POWER SUPPLY OPTIONS		CONTRACT	LIST
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 130W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 130W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS		CONTRACT	LIST
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

WIRELINE REMOTE CONTROL OPTIONS		CONTRACT	LIST
KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00

KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00

ETHERNET SWITCH & ROUTER OPTIONS	CONTRACT	LIST
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Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.

KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

INTERNAL TRUNKING AND NETWORKING OPTIONS	CONTRACT	LIST
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KSGPG91800	Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater.	\$ 1,200.00	1,500.00
KSGPG91810	Multi-Site Networking Feature <b>Note:</b> One required for each networked site	\$ 9,333.60	11,667.00
KSGPGKEYSM	System Manager Software and Secure USB Key Package (KPG-110SMK, KSGPGKEY01) <b>Note:</b> Only required when used as a trunking system. Software/Key package discount has been applied. (See component pricing below.)	\$ 466.40	583.00
KPG-110SMK	System Manager Trunking Software <b>Note:</b> Additional Programming Software (One copy included with KSGPGKEYSM) Software cannot be opened without a valid KSGPGKEY01 or KSGPGKEY02 secure USB key..	\$ 367.20	459.00
KSGPGKEY01	Grade-1 Unlimited Access Secure USB Programming Key	\$ 133.60	167.00
KSGPGKEY02	Grade-2 Limited Access Secure USB Programming Key	\$ 133.60	167.00

USB KEY FUNCTION OR CAPABILITY	GRADE-1 (BLUE)	GRADE-2 (YELLOW)
PROGRAM GENERAL SYSTEM PARAMETERS	✓	✓
ADD / DELETE / EDIT USERS. TALKGROUPS, CLASSES OF SERVICE, ECT.	✓	✓
ASSIGN OR EDIT REPEATER NETWORK IP ADDRESSES	✓	
ADD NEW REPEATER CHANNEL(S)	✓	
SWAP OUT SPARE REPEATERS	✓	
CONSTRUCT OR ADD NEW SITES	✓	

EXTERNAL TRUNKING CONTROLLER OPTIONS	CONTRACT	LIST
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KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00

MISC STATION OPTIONS	CONTRACT	LIST
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KSGDX15044	4 Cavity 900MHz BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty, minimum TX-RX 5MHz. Includes RF cables, mounting and tuning. Includes one LMR-400 interface cable.	\$ 1,860.00	2,325.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00

MISC STATION OPTIONS, CON'T	CONTRACT	LIST
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KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00

COMPONENTS	CONTRACT	LIST
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KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USB	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male (Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# NXR-710

VHF High Performance Base Stations and Repeaters - High Band 136-174MHz



## GENERAL:

- Occupies 2 RU.
- May be used as a standalone 25 W continuous or 50W intermittent duty station or in conjunction with an external power amplifier.
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.

## OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation.
- Wire line remote control.
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is also available.
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3") and 45 RU (7") open equipment racks.
- Amplifier choices include 50W, 110W or 150W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

NXR-710 REPEATER		CONTRACT	LIST
NXR-710K	Repeater, Digital, VHF, 136-174MHz, 25-50W	\$ 1,720.00	2,150.00

BASIC ACCESSORIES		CONTRACT	LIST
KPG-46XM	Programming Cable	\$ 126.80	158.50
KPG-129DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
B51-8901-00	NXR-710 Service Manual	\$ 40.00	50.00
KTI-3M	Network Interface Unit - Required for Conv. IP Networking Functionality	\$ 212.00	265.00
KWD-NX10VTR	Voting System Option	\$ 400.00	500.00

RF BASE STATION AMPLIFIER OPTIONS		CONTRACT	LIST
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Note: Includes Two Cables for Radio Connectivity and an Internal Antenna Relay.

KSGPA22423	136-174MHz, 3W Input, 25-50W Output	\$ 1,592.00	1,990.00
KSGPA22400	136-144MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22410	144-152MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22420	152-162MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22430	162-174MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22451	136-144MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22452	144-152MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22453	152-162MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22454	162-174MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22258	152-162MHz, 3W Input, 250W Output	\$ 3,680.00	4,600.00
KSGPA22523	136-174MHz, 25W Input, 25-50W Output	\$ 1,592.00	1,990.00
KSGPA22500	136-144MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22510	144-152MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22520	152-162MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22530	162-174MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22551	136-144MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22552	144-152MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22553	152-162MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22554	162-174MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00

RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA22403	136-174MHz, 3W Input, 25-50W Output	\$ 1,332.00	1,665.00
KSGPA22411	136-144MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22412	144-152MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22413	152-162MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22414	162-174MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22441	136-144MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00

RF REPEATER STATION AMPLIFIER OPTIONS, CONT	CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA22442	144-152MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22443	152-162MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22444	162-174MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22253	152-162MHz, 3W Input, 250W Output	\$ 3,248.00	4,060.00
KSGPA22503	136-174MHz, 25W Input, 25-50W Output	\$ 1,332.00	1,665.00
KSGPA22511	136-144MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22512	144-152MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22513	152-162MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22514	162-174MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22541	136-144MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22542	144-152MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22543	152-162MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22544	162-174MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00

POWER SUPPLY OPTIONS	CONTRACT	LIST
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KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS	CONTRACT	LIST
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KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

WIRELINE REMOTE CONTROL OPTIONS	CONTRACT	LIST
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KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTN10A	10 Channel BCD Tone Termination Panel (KSGTM10010, KSGBCDCASE, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 736.00	920.00
KSGTM20016	16 Channel Tone Termination Panel <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 759.00	948.75
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00

KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 752.00	940.00
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ETHERNET SWITCH & ROUTER OPTIONS	CONTRACT	LIST
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Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.

KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

TYPE-D TRUNKING OPTIONS	CONTRACT	LIST
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KWD-10DTR	<b>Type-D Single Site</b> Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater. Only <b>6.25kHz</b> operation is available in Type-D Single Site Trunking.	\$ 200.00	250.00
KTI-5M	Network Adapter Device- Required for Type-D Trunking Web Access <b>Note:</b> For field upgrade, please download KPG-1006DNA from TOOLS and install to your KTI-5M. (Installation Manual is included.)	\$ 345.60	432.00
L-1794	Instillation KPG-1006DNA Firmware for KTI-5M at Factory.	N/C	N/C

EXTERNAL TRUNKING CONTROLLER OPTIONS	CONTRACT	LIST
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KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00

MISC STATION OPTIONS	CONTRACT	LIST
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KSGDX12556	6 Cavity VHF BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty, minimum TX-RX 400 KHz. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00
KSGMS10010	Relay, Antenna, x10 Series, 50W	\$ 272.00	340.00

COMPONENTS	CONTRACT	LIST
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KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10010	Panel, Tone Term, 10 ch., with case, full dup, 2 or 4 wire, w/mon	\$ 656.00	820.00
KSGBCDCASE	Case, Tone Term Panel	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00

KSGMD10001	Modem, USR	\$ 172.00	215.00
KSGCB22154	Cable,54",DB-9 Female (Controller) to DB-25 Male(Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <u>Note</u> : Provides mounting space for up to two accessories.	\$ 40.00	50.00



# NXR-810

## UHF Base Stations and Repeaters - 400-520 MHz



### GENERAL:

- Integrated Systems
- Occupies 2 RU
- May be used as a standalone 25 W continuous or 40W intermittent duty station or in conjunction with an external power amplifier.
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.

### OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation
- Wire line remote control.
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 4 and 6 cavity BpBr duplexer are also available.
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 40W, 100W or 150W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

NXR-810 REPEATER		CONTRACT	LIST
NXR-810K	Repeater, Digital, UHF, 450-520MHz, 1-40W	\$ 1,720.00	2,150.00
NXR-810K2	Repeater, Digital, UHF, 400-470MHz, 1-40W	\$ 1,720.00	2,150.00
BASIC ACCESSORIES		CONTRACT	LIST
KPG-46XM	Programming Cable	\$ 126.80	158.50
KPG-129DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
B51-8902-00	NXR-810 Service Manual	\$ 40.00	50.00
KTI-3M	Network Interface Unit - Required for Conv. IP Networking Functionality	\$ 212.00	265.00
KWD-NX10VTR	Voting System Option	\$ 400.00	500.00
RF BASE STATION AMPLIFIER OPTIONS		CONTRACT	LIST
Note: Includes Two Cables for Radio Connectivity.			
KSGPA23421	406-450MHz, 3W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23423	450-512MHz, 3W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23400	406-450MHz, 3W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23420	450-512MHz, 3W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23451	406-450MHz, 3W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23453	450-512MHz, 3W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23521	406-450MHz, 25W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23523	450-512MHz, 25W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23500	406-450MHz, 25W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23520	450-512MHz, 25W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23551	406-450MHz, 25W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23553	450-512MHz, 25W Input, 150W Output	\$ 3,648.00	4,560.00
RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
Note: Includes One Cable for Radio Connectivity.			
KSGPA23401	406-450MHz, 3W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23403	450-512MHz, 3W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23411	406-450MHz, 3W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23413	450-512MHz, 3W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23441	406-450MHz, 3W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23443	450-512MHz, 3W Input, 150W Output	\$ 3,152.00	3,940.00



KSGPA23501	406-450MHz, 25W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23503	450-512MHz, 25W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23511	406-450MHz, 25W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23513	450-512MHz, 25W Input, 50-100W Output	\$ 1,732.00	2,165.00

RF REPEATER STATION AMPLIFIER OPTIONS, CON'T	CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA23541	406-450MHz, 25W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23543	450-512MHz, 25W Input, 150W Output	\$ 3,152.00	3,940.00

POWER SUPPLY OPTIONS	CONTRACT	LIST
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KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS	CONTRACT	LIST
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KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

WIRELINE REMOTE CONTROL OPTIONS	CONTRACT	LIST
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KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTN10A	10 Channel BCD Tone Termination Panel (KSGTM10010, KSGBCDCASE, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 736.00	920.00
KSGTM20016	16 Channel Tone Termination Panel <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 759.00	948.75
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00

ETHERNET SWITCH & ROUTER OPTIONS	CONTRACT	LIST
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Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.

KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

TYPE-D TRUNKING OPTIONS	CONTRACT	LIST
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KWD-10DTR	<b>Type-D Single Site</b> Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater. Only 6.25kHz operation is available in Type-D Single Site Trunking.	\$ 200.00	250.00
KTI-5M	Network Adapter Device- Required for Type-D Trunking Web Access <b>Note:</b> For field upgrade, please download KPG-1006DNA from TOOLS and install to your KTI-5M. (Installation Manual is included.)	\$ 345.60	432.00

EXTERNAL TRUNKING CONTROLLER OPTIONS		CONTRACT	LIST
KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 2,832.00	3,540.00
MISC STATION OPTIONS		CONTRACT	LIST
KSGDX13546	6 Cavity UHF BpBr Duplexer (450-470MHz Only) <u>Note:</u> Bandpass/Bandreject duplexer, 250W continuous duty. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
KSGDX23101	4 Cavity UHF BpBr Duplexer (450-470MHz Only) <u>Note:</u> Bandpass/Bandreject duplexer, 350W continuous duty. Includes one LMR-400 interface cable.	\$ 1,420.00	1,775.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <u>Note:</u> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <u>Note:</u> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <u>Note:</u> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <u>Note:</u> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00
KSGMS10010	Relay, Antenna, x10 Series, 50W	\$ 272.00	340.00
COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10010	Panel, Tone Term, 10 ch., with case, full dup, 2 or 4 wire, w/mon	\$ 656.00	820.00
KSGBCDCASE	Case, Tone Term Panel	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USR	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male(Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <u>Note:</u> Provides mounting space for up to two accessories.	\$ 40.00	50.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10010	Panel, Tone Term, 10 ch., with case, full dup, 2 or 4 wire, w/mon	\$ 656.00	820.00
KSGBCDCASE	Case, Tone Term Panel	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00

901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USB	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male (Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# NXR-900

800 MHz High Performance Repeaters - 806 - 825, 851 - 870 MHz



## GENERAL:

- Integrated Systems.
- Occupies 1 RU.
- 360 mW transceiver unit used with an external power amplifier.
- Operates in analog mode at 25 KHz or 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.
- Programming information is required to properly configure each system. Please contact your Kenwood Systems Regional Manager for assistance.

## GENERAL OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation
- Wire line remote control
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 4 cavity BpBr duplexer is also available
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 75W and 130W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

## TRUNKING OPTIONS

- Enabling of the NXR-900 trunking feature.
- System management software that includes a master USB key & activation file, which hold a license ID unique to each system. Feature-packed System Manager software provides full access to system parameters, permissions, log files, etc. Secondary, restricted-level service keys that manage less critical system parameters are also available.
- Each trunking system requires an Ethernet switch at each site. Routers are optional for a single-site system but required for multi-site systems.  
NOTE: Recommended models are listed herein, but most commercially available IP equipment is compatible.

NXR-900 REPEATER (K Model)		CONTRACT	LIST
NXR-900K	Repeater, Digital, RX 806-825 MHz, TX 851-870 MHz	\$ 4,600.00	5,750.00
BANDWIDTH OPTION:		CONTRACT	LIST
KXK-3M3	6.25KHz "Very Narrow Band" Option High Stability Reference Oscillator <b>Note:</b> Only one KXK-3M3 required per site for each 6.25KHz operation.	\$ 2,666.40	3,333.00
BASIC ACCESSORIES		CONTRACT	LIST
KSGCB60004	NXR-Series Programming Cable	\$ 20.00	25.00
KPG-109DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
B51-8946-00	NXR-900 Service Manual	\$ 40.00	50.00
KMC-9C	Desktop Microphone	\$ 68.80	86.00
KMC-35	Standard Mobile Microphone	\$ 42.00	52.50
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: Compatible with FDMA (analog / NXDN) and TDMA (DMR) Operation.</b>	\$ 144.00	180.00
RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
Note: Includes One Cable for Radio Connectivity.			
KSGPA24181	764-870MHz, 250mW Input, 75W Output	\$ 2,320.00	2,900.00
KSGPA24131	764-870MHz, 250mW Input, 130W Output	\$ 3,064.00	3,830.00
POWER SUPPLY OPTIONS		CONTRACT	LIST
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 130W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 130W amplifier option.	\$ 1,084.00	1,355.00

KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00
<b>MOUNTING CONFIGURATIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
<b>MOUNTING CONFIGURATIONS, CON'T</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00
<b>WIRELINE REMOTE CONTROL OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00
<b>TRUNKING CONFIGURATIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGPG91800	Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater.	\$ 1,200.00	1,500.00
KSGPG91810	Multi-Site Networking Feature <b>Note:</b> One required for each networked site	\$ 9,333.60	11,667.00
KSGPGKEYSM	System Manager Software and Secure USB Key Package (KPG-110SMK, KSGPGKEY01) <b>Note:</b> Only required when used as a trunking system. Software/Key package discount has been applied. (See component pricing below.)	\$ 466.40	583.00
KPG-110SMK	System Manager Trunking Software <b>Note:</b> Additional Programming Software (One copy included with KSGPGKEYSM) Software cannot be opened without a valid KSGPGKEY01 or KSGPGKEY02 secure USB key..	\$ 367.20	459.00
KSGPGKEY01	Grade-1 Unlimited Access Secure USB Programming Key	\$ 133.60	167.00
KSGPGKEY02	Grade-2 Limited Access Secure USB Programming Key	\$ 133.60	167.00
USB KEY FUNCTION OR CAPABILITY		<b>GRADE-1 (BLUE)</b>	<b>GRADE-2 (YELLOW)</b>
PROGRAM GENERAL SYSTEM PARAMETERS		✓	✓
ADD / DELETE / EDIT USERS. TALKGROUPS, CLASSES OF SERVICE, ECT.		✓	✓
ASSIGN OR EDIT REPEATER NETWORK IP ADDRESSES		✓	
ADD NEW REPEATER CHANNEL(S)		✓	
SWAP OUT SPARE REPEATERS		✓	
CONSTRUCT OR ADD NEW SITES		✓	
<b>ETHERNET SWITCH &amp; ROUTER OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

EXTERNAL TRUNKING CONTROLLER OPTIONS		CONTRACT	LIST
KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00
MISC STATION OPTIONS		CONTRACT	LIST
KSGDX14644	4 Cavity 800MHz BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty, minimum TX-RX 5MHz. Includes RF cables, mounting and tuning. Includes one LMR-400 interface cable.	\$ 1,860.00	2,325.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00
COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USR	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male (Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# NXR-901

900 MHz High Performance Repeaters - 896-902, 935-941 MHz



## GENERAL:

- Integrated Systems
- Occupies 1 RU
- 360 mW transceiver unit used with an external power amplifier
- Operates in analog mode at 12.5 KHz, or in digital mode at 12.5 KHz or 6.25 KHz.
- Programming information is required to properly configure each system. Please contact your Kenwood Systems Regional Manager for assistance.

## GENERAL OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation
- Wire line remote control
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 4 cavity BpBr duplexer is also available
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 75W and 130W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

## TRUNKING OPTIONS

- Trunking options include enabling of the NXR-901 trunking feature
- System management software that includes a master USB key & activation file, which hold a license ID unique to each system. Feature-packed System Manager software provides full access to system parameters, permissions, log files, etc. Secondary, restricted-level service keys that manage less critical system parameters are also available.
- Each trunking system requires an Ethernet switch at each site. Routers are optional for a single-site system but required for multi-site systems. NOTE: Recommended models are listed herein, but most commercially available IP equipment is compatible.

NXR-901 REPEATER (K Model)		CONTRACT	LIST
NXR-901K	Repeater, Digital, RX 896-902MHz, TX 935-941MHz	\$ 4,600.00	5,750.00
BANDWIDTH OPTION:		CONTRACT	LIST
KXK-3M3	"Very Narrow Band" Option High Stability Reference Oscillator <b>Note:</b> Only one KXK-3M3 required per site for 12.5KHz or 6.25KHz operation.	\$ 2,666.40	3,333.00
BASIC ACCESSORIES		CONTRACT	LIST
KSGCB60004	NXR-Series Programming Cable	\$ 20.00	25.00
KPG-109DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
B53-7004-00	NXR-901 Service Manual	\$ 40.00	50.00
KMC-9C	Desktop Microphone	\$ 68.80	86.00
KMC-35	Standard Mobile Microphone	\$ 42.00	52.50
KMC-59C	Control Station Desktop Microphone (8-pin mod. plug) <b>Note: Compatible with FDMA (analog / NXDN) and TDMA (DMR) Operation.</b>	\$ 144.00	180.00
RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
Note: Includes One Cable for Radio Connectivity.			
KSGPA25172	928-943MHz, 250mW Input, 75W Output	\$ 2,320.00	2,900.00
KSGPA25132	935-940MHz, 250mW Input, 130W Output	\$ 3,064.00	3,830.00
POWER SUPPLY OPTIONS		CONTRACT	LIST
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 130W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 130W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00
MOUNTING CONFIGURATIONS		CONTRACT	LIST



KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
<b>MOUNTING CONFIGURATIONS, CON'T</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00
<b>WIRELINE REMOTE CONTROL OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00
<b>ETHERNET SWITCH &amp; ROUTER OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00
<b>INTERNAL TRUNKING AND NETWORKING OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGPG91800	Repeater Trunking Feature <b>Note:</b> One Feature required for each trunking repeater.	\$ 1,200.00	1,500.00
KSGPG91810	Multi-Site Networking Feature <b>Note:</b> One required for each networked site	\$ 9,333.60	11,667.00
KSGPGKEYSM	System Manager Software and Secure USB Key Package (KPG-110SMK, KSGPGKEY01) <b>Note:</b> Only required when used as a trunking system. Software/Key package discount has been applied. (See component pricing below.)	\$ 466.40	583.00
KPG-110SMK	System Manager Trunking Software <b>Note:</b> Additional Programming Software (One copy included with KSGPGKEYSM) Software cannot be opened without a valid KSGPGKEY01 or KSGPGKEY02 secure USB key..	\$ 367.20	459.00
KSGPGKEY01	Grade-1 Unlimited Access Secure USB Programming Key	\$ 133.60	167.00
KSGPGKEY02	Grade-2 Limited Access Secure USB Programming Key	\$ 133.60	167.00
USB KEY FUNCTION OR CAPABILITY		<b>GRADE-1 (BLUE)</b>	<b>GRADE-2 (YELLOW)</b>
PROGRAM GENERAL SYSTEM PARAMETERS		✓	✓
ADD / DELETE / EDIT USERS. TALKGROUPS, CLASSES OF SERVICE, ECT.		✓	✓
ASSIGN OR EDIT REPEATER NETWORK IP ADDRESSES		✓	
ADD NEW REPEATER CHANNEL(S)		✓	
SWAP OUT SPARE REPEATERS		✓	
CONSTRUCT OR ADD NEW SITES		✓	
<b>EXTERNAL TRUNKING CONTROLLER OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGC452L	LTR Dispatch Trunking Controller (901-9570, KSGCB32801)	\$ 1,236.00	1,545.00
KSGC459L	LTR Dispatch & Interconnect Trunking Controller (905-0123, KSGCB32801)	\$ 1,896.00	2,370.00
<b>MISC STATION OPTIONS</b>		<b>CONTRACT</b>	<b>LIST</b>



KSGDX15044	4 Cavity 900MHz BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty, minimum TX-RX 5MHz. Includes RF cables, mounting and tuning. Includes one LMR-400 interface cable.	\$ 1,860.00	2,325.00
KSGOMOD1	Basic Site Management Modem (KSGMD10001, KSGCB22154) <b>Note:</b> Modem 2400 bps to be used with LTR controllers, includes interface cable.	\$ 204.00	255.00
KSGOMOD2	High Performance Site Management Modem (KSGMD20000, KSGCB22154) <b>Note:</b> Modem 2400 bps, extra stability in high RF environments, includes interface cable.	\$ 972.00	1,215.00
KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00

COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMTOC03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMTOC07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMTOC40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGCB30532	Cable, 32", DB-25 Male (Controller) to DB-25 Male(Repeater)	\$ 32.00	40.00
901-9570	Controller, Dispatch Trunking (Zetron Model 452)	\$ 1,212.00	1,515.00
905-0123	Controller, Dispatch Trunking with Interconnect (Zetron Model 459)	\$ 1,872.00	2,340.00
KSGMD10001	Modem, USR	\$ 172.00	215.00
KSGCB22154	Cable, 54", DB-9 Female (Controller) to DB-25 Male(Modem)	\$ 32.00	40.00
KSGMD20000	Modem, Tuff, with power cable and interface cable	\$ 940.00	1,175.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00



# TKR-D710

## DMR VHF Repeaters\* - 136-174MHz

\* Base Operations are not available.



### GENERAL:

- Occupies 2 RU
- Digital 12.5 kHz
- Analog FM 25/12.5 kHz
- 2 slot TDMA
- Mixed Mode
- Call Interruption
- Conventional and Conventional IP\* Network

\* Requires KTI-5

### OPTIONS:

- External amplifier with built-in antenna T/R switch for simplex operation.
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is also available.
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 50W, 110W or 150W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

REPEATER		CONTRACT	LIST
TKR-D710K	Repeater, Digital, VHF, 136-174MHz, 5-50W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,780.00	2,225.00

BASIC ACCESSORIES and LABOR		CONTRACT	LIST
KPG-46XM	Programming Cable	\$ 126.80	158.50
KPG-174DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KTI-5M	Network Adapter Device - Required for Conv. IP Networking Functionality <b>Note:</b> - Must order L-1806 or L-1807 for DMR Conventional IP Configuration - Required for each repeaters	\$ 345.60	432.00
L-1806	Instllation KPG-1010DMR Firmware and Option for KTI-5M	\$ 16.00	20.00
L-1807	KTI-5 Field Upgrade Option for DMR IP Network	\$ 16.00	20.00
B5B-7228-00	TKR-D710 Service Manual	\$ 40.00	50.00

RF BASE STATION AMPLIFIER OPTIONS		CONTRACT	LIST
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Note: Includes Two Cables for Radio Connectivity and an Internal Antenna Relay.

KSGPA22423	136-174MHz, 3W Input, 25-50W Output	\$ 1,592.00	1,990.00
KSGPA22400	136-144MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22410	144-152MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22420	152-162MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22430	162-174MHz, 3W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22451	136-144MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22452	144-152MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22453	152-162MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22454	162-174MHz, 3W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22258	152-162MHz, 3W Input, 250W Output	\$ 3,680.00	4,600.00
KSGPA22523	136-174MHz, 25W Input, 25-50W Output	\$ 1,592.00	1,990.00
KSGPA22500	136-144MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22510	144-152MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22520	152-162MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22530	162-174MHz, 25W Input, 55-110W Output	\$ 2,004.00	2,505.00
KSGPA22551	136-144MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00

KSGPA22552	144-152MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22553	152-162MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00
KSGPA22554	162-174MHz, 25W Input, 150W Output	\$ 2,976.00	3,720.00

RF REPEATER STATION AMPLIFIER OPTIONS	CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA22403	136-174MHz, 3W Input, 25-50W Output	\$ 1,332.00	1,665.00
KSGPA22411	136-144MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00

RF REPEATER STATION AMPLIFIER OPTIONS, CONT	CONTRACT	LIST
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KSGPA22412	144-152MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22413	152-162MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22414	162-174MHz, 3W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22441	136-144MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00

Note: Includes One Cable for Radio Connectivity.

KSGPA22442	144-152MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22443	152-162MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22444	162-174MHz, 3W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22253	152-162MHz, 3W Input, 250W Output	\$ 3,248.00	4,060.00
KSGPA22503	136-174MHz, 25W Input, 25-50W Output	\$ 1,332.00	1,665.00
KSGPA22511	136-144MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22512	144-152MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22513	152-162MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22514	162-174MHz, 25W Input, 55-110W Output	\$ 1,728.00	2,160.00
KSGPA22541	136-144MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22542	144-152MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22543	152-162MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00
KSGPA22544	162-174MHz, 25W Input, 150W Output	\$ 2,448.00	3,060.00

POWER SUPPLY OPTIONS	CONTRACT	LIST
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KSGPS20200	DC Switching Power Supply 13.8VDC 20A	\$ 204.00	255.00
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS	CONTRACT	LIST
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KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

ETHERNET SWITCH & ROUTER OPTIONS	CONTRACT	LIST
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Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment.

KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

MISC STATION OPTIONS	CONTRACT	LIST
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KSGDX12556	6 Cavity VHF BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty, minimum TX-RX 400 KHz. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
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COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00



# TKR-D710

DMR VHF Low Power Repeaters - 136-174MHz

\* Base Operations are not available.



## GENERAL:

- Occupies 2 RU
- Digital 12.5 kHz
- Analog FM 25/12.5 kHz
- 2 slot TDMA
- Mixed Mode
- Call Interruption
- Conventional and Conventional IP\* Network

\* Requires KTI-5

## OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation.
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is also available.
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7") open equipment racks.
- Amplifier choices include 50W, 110W or 150W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

TKR-D710 REPEATER		CONTRACT	LIST
TKR-D710K	Repeater, Digital, VHF, 136-174MHz, 5-50W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,780.00	2,225.00
TKR-D710 REPEATER PACKAGE		CONTRACT	LIST
TKR-D710KPS	Repeater Package Includes KSGPS20200 Power Supply (mounted internally), 136-174MHz Repeater 5-50W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,954.40	2,443.00
REPEATER STATION WITH CONVENTIONAL IP NETWORK FUNCTIONALITY		CONTRACT	LIST
TKR-D710KPSI	Repeater Package includes KSGPS20200 Power Supply (mounted internally), The KTI-5M Network Adaptor and KPG-1010DMR, 136-174MHz Repeater <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,316.00	2,895.00
REPEATER STATION WITH DUPLEXER		CONTRACT	LIST
<b>Note:</b> Duplexers are not available for all frequencies. The default range of duplexers are between 148-160 MHz (VHF) with a 5MHz split between TX and RX, and between 450-460MHz (UHF). Other frequencies or VHF band splits may be available by special order (non-returnable and non-refundable). Pricing for special order duplexers may be higher. Frequencies must be provided with an order.			
TKR-D710KPSD	Repeater Station 5-50W 148-160MHz includes KSGPS20200 Power Supply, KSGDX62001 Duplexer, KSGCB20008 Cable, KSGCB20010 Cable <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,431.20	3,039.00
REPEATER STATION WITH DUPLEXER AND IP NETWORK FUNCTIONALITY		CONTRACT	LIST
<b>Note:</b> Duplexers are not available for all frequencies. The default range of duplexers are between 148-160 MHz (VHF) with a 5MHz split between TX and RX, and between 450-460MHz (UHF). Other frequencies or VHF band splits may be available by special order (non-returnable and non-refundable). Pricing for special order duplexers may be higher. Duplexer and KTI-5M are mounted inside the Repeater cabinet. Base Mount Power Supply is included.			
TKR-D710KPSDI	Repeater Station 5-50W 148-160MHz includes KSGPS20201 Power Supply, KSGDX62001 Duplexer, KTI-5M and KPG-1010DMR, KSGCB20008 Cable, KSGCB20010 Cable. <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,776.00	3,470.00
BASIC ACCESSORIES and LABOR		CONTRACT	LIST
KPG-46XM	Programming Cable	\$ 126.80	158.50
KPG-174DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KTI-5M	Network Adapter Device - Required for Conv. IP Networking Functionality <b>Note:</b> - Must order L-1806 or L-1807 for DMR Conventional IP Configuration - Required for each repeaters	\$ 345.60	432.00

L-1806	Instllation KPG-1010DMR Firmware and Option for KTI-5M	\$ 16.00	20.00
L-1807	KTI-5 Field Upgrade Option for DMR IP Network	\$ 16.00	20.00
B5B-7228-00	TKR-D710 Service Manual	\$ 40.00	50.00

POWER SUPPLY OPTIONS	CONTRACT	LIST
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KSGPS20200	DC Switching Power Supply 13.8VDC 20A	\$ 204.00	255.00
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 1,084.00	1,355.00

MOUNTING CONFIGURATIONS	CONTRACT	LIST
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KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

ETHERNET SWITCH & ROUTER OPTIONS	CONTRACT	LIST
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Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.

KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

MISC STATION OPTIONS	CONTRACT	LIST
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KSGDX12556	6 Cavity VHF BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty, minimum TX-RX 400 KHz. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
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COMPONENTS	CONTRACT	LIST
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KSGDX62001	Duplexer, VHF, 148-160MHz, 6 cavities, 4.5MHz sep, N-F <b>Note:</b> This is the default frequency range. Other ranges may be available by special order. Frequencies must be provided with an order	\$ 476.00	595.00
KSGCB20008	Cable, 10" 90 deg N-M to 90 deg BNC-M, RG-142 coaxial	\$ 40.00	50.00
KSGCB20010	Cable, 10", 90 deg N-M to 90 deg N-M, RG-142 coaxial	\$ 40.00	50.00
KSGPS20201	Power Supply, 20A, no meter, RM-2512 w/BB6 & 8 place fuse	\$ 344.00	430.00
KSGPS20200	DC Switching Power Supply	\$ 204.00	255.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00



# TKR-D810

## DMR UHF Repeaters - 400-520MHz



### GENERAL:

- Occupies 2 RU
- Digital 12.5 kHz
- Analog FM 25/12.5 kHz
- 2 slot TDMA
- Mixed Mode
- Call Interruption
- Conventional and Conventional IP\* Network

\* Requires KTI-5

### OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 4 and 6 cavity BpBr duplexer are also available.
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 40W, 100W or 150W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

TKR-D810 REPEATER		CONTRACT	LIST
TKR-D810K	Repeater, Digital, UHF, 450-520MHz, 5-40W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,780.00	2,225.00
TKR-D810K2	Repeater, Digital, UHF, 400-470MHz, 5-40W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,780.00	2,225.00

BASIC ACCESSORIES and LABOR		CONTRACT	LIST
KPG-46XM	Programming Cable	\$ 126.80	158.50
KPG-174DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KTI-5M	Network Adapter Device - Required for Conv. IP Networking Functionality <b>Note:</b> - Must order L-1806 or L-1807 for DMR Conventional IP Configuration - Required for each repeaters	\$ 345.60	432.00
L-1806	Instillation KPG-1010DMR Firmware and Option for KTI-5M	\$ 16.00	20.00
L-1807	KTI-5 Field Upgrade Option for DMR IP Network	\$ 16.00	20.00
B5B-7229-00	TKR-D710 Service Manual	\$ 40.00	50.00

RF BASE STATION AMPLIFIER OPTIONS		CONTRACT	LIST
Note: Includes Two Cables for Radio Connectivity.			
KSGPA23421	406-450MHz, 3W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23423	450-512MHz, 3W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23400	406-450MHz, 3W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23420	450-512MHz, 3W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23451	406-450MHz, 3W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23453	450-512MHz, 3W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23521	406-450MHz, 25W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23523	450-512MHz, 25W Input, 20-40W Output	\$ 1,560.00	1,950.00
KSGPA23500	406-450MHz, 25W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23520	450-512MHz, 25W Input, 50-100W Output	\$ 2,080.00	2,600.00
KSGPA23551	406-450MHz, 25W Input, 150W Output	\$ 3,648.00	4,560.00
KSGPA23553	450-512MHz, 25W Input, 150W Output	\$ 3,648.00	4,560.00

RF REPEATER STATION AMPLIFIER OPTIONS		CONTRACT	LIST
Note: Includes One Cable for Radio Connectivity.			



KSGPA23401	406-450MHz, 3W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23403	450-512MHz, 3W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23411	406-450MHz, 3W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23413	450-512MHz, 3W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23441	406-450MHz, 3W Input, 150W Output	\$ 3,152.00	3,940.00

RF REPEATER STATION AMPLIFIER OPTIONS, CONT	CONTRACT	LIST
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Note: Includes One Cable for Radio Connectivity.

KSGPA23443	450-512MHz, 3W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23501	406-450MHz, 25W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23503	450-512MHz, 25W Input, 20-40W Output	\$ 1,332.00	1,665.00
KSGPA23511	406-450MHz, 25W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23513	450-512MHz, 25W Input, 50-100W Output	\$ 1,732.00	2,165.00
KSGPA23541	406-450MHz, 25W Input, 150W Output	\$ 3,152.00	3,940.00
KSGPA23543	450-512MHz, 25W Input, 150W Output	\$ 3,152.00	3,940.00

POWER SUPPLY OPTIONS	CONTRACT	LIST
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KSGPS20200	DC Switching Power Supply 13.8VDC 20A	\$ 204.00	255.00
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00

MOUNTING CONFIGURATIONS	CONTRACT	LIST
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KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00

ETHERNET SWITCH & ROUTER OPTIONS	CONTRACT	LIST
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Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.

KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00

MISC STATION OPTIONS	CONTRACT	LIST
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KSGDX13546	6 Cavity UHF BpBr Duplexer (450-470MHz Only) <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
KSGDX23101	4 Cavity UHF BpBr Duplexer (450-470MHz Only) <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty. Includes one LMR-400 interface cable.	\$ 1,420.00	1,775.00

COMPONENTS	CONTRACT	LIST
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KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00



KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00
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# TKR-D810

## DMR UHF Repeaters - 400-520MHz



### GENERAL:

- Occupies 2 RU
- Digital 12.5 kHz
- Analog FM 25/12.5 kHz
- 2 slot TDMA
- Mixed Mode
- Call Interruption
- Conventional and Conventional IP\* Network

\* Requires KTI-5

### OPTIONS:

- External amplifiers with built-in T/R antenna switching for simplex operation
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 4 and 6 cavity BpBr duplexer are also available.
- Multi-channel combining systems are quoted on an individual system basis
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 40W, 100W or 150W options.
- Custom configurations are also available; contact your Kenwood Systems Regional Sales Manager for more details.

TKR-D810 REPEATER		CONTRACT	LIST
TKR-D810K	Repeater, Digital, UHF, 450-520MHz, 5-40W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,780.00	2,225.00
TKR-D810K2	Repeater, Digital, UHF, 400-470MHz, 5-40W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,780.00	2,225.00

TKR-D810 REPEATER PACKAGE		CONTRACT	LIST
TKR-D810KPS	Repeater Package Includes KSGPS20200 Power Supply (mounted internally), 450-520MHz Repeater 5-40W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,954.40	2,443.00
TKR-D810K2PS	Repeater Package Includes KSGPS20200 Power Supply (mounted internally), 400-470MHz Repeater 5-40W <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 1,954.40	2,443.00

REPEATER STATION WITH CONVENTIONAL IP NETWORK FUNCTIONALITY		CONTRACT	LIST
TKR-D810KPSI	Repeater Package includes KSGPS20200 Power Supply (mounted internally), KTI-5M Network Adaptor and KPG-1010DMR, 450-520MHz Repeater <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,316.00	2,895.00
TKR-D810K2PSI	Repeater Package includes KSGPS20200 Power Supply (mounted internally), KTI-5M Network Adaptor and KPG-1010DMR, 400-470MHz Repeater <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,316.00	2,895.00

REPEATER STATION WITH DUPLEXER		CONTRACT	LIST
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Note: Duplexers are not available for all frequencies. The default range of duplexers are between 148-160 MHz (VHF) with a 5MHz split between TX and RX, and between 450-460MHz (UHF). Other frequencies or VHF band splits may be available by special order (non-returnable and non-refundable). Pricing for special order duplexers may be higher. Frequencies must be provided with an order.

TKR-D810KPSD	Repeater Station 5-40W, 450-520MHz, Includes KSGPS20200 Power Supply, KSGDX63002 Duplexer, KSGCB20008 Cable, KSGCB20010 Cable <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,431.20	3,039.00
TKR-D810K2PSD	Repeater Station 5-40W, 400-470MHz, Includes KSGPS20200 Power Supply, KSGDX63002 Duplexer, KSGCB20008 Cable, KSGCB20010 Cable <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,431.20	3,039.00

REPEATER STATION WITH DUPLEXER AND IP NETWORK FUNCTIONALITY		CONTRACT	LIST
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Note: Duplexers are not available for all frequencies. The default range of duplexers are between 148-160 MHz (VHF) with a 5MHz split between TX and RX, and between 450-460MHz (UHF). Other frequencies or VHF band splits may be available by special order (non-returnable and non-refundable). Pricing for special order duplexers may be higher. Duplexer and KTI-5M are mounted inside the Repeater; a separate Rack-Mount Power Supply is included.

REPEATER STATION WITH DUPLEXER AND IP NETWORK FUNCTIONALITY		CONTRACT	LIST
TKR-D810KPSDI	Repeater Station 5-40W, 450-520MHz Includes KSGPS20201 Power Supply, KSGDX63002 Duplexer, KTI-5M and KPG-1010DMR, KSGCB20008 Cable, KSGCB20010 Cable <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,776.00	3,470.00
TKR-D810K2PSDI	Repeater Station 5-40W, 400-470MHz Includes KSGPS20201 Power Supply, KSGDX63002 Duplexer, KTI-5M and KPG-1010DMR, KSGCB20008 Cable, KSGCB20010 Cable <b>Note:</b> The Control I/O Pins of TX Data Input/TX Audio Input/RX Data Output/RX Audio Output/External Monitor Switch/External PTT Switch are <b>NOT</b> available.	\$ 2,776.00	3,470.00
BASIC ACCESSORIES and LABOR		CONTRACT	LIST
KPG-46XM	Programming Cable	\$ 126.80	158.50
KPG-174DNK	Repeater Programming Software	\$ 82.60	103.25
KPG-149RM	Nexedge Repeater Monitoring Software	\$ 200.00	250.00
KTI-5M	Network Adapter Device - Required for Conv. IP Networking Functionality <b>Note:</b> - Must order L-1806 or L-1807 for DMR Conventional IP Configuration - Required for each repeaters	\$ 345.60	432.00
L-1806	Instllation KPG-1010DMR Firmware and Option for KTI-5M	\$ 16.00	20.00
L-1807	KTI-5 Field Upgrade Option for DMR IP Network	\$ 16.00	20.00
B5B-7229-00	TKR-D710 Service Manual	\$ 40.00	50.00
POWER SUPPLY OPTIONS		CONTRACT	LIST
KSGPS20200	DC Switching Power Supply 13.8VDC 20A	\$ 204.00	255.00
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 1,084.00	1,355.00
MOUNTING CONFIGURATIONS		CONTRACT	LIST
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00
ETHERNET SWITCH & ROUTER OPTIONS		CONTRACT	LIST
Note: One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 200.00	250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 300.00	375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 300.00	375.00
MISC STATION OPTIONS		CONTRACT	LIST
KSGDX12556	6 Cavity VHF BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty, minimum TX-RX 400 KHz. Includes one LMR-400 interface cable.	\$ 2,476.00	3,095.00
COMPONENTS		CONTRACT	LIST

KSGDX63002	Duplexer, VHF, 450-460MHz, 6 cavities, 5MHz sep, N-F <b>Note:</b> This is the default frequency range. Other ranges may be available by special order. Frequencies must be provided with an order	\$ 476.00	595.00
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COMPONENTS, CON'T		CONTRACT	LIST
KSGCB20008	Cable, 10" 90 deg N-M to 90 deg BNC-M, RG-142 coaxial	\$ 40.00	50.00
KSGCB20010	Cable, 10", 90 deg N-M to 90 deg N-M, RG-142 coaxial	\$ 40.00	50.00
KSGPS20201	Power Supply, 20A, no meter, RM-2512 w/BB6 & 8 place fuse	\$ 344.00	430.00
KSGPS20200	DC Switching Power Supply	\$ 204.00	255.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# TKB-6900 Series

Low Band Conventional Simplex Base Stations - 29.7 - 50 MHz



## GENERAL:

- 110W
- Occupies 2 RU
- Equipment may be mounted in a cabinet enclosure or open rack
- May be used either by itself (50W continuous duty or 110W at 20% duty cycle) or as a driver for an external continuous duty RF amplifier (100W or 250W).

## OPTIONS:

- Power supply options include battery backup with integrated SmartCharger and Low Voltage Disconnect.
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- T-R simplex antenna switching is included in the basic unit as well as in all external amplifiers.
- Other configurations are also available on a special order basis; please contact your Kenwood Systems Regional Sales Manager for more details.

RADIO PACKAGES		CONTRACT	LIST
TKB6900SK1	29.7-37.0MHz (TK-690HBK, KCH-10, KCT-23M2, KMB-5, KSGUT50002)	\$ 1,069.40	1,336.75
TKB6900SK2	35.0-43.0MHz (TK-690HBK2, KCH-10, KCT-23M2, KMB-5, KSGUT50002)	\$ 1,069.40	1,336.75
TKB6900SK3	40.0-50.0MHz (TK-690HBK3, KCH-10, KCT-23M2, KMB-5, KSGUT50002)	\$ 1,069.40	1,336.75
BASIC ACCESSORIES		CONTRACT	LIST
KPG-43UM	Programming Cable	\$ 126.80	158.50
KPG-44DNK	Programming Software	\$ 54.80	68.50
B51-8460-10	TK-690 Service Manual	\$ 40.00	50.00
RF AMPLIFIER OPTIONS		CONTRACT	LIST
Note: Includes One Cable for Radio Connectivity.			
KSGPA21101	30-36MHz, 50W Input, 100W Output	\$ 2,180.00	2,725.00
KSGPA21102	36-42MHz, 50W Input, 100W Output	\$ 2,180.00	2,725.00
KSGPA21103	42-50MHz, 50W Input, 100W Output	\$ 2,180.00	2,725.00
KSGPA21251	30-36MHz, 50W Input, 250W Output	\$ 3,740.00	4,675.00
KSGPA21252	36-42MHz, 50W Input, 250W Output	\$ 3,740.00	4,675.00
KSGPA21253	42-50MHz, 50W Input, 250W Output	\$ 3,740.00	4,675.00
POWER SUPPLY OPTIONS		CONTRACT	LIST
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 250W amplifier option.	\$ 380.00	475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 250W amplifier option.	\$ 1,084.00	1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 1,084.00	1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,392.00	1,740.00
MOUNTING CONFIGURATIONS		CONTRACT	LIST
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
WIRELINE REMOTE CONTROL OPTIONS		CONTRACT	LIST

KSGTN02A	2 Channel Tone Termination Panel (KSGTM10012, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 524.00	655.00
KSGTN02N	N-Series 2 Channel Tone Termination Panel (KSGTM10060, KSGTM20TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor and automatic line leveling.	\$ 536.00	670.00
KSGTN10A	10 Channel BCD Tone Termination Panel (KSGTM10010, KSGBCDCASE, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 736.00	920.00
KSGTM20016	16 Channel Tone Termination Panel <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor.	\$ 759.00	948.75
KSGTDC2A	DC Termination Panel (KSGTM10003, KSGTM10TCS, KSGCB32801) <b>Note:</b> 2 or 4 wire, 600-Ohm balanced audio with monitor. Specify DC current settings at time of order.	\$ 328.00	410.00
KSGTALD1	600 Ohm Line Driver (KSGTM10021, KSGTM10TCS, KSGCB32801) <b>Note:</b> 1 channel receive audio line driver panel, 2 wire, 600Ohm balanced output. May also be configured to support 4-wire E&M interface applications.	\$ 288.00	360.00

MISC STATION OPTIONS	CONTRACT	LIST
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KSGSNV12	Signal-to-Noise Modular Voting Comparator <b>Note:</b> 19" rack mount; occupies 3RU. Order Station Module Cards below.	\$ 6,400.00	8,000.00
KSGVOT2A	Station Module Card for Signal-to-Noise Voter (SVM-2)	\$ 1,224.00	1,530.00
KSGOPTG1	Pilot Tone Generator and Line Driver (PTG-10) <b>Note:</b> For use with voting systems, supplies 600 Ohm balanced 2-wire audio.	\$ 708.00	885.00
KSGOCWID	CWID Morse Code Generator <b>Note:</b> Specify call sign at time of order.	\$ 108.00	135.00

COMPONENTS	CONTRACT	LIST
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TK-690HBK	Radio, Mobile, 29.7-37.0 MHz, 110w, 160 Ch (R.F. Deck Only)	\$ 856.80	1,071.00
TK-690HBK2	Radio, Mobile, 35.0-43.0 MHz, 110w, 160 Ch (R.F. Deck Only)	\$ 856.80	1,071.00
TK-690HBK3	Radio, Mobile, 40.0-50.0 MHz, 110w, 160 Ch (R.F. Deck Only)	\$ 856.80	1,071.00
KCH-10	Basic Control Panel, 90-Series	\$ 117.60	147.00
KCT-23M2	10' Cable, DC for High-Power Mobile	\$ 31.00	38.75
KMB-5	Mounting Bracket for TK-690 Mobile Radio	\$ 11.20	14.00
KSGUT50002	2RU Utility Tray for Equipment Mounting	\$ 64.00	80.00
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 448.00	560.00
KSGTM10TCS	Case, Tone Term Panel	\$ 52.00	65.00
KSGCB32801	Cable, Interface, Tone to '50	\$ 24.00	30.00
KSGTM10060	Panel, Tone Term (N-Series), 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 456.00	570.00
KSGTM20TCS	Case, Tone Term Panel (N-Series)	\$ 56.00	70.00
KSGTM10010	Panel, Tone Term, 10 ch., with case, full dup, 2 or 4 wire, w/mon	\$ 656.00	820.00
KSGBCDCASE	Case, Tone Term Panel	\$ 56.00	70.00
KSGTM10003	Term panel, DC, 2ch, 2/4-wire, full duplex	\$ 252.00	315.00
KSGTM10021	600 Ohm Balanced Line Driver	\$ 212.00	265.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00

# KAS-20

## STANDALONE / MULTI-CLIENT AVL & DISPATCH SOFTWARE

The KAS-20 Software provides AVL and Dispatch capability compatible with Kenwood digital radio systems. With the capability to run under Windows and Windows Server operating systems, it provides a cost effective package for AVL and Dispatch for business, supporting both the NXDN and DMR digital protocols.

### FEATURES AND HIGHLIGHTS:

- Low-Cost Initial Investment with Upgrade licenses
- Enhanced Scalability – Standalone PC / Multi-Client Server
- Enhanced User Interface Design for ease of use
- Supports multiple digital radio protocols
- User-Selectable Options – Location, Dispatch, Voice Path, Multiple Client, and Voice Recording

- Location Management – 1,000 subscribers
- Definable Call Dispatch Windows
- Embedded AMBE+2 Vocoder
- System to System Patching\*
  - DMR Conventional
  - NXDN Conventional
  - NXDN Type-C Gen1 System
  - NXDN Type-C Gen2 System

\*System type and bandwidth must match in order to patch calls from different system ID.



### COMPATIBLE IP CONSOLE INTERFACE\*

- Kenwood DMR Conventional
- Kenwood NXDN Conventional
- Kenwood NXDN Type-C
- Kenwood NXDN Gen2

\* KAS-20 does not support serial base connection

### SYSTEM REQUIREMENTS\*

- Windows 7, 8.1, 10 (32/64 bit OS)
- 3.0 GHz Intel Core i5 or faster CPU
- 4 GB RAM or more
- 50GB free space or more
- Internet Connection for AVL

\* Refer to KAS-20 brochure for details

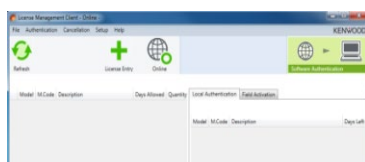
SAMPLE LICENSE		CONTRACT	LIST
KAS-20K2	SAMPLE LICENSE VALID FOR 30 DAYS OF OPERATION Following features are enabled for 30 days after activation: - AVL (similar to KWD-20C-LMK license) - Dispatch (similar to KWD-20C-VDK license) - Voice Path (similar to one KWD-20C-VPK license)	\$ 16.00	20.00
BASE LICENSE		CONTRACT	LIST
KAS-20K	AVL & DISPATCH SOFTWARE BASE LICENSE	NC	NC

#### Notes:

1. KAS-20K base license is required per individual PC or Server. Works on both KAS-20C (Client) and KAS-20S (Server).
2. Application Software for KAS-20C (Client) and KAS-20S (Server) is available on Kenwood CONTRACT Tools.
3. Base license does not contain any of the feature licenses. Must purchase additional software upgrades to enable desired functions.
4. One KAS-20K base license allows a single connection to the RF system.

### TO PLACE AN ORDER FOR WINDOWS<sup>®</sup> SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:



### KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.



**Note:** KPT-300LMC is compatible with Windows 7/8.1/10 Only. Windows XP is not supported.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the enclosed "**Account Request Form**" and return to the Kenwood Systems Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
<b>SOFTWARE UPGRADE LICENSES (FOR CLIENT)</b>		<b>CONTRACT</b>	<b>LIST</b>
KWD-20C-VDK	Voice Dispatch License for KAS-20 client <b>Note:</b> KWD-20C-VDK does not contain vocoder license. IP dispatching requires additional KWD-20C-VPK for AMBE+2 voice vocoding .	\$ 533.60	667.00
KWD-20C-VPK	Voice Path License for KAS-20 client <b>Note:</b> Single KWD-20C-VPK allows single stream of AMBE+2 vocoding per license. Purchase multiple licenses up to 8 for simultaneous vocoding.	\$ 533.60	667.00
KWD-20C-LMK	Location Management License for KAS-20 client	\$ 533.60	667.00
<b>SOFTWARE UPGRADE LICENSES (FOR SERVER)</b>		<b>CONTRACT</b>	<b>LIST</b>
KWD-20S-MCK	Server upgrade license to enable multi-client operation <b>Note:</b> Single KAS-20 server software holds up to ten KAS-20 clients.	\$ 1,800.00	2,250.00
KWD-20S-VRK	Server upgrade license to enable Voice Logging and Playbacks <b>Note:</b> Voice replay uses one KWD-20C-VPK voice path license while replaying on KAS-20 client.	\$ 1,800.00	2,250.00
KWD-20S-RSK	Server upgrade license to connect ONE additional RF system to KAS-20 system.	\$ 1,800.00	2,250.00
<b>COMPANION PRODUCTS COMPUTERS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGCP30202	Windows server	\$ 3,500.00	4,375.00
KSGCP30203	Standalone PC Opt3040	\$ 1,020.00	1,275.00
KSGCP40001	USB Desktop Microphone A0110399	\$ 60.00	75.00
KSGSP10001	Multi-Media Desktop PC Speakers AX210 USB	\$ 40.00	50.00
<b>COMPUTER MONITORS</b>		<b>CONTRACT</b>	<b>LIST</b>
KSGCP30101	22" LED Backlit LCD Monitor 1920 x 1080 resolution E2316H	\$ 300.00	375.00
KSGCP00014	24" Monitor Backlit LCD Monitor 1920 x 1080, resolution HDMI, VGA, Displayport P2417H	\$ 416.00	520.00



# KAS-10

## GPS AVL & Dispatch Messaging Software (Version 2.x)

### Product Enhancements:

- 999 Mobile ID Capacity
- NXDN® Scrambler included
- Up to 100 KAS-10 per system, 10 per site
- 100 Group Scan with four Priority Monitor IDs
- AVL and Voice Dispatch operation of IP: GPS data, status/text message, and voice

### Notes:

- NEXEDGE Gen2, Type-D and DMR Systems not supported.

GPS AVL & DISPATCH		CONTRACT	LIST
KAS-10	GPS AVL & Dispatch Messaging Software	\$ 347.20	434.00
KSGCP50001	AMBE-3000™ Vocoder Chip with USB Interface <b>Note:</b> USB-3003™ multi pass Vocoder with USB does not compatbile with KAS-10.	\$ 520.00	650.00
COMPANION PRODUCTS COMPUTERS		CONTRACT	LIST
KSGCP30201	Windows Workstation PC	\$ 1,612.00	2,015.00
KSGCP40001	USB Desktop Microphone	\$ 60.00	75.00
KSGSP10001	Multi-Media Desktop PC Speakers	\$ 40.00	50.00
KSGCP40002	USB Over the Head Headset with Microphone	\$ 72.00	90.00
KSGCP40003	Mini-Plug Over the Head Headset with Microphone	\$ 60.00	75.00
COMPUTER MONITORS		CONTRACT	LIST
KSGCP30101	17" Anti-Glare Black LCD Monitor	\$ 300.00	375.00
KSGCP00014	19" Anti-Glare Black LCD Monitor	\$ 380.00	475.00
KSGCP30102	17" Anti-Glare Black ELO Touchscreen Monitor	\$ 836.00	1,045.00
KSGCP00015	19" Anti-Glare Black ELO Touchscreen Monitor	\$ 996.00	1,245.00

# KPG-150AP

## OTAP Manager

### General

- For NEXEDGE® digital 12.5/6.25 kHz Conventional, Type-C Trunking and Gen2 systems, the KPG-150AP OTAP (Over the Air Programming) manager simplifies the task of reconfiguring subscribers, either directly or via repeater.
- Eliminates manual collection of portable and mobile radios from the field for reprogramming.
- Eliminates repeated connection and disconnection of individual radios.
- Reduces time spent programming field units.
- User interface and icons offer intuitive operational ease.
- Verification and logging features ensure efficient and reliable data control.

### Main Features

- Accommodates multiple user-defined groups.
- Support for multiple serial ports facilitates transmission on different frequencies.
- Once stored in the OTAP manager, data for each radio can be easily reprogrammed.
- One-click programming allows multiple radios to share the same programming data without individual modification.
- KPG-150AP compares current and updated configurations, enabling transmission of only updated programming data to save on-air time.
- Multiple sessions can be programmed and scheduled in advance, removing the need to be present for remote over-the-air reconfiguration.
- Auto retry options are also available in the case of OTAP failure.
- Each programming session is recorded by the software, indicating transmission success or failure for each radio.

**Note:** NEXEDGE Type-D Trunking system and DMR System not supported.

OTAP MANAGER		CONTRACT	LIST
KPG-150AP	OTAP Manager <b>Note:</b> - Includes a license for one computer, one base radio (mobile or portable), and 10 subscriber radios (mobile or portable) - NEXEDGE Type-D Trunking and DMR System not supported.	\$ 440.00	550.00

ADDITIONAL LICENSES		CONTRACT	LIST
Note: Includes a license for one additional subscriber radio (mobile or portable) attached to one computer running KPG-150AP software			
KWD-AP1	Additional Radio License for 1 PC <b>Note:</b> Price is per license on quantities of less than 100 licenses.	\$ 20.00	25.00
KWD-AP100	Additional Radio License for 1 PC <b>Note:</b> Price is per license when ordering between 100 and 249 licenses at the same time.	\$ 20.00	25.00
KWD-AP250	Additional Radio License for 1 PC <b>Note:</b> Price is per license when ordering between 250 and 499 licenses at the same time.	\$ 20.00	25.00
KWD-AP500	Additional Radio License for 1 PC <b>Note:</b> Price is per license when ordering 500 or more licenses at the same time.	\$ 20.00	25.00
KWD-SP1	Additional System License for 1 PC <b>Note:</b> Price is per license on quantities of less than 16 licenses.	\$ 266.40	333.00

### -- IMPORTANT NOTES--

Base radios are connected to a computer using the KPG-36XM USB adapter for portables, or a KPG-46XM for mobiles.

Requires firmware version 2.5 or higher for the NX-x00/NX-x10 mobiles and portables as well as the NXR-x00/NXR-x10 repeaters.

Requires firmware version 1.01 or higher for the NX-x20 portables.

# KPG-180AP

## OTAP Manager for NX-5000 Series

### General

- For NX-5000 Series radios, the KPG-180AP OTAP (Over the Air Programming) manager simplifies the task of reconfiguring subscribers, either directly or via repeater through NEXEDGE Conventional, Type-C Trunking and Gen2 System.
- Eliminates manual collection of portable and mobile radios from the field for reprogramming.
- Eliminates repeated connection and disconnection of individual radios.
- Reduces time spent programming field units.
- User interface and icons offer intuitive operational ease.
- Verification and logging features ensure efficient and reliable data control.

### Main Features

- Remote editing/adding features such as ID Lists, over-the-air aliases, channels, sites, and more.
- Once stored in the OTAP manager, data for each radio can be easily reprogrammed.
- One-click programming allows multiple radios to share the same programming data without individual modification.
- Each programming session is recorded by the software, indicating transmission success or failure for each radio.
- Multi-Protocol (NXDN/P25) capability.

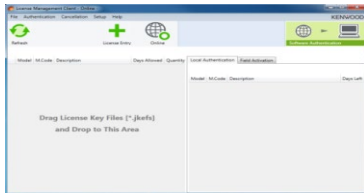
### Note:

- NEXEDGE Type-D Trunking system and DMR System not supported.
- P25 OTAP is only available for Conventional Radio to Radio.

## LICENSING SYSTEM

## CONTRACT

## LIST



Note: KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.



### KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**.

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the enclosed "[Account Request Form](#)" and return to the Kenwood Systems Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
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## SOFTWARE LICENSING OPTIONS

### TO PLACE AN ORDER FOR SOFTWARE:

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

**Note: A unique license key is required for each PC with software installed. A single license key will not authorize multiple PCs.**

### Software License Key Discount Structure

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF
15 ~ 24 License Keys	40% OFF

## SOFTWARE LICENSING OPTIONS, CONT

## CONTRACT

## LIST

KPG-180AP	OTAP Manager Software (Windows® Vista/7/8/8.1/10) • License includes Fifty (50) radios / One(1) <b>NXDN</b> Conventional and Type-C <b>Air</b> Communication Profile and One(1) <b>NXDN</b> Conventional and Type-C <b>IP</b> Communication Profile	884.00
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**Note:**

- Requires KPT-300LMC for authentication
- Radio to Radio OTAP for P25 Conventional system requires KWD-AP3-P25 license.
- NEXEDGE Type-D Trunking and DMR System not supported.

\$ 707.20
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**SOFTWARE UPGRADE LICENSES FOR KPG-180AP**

**Note:** Includes package license for additional subscriber unit or license for additional profile attached to one computer running KPG-180AP software. All additional licenses require KPT-300LMC for authentication.

KWD-AP5100	Additional 100 Radio Package License for 1 PC Note: License includes 100 subscriber radios OTAP License.	\$ 1,333.60	1667.00
KWD-AP5250	Additional 250 Radio Package License for 1 PC Note: License includes 250 subscriber radios OTAP License.	\$ 2,333.60	2917.00
KWD-AP5500	Additional 500 Radio Package License for 1 PC Note: License includes 500 subscriber radios OTAP License.	\$ 3,333.60	4167.00
KWD-AP1-CA	Additional NXDN Conventional Type-C Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as NEXEDGE Base Station Serial Interface for both Conventional and Trunking (Type-C Gen1/Gen2).	\$ 200.00	250.00
KWD-AP2-CP	Additional NXDN Conventional Type-C IP Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used NEXEDGE Repeater IP Interface for both Conventional and Trunking (Type-C Gen1/Gen2) .	\$ 333.60	417.00
KWD-AP3-P25	P25 Radio to Radio Air Communication Profile for 1 PC. Note: Price is per license on quantities of less than 16 licenses. Used as P25 Base Station Serial Interface for only Radio to Radio Communication.	\$ 640.00	800.00

**-- IMPORTANT NOTES--**

Base radios are connected to a computer using the KPG-36XM USB adapter for portables, or a KPG-46XM for mobiles.

Requires firmware version 1.4 or higher for the NX-5000 Series portables and mobiles

Requires firmware version 2.5 or higher for the NXR-x00/NXR-x10 repeaters.

# KTI-4

## Telephone Interconnect Adapter

### General

- Available only for NEXEDGE® digital trunking systems using the NXR-700/800/900 repeaters.
- Provides access to incoming and outgoing PSTN/PABX telephone calls when used in conjunction with a telephone patch panel.
- Serves as an Ethernet-based interface between the NEXEDGE® digital trunking system and an analog telephone patch panel

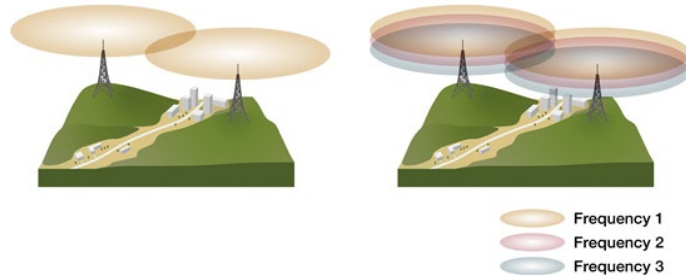
### Main Features

- Can be installed off-site using an IP network connection to the NEXEDGE® system.
- Up to 100 telephony lines per system; six lines per site.
- DTMF control via AUX jack.
- Customizable DTMF command set and tone timer for telephone patch.
- Browser-based remote KTI-4 settings via the IP network.
- Individual telephone calling.
- Speed dial.
- Configurable call restrictions (long-distance, international, etc.).
- AMBE+2™ vocoder for digital audio speech conversion.
- NXDN® encryption included
- Status LEDs: Power, Communications, Full-Duplex, 100 Base-TX.

<i>Interconnect Adapter</i>		<i>CONTRACT</i>	<i>LIST</i>
KTI-4M	Telephone Interconnect Adapter	\$ 456.00	570.00
901-9416	Model 30 Worldpatch	\$ 641.00	801.25
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 40.00	50.00
L-8005	KTI-4M Calibration (Required)	\$ 60.00	75.00

**General**

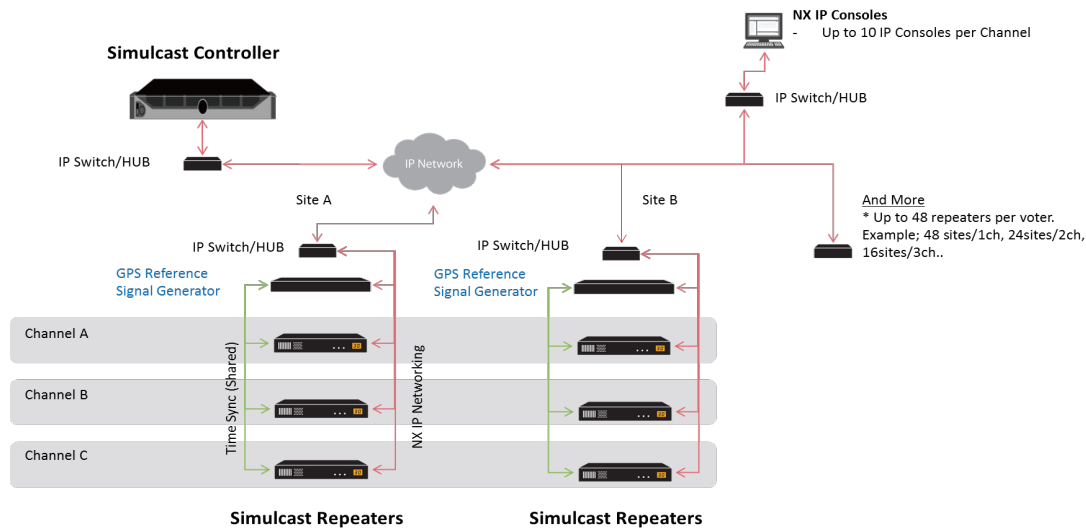
- Simple multi-site operation for extended coverage.
- Digital simulcast will offer the user the ability to use a single frequency pair over a coverage area larger than serviced by a single repeater site.
- No need for radios to be programmed to roam among sites, greatly simplifying operation for the end-user and system owner.

**Features and Highlights**

- 6.25 kHz NXDN Conventional
- VHF and UHF frequency models
- Up to 48 repeaters / Up to 3 channels per Controller  
48 sites / 1CH, 24 sites / 2CH, 16sites/1CH
- Up to 10 IP Consoles per Channel

**Applicable VHF/UHF Subscribers:**

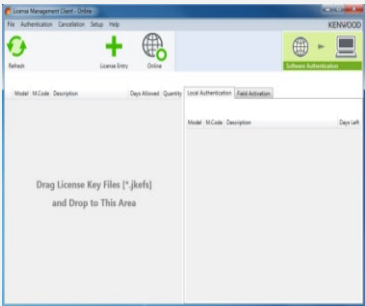

- NX-5x00 Series
- NX-3x00/3x20 Series
- NX-x00G/x10G Series
- NX-x20 Series



SIMULCAST CONTROLLER		CONTRACT	LIST
KSGCT13SIM	Simulcast Controller	\$ 11,200.00	14,000.00
SIMULCAST REPEATERS		CONTRACT	LIST
NXR-5700KSR	Simulcast Repeater, Digital, VHF, 136-174MHz, 25W, 0.5ppm TCXO built-in	\$ 11,466.40	14,333.00
NXR-5800KSR	Simulcast Repeater, Digital, UHF, 450-520MHz, 25W, 0.5ppm TCXO built-in	\$ 11,466.40	14,333.00
NXR-5800K3SR	Simulcast Repeater, Digital, UHF, 400-470MHz, 25W, 0.5ppm TCXO built-in	\$ 11,466.40	14,333.00
GPS REFERENCE		CONTRACT	LIST
KSG-SIM-SG	Hi Performance GPS Receiver w/ Sync Cable <b>Note:</b> GPS reference is required per site	\$ 6,880.00	8,600.00
Includes GPS antenna, mounting hardware, antenna line surge suppressor. Antenna line should be ordered separately.			
SERVICE		CONTRACT	LIST
Custom	System Design, Onsite Consulting, and Coverage Testing are available. Contact the Regional Sales Manager for your area to obtain a custom quote based on specific site requirements, conditions, and environment.	Custom	Custom

**Notes:**

1. Due to the complexity of the digital simulcast system, Kenwood will design, configure, and test the system.
2. IP Network and IP console is not included. CONTRACT should notify Kenwood Systems Group if required.

LICENSING SYSTEM		CONTRACT	LIST
 <p><b>Note:</b> KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.</p>		 <p><b>KPT-300LMC License Management Client</b></p> <p>KPT-300LMC is a <u>required</u> software package that is used to authenticate <b>software</b></p> <p>KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.</p> <p><b>NOTE:</b> A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the "<u>Account Request Form</u>" and return to the Kenwood Systems Order Desk.</p> <p>License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.</p>	
KPT-300LMC	License Management Client	NC	NC
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	NC	NC
PROGRAMMING SOFTWARE		CONTRACT	LIST
KPG-D2NK	License Key for KPG-D2NK Programming Software for NXR-5000 Repeater (Windows® Vista/7/8/8.1) <b>Note:</b> - Requires KPT-300LMC for authentication. - Type A/B USB Cable (KSGCB10206) is required	\$ 82.60	103.25



# NEXEDGE® Generation2 System

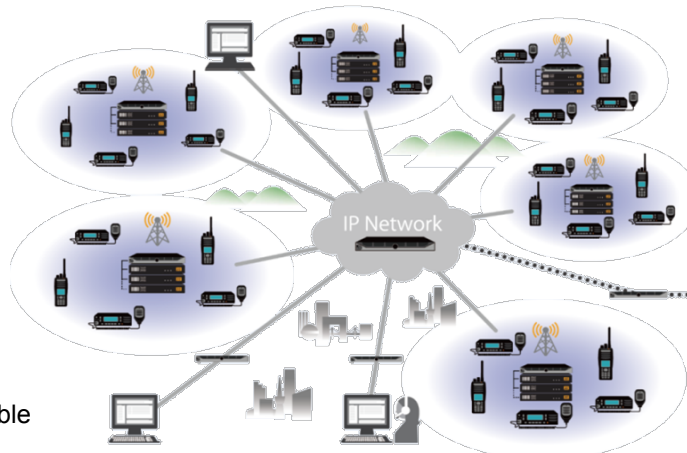
NEXEDGE Gen2

Gen2 is a new NEXEDGE® platform with additional features and enhanced capacity. NEXEDGE is a scalable solution and the server based architecture of Gen2 will meet your immediate and future needs. NXR-5000 and NXR-x00 series can be upgraded to Gen2 system.

Key features and enhancements include: Direct Frequency Assignment (DFA), Call Pre-Emption for Console, GPS Report Channel, and an increase to the number of sites within a system.

## FEATURES AND HIGHLIGHTS:

- Up to 1,152 sites
- Up to 24 Wide Area Systems
- Up to 24 Multi System Roaming <sup>1</sup>
- Browser Based Multi-Access Configuration
- All Gen1 Functionality
- Direct Frequency Assignment
- Call Pre-Emption for Console
- Fleet Priority Channel
- Dynamic Control Channel
- GPS Report Channel<sup>2</sup>
- SNMP Capability for Repeaters <sup>3</sup>
- Network Management and Monitoring
- NXR-700/800/900/901/5700/5800 Compatible



1. NX-x00/x10/x11/x20 series are available for 8 systems.

2. Requires Traffic Channel (Repeater) to use as a GPS Report Channel (GRCH).

3. NXR-x00 series requires to equip CF card that is installed of KPT-MIB10 software downloaded from Dealer Tools to use SNMP function.

SERVER SOFTWARE LICENSING		CONTRACT	LIST
KPG-1000SY	System Control Software <i>*Required</i> <b>Note:</b> - Required one per 48 site or per each system code - Includes NXR-5000/x00/x01 Firmware. They are automatically updated when KPG-1000SY is updated.	\$ 13,333.60	16,667.00
KPG-1001ST	Site Control Software <i>*Optional</i> <b>Note:</b> Required one per site of 10 channels or more.	\$ 2,000.00	2,500.00
KPG-1002GW	IP Gateway Software <i>*Optional</i> <b>Note:</b> Required for connecting NXIP Interface Software. One IP Gateway handles 100 interfaces and up to ten IP Gateways per system code	\$ 6,667.20	8,334.00
KPG-1003NS	Network Manager Server Software <i>*Optional</i> <b>Note:</b> Required for monitoring 101 to 1000 devices	\$ 4,000.00	5,000.00
KPG-1005RG	Roaming Gateway Server Software <i>*Optional</i> <b>Note:</b> - Required for subscriber roaming from one system to another. Roaming Gateway is required for the home system to each subscriber needing to roam. For example, subscriber from Sys A needs to roam to Sys B, Sys A needs the Roaming Gateway, Sys B doesn't need it unless Sys B subscriber needs to roam. - Roamer Subscriber must be set SKF that is issued by roamed system.	\$ 5,600.00	7,000.00

### Notes:

1. Gen2 software must be installed and configured by JVCKENWOOD on KSGCP20000 servers.

SERVER HARDWARE		CONTRACT	LIST
KSGCP20000	Custom Rack Mounted Server with Advanced Support 3 year warranty, 7x24, support, next business day onsite service, 3 year warranty includes the hard drive. High priority technical hardware and software support. One server required for each operating system. <b>Note:</b> - L-8518 must be required for each server. - Must be provided and configured by KENWOOD.	\$ 4,400.00	5,500.00



L-8518	Labor for Installing and loading Linux OS and Application Software.	\$ 600.00	750.00
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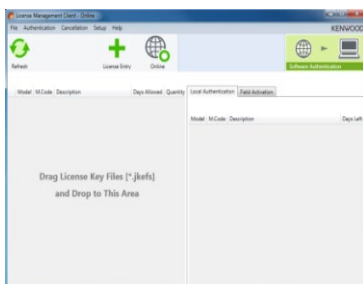
WINDOWS® APPLICATION LICENSING		CONTRACT	LIST
KPG-1004NC	Network Manager Client Software <b>Note:</b> Required for Network Management. A unique license key is required for each PC with software installed. A single license key will not authorize multiple PCs. Requires KPT-300LMC for authentication.	\$ 2,667.20	3,334.00

**TO PLACE AN ORDER FOR WINDOWS® SOFTWARE:**

1. Complete the attached Software License Key Request Form.
2. Submit along with your PO to the SYSTEMS Order Desk via:
  - a) E-Mail: [systemsorderdesk@us.jvckenwood.com](mailto:systemsorderdesk@us.jvckenwood.com)
  - b) Fax: (678) 957-1880
3. License Keys will be E-mailed to the address provided on the order form. A hard copy will follow by mail for your records.

**KPG-1004NC Software License Key Discount Structure**

1 License Key	---
2 ~ 4 License Keys	10% OFF
5 ~ 14 License Keys	35% OFF
15 ~ 24 License Keys	40% OFF



**Note:** KPT-300LMC is compatible with Windows Vista/7/8/8.1 Only. Windows XP is not supported.



## KPT-300LMC License Management Client

KPT-300LMC is a required software package that is used to authenticate **software**

KPT-300LMC is available as a free download from Kenwood Tools and is also supplied with applicable software.

**NOTE:** A license key is required for the KPT-300LMC to authenticate the software prior to use. To receive a license key, complete the enclosed "Account Request Form" and return to the Kenwood Systems Order Desk.

License Keys will be E-Mailed to the address provided on the Account Request Form. A hard copy will follow by mail for your records.

KPT-300LMC	License Management Client	NC	NC
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REPEATER TRUNKING AND MULTI SITE FEATURE		CONTRACT	LIST
KWD-20CTR	Repeater Trunking Feature <b>Note:</b> Required for each Trunking Repeater.	\$ 1,200.00	1,500.00
KWD-20CNT	Repeater Multi-Site Feature <b>Note:</b> Only for Multi-Site Trunking System. Required for each Trunking Repeater.	\$ 1,333.60	1,667.00

**REPEATER TRUNKING/MULTI-SITE FEATURE FOR MIGRATING FROM GEN1 TO GEN2**

1. No fees about Trunking/Multi-Site Features for existing Repeaters as Gen1.
2. Adding new repeaters or sites after migrating Gen1 to Gen2 are charged Gen2 trunking/multi-site features. (KCT-20CTR/CNT)

NEXEDGE®

# KPG-157SB

NEXEDGE® Generation1 Bridge



## General

- Connects up to eight NXR-700/800/900/901-based multi-site trunked networks.
- Subscribers from each network can make/ receive voice and data calls to/from any trunked network.
- Can be installed at any trunked site through IP connectivity so it can be remotely configured and controlled from anywhere.

## Features and Highlights

- 100 Group Calls.
- 1000 GID Exchange Sets.
- Call Types - Voice/Short Data/Long Data.
- Cross Band Networks\*.
- IP Remote Control, Configuration and Maintenance.
- Multi-Level Access Control.
- Communication and System Logging.
- Data Backup and Restore.
- NXR-700/800/900/901 Compatible.

\* All channels in NEXEDGE® network must be operating in the same bandwidth (6.25 kHz or 12.5 kHz).

SOFTWARE		CONTRACT	LIST
KPG-157SB	Kenwood NEXEDGE Bridge Software	\$ 10,000.00	12,500.00
KSGPG92010	System Group Call Path License <b>Note:</b> License for block of 10 path activations. (Minimum of one block; maximum of 10 blocks per system)	\$ 8,000.00	10,000.00
KSGPGKEY03	Grade-1 Unlimited Access Secure USB Programming Key <b>Note:</b> Required for operation.	\$ 133.60	167.00
HARDWARE		CONTRACT	LIST
KSGCP20000	Custom Rack Mounted Server with Advanced Support 3 year warranty, 7x24, support, next business day onsite service, 3 year warranty includes the hard drive. High priority technical hardware and software support. One server required for each operating system. <b>Note:</b> - L-8518 must be required for each server. - Must be provided and configured by KENWOOD.	\$ 4,400.00	5,500.00
L-8518	Labor for Installing and loading Linux OS and Application Software.	\$ 600.00	750.00
MOUNTING CONFIGURATIONS		CONTRACT	LIST
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 864.00	1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 960.00	1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 2,140.00	2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,600.00	2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 276.00	345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 72.00	90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 348.00	435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 112.00	140.00
COMPONENTS		CONTRACT	LIST
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 576.00	720.00
KSGMT0C03R	Crate for 3' Rack	\$ 288.00	360.00

KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 520.00	650.00
KSGMT0C07R	Crate for 7' Rack	\$ 440.00	550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,724.00	2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 416.00	520.00



### General

- End-to-end IP based telecommunications console system designed for mission critical dispatch applications.
- Employs the latest, standards-based IP protocols and IT best practices.
- Offers highest levels of interoperability, scalability, and features.
- Designed to connect directly to a NEXEDGE® Trunking Repeater System (TRS) via IP connection.

MAX PRO WORKSTATIONS		CONTRACT	LIST
905-0410	Kenwood MAX Pro Workstation Bundle Position: One Operator Workstation PC, one Media Dock, two Speakers, and Power Supply Licenses: MAX Base Software, Individual Call, Tone Signaling/Paging, Telephony, Event Replay, Aux I/O Control Feature Sets All manuals are included in softcopy format with the MAX software.	\$ 17,505.00	21,881.25
905-0411	Kenwood MAX Pro Workstation Bundle, PC not included	\$ 16,975.00	21,218.75
905-0412	Kenwood MAX Pro Workstation, Laptop Bundle USB Headset included, Media Dock not included.	\$ 14,855.00	18,568.75
930-0258	MAX Pro Software	\$ 14,320.00	17,900.00
905-0446	Kenwood MAX Pro Workstation Bundle with Rackmount Speakers Position: One Operator Workstation PC, one Media Dock, one 19" Rackmount Speaker Panel with two speakers, and Power Supply Licenses: MAX Base Software, Individual Call, Tone Signaling/Paging, Telephony, Event Replay, Aux I/O Control Feature Sets All manuals included in softcopy format with the MAX software.	\$ 17,505.00	21,881.25
905-0512	1-Position 2 Channel NXDN with PC Position: One Operator Workstation PC, one Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Backroom: One MAX Digital Radio Gateway with NXDN interface licenses, one MAX Central, one MAX Manager (non-redundant) Licenses: One MAX Base Software License, one 2-channel License Block (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls). All manuals included in softcopy format with the MAX software.	\$ 21,310.00	26,637.50
905-0513	1-Position 10 Channel NXDN with PC Position: One Operator Workstation PC, one Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Backroom: Five MAX Digital Radio Gateways with NXDN interface licenses, one MAX Central, one MAX Manager (non-redundant) Licenses: One MAX Base Software License, one 10-channel License Block (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls). All manuals included in softcopy format with the MAX software.	\$ 33,990.00	42,487.50
905-0514	1-Position 20 Channel NXDN with PC Position: One Operator Workstation PC, one Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Backroom: Ten MAX Digital Radio Gateways with NXDN interface licenses, one MAX Central, one MAX Manager (non-redundant) Licenses: One MAX Base Software License, two 10-channel License Blocks (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls) All manuals included in softcopy format with the MAX software.	\$ 51,670.00	64,587.50
905-0515	1-Position 2 Channel NXDN without PC Position: One Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Backroom: One MAX Digital Radio Gateway with NXDN interface licenses, one MAX Central, one MAX Manager (non-redundant) Licenses: One MAX Base Software License, one 2-channel License Block (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls) All manuals included in softcopy format with the MAX software.	\$ 19,295.00	24,118.75

905-0516	1-Position 10 Channel NXDN without PC Position: One Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Backroom: Five MAX Digital Radio Gateways with NXDN interface licenses, one MAX Central, one MAX Manager (non-redundant) Licenses: One MAX Base Software License, one 10-channel License Block (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls) All manuals included in softcopy format with the MAX software.	\$ 32,250.00	40,312.50
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MAX PRO WORKSTATIONS, CON'T	CONTRACT	LIST
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905-0517	1-Position 20 Channel NXDN without PC Position: One Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Backroom: Ten MAX Digital Radio Gateways with NXDN interface licenses, one MAX Central, one MAX Manager (non-redundant) Licenses: One MAX Base Software License, two 10-channel License Blockx (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls) All manuals included in softcopy format with the MAX software.	\$ 49,490.00	61,862.50
905-0518	Max Standard with Laptop Position: Laptop, USB Headset Licenses: One MAX Base Software License (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls)	\$ 9,270.00	11,587.50
950-1348	MAX Standard Software Does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls	\$ 4,500.00	5,625.00
905-0519	MAX Standard Workstation Bundle (with PC) Position: One Operator Workstation PC, one Media Dock, two Speakers, Footswitch, Desk Microphone, and Power Supply Licenses: One MAX Base Software License (does not include Event Recording, Paging Tones, Aux I/O, Telephone, or Individual Calls) All manuals included in softcopy format with the MAX software.	\$ 10,305.00	12,881.25
905-0522	MAX Standard Workstation Bundle (without PC) Includes one Media Dock, two Speakers, Power Supply, MAX Base Software License, and softcopy of manuals	\$ 8,950.00	11,187.50
905-0524	MAX Standard Laptop Bundle (without Laptop) Includes USB Headset and softcopy of manuals; does NOT include Media Dock or Laptop	\$ 4,750.00	5,937.50

OPERATOR WORKSTATION SOFTWARE LICENSES (PER WORKSTATION)
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930-0222	Individual Call Software Feature Set Includes: Individual radio call, Call Alert, Radio Check, Radio Monitor, Inhibit, Uninhibit	\$ 1,060.00	1,325.00
930-0223	Telephony Feature Set Includes: Console controls for basic telephone operation, Caller ID, and Alias	\$ 1,590.00	1,987.50
930-0224	Tone Signaling/Paging Feature Set Includes: Manual paging operation, instant call and stacked paging, 2-tone 100, 1000, and Custom Calls (Mot & GE), Quick Call (2+2), DTMF, and Knox	\$ 1,590.00	1,987.50
930-0225	Event Replay Short term audio playback at the console position	\$ 1,795.00	2,243.75
930-0226	Aux I/O Software Feature Set	\$ 1,590.00	1,987.50

WORKSTATION HARDWARE OPTIONS	CONTRACT	LIST
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950-0032	Headset, 6-wire, Noise Cancelling Dual-prong adapter which includes one headset top	\$ 438.24	547.80
950-0033	Headset 4-Wire, Noise Cancelling Dual-prong adapter which includes one headset top	\$ 329.34	411.68
950-0454	Wireless Headset, 6-Wire, Noise Canceling (comes with two batteries) Plantronics CA12CD improved belt-mounted PTT pack has secure battery retention and accepts Plantronics H-Series headset tops	\$ 1,103.57	1,379.46
802-0115	Headset Top, Noise Cancelling	\$ 147.41	184.26
905-0414	Kenwood Desktop Microphone, Shure with Cable	\$ 615.00	768.75
950-1077	Dual Prong Headset Jackbox Option (Dual Volume Control) Required for TRHI functionality	\$ 800.00	1,000.00
950-1082	Dual Prong Headset Jackbox Option (Single Volume Control)	\$ 641.00	801.25
950-9102	Footswitch, Single w/ 10' cable	\$ 122.00	152.50
950-1190	Kenwood Speakers Single (cable separate)	\$ 450.00	562.50
950-1230	Kenwood 19" 2U Rackmount Speaker Panel - 2 Speakers (cables not included)	\$ 917.00	1,146.25
950-1251	2U Rackmount Gooseneck Microphone	\$ 535.00	668.75
709-0170-10	10 ft. Shielded Cat 5e cable for Speakers	\$ 21.25	26.56
901-9695	Kenwood Media Dock XS Kit	\$ 4,030.00	5,037.50
950-1237	Console Position Light Pole	\$ 584.32	730.40

MAX DIGITAL RADIO GATEWAY INTERFACE AND OPTIONS (IP)		CONTRACT	LIST
901-9727	Kenwood MAX Digital Radio Gateway Used when interfacing via IP directly to a NEXEDGE® System	\$ 2,695.00	3,368.75
930-0264	NEXEDGE Talkpath Interface (Conventional or Trunking) Requires license for each NEXEDGE Talkpath monitored at the console <i>Conventional: One Talkpath per Gateway</i> <i>Trunking: Two Talkpaths per Gateway</i>	\$ 530.00	662.50
MAX SYSTEM HARDWARE/SOFTWARE		CONTRACT	LIST
901-9719	Kenwood MAX Central Hardware platform hosting the MAX Manager, Telephony Gateway, IP Voice Logger Gateway, and the Auxiliary I/O Gateway; includes five (5) 10 ft. shielded CAT5e cables for connectivity	\$ 3,395.00	4,243.75
930-0231	Z-Node Manager At least one required for each MAX System.	\$ 3,290.00	4,112.50
930-0221	Block of 10 Radio Channels Licenses Up to 50 channels in the system; beyond 50 channels, please call Kenwood for pricing.	\$ 3,185.00	3,981.25
930-0376	Block of 2 Radio Channel Licenses	\$ 695.00	868.75
930-0237	IP Voice Logger Channel Block License Provides IP Logging Access for up to 10 radio channels; may require additional Centrals	\$ 480.00	600.00
930-0273	MAX Dispatch Voice Logger License for Eventide NexLog™ Logging Recorders License applies when using Eventide NexLog™ recorder only; Eventide Recorder must have been purchased through Zetron to qualify; 930-0237 not needed	NC	NC
930-0239	Auxiliary I/O Port License Supports any combination of inputs and outputs up to 48	\$ 930.00	1,162.50
930-0233	MAX Portal Remote Radio License One remote Portal license is needed per Radio Gateway that is designated as remote device; may require additional Centrals	\$ 210.00	262.50
930-0234	MAX Portal Z-Node License One portal license is needed for each Z-Node that is required to operate in a multi-node system; may require additional Centrals	\$ 4,120.00	5,150.00
950-9351	Connectorized Punch down Block	\$ 116.86	146.08
950-9199	Connectorized Punch down Block (Protected) [Baseline Product]	\$ 891.00	1,113.75
901-9674	Model 6080 Relay Module For higher current applications (8 I/O)	\$ 875.00	1,093.75
802-1111	Acromag Ethernet I/O Unit Sixteen discrete I/O channels, any mix of inputs and outputs 12-32VDC	\$ 783.52	979.40
930-1214	Aux I/O Port License Supports any combination of inputs and outputs up to 16 ports	\$ 410.00	512.50
802-2117	Acromag Ethernet I/O Unit Thirty-two optically isolated inputs, 16 relay outputs (250 VAC@ 2A) 18-36VDC; power supply not included	\$ 2,729.04	3,411.30
950-1347	Network Isolation Switch Must be used with p/n 802-2117	\$ 258.96	323.70
802-0255	Power Supply for 802-2117 Acromag Ethernet Unit	\$ 33.20	41.50
MAX TELEPHONY GATEWAY INTERFACE		CONTRACT	LIST
930-0235	Telephone Gateway Services (1 per Max Central)	\$ 2,120.00	2,650.00
930-0236	Telephony Port License (1 license per line connection) License not required if purchasing one of the gateways above	\$ 65.00	81.25
950-1130	2 Port FXS VoIP Gateway with 2 port license Unit requires use of 19" Rack 2U shelf (810-0142)	\$ 805.00	1,006.25
950-1131	12 Port FXS VoIP Gateway with 12 port license	\$ 2,450.00	3,062.50
950-1138	2 Port FXO VoIP Gateway with 2 port license Unit requires use of 19" Rack 2U shelf (810-0142)	\$ 805.00	1,006.25
950-1139	12 Port FXO VoIP Gateway with 12 port license	\$ 2,450.00	3,062.50
MAX DMR INTERFACE		CONTRACT	LIST
905-0510	MAX Dispatch DMR AIS Gateway Bundle	\$ 6,200.00	7,750.00
905-0511	MAX Dispatch DMR AIS Gateway Redundancy Bundle	\$ 9,795.00	12,243.75
930-0363	MAX Dispatch DMR 5 TalkPath License	\$ 5,000.00	6,250.00
930-0364	MAX Dispatch DMR 10 TalkPath License	\$ 9,100.00	11,375.00
930-0365	MAX Dispatch DMR 20 TalkPath License	\$ 16,100.00	20,125.00
MAX DMR INTERFACE, CON'T		CONTRACT	LIST
930-0366	MAX Dispatch DMR 30 TalkPath License	\$ 21,100.00	26,375.00

RACK MOUNTING AND POWER EQUIPMENT		CONTRACT	LIST
950-1142	Redundant 12VDC Power System Supports up to 20 MAX Dispatch devices and includes 19" rack mount enclosure	\$ 2,650.00	3,312.50
950-1143	Redundant 12VDC Power System Supports up to 40 MAX Dispatch devices and includes 19" rack mount enclosure	\$ 4,875.00	6,093.75
950-1133	Isolated 12VDC Power Supply System (non-redundant) Supports up to 20 MAX Dispatch devices	\$ 1,380.00	1,725.00
950-1134	12VDC Power Distribution Panel Supports up to 40 MAX Dispatch devices; fuses not included	\$ 630.80	788.50
950-1135	DIN Rail Mounting Kit Generic rack mount kit that can be used for extra power supply mounting or other devices using DIN rail mounting	\$ 505.00	631.25
950-0923	MAX Radio Gateway Power Supply Option Used for powering one Radio Gateway	\$ 80.00	100.00
950-0589	Radio Interface Module Single Unit Rack Mount Kit	\$ 122.00	152.50
950-0588	Radio Interface Module Dual Unit Rack Mount Kit	\$ 170.00	212.50
810-0142	19" Rack 2U Shelf	\$ 106.24	132.80
416-0043	Fuse, 3 Amp	\$ 6.64	8.30
416-0012	AC Power Cord (North America) Required for items that need main power input	\$ 14.61	18.26

MONITORS AND NETWORK EQUIPMENT		CONTRACT	LIST
802-2311	Monitor, LCD Flatpanel, 23" Supports up to 1920X1080 resolution	\$ 358.56	448.20
802-2423	Tech Global 24" WS Multi-touch Monitor Supports up to 1920X1080 resolution	\$ 3,217.74	4,022.18
802-2220	View Sonic, LCD, 22" WS Multi-touch Monitor Supports up to 1920X1080 resolution	\$ 710.48	888.10
950-1275	1000BASE-T SFP Module (Copper) Includes two modules; needed if linking switches together on the same network	\$ 1,095.60	1,369.50
950-1276	1000BASE-SX SFP Module for Multi-Mode Fiber Includes two modules; needed for Multi-Mode Fiber Switch connection	\$ 1,401.04	1,751.30
950-1281	24 Port Managed Gigabit Rack Mount Switch Two required for high availability network	\$ 2,735.68	3,419.60
950-1280	48 Port Managed Gigabit Rack Mount Switch Two required for high availability network	\$ 4,774.16	5,967.70
950-1287	Cisco Management Cable Needed for switch programming and management	\$ 66.40	83.00

SYSTEMS DOCUMENTATION		CONTRACT	LIST
395-0098	MAX Dispatch Manual Set CD includes complete suite of MAX Dispatch manuals	\$ 25.00	31.25
025-9638-1	MAX System Overview Manual	\$ 50.00	62.50
025-9645-1	MAX System Installation Manual	\$ 50.00	62.50
025-9654-1	MAX Dispatch System Configuration Manual	\$ 50.00	62.50
025-9649-1	MAX Operation Manual	\$ 50.00	62.50
025-9625-1	MAX Digital Radio Gateway Product Manual	\$ 50.00	62.50
025-9647-1	MAX Central Product Manual	\$ 50.00	62.50
025-9650-1	MAX Dispatch Console Design Manual	\$ 50.00	62.50
025-9630	Model 6080 Manual	\$ 50.00	62.50
025-9658-1	Media Dock XS Manual	\$ 50.00	62.50
025-9693	MAX Dispatch CAD Interface Control Document API documentation for developing 3rd party applications to control the MAX Dispatch Console; Protocol License Agreement required to obtain documentation	\$ 785.00	981.25
025-9695	MAX Infrastructure Gateway Installation and Configuration Guide	\$ 50.00	62.50
025-9632	Headset Jackbox manual	\$ 50.00	62.50

CUSTOMER SUPPORT SERVICES (NON-DISCOUNTABLE)		CONTRACT	LIST
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Note: Factory Training in Redmond, WA

X97-344F	MAX Dispatch Factory Technical Training, First Person	\$ 1,454.16	1,817.70
X97-344A	MAX Dispatch Factory Technical Training, Additional person	\$ 723.76	904.70
XMP-K344-OWE	MAX-PSP Operator Web Training extension	\$ 1,992.00	2,490.00

ON-SITE OPERATOR TRAINING (NON-DISCOUNTABLE)		CONTRACT	LIST
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Note: Plans are for North America only



XMP-K344-OSO	MAX-PSP On-Site Operator Training, Per Day Price is per day and is for North America only; three weeks advance notice required	\$ 3,320.00	4,150.00
<b>ON-SITE TECHNICAL SUPPORT (NON-DISCOUNTABLE)</b>		<b>CONTRACT</b>	<b>LIST</b>
Note: Plans are for North America only			
XMP-K344-OST	MAX-PSP On-Site Technical Support, Per Day Price is per day and is for North America only; three weeks advance notice required	\$ 3,320.00	4,150.00
<b>UPGRADES</b>		<b>CONTRACT</b>	<b>LIST</b>
950-1228	MAX Dispatch Software and Firmware Upgrade-PSP Required (P/N for delivery tracking only)	NC	NC
<b>SPARES</b>		<b>CONTRACT</b>	<b>LIST</b>
950-1133	Isolated 12VDC Power Supply System (non-redundant) Can support up to 20 MAX Dispatch devices	\$ 1,380.00	1,725.00
901-9727	Kenwood MAX Digital Radio Gateway	\$ 2,695.00	3,368.75
901-9719	Kenwood MAX Central	\$ 3,395.00	4,243.75
901-9695	Kenwood Media Dock XS Kit	\$ 4,030.00	5,037.50
950-1278-1	Kenwood MAX Solutions Workstation PC	\$ 2,629.44	3,286.80
802-0692	Power Supply, Desktop 60W	\$ 55.78	69.72
416-0012	AC Power Cord (North America)	\$ 14.61	18.26
<b>SERVICE PLANS</b>		<b>CONTRACT</b>	<b>LIST</b>
Note: Plans are for North America only			
XMP-K344-EBS	MAX-PSP Extended Service Plan One year software services, one year hardware, after-hours phone support, and one year membership in the Zetron MAX Users Group; per position, per year	NC	NC
XMP-K344-SSL	MAX-PSP Extended Service Plan Reinstatement Fee Reinstating the software services plan after its expiration; per position	NC	NC
XMP-K344-APM	MAX-PSP After hours phone support 1 time Special needs - emergency and pre-scheduled service outside of regular business hours; per month	\$ 100.00	125.00
XMP-K344-RCS	MAX-PSP Remote Configuration Services Systems & CSSI Assistance in the initial configuration of a system; up to 32 hours scheduled	\$ 5,976.00	7,470.00
XMP-K344-RCH	MAX-PSP Remote Configuration Services Features & Components Assistance in the configuration of new components or features; hourly	\$ 239.04	298.80
XMP-K344-MUG	MAX-PSP Zetron MAX Users Group Membership for one year into the ZMUG allows participation in MAX related webinars (must have software PSP)	NC	NC
<b>WARRANTY PACKAGE</b>		<b>CONTRACT</b>	<b>LIST</b>
Note: Plan is for North America only			
XMP-K344-BAS	MAX-PSP Base Service Plan One year software services, one year hardware services, one year of advance hardware replacement, operator web training (2-4 hour sessions), and one year membership in the Zetron MAX Users Group	NC	NC



# KA-160

Analog/DMR VHF Repeaters - 136-174 MHz



## GENERAL FEATURES

- Analog FM 12.5 kHz
- Digital 12.5 kHz
- DMR Tier 2 Conventional
- DMR Conventional IP Network
- Multi-mode Analog/Digital Repeater
- Optional Soft Diversity Reception
- Analog / Digital Simulcast Option

## GENERAL OPTIONS

- External amplifier with built-in antenna T/R switch for simplex operation.
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 6 cavity BpBr duplexer is also available.
- Multi-channel combining systems are quoted on an individual system basis.
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3') and 45 RU (7') open equipment racks.
- Amplifier choices include 50W, 110W or 150W options.
- Custom configurations are also available; contact your KENWOOD Systems Regional Sales Manager for more details.

KAIROS REPEATER		DEALER	LIST
KA-160	KAIROS Repeater, Analog/DMR, VHF, 136-174MHz, 1-25W, 100% Duty	\$ 2,522.00	\$ 4,203.25
KA-160-TX	KAIROS Transmitter Only, Analog/DMR, VHF, 136-174MHz, 1-25W, 100% Duty	\$ 2,102.00	\$ 3,503.25
KA-160-RX	KAIROS Receiver Only, Analog/DMR, VHF, 136-174MHz	\$ 2,102.00	\$ 3,503.25
SOFTWARE LICENSES FOR KAIROS REPEATERS		DEALER	LIST
KA-MCTCSS	License to allow the use of up to 8 different CTCSS contemporary	\$ 210.00	\$ 350.00
KA-POCSAG	License to add POCSAG capability	\$ 540.00	\$ 900.00
KA-SI-T2	License to allow Simulcast operation	\$ 5,550.00	\$ 9,250.00
KA-1+1	License required for Hot Stand-by configuration <b>Note :</b> Must purchase additional KA repeater.	\$ 240.00	\$ 400.00
PROGRAMMING SOFTWARE		DEALER	LIST
KA-MNG	Technical Documentation and Programming Software	\$ 180.00	\$ 300.00
REPEATER MOUNT (Mandatory mount option for rack mounting)		DEALER	LIST
KA-RK1v2	19" Mount Panel for One KAIROS Repeaters	\$ 240.00	\$ 400.00
KA-RK2	19" Mount Panel for Two KAIROS Repeaters	\$ 240.00	\$ 400.00
HARDWARE OPTION for KAIROS Repeaters		DEALER	LIST
KA-GPS	GPS Receiver for Simulcast Operation	\$ 240.00	\$ 400.00
GPS-ANT	GPS Antenna for Simulcast Operation	\$ 240.00	\$ 400.00
DVX-VHF	Diversity RX filter for VHF 136 - 174 MHz	\$ 600.00	\$ 1,000.00
RF REPEATER STATION AMPLIFIER OPTIONS		DEALER	LIST
<b>Note:</b> Includes One Cable for Radio Connectivity.			
KSGPA22403	136-174MHz, 3W Input, 25-50W Output	\$ 999.00	\$ 1,665.00
KSGPA22411	136-144MHz, 3W Input, 55-110W Output	\$ 1,296.00	\$ 2,160.00
KSGPA22412	144-152MHz, 3W Input, 55-110W Output	\$ 1,296.00	\$ 2,160.00
KSGPA22413	152-162MHz, 3W Input, 55-110W Output	\$ 1,296.00	\$ 2,160.00
KSGPA22414	162-174MHz, 3W Input, 55-110W Output	\$ 1,296.00	\$ 2,160.00
KSGPA22441	136-144MHz, 3W Input, 150W Output	\$ 1,836.00	\$ 3,060.00

KSGPA22442	144-152MHz, 3W Input, 150W Output	\$ 1,836.00	\$ 3,060.00
KSGPA22443	152-162MHz, 3W Input, 150W Output	\$ 1,836.00	\$ 3,060.00
KSGPA22444	162-174MHz, 3W Input, 150W Output	\$ 1,836.00	\$ 3,060.00
KSGPA22253	152-162MHz, 3W Input, 250W Output	\$ 2,436.00	\$ 4,060.00
KSGPA22503	136-174MHz, 25W Input, 25-50W Output	\$ 999.00	\$ 1,665.00
<b>RF REPEATER STATION AMPLIFIER OPTIONS, CON'T</b>		<b>DEALER</b>	<b>LIST</b>
KSGPA22511	136-144MHz, 25W Input, 55-110W Output	\$ 1,296.00	\$ 2,160.00
KSGPA22512	144-152MHz, 25W Input, 55-110W Output	\$ 1,296.00	\$ 2,160.00
KSGPA22513	152-162MHz, 25W Input, 55-110W Output	\$ 1,296.00	\$ 2,160.00
KSGPA22514	162-174MHz, 25W Input, 55-110W Output	\$ 1,296.00	\$ 2,160.00
KSGPA22541	136-144MHz, 25W Input, 150W Output	\$ 1,836.00	\$ 3,060.00
KSGPA22542	144-152MHz, 25W Input, 150W Output	\$ 1,836.00	\$ 3,060.00
KSGPA22543	152-162MHz, 25W Input, 150W Output	\$ 1,836.00	\$ 3,060.00
KSGPA22544	162-174MHz, 25W Input, 150W Output	\$ 1,836.00	\$ 3,060.00
<b>POWER SUPPLY OPTIONS</b>		<b>DEALER</b>	<b>LIST</b>
KSGPS20200	DC Switching Power Supply 13.8VDC 20A	\$ 153.00	\$ 255.00
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 285.00	\$ 475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W or 250W amplifier option.	\$ 813.00	\$ 1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 813.00	\$ 1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,044.00	\$ 1,740.00
<b>MOUNTING RACK</b>		<b>DEALER</b>	<b>LIST</b>
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 1,605.00	\$ 2,675.00
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 648.00	\$ 1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 720.00	\$ 1,200.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,200.00	\$ 2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 207.00	\$ 345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 54.00	\$ 90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 261.00	\$ 435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 84.00	\$ 140.00
<b>ETHERNET SWITCH &amp; ROUTER OPTIONS</b>		<b>DEALER</b>	<b>LIST</b>
<b>Note:</b> One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 150.00	\$ 250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 225.00	\$ 375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 225.00	\$ 375.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 30.00	\$ 50.00
<b>DUPLEXER</b>		<b>DEALER</b>	<b>LIST</b>
KSGDX12556	6 Cavity VHF BpBr Duplexer <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty, minimum TX-RX 400 KHz. Includes one LMR-400 interface cable.	\$ 1,857.00	\$ 3,095.00
<b>COMPONENTS</b>		<b>DEALER</b>	<b>LIST</b>
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 432.00	\$ 720.00
KSGMT0C03R	Crate for 3' Rack	\$ 216.00	\$ 360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 390.00	\$ 650.00
KSGMT0C07R	Crate for 7' Rack	\$ 330.00	\$ 550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,293.00	\$ 2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 312.00	\$ 520.00
KSGTM10012	Panel, Tone Term, 2 ch., no case, full dup, 2 or 4 wire, w/monitor	\$ 336.00	\$ 560.00

KSGTM10TCS	Case, Tone Term Panel	\$ 39.00	\$ 65.00
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## KA-450/500

Analog/DMR UHF Repeaters



### GENERAL FEATURES

- Analog FM 12.5 kHz
- Digital 12.5 kHz
- DMR Tier 2 Conventional
- DMR Conventional IP Network
- Multi-mode Analog/Digital Repeater
- Optional Soft Diversity Reception
- Analog / Digital Simulcast Option
- System Redundancy

### GENERAL OPTIONS

- External amplifier with built-in antenna T/R switch for simplex operation.
- Power supply options such as integrated SmartCharger and Low Voltage Disconnect for battery backup applications.
- High performance 4 and 6 cavity BpBr duplexer are also available.
- Multi-channel combining systems are quoted on an individual system basis.
- Mounting options include 20 RU (42") and 40 RU (77") locking cabinets in addition to 17 RU (3") and 45 RU (7") open equipment racks.
- Amplifier choices include 40W, 100W or 150W options.
- Custom configurations are also available; contact your KENWOOD Systems Regional Sales Manager for more details.

KAIROS REPEATERS		DEALER	LIST
KA-450	KAIROS Repeater, Analog/DMR, UHF, 400-470MHz, 1-25W, 100% Duty	\$ 2,522.00	\$ 4,203.25
KA-450-TX	KAIROS Transmitter Only, Analog/DMR, UHF, 400-470MHz, 1-25W, 100% Duty	\$ 2,102.00	\$ 3,503.25
KA-450-RX	KAIROS Receiver Only, Analog/DMR, UHF, 400-470MHz	\$ 2,102.00	\$ 3,503.25
KA-500	KAIROS Repeater, Analog/DMR, UHF, 450-512MHz, 1-25W, 100% Duty	\$ 2,522.00	\$ 4,203.25
KA-500-TX	KAIROS Transmitter Only, Analog/DMR, UHF, 450-512MHz, 1-25W, 100% Duty	\$ 2,102.00	\$ 3,503.25
KA-500-RX	KAIROS Receiver Only, Analog/DMR, UHF, 450-512MHz	\$ 2,102.00	\$ 3,503.25
SOFTWARE LICENSES FOR KAIROS REPEATERS		DEALER	LIST
KA-MCTCSS	License to allow the use of up to 8 different CTCSS contemporary	\$ 210.00	\$ 350.00
KA-POCSAG	License to add POCSAG capability	\$ 540.00	\$ 900.00
KA-SI-T2	License to allow Simulcast operation	\$ 5,550.00	\$ 9,250.00
KA-1+1	License required for Hot Stand-by configuration <b>Note :</b> Must purchase additional KA repeater.	\$ 240.00	\$ 400.00
PROGRAMMING SOFTWARE		DEALER	LIST
KA-MNG	Technical Documentation and Programming Software	\$ 180.00	\$ 300.00
REPEATER MOUNT (Mandatory mount option for rack mounting)		DEALER	LIST
KA-RK1v2	19" Mount Panel for One KAIROS Repeaters	\$ 240.00	\$ 400.00
KA-RK2	19" Mount Panel for Two KAIROS Repeaters	\$ 240.00	\$ 400.00
HARDWARE OPTION FOR KAIROS REPEATERS		DEALER	LIST
KA-GPS	GPS Receiver for Simulcast Operation	\$ 240.00	\$ 400.00
GPS-ANT	GPS Antenna for Simulcast Operation	\$ 240.00	\$ 400.00
DVX-UHF	Diversity RX filter for UHF 400 - 470 MHz	\$ 600.00	\$ 1,000.00
RF REPEATER STATION AMPLIFIER OPTIONS		DEALER	LIST
<b>Note:</b> Includes One Cable for Radio Connectivity.			
KSGPA23401	406-450MHz, 3W Input, 20-40W Output	\$ 999.00	\$ 1,665.00
KSGPA23403	450-512MHz, 3W Input, 20-40W Output	\$ 999.00	\$ 1,665.00
KSGPA23411	406-450MHz, 3W Input, 50-100W Output	\$ 1,299.00	\$ 2,165.00
KSGPA23413	450-512MHz, 3W Input, 50-100W Output	\$ 1,299.00	\$ 2,165.00
KSGPA23441	406-450MHz, 3W Input, 150W Output	\$ 2,364.00	\$ 3,940.00
KSGPA23443	450-512MHz, 3W Input, 150W Output	\$ 2,364.00	\$ 3,940.00

KSGPA23501	406-450MHz, 25W Input, 20-40W Output	\$ 999.00	\$ 1,665.00
KSGPA23503	450-512MHz, 25W Input, 20-40W Output	\$ 999.00	\$ 1,665.00
KSGPA23511	406-450MHz, 25W Input, 50-100W Output	\$ 1,299.00	\$ 2,165.00
KSGPA23513	450-512MHz, 25W Input, 50-100W Output	\$ 1,299.00	\$ 2,165.00
KSGPA23541	406-450MHz, 25W Input, 150W Output	\$ 2,364.00	\$ 3,940.00
KSGPA23543	450-512MHz, 25W Input, 150W Output	\$ 2,364.00	\$ 3,940.00
<b>POWER SUPPLY OPTIONS</b>		<b>DEALER</b>	<b>LIST</b>
KSGPS20200	DC Switching Power Supply 13.8VDC 20A	\$ 153.00	\$ 255.00
KSGPS20400	40A, 13.8VDC, 19" Wide Rack-Mounted Power Supply <b>Note:</b> Incompatible with 150W amplifier option.	\$ 285.00	\$ 475.00
KSGPS20352	35A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger <b>Note:</b> Incompatible with 150W amplifier option.	\$ 813.00	\$ 1,355.00
KSGPS20701	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply	\$ 813.00	\$ 1,355.00
KSGPS20702	70A, 13.8VDC, 19" Wide Rack-Mounted Power Supply with SmartCharger	\$ 1,044.00	\$ 1,740.00
<b>MOUNTING RACK</b>		<b>DEALER</b>	<b>LIST</b>
KSGMRCK3	3' (17RU) Aluminum Equipment Rack with Crate (KSGMT13000, KSGMT0C03R)	\$ 648.00	\$ 1,080.00
KSGMRCK7	7' (45RU) Aluminum Equipment Rack with Crate (KSGMT17000, KSGMT0C07R)	\$ 720.00	\$ 1,200.00
KSGMCAB4	77" (40RU) Locking Cabinet with Crate (KSGMT20040, KSGMT0C40U)	\$ 1,605.00	\$ 2,675.00
KSGMT20020	42" (20RU) Locking Cabinet	\$ 1,200.00	\$ 2,000.00
KSGMT0C20U	Crate for 42" (20RU) Locking Cabinet <b>Note:</b> Optional for situations where extra protection during transportation is required.	\$ 207.00	\$ 345.00
KSGMT20001	Cabinet Solid Top Panel	\$ 54.00	\$ 90.00
KSGMT20002	Cabinet Fan Top Assembly	\$ 261.00	\$ 435.00
KSGMT20003	Cabinet Solid Floor Panel (includes five pre-drilled openings and grommets)	\$ 84.00	\$ 140.00
<b>ETHERNET SWITCH &amp; ROUTER OPTIONS</b>		<b>DEALER</b>	<b>LIST</b>
<b>Note:</b> One switch is required for each site; VPN router(s) may be required for multi-site systems depending on desired configuration. When needed, VPN router(s) are required in addition to and in conjunction with network switch equipment. Multicast Router options are also available.			
KSGNS10008	8-Port Managed Network Switch <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 150.00	\$ 250.00
KSGNS10024	Rack Mounted 24-Port Managed Network Switch	\$ 225.00	\$ 375.00
KSGRT10004	4-Port Managed VPN Router <b>Note:</b> 1RU Mounting Tray (KSGUT10001) sold separately.	\$ 225.00	\$ 375.00
KSGUT10001	1RU Mounting Tray <b>Note:</b> Provides mounting space for up to two accessories.	\$ 30.00	\$ 50.00
<b>DUPLEXER</b>		<b>DEALER</b>	<b>LIST</b>
KSGDX13546	6 Cavity UHF BpBr Duplexer (450-470MHz Only) <b>Note:</b> Bandpass/Bandreject duplexer, 250W continuous duty. Includes one LMR-400 interface cable.	\$ 1,857.00	\$ 3,095.00
KSGDX23101	4 Cavity UHF BpBr Duplexer (450-470MHz Only) <b>Note:</b> Bandpass/Bandreject duplexer, 350W continuous duty. Includes one LMR-400 interface cable.	\$ 1,065.00	\$ 1,775.00
<b>COMPONENTS</b>		<b>DEALER</b>	<b>LIST</b>
KSGMT13000	Rack, Equipment, 3' Tall, 19 Inches Wide	\$ 432.00	\$ 720.00
KSGMT0C03R	Crate for 3' Rack	\$ 216.00	\$ 360.00
KSGMT17000	Rack, Equipment, 7' Tall, 19 Inches Wide	\$ 390.00	\$ 650.00
KSGMT0C07R	Crate for 7' Rack	\$ 330.00	\$ 550.00
KSGMT20040	Cabinet, 40U w/Hardware Kit Pre-Punched Pontoon Base	\$ 1,293.00	\$ 2,155.00
KSGMT0C40U	Crate for 40U Cabinet	\$ 312.00	\$ 520.00



# STATE OF MICHIGAN ENTERPRISE PROCUREMENT

Department of Technology, Management, and Budget

525 W. ALLEGAN ST., LANSING, MICHIGAN 48913

P.O. BOX 30026 LANSING, MICHIGAN 48909

## CONTRACT CHANGE NOTICE

Change Notice Number **8**

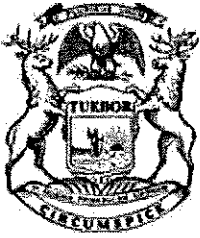
to

Contract Number **071B0200124**

<b>CONTRACTOR</b>	E F JOHNSON COMPANY
	1440 Corporate Dr.
	Irving, TX 75038
	Ryan Wray
	972-819-2394
	rwray@efji.com
	*****6849

<b>STATE</b>	<b>Program Manager</b>	Gerald Leach	DTMB
		517-490-4148	
		leachg@michigan.gov	
	<b>Contract Administrator</b>	Valerie Hiltz	DTMB
		(517) 284-7026	
		hiltzv@michigan.gov	

CONTRACT SUMMARY				
2-WAY RADIOS				
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW	
April 12, 2010	January 19, 2013	5 - 1 Year	February 5, 2018	
PAYMENT TERMS		DELIVERY TIMEFRAME		
Net 45 Days		Per agreed upon delivery date as specified on the individual purchase order.		
ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING	
<input type="checkbox"/> P-Card <input type="checkbox"/> Direct Voucher (DV) <input type="checkbox"/> Other			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
MINIMUM DELIVERY REQUIREMENTS				
N/A				
DESCRIPTION OF CHANGE NOTICE				
OPTION	LENGTH OF OPTION	EXTENSION	LENGTH OF EXTENSION	REVISED EXP. DATE
<input type="checkbox"/>		<input checked="" type="checkbox"/>	1 year, 11 months	January 19, 2020
CURRENT VALUE	VALUE OF CHANGE NOTICE	ESTIMATED AGGREGATE CONTRACT VALUE		
\$1,000,000.00	\$0.00	\$1,000,000.00		
DESCRIPTION				
Effective 12/20/17, this contract is hereby extended one year, eleven months via Chapter 5.7.6. The revised contract expiration date is January 18, 2020. The Contract Administator has been changed to Valerie Hiltz, DTMB Central Procurement. All other terms, conditions, specifications and pricing remain the same. Per contractor and agency agreement, DTMB Central Procurement approval and State of Michigan Administrative Board approval, December 19, 2017.				



# STATE OF MICHIGAN ENTERPRISE PROCUREMENT

Department of Technology, Management, and Budget

525 W. ALLEGAN ST., LANSING, MICHIGAN 48913  
P.O. BOX 30026 LANSING, MICHIGAN 48909

## CONTRACT CHANGE NOTICE

Change Notice Number 7

to

Contract Number 071B0200124

<b>CONTRACTOR</b>	E F JOHNSON COMPANY
	1440 Corporate Dr.
	Irving, TX 75038
	Ryan Wray
	972-819-2394
	rwrap@efji.com
	*****6849

<b>STATE</b>	<b>Program Manager Contract Administrator</b>	Gerald Leach	DTMB-IT
		517-490-4148	
		leachg@michigan.gov	
		Mike Breen	DTMB
		(517) 284-7002	
		breenm@michigan.gov	

### CONTRACT SUMMARY

#### 2-WAY RADIOS

INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
April 12, 2010	January 19, 2013	5 - 1 Year	February 5, 2017
PAYMENT TERMS		DELIVERY TIMEFRAME	
ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING
<input type="checkbox"/> P-Card	<input type="checkbox"/> Direct Voucher (DV)	<input type="checkbox"/> Other	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS			

### DESCRIPTION OF CHANGE NOTICE

OPTION	LENGTH OF OPTION	EXTENSION	LENGTH OF EXTENSION	REVISED EXP. DATE
<input checked="" type="checkbox"/>	12 months	<input type="checkbox"/>		February 5, 2018
CURRENT VALUE	VALUE OF CHANGE NOTICE	ESTIMATED AGGREGATE CONTRACT VALUE		
\$1,000,000.00	\$0.00	\$1,000,000.00		

### DESCRIPTION

Effective with mutual signature exercise option of 1 year to 2/5/2018. All other terms and conditions remain the same.

Making Safe, Simple™

**EFJohnson**  
JVC-KENWOOD Group

1440 Corporate Drive  
Irving, TX 75038

December 7, 2016

State of Michigan  
Department of Technology, Management & Budget  
Purchasing Operations  
P.O. Box 30026  
Lansing, MI 48909

Attn: Mr. Gerald Leach

RE: Option to Extend Contract No. 071B0200124

Dear Mr. Leach:

Please be advised that E.F. Johnson Company hereby provides notice of its desire to extend Contract No. 071B0200124 for an additional calendar year. Furthermore, please find attached our updated pricelist including all of our newest P25 product offerings.

Please do not hesitate to contact me with any additional comments or questions.

Best regards,

  
Ryan Wray  
Contracts Manager





## P25 Subscriber Price Guide



*Effective Date: 10.06.16*

# Table of Contents

## Portables

Viking VP6x30 Portable

Viking VP5x30 Portable

Viking VP900 Portable

Viking VP600 Portable

Viking VP400 Portable

TK-5430 Portable

TK-5230-5330 Portable

## Mobiles

Viking VM900 Mobile

Viking VM600 Mobile

Viking VM400 Mobile

TK-5730-5830-5930 Mobile

## Stand Alone Repeaters

ATLAS 1200

# KENWOOD



**VIKING**

P25 Mission Critical

## VP6230/6330/6430

700/800 MHz • VHF • UHF Lo • UHF HI (T-Band)  
P25 PHASE 1 & 2 • FM ANALOG • SmartNet™/SmartZone™

New KENWOOD Viking 6000 series portable radio specifically designed for today's public safety agencies with advanced features and ergonomics to meet the first responder's mission critical operational needs.

### MAIN FEATURES

- Public safety ergonomics: flare grip for total control, large glove friendly knobs, large emergency button
- Intrinsically safe
- Top display maximizes viewing while in a pouch or sling
- Fully ruggedized - IP67 & MIL-STD-810 C/D/E/F/G
- Large, color 1.74" (240 x 180 pixels) transreflective TFT display for better use in direct sunlight & with use of polarized sunglasses
- Full key models (w/numeric keypad) & standard key models (w/o numeric keypad)
- Multi-line text
- Programmable A/B/C/D switch for intuitive control
- Built-in GPS receiver/antenna for enhanced situational awareness
- P25 Authentication
- Multi-key DES encryption
- 256-bit AES encryption
- ARC4™ encryption: compatible with ADP™
- OTAR (Over-The-Air Rekeying)
- Future option: Bluetooth®
- Future option: Man Down

### SUPERIOR AUDIO QUALITY

- TrueVoice™ noise cancellation works in analog or digital, eliminates the need for programming noise profiles, and works with any accessory
- AMBE+2 version 1.6 vocoder using TIA's latest standards
- 1 Watt radio speaker for high noise environments
- Voice annunciation and custom voice announcement creation

### ACCESSORIES

- Complete line of accessories including speaker mics, cases, batteries, antennas & chargers. Download the accessory catalog at [www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

### MULTI-PROTOCOL

- Trunked & conventional system protocols
- P25 Phase 1 & Phase 2
- Compatible with Motorola® System V.7X, Motorola Astro® & SMARTNET® II/SmartZone™
- MDC-1200 & GE-Star signaling
- Mixed protocol zones (each channel in a zone can be from a different system)

### SMARTER ARMADA® FLEET MANAGEMENT

- Program from same template as other Viking radios (one template for ALL radios)
- P25 OTAP (Over-The-Air Programming)
- Kiosk Mode remote programming
- Elite (wireless) battery management & centralized battery reports



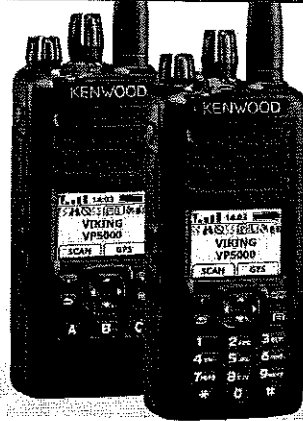
VP6230BKF2	VHF, 136-174 MHz, Model 2 (standard keypad), Black	\$1,808.00	\$2,260.00
VP6330BKF2	UHF, 450-520 MHz, Model 2 (standard keypad), Black	\$1,808.00	\$2,260.00
VP6330BKF5	UHF, 380-470 MHz, Model 2 (standard keypad), Black	\$1,808.00	\$2,260.00
VP6430BKF2	700/800 MHz, 762-806 MHz and 806-870 MHz, Black, Model 2 (standard keypad)	\$1,808.00	\$2,260.00
VP6230BKF3	VHF, 136-174 MHz, Model 3 (full keypad), Black	\$2,008.00	\$2,510.00
VP6330BKF3	UHF, 450-520 MHz, Model 3 (full keypad), Black	\$2,008.00	\$2,510.00
VP6330BKF6	UHF, 380-470 MHz, Model 3 (full keypad), Black	\$2,008.00	\$2,510.00
VP6430BKF3	700/800 MHz, 762-806 MHz and 806-870 MHz, Black, Model 3 (full keypad)	\$2,008.00	\$2,510.00
VP6230GRF2	VHF, 136-174 MHz, Model 2 (standard keypad), Green	\$1,968.00	\$2,460.00
VP6330GRF2	UHF, 450-520 MHz, Model 2 (standard keypad), Green	\$1,968.00	\$2,460.00
VP6330GRF5	UHF, 380-470 MHz, Model 2 (standard keypad), Green	\$1,968.00	\$2,460.00
VP6430GRF2	700/800 MHz, 762-806 MHz and 806-870 MHz, Green, Model 2 (standard keypad)	\$1,968.00	\$2,460.00
VP6230GRF3	VHF, 136-174 MHz, Model 3 (full keypad), Green	\$2,168.00	\$2,710.00
VP6330GRF3	UHF, 450-520 MHz, Model 3 (full keypad), Green	\$2,168.00	\$2,710.00
VP6330GRF6	UHF, 380-470 MHz, Model 3 (full keypad), Green	\$2,168.00	\$2,710.00
VP6430GRF3	700/800 MHz, 762-806 MHz and 806-870 MHz, Green, Model 3 (full keypad)	\$2,168.00	\$2,710.00
Antenna		Contract Price	List
KRA-32K	700/800 MHz Whip Antenna	\$28.00	\$35.00
KRA-36	700/800 MHz Stubby Antenna	\$20.00	\$25.00
KRA-27M	UHF whip antenna 440-490 MHz	\$11.20	\$14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$11.20	\$14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$11.20	\$14.00
KRA-23M	UHF low-profile helical antenna 450-490 MHz	\$10.96	\$13.70
KRA-23M2	UHF low-profile helical antenna 470-512 MHz	\$10.96	\$13.70
KRA-23M3	UHF low-profile helical antenna 403-430 MHz	\$10.96	\$13.70
KRA-26M	VHF helical antenna 146-162 MHz	\$11.20	\$14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$11.20	\$14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$11.20	\$14.00
KRA-22M	VHF low-profile helical antenna 148-162 MHz	\$10.96	\$13.70
KRA-22M2	VHF low-profile helical antenna 162-174 MHz	\$10.96	\$13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$10.96	\$13.70
KRA-25	VHF High gain helically loaded whip antenna 148-162 MHz	\$27.40	\$34.25
Batteries & Chargers		Contract Price	List
KNB-L2M	Li-ion 2600mAh (Standard)	\$108.00	\$135.00
KNB-L3M	Li-ion 3400mAh (High Capacity)	\$140.00	\$175.00
KSC-Y32K	Rapid rate single unit charger (Long-Life Charge Mode capable with KAS-12 Software) <b>Note:</b> NiMH/Li-ion battery only	\$92.00	\$115.00
KSC-32	Rapid rate single unit charger	\$56.00	\$70.00
KSC-326K	Rapid rate 6-unit charger	\$504.00	\$630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$27.00	\$33.75
KVC-15	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC-mobile bracket & cigarette lighter cable DC adapter)	\$95.20	\$119.00
Carrying Accessories		Contract Price	List Price
KBH-11	Spring action belt clip (2.5")	\$11.76	\$14.70

Microphones & Audio Accessories		Contract Price	List Price
KMC-54WDM	MIL-SPEC, IP67 (Immersion) Speaker Mic <u>Compatible with ANR Feature</u> <b>Note:</b> only compatible with a TK-5x30 series portable	\$104.00	\$130.00
KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic	\$91.20	\$114.00
KMC-49	MIL-SPEC, Speaker Mic. with Antenna Connector <b>Note:</b> 5/16" Coax cable hex wrench included (antenna is not included).	\$200.00	\$250.00
KEP-1	3.5mm earphone kit for KMC-41/42W/54W Speaker Mics	\$42.00	\$52.50
KEP-2	2.5mm earphone kit for KMC-49 Speaker Mic	\$42.00	\$52.50
KEP-3	30" Earphone kit w/ 2.5mm plug for KCT-30	\$41.20	\$51.50
KEP-4	48" Earphone kit w/ 2.5mm plug for KCT-30	\$43.80	\$54.75
KCT-30	2.5mm Audio Accessory Adapter for KEP-3/4	\$51.20	\$64.00
KCT-51	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector)	\$172.00	\$215.00
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black)	\$125.20	\$156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black)	\$147.20	\$184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT	\$100.80	\$126.00
KHS-15-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & PTT	\$336.00	\$420.00
KHS-15-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & PTT	\$294.40	\$368.00
Protocol		Contract Price	List
	Analog FM	\$0.00	\$0.00
	P25 CAI AMBE+2	\$0.00	\$0.00
System Options		Contract Price	List
1	Analog Conventional	\$0.00	\$0.00
2	P25 Conventional	\$280.00	\$350.00
3	P25 Phase 1 Trunking (Must also have option 2)	\$100.00	\$125.00
4	P25 Phase 2 TDMA (Must also have option 3)	\$320.00	\$400.00
5	SmartNet® II/SmartZone®	\$300.00	\$375.00
Optional Features		Contract Price	List
Channels/Talkgroups			
	1024 Channels/Talkgroups (standard)	\$0.00	\$0.00
	2048Channels/Talkgroups (standard)	\$240.00	\$300.00
Encryption			
	DES-OFB (multi-key)	\$0.00	\$0.00
	AES FIPS 140-2 (multi-key)	\$380.00	\$475.00
	ARC4 (ADP compatible)	\$0.00	\$0.00
Programming & Data			
	TrueVoice™ Noise Cancellation	\$0.00	\$0.00
	MDC1200/GE-Star Signaling	\$40.00	\$50.00
	P25 Conventional Voting Scan	\$0.00	\$0.00
	P25 Data Conventional	\$112.00	\$140.00
	P25 Data Trunking (Conventional included)	\$160.00	\$200.00
	OTAR (Over-The-Air-Rekeying)	\$600.00	\$750.00
	P25 Authentication	\$80.00	\$100.00

OTAP (Over-the-Air Programming)	\$160.00	\$200.00
FIRESafe™ First Responder	\$200.00	\$250.00
FIRESafe™ Command (Includes First Responder)	\$280.00	\$350.00
GPS	\$80.00	\$100.00
Keypad Programming (U.S. Federal Government Only)	\$240.00	\$300.00

# KENWOOD

**VIKING**



P25 Mission Critical

## VP5230/5330/5430

700/800 MHz • VHF • UHF Lo • UHF Hi (T-Band)  
P25 PHASE 1 & 2 • FM ANALOG • SmartNet®/SmartZone®

At just under 5.5 inches tall, these small Viking portable radios are packed with advanced features for today's public safety agencies.

### MAIN FEATURES

- Fully ruggedized - IP67/68 & MIL-STD-810 C/D/E/F/G
- Full key models (w/numeric keypad) & standard key models (w/o numeric keypad)
- Large, color 1.74" (240 x 180 pixels) Transflective TFT Display for better use in direct sunlight & with use of polarized sunglasses
- Multi-line text
- 4-way Directional-pad (D-pad) & A/B Switch for intuitive control
- Built-In GPS Receiver/Antenna for enhanced situational awareness
- Optional 256-bit AES Encryption
- ARC4™ software encryption; compatible with ADP™
- Future Option: Bluetooth®
- Future Option: Man-Down
- Optional Over-The-Air Rekeying (OTAR)

### SUPERIOR AUDIO QUALITY

- TrueVoice™ noise cancellation works in analog or digital, eliminates the need for programming noise profiles, and works with any accessory
- AMBE+2 version 1.6 vocoder using TIA's latest standards
- 1 Watt radio speaker for high noise environments
- Voice annunciation & custom voice creation

### ACCESSORIES

- Complete line of accessories including speaker mics, cases, batteries, antennas & chargers. Download the accessory catalog at [www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

### MULTI-PROTOCOL

- P25 Phase 1 & Phase 2
- Compatible with Motorola® System v 7.x, Motorola Astro® & SMARTNET® II/SmartZone®
- Trunked & conventional system protocols
- MDC-1200 & GE-Star signaling
- Mixed Protocol Zones (each channel in a zone can be from a different system)

### SMARTER ARMADA® FLEET MANAGEMENT

- Elite (wireless) battery management & centralized battery reports
- Program from same template as other Viking radios (one template for ALL radios)
- Optional P25 OTAP (Over-The-Air-Programming)
- Kiosk Mode Remote Programming



Radio - Base Model		Contract Price	List
VP5430BKF2	700/800 MHz, 762-806 MHz and 806-870 MHz, Black, Model 2 (standard keypad)	\$1,244.00	\$1,555.00
VP5430BKF3	700/800 MHz, 762-806 MHz and 806-870 MHz, Black, Model 3 (full keypad)	\$1,284.00	\$1,605.00
VP5330BKF2	UHF, 450-520 MHz, Model 2 (standard keypad)	\$1,244.00	\$1,555.00
VP5330BKF5	UHF, 380-470 MHz, Model 2 (standard keypad)	\$1,244.00	\$1,555.00
VP5330BKF3	UHF, 450-520 MHz, Model 3 (full keypad)	\$1,284.00	\$1,605.00
VP5330BKF6	UHF, 380-470 MHz, Model 3 (full keypad)	\$1,284.00	\$1,605.00
VP5230BKF2	VHF, 136-174 MHz, Model 2 (standard keypad)	\$1,244.00	\$1,555.00
VP5230BKF3	VHF, 136-174 MHz, Model 3 (full keypad)	\$1,284.00	\$1,605.00
Antenna		Contract Price	List
KRA-32K	700/800 MHz Whip Antenna	\$28.00	\$35.00
KRA-36	700/800 MHz Stubby Antenna	\$20.00	\$25.00
KRA-27M	UHF whip antenna 440-490 MHz	\$11.20	\$14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$11.20	\$14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$11.20	\$14.00
KRA-23M	UHF low-profile helical antenna 450-490 MHz	\$10.96	\$13.70
KRA-23M2	UHF low-profile helical antenna 470-512 MHz	\$10.96	\$13.70
KRA-23M3	UHF low-profile helical antenna 403-430 MHz	\$10.96	\$13.70
KRA-26M	VHF helical antenna 146-162 MHz	\$11.20	\$14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$11.20	\$14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$11.20	\$14.00
KRA-22M	VHF low-profile helical antenna 148-162 MHz	\$10.96	\$13.70
KRA-22M2	VHF low-profile helical antenna 162-174 MHz	\$10.96	\$13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$10.96	\$13.70
KRA-25	VHF High gain helically loaded whip antenna 148-162 MHz	\$27.40	\$34.25
Batteries & Chargers		Contract Price	List
KNB-L2M	Li-ion 2600mAh (Standard)	\$108.00	\$135.00
KNB-L3M	Li-ion 3400mAh (High Capacity)	\$140.00	\$175.00
KSC-Y32K	Rapid rate single unit charger (Long-Life Charge Mode capable with KAS-12 Software) <b>Note:</b> NiMH/Li-ion battery only	\$92.00	\$115.00
KAS-12K	License Key for KAS-12 (Authentication required) Battery Reader Software for KNB-L1M/L2M/L3M & KSC-Y32 (Windows® Vista/7/8/8.1)	\$68.00	\$85.00
KSC-32	Rapid rate single unit charger	\$56.00	\$70.00
KSC-326K	Rapid rate 6-unit charger	\$504.00	\$630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$27.00	\$33.75
KVC-15	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC-mobile bracket & cigarette lighter cable DC adapter)	\$95.20	\$119.00
Carrying Accessories		Contract Price	List Price
KBH-11	Spring action belt clip (2.5")	\$11.76	\$14.70
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$21.04	\$26.30



KLH-6SW	Leather swivel belt loop / detachable swivel D-Ring back	\$17.60	\$22.00
KLH-137ST	Firemen's Heavy-Duty Leather Shoulder Strap for a Heavy-Duty Leather Case	\$29.40	\$36.75
KLH-200K3	Heavy duty leather carrying case (for both K2 & K3 models)	\$35.40	\$44.25
KLH-201K3	Nylon carrying case (for both keypad models)	\$21.04	\$26.30
<b>Special Color Housing</b>		<b>Contract Price</b>	<b>List Price</b>
Yellow Housing Kit (Standard Key Model Only) Order <b>L-5024</b> for Factory Install. (Eligible for warranty of IP67/68 immersion)			
KWD-YH-5000		\$32.00	\$40.00
<i><b>Note:</b> If you order only housing and perform Dealer Installation, IP67/68 Warranty Claim will not be eligible.</i>			
Orange Housing Kit (Standard Key Model Only) Order <b>L-5025</b> for Factory Install. (Eligible for warranty of IP67/68 immersion)			
KWD-OH-5000		\$32.00	\$40.00
<i><b>Note:</b> If you order only housing and perform Dealer Installation, IP67/68 Warranty Claim will not be eligible.</i>			
<b>Microphones &amp; Audio Accessories</b>		<b>Contract Price</b>	<b>List Price</b>
MIL-SPEC, IP67 (Immersion) Speaker Mic <b>Compatible with</b>			
KMC-54WDM	<b>ANR Feature</b>	\$104.00	\$130.00
<b>Note:</b> only compatible with a TK-5x30 series portable			
KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic	\$91.20	\$114.00
MIL-SPEC, Speaker Mic. with Antenna Connector			
KMC-49	<b>Note:</b> 5/16" Coax cable hex wrench included (antenna is not included).	\$200.00	\$250.00
KEP-1	3.5mm earphone kit for KMC-41/42W/54W Speaker Mics	\$42.00	\$52.50
KEP-2	2.5mm earphone kit for KMC-49 Speaker Mic	\$42.00	\$52.50
KEP-3	30" Earphone kit w/ 2.5mm plug for KCT-30	\$41.20	\$51.50
KEP-4	48" Earphone kit w/ 2.5mm plug for KCT-30	\$43.80	\$54.75
KCT-30	2.5mm Audio Accessory Adapter for KEP-3/4	\$51.20	\$64.00
KCT-51	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector)	\$172.00	\$215.00
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black)	\$125.20	\$156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black)	\$147.20	\$184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT	\$100.80	\$126.00
KHS-15-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & PTT	\$336.00	\$420.00
KHS-15-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & PTT	\$294.40	\$368.00
<b>Protocol</b>		<b>Contract Price</b>	<b>List</b>
Analog FM		\$0.00	\$0.00
P25 CAI AMBE+2		\$0.00	\$0.00

	System Options	Contract Price	List
1	Analog Conventional	\$0.00	\$0.00
2	P25 Conventional	\$0.00	\$0.00
3	P25 Phase 1 Trunking	\$0.00	\$0.00
4	P25 Phase 2 TDMA	\$320.00	\$400.00
5	SmartNet® II/SmartZone®	\$300.00	\$375.00
	Optional Features	Contract Price	List
	<b>Channels/Talkgroups</b>		
	1024 Channels/Talkgroups (standard)	\$0.00	\$0.00
	<b>Encryption (requires Protocol Option 2 - Digital/Project 25)</b>		
	DES-OFB (multi-key)	\$156.00	\$195.00
	AES FIPS140-2 (DES-OFB included) (multi key)	\$600.00	\$750.00
	ARC4 (ADP compatible)	\$0.00	\$0.00
	<b>Programming &amp; Data</b>		
	TrueVoice™ Noise Cancellation	\$0.00	\$0.00
	MDC1200/GE-Star Signaling	\$40.00	\$50.00
	P25 Conventional Voting Scan	\$0.00	\$0.00
	P25 Data Conventional	\$112.00	\$140.00
	P25 Data Trunking (Conventional included)	\$160.00	\$200.00
	OTAR (Over-The-Air-Rekeying)	\$600.00	\$750.00
	P25 Authentication (Must also have AES FIPS 140-2)	\$80.00	\$100.00
	OTAP (Over-the-Air Programming)	\$160.00	\$200.00
	FIRESafe™ First Responder	\$200.00	\$250.00
	FIRESafe™ Command (includes First Responder)	\$280.00	\$350.00
	GPS	\$80.00	\$100.00
	Keypad Programming (U.S. Federal Government Only)	\$240.00	\$300.00

# KENWOOD



P25 Mission Critical

## VP-900 Multi-Band

700/800 MHz • VHF • UHF (470-520 MHz) • P25 PHASE 1 & 2 • FM ANALOG

The Viking® VP900 is a multi-band, multi-protocol, P25 Phase 2 radio equipped with industry leading audio, display, and advanced feature capabilities that meet the needs of police, fire, EMS, and other mission critical users.

### P25 COMPLIANT/ MULTI-PROTOCOL

- P25 Phase 1 & Phase 2
- Supports P25 CAI (Common Air Interface)
- Compatible with Motorola® System v 7.x, Motorola Astro® & SMARTNET® II/SmartZone®
- Trunked & conventional system protocols
- Over-The-Air Rekeying (OTAR)
- MDC-1200 & GE-Star signaling
- Mixed Protocol Zones (each channel in a zone can be from a different system)

### RUGGED & RELIABLE

- MIL-Standard 810 G specs
- Immersion rated (IP67) (waterproof in 1 meter of water up to 30 minutes)
- Dual Shield design (internal metal housing and an external polycarbonate casing for exceptional durability)

### ACCESSORIES

- Complete line of accessories including speaker-mics, cases, batteries, antennas & chargers. Download the accessory catalog at [www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

### EASY TO OPERATE

- Available in three models; no keypad, limited keypad or full keypad versions
- Top display on all three models to maximize viewing while in holster
- Controllable backlit display settings to increase visibility in all light conditions
- Backlit keypad
- Multiple visual indicators including battery level & signal strength
- Ergonomic knobs for easier operation with gloves

### P25 COMPLIANT

- Supports P25 CAI (Common Air Interface, Phase 1 & Phase 2)
- Trunked and conventional system protocols Over-the-Air rekeying (OTAR)

### SUPERIOR AUDIO QUALITY

- High performance speaker provides 1W nominal audio for loud & clear sound across various noise environments
- Frequency based noise cancellation & audio enhancement; does not require directional adjustment or software changes for different noise environments

### ADVANCED FEATURES

- P25 Radio Authentication
- Programmable soft keys, menu & DTMF keys
- Up to 2048 channels
- Text messaging
- Customizable voice announcement
- Conventional vote scan is standard
- Over-The-Air Programming (OTAP) option to program radios in the field
- Armada® programming software provides simple radio fleet management including profile templates & sorting/filtering by function or agency
- Elite battery management enables wireless tracking of battery fleet
- Enhanced radio security using software and hardware system keys
- Industry-standard encryption capabilities such as AES or DES-OFB
- ARC4™ software encryption; compatible with ADP™
- Speaker microphone disconnect alarm enhances safety
- Integrated GPS



Radio - Base Model		Contract Price	List
2425AAAA53XXX	700/800 MHz, 762-806 MHz + VHF 2.5W, and 806-870 MHz, 3W, Model 1 (no keypad)	\$ 2,060.00	\$ 2,575.00
2425AABA53XXX	700/800 MHz, 762-806 MHz + VHF 2.5W, and 806-870 MHz, 3W, Model 2 (limited keypad)	\$ 2,220.00	\$ 2,775.00
2425AACA53XXX	700/800 MHz, 762-806 MHz + VHF 2.5W and VHF and 806-870 MHz, 3W, Model 3 (full keypad)	\$ 2,380.00	\$ 2,975.00
2425ABAC53XXX	700/800 MHz + UHF Hi (470 - 520 MHz), Model 1 (no keypad)	\$ 2,060.00	\$ 2,575.00
2425ABBC53XXX	700/800 MHz + UHF Hi (470 - 520 MHz), Model 2 (limited keypad)	\$ 2,220.00	\$ 2,775.00
2425ABCC53XXX	700/800 MHz + UHF Hi (470 - 520 MHz), Model 3 (full keypad)	\$ 2,380.00	\$ 2,975.00
Antenna		Contract Price	List
	Multiband 700/800 + VHF Standard	\$ -	\$ -
	Multiband 700/800 + VHF Flexible	\$ -	\$ -
	Multiband 700/800 + UHF Hi (470 - 520 MHz) Standard	\$ -	\$ -
Battery		Contract Price	List
	No Battery (credit)	\$ (40.00)	\$ (40.00)
	Viking Li-ion Battery	\$ -	\$ -
Housing		Contract Price	List
	Black Housing	\$ -	\$ -
	High Visibility Housing	\$ 160.00	\$ 200.00
Protocol		Contract Price	List
1	Analog FM (included in base radio)	\$ -	\$ -
2	Digital/Project 25 CAI AMBE+2 with Free Single-Key DES-OFB (includes protocol option 1)	\$ 160.00	\$ 200.00
System Option		Contract Price	List
1	Conventional System	\$ 280.00	\$ 350.00
2	SMARTNET® II Trunking (includes system option 1)	\$ 500.00	\$ 625.00
3	SmartZone® Trunking (includes system options 1 & 2)	\$ 580.00	\$ 725.00
<i>The following selections require Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i>			
4	Project 25 Conventional System	\$ 280.00	\$ 350.00
5	Project 25 Phase 1 Trunking Only (includes system option 4)	\$ 380.00	\$ 475.00
6	Project 25 Phase 2 TDMA (includes system option 4 & 5)	\$ 700.00	\$ 875.00
7	Project 25 Phase 1 Trunking and SmartZone® Trunking (includes system options 2 & 4)	\$ 680.00	\$ 850.00
8	Project 25 Phase 2 TDMA and SmartZone® Trunking (includes system options 2, 4 & 5)	\$ 1,000.00	\$ 1,250.00
Optional Features		Contract Price	List
Channels/Talkgroups			
	2048 Channels/Talkgroups (standard)	\$ -	\$ -
Encryption (requires Protocol Option 2 - Digital/Project 25 CAI			
	Single-Key DES-OFB (included with Protocol Option 2)	\$ -	\$ -
	Single-Key AES	\$ 120.00	\$ 150.00
	DES-OFB (multi-key)	\$ 440.00	\$ 550.00
	AES (multi-key)	\$ 380.00	\$ 475.00
	DES-OFB + AES (Multi-Key)	\$ 600.00	\$ 750.00
	ARC4 (ADP compatible)	\$ -	\$ -

<b>Programming &amp; Data</b>			
MDC1200/GE-Star Signaling	\$	40.00	\$ 50.00
Rebanding (requires 700/800 MHz)	\$	88.00	\$ 110.00
FIRESafe™ First Responder	\$	200.00	\$ 250.00
FIRESafe™ First Command (includes FIRESafe™ First Responder)	\$	280.00	\$ 350.00
GPS	\$	80.00	\$ 100.00
Third Party Interface	\$	120.00	\$ 150.00
Keypad Programming (U.S. Federal Government Only)	\$	240.00	\$ 300.00
<i>The following selections require Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i>			
Project 25 Data Conventional	\$	112.00	\$ 140.00
Project 25 OTAR Conventional & Trunking	\$	600.00	\$ 750.00
OTAP (Over-the-Air Programming)	\$	160.00	\$ 200.00
<i>The following selections require a System Option 5-8 (options with Phase 1 or Phase 2):</i>			
Project 25 Authentication	\$	80.00	\$ 100.00
Project 25 Data Trunking (includes Project 25 Data Conventional)	\$	160.00	\$ 200.00



# KENWOOD



P25 Mission Critical

## VP-600 Single Band

700/800 MHz • VHF • UHF • P25 PHASE 1 & 2 • FM ANALOG

With a top display and best in the industry audio performance, the VP600 portable offers smarter visual and audio features that make first responder communications effortless.

### P25 COMPLIANT/ MULTI-PROTOCOL

- P25 Phase 1 & Phase 2
- Supports P25 CAI (Common Air Interface)
- Compatible with Motorola® System v 7.x, Motorola Astro® & SMARTNET® II/SmartZone®
- Trunked & conventional system protocols
- Over-The-Air Rekeying (OTAR)
- MDC-1200 & GE-Star signaling
- Mixed Protocol Zones (each channel in a zone can be from a different system)

### RUGGED & RELIABLE

- Meets MIL Standard 810 G specs
- Immersion rated (IP67) (waterproof in 1 meter of water up to 30 minutes)
- Dual Shield design (internal metal housing and an external polycarbonate casing for exceptional durability)

### EASY TO OPERATE

- Available in three models: no keypad, limited keypad or full keypad versions
- Top display on all three models to maximize viewing while in holster
- Controllable backlit display settings to increase visibility in all light conditions
- Backlit keypad
- Multiple visual indicators including battery level & signal strength
- Ergonomic knobs for easier operation with gloves

### SUPERIOR AUDIO QUALITY

- High performance speaker provides 1W nominal audio for loud & clear sound across various noise environments
- Frequency based noise cancellation & audio enhancement; does not require directional adjustment or software changes for different noise environments
- AMBE+2 version 1.6 vocoder using ITA's latest standards

### ADVANCED FEATURES

- P25 Radio Authentication
- Programmable soft keys, menu & DTMF keys
- Up to 1024 channels
- Text messaging
- Customizable voice announcement
- Conventional vote scan is standard
- Over-The-Air Programming (OTAP) option to program radios in the field
- Armada® programming software provides simple radio fleet management including profile templates & sorting/filtering by function or agency
- Elite battery management enables wireless tracking of battery fleet
- Enhanced radio security using software and hardware system keys
- Industry-standard encryption capabilities such as AES or DES-OFB
- ARC4™ software encryption; compatible with ADP™
- Speaker microphone disconnect alarm enhances safety
- Integrated GPS

### ACCESSORIES

- Complete line of accessories including speaker mics, cases, batteries, antennas & chargers. Download the accessory catalog at [www.elfohnson.com/products/accessories](http://www.elfohnson.com/products/accessories).



	Radio - Base Model	Contract Price	List
242577AX53XXX	700/800 MHz, 762-806 MHz, 2.5W, and 806-870 MHz, 3W, Model 1 (no keypad)	\$1,408.00	\$1,760.00

242577BX53XXX	700/800 MHz, 762-806 MHz, 2.5W, and 806-870 MHz, 3W, Model 2 (limited keypad)	\$1,528.00	\$1,910.00
242577CX53XXX	700/800 MHz, 762-806 MHz, 2.5W, and 806-870 MHz, 3W, Model 3 (full keypad)	\$1,728.00	\$2,160.00
242571A653XXX	VHF, 136-174 MHz, 5W, Model 1 (no keypad)	\$1,408.00	\$1,760.00
242571B653XXX	VHF, 136-174 MHz, 5W, Model 2 (limited keypad)	\$1,528.00	\$1,910.00
242571C653XXX	VHF, 136-174 MHz, 5W, Model 3 (full keypad)	\$1,728.00	\$2,160.00
242572A453XXX	UHF, 380-470 MHz, 4W, Model 1 (no keypad)	\$1,408.00	\$1,760.00
242572B453XXX	UHF, 380-470 MHz, 4W, Model 2 (limited keypad)	\$1,528.00	\$1,910.00
242572C453XXX	UHF, 380-470 MHz, 4W, Model 3 (full keypad)	\$1,728.00	\$2,160.00
<b>Antenna</b>		<b>Contract Price</b>	<b>List</b>
	No Antenna (credit)	-\$15.00	-\$15.00
	700/800 MHz, 1/2 Wave	\$0.00	\$0.00
	800 MHz, 1/2 Wave	\$0.00	\$0.00
	VHF, 136-174 MHz Dipole, red core (VHF Wideband)	\$12.00	\$15.00
	VHF, 136-151 MHz Helical, yellow core (Federal)	\$0.00	\$0.00
	VHF, 151-162 MHz Helical, black core (Public Safety)	\$0.00	\$0.00
	VHF, 162-174 MHz Helical, blue core (Business & Industrial)	\$0.00	\$0.00
	UHF, 380-520 MHz, 1/4 Wave, white core	\$0.00	\$0.00
<b>Battery</b>		<b>Contract Price</b>	<b>List</b>
	No Battery (credit)	-\$40.00	-\$40.00
	Viking Li-Ion Battery	\$0.00	\$0.00
<b>Housing</b>		<b>Contract Price</b>	<b>List</b>
	Black Housing	\$0.00	\$0.00
	High Visibility Housing	\$160.00	\$200.00
<b>Protocol</b>		<b>Contract Price</b>	<b>List</b>
1	Analog FM	\$0.00	\$0.00
2	Digital/Project 25 CAI AMBE+2 with Free Single-Key DES-OFB (includes protocol option 1)	\$160.00	\$200.00
<b>System Options</b>		<b>Contract Price</b>	<b>List</b>
1	Conventional System	\$280.00	\$350.00
2	SMARTNET® II Trunking (includes system option 1)	\$500.00	\$625.00
3	SmartZone® Trunking (includes system options 1 & 2)	\$580.00	\$725.00
<i>The following selections require Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i>			
4	Project 25 Conventional System	\$280.00	\$350.00
5	Project 25 Phase 1 Trunking Only (includes system option 4)	\$380.00	\$475.00
6	Project 25 Phase 2 TDMA (includes system option 4 & 5)	\$700.00	\$875.00
7	Project 25 Phase 1 Trunking and SmartZone® Trunking (includes system options 2 & 4)	\$680.00	\$850.00
8	Project 25 Phase 2 TDMA and SmartZone® Trunking (includes system options 2, 4 & 5)	\$1,000.00	\$1,250.00
<b>Optional Features</b>		<b>Contract Price</b>	<b>List</b>
<b>Channels/Talkgroups</b>			
	1024 Channels/Talkgroups (standard)	\$0.00	\$0.00
<b>Encryption (requires Protocol Option 2 - Digital/Project 25 CAI)</b>			
	Single-Key DES-OFB (included with Protocol Option 2)	\$0.00	\$0.00
	Single-Key AES	\$120.00	\$150.00
	DES-OFB (multi-key)	\$440.00	\$550.00



AES (multi-key)	\$380.00	\$475.00
ARC4 (ADP compatible)	\$0.00	\$0.00
<b>Programming &amp; Data</b>		
MDC1200/GE-Star Signaling	\$40.00	\$50.00
Rebanding (requires 700/800 MHz)	\$88.00	\$110.00
FIRESafe™ First Responder	\$200.00	\$250.00
FIRESafe™ First Command (includes FIRESafe™ First Responder)	\$280.00	\$350.00
GPS (requires 700/800 MHz)	\$80.00	\$100.00
Third Party Interface	\$120.00	\$150.00
Keypad Programming (U.S. Federal Government Only)	\$240.00	\$300.00
<i>The following selections require Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i>		
Project 25 Data Conventional	\$112.00	\$140.00
Project 25 OTAR Conventional & Trunking	\$600.00	\$750.00
OTAP (Over-the-Air Programming)	\$160.00	\$200.00
<i>The following selections require a System Option 5-8 (options with Phase 1 or Phase 2):</i>		
Project 25 Authentication	\$80.00	\$100.00
Project 25 Data Trunking (includes Project 25 Data Conventional)	\$160.00	\$200.00

# KENWOOD



**VIKING**



P25 Mission Critical

## VP-400 Single Band

700/800 MHz • VHF • UHF • P25 PHASE 1 & 2 • FM ANALOG

With a top display and best in the industry audio, the VP400 portable is a high performance, P25 radio. Viking radios offer smarter visual and audio features that make first responder communications effortless.

### SINGLE-PROTOCOL/ DIGITAL-MODE CAPABILITY

Choose operation in either:

- Motorola SMARTNET® II/SmartZone® protocol
- OR —
- P25 Phase 1 trunked/conventional & P25 Phase 2 trunked
- Compatible with Motorola® System v 7.x, Motorola Astro® and SMARTNET® II/SmartZone®
- FM analog (Included, supports MDC-1200 & GE-Star signaling)

### P25 COMPLIANT

- Supports P25 CAI (Common Air Interface, Phase 1 & Phase 2)
- Conventional & trunking protocols

### RUGGED & RELIABLE

- Meets MIL-Standard 810 G specs
- Immersion rated (IP67) (waterproof in 1 meter of water up to 30 minutes)
- Dual Shield design (internal metal housing and an external polycarbonate casing for exceptional durability)

### EASY TO OPERATE

- Available in three models: no keypad, limited keypad or full keypad versions
- Top display on all three models to maximize viewing while in holster
- Controllable backlit display settings to increase visibility in all light conditions
- Backlit keypad
- Multiple visual indicators including battery level & signal strength
- Ergonomic knobs for easier operation with gloves

### SUPERIOR AUDIO QUALITY

- High performance speaker provides 1W nominal audio for loud & clear sound across various noise environments
- Frequency based noise cancellation & audio enhancement; does not require directional adjustment or software changes for different noise environments
- AMBE+2 version 1.6 vocoder using TIA's latest standards

### ADVANCED FEATURES

- P25 Radio Authentication
- Programmable soft keys, menu & DTMF keys
- Up to 1024 channels
- Text messaging
- Customizable voice announcement
- Conventional vote scan is standard
- Over-The-Air Programming (OTAP) option to program radios in the field
- Armada® programming software provides simple radio fleet management including profile templates & sorting/filtering by function or agency
- Elite battery management enables wireless tracking of battery fleet
- Enhanced radio security using software and hardware system keys
- Industry-standard encryption capabilities such as AES or DES-OFB
- ARC4™ software encryption; compatible with ADP™
- Speaker microphone disconnect alarm enhances safety

### ACCESSORIES

- Complete line of accessories including speaker mics, cases, batteries, antennas & chargers. Download the accessory catalog at [www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).



	Radio - Base Model	Contract Price	List
2425X7AX53XXX	700/800 MHz, 762-806 MHz, 2.5W, and 806-870 MHz, 3W, Model 1 (no keypad)	\$1,060.00	\$1,325.00

2425X7BX53XXX	700/800 MHz, 762-806 MHz, 2.5W, and 806-870 MHz, 3W, Model 2 (limited keypad)	\$1,160.00	\$1,450.00
2425X7CX53XXX	700/800 MHz, 762-806 MHz, 2.5W, and 806-870 MHz, 3W, Model 3 (full keypad)	\$1,300.00	\$1,625.00
2425X1A653XXX	VHF, 136-174 MHz, 5W, Model 1 (no keypad)	\$1,060.00	\$1,325.00
2425X1B653XXX	VHF, 136-174 MHz, 5W, Model 2 (limited keypad)	\$1,160.00	\$1,450.00
2425X1C653XXX	VHF, 136-174 MHz, 5W, Model 3 (full keypad)	\$1,300.00	\$1,625.00
2425X2A453XXX	UHF, 380-470 MHz, 4W, Model 1 (no keypad)	\$1,060.00	\$1,325.00
2425X2B453XXX	UHF, 380-470 MHz, 4W, Model 2 (limited keypad)	\$1,160.00	\$1,450.00
2425X2C453XXX	UHF, 380-470 MHz, 4W, Model 3 (full keypad)	\$1,300.00	\$1,625.00
<b>Antenna</b>		<b>Contract Price</b>	<b>List</b>
	No Antenna (credit)	-\$15.00	-\$15.00
	700/800 MHz, 1/2 Wave	\$0.00	\$0.00
	800 MHz, 1/2 Wave	\$0.00	\$0.00
	VHF, 136-174 MHz Dipole, red core (VHF Wideband)	\$12.00	\$15.00
	VHF, 136-151 MHz Helical, yellow core (Federal)	\$0.00	\$0.00
	VHF, 151-162 MHz Helical, black core (Public Safety)	\$0.00	\$0.00
	VHF, 162-174 MHz Helical, blue core (Business & Industrial)	\$0.00	\$0.00
	UHF, 380-520 MHz, 1/4 Wave, white core	\$0.00	\$0.00
<b>Battery</b>		<b>Contract Price</b>	<b>List</b>
	No Battery (credit)	-\$40.00	-\$40.00
	Viking Li-ion Battery	\$0.00	\$0.00
<b>Housing</b>		<b>Contract Price</b>	<b>List</b>
	Black Housing	\$0.00	\$0.00
	High Visibility Housing	\$160.00	\$200.00
<b>Protocol</b>		<b>Contract Price</b>	<b>List</b>
1	Analog FM	\$0.00	\$0.00
2	Digital/Project 25 CAI AMBE+2 with Free Single-Key DES-OFB (includes protocol option 1)	\$120.00	\$150.00
<b>System Options</b>		<b>Contract Price</b>	<b>List</b>
<i>The following selections require Protocol Option 1 (Analog FM):</i>			
1	SMARTNET® II Trunking	\$380.00	\$475.00
2	SmartZone® Trunking	\$440.00	\$550.00
<i>The following selections require Protocol Option 2</i>			
3	Project 25 Conventional System	\$220.00	\$275.00
4	Project 25 Phase 1 Trunking Only (includes system option 3)	\$288.00	\$360.00
5	Project 25 Phase 2 TDMA (includes system option 3 & 4)	\$528.00	\$660.00
<b>Optional Features</b>		<b>Contract Price</b>	<b>List</b>
<b>Channels/Talkgroups</b>			
	1024 Channels/Talkgroups (standard)	\$0.00	\$0.00
<b>Encryption (requires Protocol Option 2 - Digital/Project 25 CAI</b>		\$0.00	
	Single-Key DES-OFB (included with Protocol Option 2)	\$0.00	\$0.00
	Single-Key AES	\$96.00	\$120.00
	DES-OFB (multi-key)	\$336.00	\$420.00
	AES (multi-key)	\$288.00	\$360.00
	ARC4 (ADP compatible)	\$0.00	\$0.00
<b>Programming &amp; Data</b>			
	MDC1200/GE-Star Signaling	\$40.00	\$50.00
	FIRESafe™ First Responder	\$200.00	\$250.00

FIRESafe™ Command	\$280.00	\$350.00
<i>The following selection requires System Option 4 or 5):</i>	\$0.00	
Project 25 Authentication	\$60.00	\$75.00
<i>The following selection requires Protocol Option 2</i>		
OTAP (Over-the-Air Programming)	\$160.00	\$200.00

# KENWOOD

Bluetooth

GPS



P25 Mission Critical

## TK-5230/5330/5430

700/800 MHz • VHF • UHF • P25 PHASE 1 & 2 • FM ANALOG • LTR

Compact P25 Phase 1/Phase 2 radio with large transreflective color display, built-in GPS & Bluetooth® is a great fit for public works or public safety agencies looking for a smaller feature rich radio.

### MAIN FEATURES

- Digital operation in P25 Phase 1 & Phase 2
- P25 Phase 1 Conventional/Trunked Operation (standard)
- Mixed Digital, FM Analog & LTR Operation allows migration in mixed sites
- Large, color 1.74" (240 x 180 pixels) Transreflective TFT Display for better use in direct sunlight & with use of polarized sunglasses
- Easy to follow GUI for at-a-glance operational status checking & multi-line text
- 4-way Directional-pad (D-pad) & 2-Position Lever Switch for intuitive control
- Built-In GPS Receiver/Antenna for effective fleet management
- Bluetooth® Module built-in for hands-free operation
- Renowned audio quality with Active Noise Cancelling that utilizes built-in DSP with two microphones for suppression of ambient noise (dual-mic)
- Built-in 56-bit DES Encryption (4-key DES standard)
- Optional 256-bit AES Encryption
- Built-in motion sensor for life-critical man down detection
- microSD/microSDHC Memory Card Slot for increased voice & data memory capacity
- IP67/68 & MIL-STD-810 C/D/E/F/G
- Full key models (w/numeric keypad) & standard key models (w/o numeric keypad)
- 1 W loud speaker audio

### FM MODES - GENERAL

- Conventional & LTR Zones
- NPSAC (USA only) Channels (±4.0 Modulation)
- MDC-1200: PTT ID ANI / Caller ID Display, Emergency, Radio Check / Inhibit
- QT / DQT & Two-Tone
- Built-In Voice Inversion Scrambler

### ACCESSORIES

- Complete line of accessories including speaker mics, cases, batteries, antennas & chargers. Download the accessory catalog at [www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

### DIGITAL - P25 MODE

- P25 Phase 1 Conventional/Trunked Operation (standard)
- P25 Phase 2 Trunked Operation
- AMBE+2™ Enhanced Vocoder
- Talk Group ID Lists
- Individual ID Lists
- Caller ID Display
- Remote Monitor/Remote Check
- Radio Inhibit
- Encryption Key Zeroize & Retention
- P25 GPS Location
- Over-the-Air Programming\*

### INTELLIGENT BATTERY SYSTEM (OPTION)

- System consists of optional high-capacity Li-Ion Battery Series (KNB-L1/L2/L3), Rapid Charger (KSC-Y32), & Battery Reader (KAS-12) software
- Up to 30 rapid chargers can be chain-connected to PC installed with KAS-12
- Battery conditions displayed in color illuminated indicators on the charger, & also displayed on connected PC with same color scheme
- Up to 1,000 batteries can be managed at a time (requires additional option)

\* Requires OTAP management software.

((AMBE+2))



Radio - Base

Contract Price

List Price

TK-5430F2	700 / 800 MHz, 3.0 Watts Analog/P25 Conventional/P25 Phase I Trunking - Standard Key Model	\$1,160.00	\$1,450.00
TK-5430F3	700 / 800 MHz, 3.0 Watts Analog/P25 Conventional/P25 Phase I Trunking - Full Key Model	\$1,200.00	\$1,500.00

Licensing		Contract Price	List Price
<b>KPT-300LMC is a required software package that is used to authenticate software (FPU) and radio feature license keys for the TK-5x30 Series radios.</b>			

KPT-300LMC	License Management Client	\$0.00	\$0.00
L-5000	KPT-300LMC License Key	\$0.00	\$0.00

Software		Contract Price	List Price
KPG-D1NK	License Key for KPG-D1NK Programming Software for TK-5x30 Portable/Mobile (Windows® Vista/7/8/8.1) <b>Note: Requires KPT-300LMC for authentication</b>	\$124.00	\$155.00

**P25 Trunked Programming Capability (licensed by either 1 or 2 below):**

1. USB Key Type: Advanced System Key (ASK)- See KWD-ASK-MK
2. Software Key Type: System Key File (SKF)- See L-5005

KPG-180AP	OTAP Manager Software • License includes 50 radios • To add more radios / serial ports, you must contact EF Johnson Technologies (1-800-328-3911 Option 1) <b>Note: Requires KPT-300LMC for authentication</b>	\$707.20	\$884.00
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KAS-12K	License Key for KAS-12 Battery Reader Software for KNB-L1/2/3/ & KSC-Y32 (Windows® Vista/7/8/8.1) <b>Note: Requires KPT-300LMC for authentication</b>	\$68.00	\$85.00
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<b>Software License Key Discount Structure:</b>			
License Keys	1 License Key	-	
	2-4 License Keys	10% Off	
	5-14 License Keys	35% Off	
	15-24 License Keys	40% Off	
	25+ License Keys	45% Off	

Radio Feature		Contract Price	List Price
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PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authenticate Radio Features that can then be viewed / shared / managed by all registered users for the account.

**Note: Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transferred radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.**

General Radio			
KWD-5000CH	License Key for 4000 Channel Expansion	\$336.00	\$420.00
KWD-5001FP	License Key for Front Panel Programming	\$240.00	\$300.00
KWD-5002SD	License Key for microSD Memory Card Slot Activation	\$84.00	\$105.00
<b>P25 Radio</b>		\$0.00	
KWD-5100CV	License Key for P25 Conventional	\$0.00	\$0.00

KWD-5101TR	License Key for P25 Phase 1 Trunking (requires KWD-5100CV)	\$0.00	\$0.00
KWD-5102TR	License Key for P25 Phase 2 Trunking (requires KWD-5100CV & KWD-5101TR)	\$320.00	\$400.00
KWD-5103RK	License Key for P25 OTAR (requires KWD-5106DT for a Trunking Operation)	\$560.00	\$700.00
KWD-5105VT	License Key for P25 Conventional Voting Scan	\$96.00	\$120.00
KWD-5106DT	License Key for P25 Packet Data (required for Trunked OTAR/GPS/Text)	\$144.00	\$180.00
<b>Antennas</b>		<b>Contract Price</b>	<b>List Price</b>
KRA-32K	700/800 MHz Whip Antenna	\$28.00	\$35.00
KRA-36	700/800 MHz Stubby Antenna	\$20.00	\$25.00
<b>Batteries &amp;</b>		<b>Contract Price</b>	<b>List Price</b>
KNB-L1M	Li-ion 2000mAh (Compact Slim)	\$92.00	\$115.00
KNB-L2M	Li-ion 2600mAh (Standard)	\$108.00	\$135.00
KNB-L3M	Li-ion 3400mAh (High Capacity)	\$140.00	\$175.00
KSC-Y32K	Rapid rate single unit charger (Long-Life Charge Mode capable with KAS-12 Software) <b>Note:</b> NiMH/Li-ion battery only	\$92.00	\$115.00
KAS-12K	License Key for KAS-12 <b>(Authentication required)</b> Battery Reader Software for KNB-L1M/L2M/L3M & KSC-Y32 (Windows® Vista/7/8/8.1)	\$68.00	\$85.00
KSC-32	Rapid rate single unit charger	\$56.00	\$70.00
KSC-326K	Rapid rate 6-unit charger	\$504.00	\$630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$27.00	\$33.75
KVC-15	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC-mobile bracket & cigarette lighter cable DC adapter)	\$95.20	\$119.00
<b>Carrying</b>		<b>Contract Price</b>	<b>List Price</b>
KBH-11	Spring action belt clip (2.5")	\$11.76	\$14.70
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$21.04	\$26.30
KLH-6SW	Leather swivel belt loop / detachable swivel D-Ring back	\$17.60	\$22.00
KLH-137ST	Firemen's Heavy-Duty Leather Shoulder Strap for a Heavy-Duty Leather Case	\$29.40	\$36.75
KLH-200K3	Heavy duty leather carrying case for TK-5x30-series (for both K2 & K3 models)	\$35.40	\$44.25
KLH-201K3	Nylon carrying case for TK-5430-series (for both keypad models)	\$21.04	\$26.30
<b>Special Color</b>		<b>Contract Price</b>	<b>List Price</b>
KWD-YH-5000	Yellow Housing Kit for TK-5x30 series Portables (Standard Key Model Only) Order L-5024 for Factory Install. (Eligible for warranty of IP67/68 immersion) <b>Note:</b> If you order only housing and perform Contract Price Installation, IP67/68 Warranty Claim will not be eligible.	\$32.00	\$40.00

KWD-OH-5000	Orange Housing Kit for TK-5x30 series Portables (Standard Key Model Only)		
	Order L-5025 for Factory Install. (Eligible for warranty of IP67/68 immersion)	\$32.00	\$40.00
	Note: If you order only housing and perform Contract Price Installation, IP67/68 Warranty Claim will not be eligible.		

Microphones		Contract Price	List Price
KMC-54WDM	MIL-SPEC, IP67 (Immersion) Speaker Mic <u>Compatible with ANR Feature</u>	\$104.00	\$130.00
	<b>Note:</b> only compatible with a TK-5x30 series portable		
KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic	\$91.20	\$114.00
KMC-49	MIL-SPEC, Speaker Mic. with Antenna Connector		
	<b>Note:</b> 5/16" Coax cable hex wrench included (antenna is not included).	\$200.00	\$250.00
KEP-1	3.5mm earphone kit for KMC-41/42W/54W Speaker Mics	\$42.00	\$52.50
KEP-2	2.5mm earphone kit for KMC-49 Speaker Mic	\$42.00	\$52.50
KEP-3	30" Earphone kit w/ 2.5mm plug for KCT-30	\$41.20	\$51.50
KEP-4	48" Earphone kit w/ 2.5mm plug for KCT-30	\$43.80	\$54.75
KCT-30	2.5mm Audio Accessory Adapter for KEP-3/4	\$51.20	\$64.00
KCT-51	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector)	\$172.00	\$215.00
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black)	\$125.20	\$156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black)	\$147.20	\$184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT	\$100.80	\$126.00
KHS-15-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & PTT	\$336.00	\$420.00
KHS-15-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & PTT	\$294.40	\$368.00
Encryption Modules		Contract Price	List Price

KWD-AE30K	AES FIPS140-2 & DES Encryption Module (Multi-Key)		
	Order a Labor Code <u>L-5003</u> if installation is required.		
	KWD-AE30K requires: a Motorola KVL3000 Plus/4000 key loader device. KWD-AE30K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1)	\$680.00	\$850.00
KWD-AE31K	AES & DES Encryption Module (Multi-Key)		
	Order a Labor Code <u>L-5004</u> if installation is required.		
	<b>Note:</b> Requires KPG-AE1/DE1 software key loader or Motorola KVL3000 Plus/4000 key loader device. KWD-AE31K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1)	\$440.00	\$550.00



KPG-AE1K	AES/DES Encryption Software Key Loader for KWD-AE31K <b>Authentication by KPT-300LMC is required</b> <b>Note:</b> KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A)	\$420.00	\$525.00
KPG-DE1K	DES Encryption Software Key Loader for KWD-AE31K <b>Authentication by KPT-300LMC is required</b> <b>Note:</b> KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D992A.1)	\$294.40	\$368.00
Service		Contract Price	List Price
KPG-36XM	Full Speed USB Programming interface cable	\$126.80	\$158.50
KPG-93	KVL-3000 Plus/4000 Interface Cable for P25 Portables	\$210.00	\$262.50
KWD-ASK-AK	Access Key for KPG-D1NK P25 trunked programming <b>Notes:</b> Enables P25 Trunked system programming privileges in a KPG-D1NK. <ul style="list-style-type: none"> <li>• For TK-5x30 series only</li> <li>• Must be activated by trunked system operator (SYSOP) with KWD-ASK-MK Master Key</li> <li>• Must have KPG-D1NK</li> <li>• Configurable expiration period of KWD-ASK-AK set by KWD-ASK-MK is available for 3 years for built in battery. USB Key must be replaced since the expiration set up dose not work after 3 years.</li> </ul>	\$166.40	\$208.00
KWD-ASK-MK	Master Key for activating KWD-ASK-AK Access Keys - <b>Restricted Purchase Requirements -</b> <b>Notes:</b> <ul style="list-style-type: none"> <li>• For TK-5x30 series only.</li> <li>• Sold to trunked system operator (SYSOP) or SYSOP authorized entities only</li> <li>• Must have KPG-D1NK</li> <li>• SYSOP must provide 3-digit HEX HSID to Kenwood with P25 Trunking System Keys Request Form placed on Kenwood Tools.</li> <li>• Purchase KWD-ASK-AK Access Keys if needed.</li> </ul>	\$400.00	\$500.00
Installation/Tuning Charges		Contract Price	List Price
L-5000	Account Registration Key <b>Note:</b> specify the number of PC's used for Radio Feature License Activation.	\$0.00	\$0.00
L-5001	Factory Activation of Radio Feature Licenses (per Radio) <b>Note:</b> Must purchase Radio Feature Licenses separately	\$96.00	\$120.00
L-5002	NX-5200/5300/5400 Programming (with basic TX/RX check)	\$30.00	\$37.50
L-5003	Install KWD-AE30K in TK-5x30 series Portable (Must purchase module separately)	\$60.00	\$75.00
L-5004	Install KWD-AE31K in TK-5x30 series Portable (Must purchase module separately)	\$60.00	\$75.00

KPG-D1NK System Key File (SKF)			
<b>Note:</b> Enables P25 Trunked system programming privileges in a KPG-D1NK.			
<b>- Restricted Purchase Requirements -</b>			
<ul style="list-style-type: none"> <li>• Trunked system operator (SYSOP) must provide 3-digit HEX HSID to EF Johnson with P25 Trunking System Keys Request Form placed on Kenwood Tools.</li> </ul>			
L-5005	• Must have KPG-D1NK.	\$105.60	\$132.00
	• EF Johnson ships an encrypted *.SKF file via E-Mail to the address provided on the P25 Trunking System Keys Request Form placed on Kenwood Tools.		
	• Non-SYSOP entities ordering L-5005 must provide verifiable written authorization from SYSOP to receive an *.SKF file.		
	• 3-digit HEX HSID are securely encrypted & embedded in the *.SKF file.		
L-5024	Assemble Yellow Housing KWD-YH-5000 with TK-5x30 series Portable	\$21.60	\$27.00
L-5025	Assemble Orange Housing KWD-OH-5000 with TK-5x30 series Portable	\$21.60	\$27.00

**-- IMPORTANT**

Encryption modules, key loaders and radios containing encryption are export controlled by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export license to most countries. See [www.bis.gov](http://www.bis.gov) for more information regarding export regulations. **DO NOT SHIP** encryption items outside the U.S. without proper DOC/BIS Export Licenses and/or compliances.

The following information may be requested to be submitted at time of order (this information must meet internal approvals prior to shipment even if being returned later:

a) Initial Destination: Initial delivery point if different from Ultimate Destination  
(customer distribution center, headquarters, Contract Priceship, manufacturer's representative)

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

b) Ultimate Destination: Final delivery point(s); deployment/distribution

\* Business/Agency Name:

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***KWD-AE20 AES FIPS140-2 SCM , NIST Validation & Customer Shipping***

***A secure delivery method direct to the end user customer is required by the NIST AES FIPS 140-2 validation rules. For U.S. Federal Government entities the SCM must ship from Kenwood USA Corporation directly to the end user customer by a trusted carrier (FEDEX, UPS or a designated Kenwood USA Corporation employee); shipping/handling by a Contract Price or other entity is not acceptable. This may or may not be required by local/state government agencies or business/industrial users. Please check with the end use customer about their AES encryption handling requirements before ordering. Kenwood will not be responsible for shipments of KWD-AE20K modules to erroneous destinations specified on an order.***

# KENWOOD



P25 Mission Critical

## TK-5230/5330/5430

700/800 MHz • VHF • UHF • P25 PHASE 1 & 2 • FM ANALOG • LTR

Compact P25 Phase 1/Phase 2 radio with large transfective color display, built-in GPS & Bluetooth\* is a great fit for public works or public safety agencies looking for a smaller feature rich radio.

### MAIN FEATURES

- Digital operation in P25 Phase 1 & Phase 2
- P25 Phase 1 Conventional/Trunked Operation (standard)
- Mixed Digital, FM Analog & LTR Operation allows migration in mixed sites
- Large, color 1.74" (240 x 180 pixels) Transfective TFT Display for better use in direct sunlight & with use of polarized sunglasses
- Easy to follow GUI for at-a-glance operational status checking & multi-line text
- 4-way Directional-pad (D-pad) & 2-Position Lever Switch for intuitive control
- Built-In GPS Receiver/Antenna for effective fleet management
- Bluetooth\* Module built-in for hands-free operation
- Renowned audio quality with Active Noise Cancelling that utilizes built-in DSP with two microphones for suppression of ambient noise (dual-mic)
- Built-in 56-bit DES Encryption (4-key DES standard)
- Optional 256-bit AES Encryption
- Built-in motion sensor for life-critical man down detection
- microSD/microSDHC Memory Card Slot for increased voice & data memory capacity
- IP67/68 & MIL-STD-810 C/D/E/F/G
- Full key models (w/numeric keypad) & standard key models (w/o numeric keypad)
- 1 W loud speaker audio

### FM MODES - GENERAL

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- NPSAPC (USA only) Channels (±4.0 Modulation)
- MDC-1200: PTT ID ANI / Caller ID Display; Emergency; Radio Check / Inhibit
- QT / DQT & Two-Tone
- Built-in Voice Inversion Scrambler

### ACCESSORIES

- Complete line of accessories including speaker mics, cases, batteries, antennas & chargers. Download the accessory catalog at [www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

### DIGITAL - P25 MODE

- P25 Phase 1 Conventional/Trunked Operation (standard)
- P25 Phase 2 Trunked Operation
- AMBE+2™ Enhanced Vocoder
- Talk Group ID Lists
- Individual ID Lists
- Caller ID Display
- Remote Monitor/Remote Check
- Radio Inhibit
- Encryption Key Zeroize & Retention
- P25 GPS Location
- Over-the-Air Programming\*

### INTELLIGENT BATTERY SYSTEM (OPTION)

- System consists of optional high-capacity Li-Ion Battery Series (KNB-L1/L2/L3), Rapid Charger (KSC-Y32), & Battery Reader (KAS-12) software
- Up to 30 rapid chargers can be chain-connected to PC installed with KAS-12
- Battery conditions displayed in color illuminated indicators on the charger, & also displayed on connected PC with same color scheme
- Up to 1,000 batteries can be managed at a time (requires additional option)

\* Requires QTAP management software.



**Standard Key**

TK-5230F2	VHF(136-174MHz),6.0 Watts,Analog,P25 Conventional/P25 Phase I Trunking, Standard Key Model	\$1,160.00	\$1,450.00
TK-5330F2	UHF (450-520MHz),5.0 Watts,Analog,P25 Conventional/P25 Phase I Trunking, Standard Key Model	\$1,160.00	\$1,450.00
TK-5330F5	UHF (380-470MHz),5.0 Watts,Analog,P25 Conventional/P25 Phase I Trunking, Standard Key Model	\$1,160.00	\$1,450.00

**Full Key**

TK-5230F3	VHF (136-174MHz),6.0 Watts ,Analog,P25 Conventional/P25 Phase I Trunking,Full Key Model	\$1,160.00	\$1,450.00
TK-5330F3	UHF (450-520MHz),5.0 Watts,Analog,P25 Conventional/P25 Phase I Trunking,Full Key Model	\$1,160.00	\$1,450.00
TK-5330F6	UHF (380-470MHz), 5.0 Watts,Analog,P25 Conventional/P25 Phase I Trunking,Full Key Model	\$1,160.00	\$1,450.00

<b>Licensing</b>	<b>Contract Price</b>	<b>List</b>
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**KPT-300LMC is a required software package that is used to authenticate software (FPU) and radio feature license keys for the TK-5x30 Series radios.**

KPT-300LMC	License Management Client	\$0.00	\$0.00
L-5000	KPT-300LMC License Key	\$0.00	\$0.00

<b>Software</b>	<b>Contract Price</b>	<b>List</b>
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**Note: A unique license key is required for each PC with software installed. A single license key will not authorize multiple PCs.**

KPG-D1NK	License Key for KPG-D1NK Programming Software for TK-5x30 Portable/Mobile (Windows® Vista/7/8/8.1) <b>Note: Requires KPT-300LMC for authentication</b>	\$124.00	\$155.00
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**P25 Trunked**

1. USB Key Type: Advanced System Key (ASK)- See KWD-ASK-

2. Software Key Type: System Key File (SKF)- See L-5005

KPG-180AP	OTAP Manager Software		
	<ul style="list-style-type: none"> <li>• License includes 50 radios</li> <li>• To add more radios / serial ports, you must contact EF Johnson Technologies (1-800-328-3911 Option 1)</li> </ul>	\$707.20	\$884.00
<b>Note: Requires KPT-300LMC for authentication</b>			

KAS-12K	License Key for KAS-12		
	Battery Reader Software for KNB-L1/2/3/ & KSC-Y32 (Windows® Vista/7/8/8.1)	\$68.00	\$85.00
<b>Note: Requires KPT-300LMC for authentication</b>			

<b>Software License Key Discount Structure:</b>			
License Keys	1 License Key	-	
	2-4 License Keys	10% Off	
	5-14 License Keys	35% Off	
	15-24 License Keys	40% Off	
	25+ License Keys	45% Off	

Radio Feature	Contract Price	List
PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.		
<b>Note: Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transfered radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.</b>		

General Radio Features			
KWD-5000CH	License Key for 4000 Channel Expansion	\$336.00	\$420.00
KWD-5001FP	License Key for Front Panel Programming	\$240.00	\$300.00
KWD-5002SD	License Key for microSD Memory Card Slot Activation	\$84.00	\$105.00
P25 Radio Features			
KWD-5100CV	License Key for P25 Conventional	\$0.00	\$0.00
KWD-5101TR	License Key for P25 Phase 1 Trunking (requires KWD-5100CV)	\$0.00	\$0.00
KWD-5102TR	License Key for P25 Phase 2 Trunking (requires KWD-5100CV & KWD-5101TR)	\$320.00	\$400.00
KWD-5103RK	License Key for P25 OTAR (requires KWD-5106DT for a Trunking Operation)	\$560.00	\$700.00
KWD-5105VT	License Key for P25 Conventional Voting Scan	\$96.00	\$120.00
KWD-5106DT	License Key for P25 Packet Data (required for Trunked OTAR/GPS/Text)	\$144.00	\$180.00

Antennas	Contract Price	List
KRA-26M	VHF helical antenna 146-162 MHz	\$11.20 \$14.00
KRA-26M2	VHF helical antenna 162-174 MHz	\$11.20 \$14.00
KRA-26M3	VHF helical antenna 136-150 MHz	\$11.20 \$14.00
KRA-27M	UHF whip antenna 440-490 MHz	\$11.20 \$14.00
KRA-27M2	UHF whip antenna 470-520 MHz	\$11.20 \$14.00
KRA-27M3	UHF whip antenna 400-450 MHz	\$11.20 \$14.00
KRA-22M	VHF low-profile helical antenna 148-162 MHz	\$10.96 \$13.70

KRA-22M2	VHF low-profile helical antenna 162-174 MHz	\$10.96	\$13.70
KRA-22M3	VHF Low-profile helical antenna 136-150 MHz	\$10.96	\$13.70
KRA-23M	UHF low-profile helical antenna 450-490 MHz	\$10.96	\$13.70
KRA-23M2	UHF low-profile helical antenna 470-512 MHz	\$10.96	\$13.70
KRA-23M3	UHF low-profile helical antenna 403-430 MHz	\$10.96	\$13.70
KRA-25	High gain VHF helically loaded whip antenna 148-162 MHz	\$27.40	\$34.25
<b>Batteries &amp; Chargers</b>		<b>Contract Price</b>	<b>List</b>
KNB-L1M	Li-ion 2000mAh (Compact Slim)	\$92.00	\$115.00
KNB-L2M	Li-ion 2600mAh (Standard)	\$108.00	\$135.00
KNB-L3M	Li-ion 3400mAh (High Capacity)	\$140.00	\$175.00
KSC-Y32K	Rapid rate single unit charger (Long-Life Charge Mode capable with KAS-12 Software) <b>Note:</b> NiMH/Li-ion battery only	\$92.00	\$115.00
KAS-12K	License Key for KAS-12 <b>(Authentication required)</b> Battery Reader Software for KNB-L1M/L2M/L3M & KSC-Y32 (Windows® Vista/7/8/8.1)	\$68.00	\$85.00
KSC-32	Rapid rate single unit charger	\$56.00	\$70.00
KSC-326K	Rapid rate 6-unit charger	\$504.00	\$630.00
KMB-30M	Wall Mount Bracket for KSC-326K/256K	\$27.00	\$33.75
KVC-15	Rapid rate DC vehicular charger adapter for the KSC-32 (chargers not included; includes KSC-mobile bracket & cigarette lighter cable DC adapter)	\$95.20	\$119.00
<b>Carrying Accessories</b>		<b>Contract Price</b>	<b>List</b>
KBH-11	Spring action belt clip (2.5")	\$11.76	\$14.70
KBH-8DS	Leather swivel belt loop with portable D-Ring attachment	\$21.04	\$26.30
KLH-6SW	Leather swivel belt loop / detachable swivel D-Ring back	\$17.60	\$22.00
KLH-137ST	Firemen's Heavy-Duty Leather Shoulder Strap for a Heavy-Duty Leather Case	\$29.40	\$36.75
KLH-200K3	Heavy duty leather carrying case for TK-5x30-series (for both K2 & K3 models)	\$35.40	\$44.25
<b>Special Color</b>		<b>Contract Price</b>	<b>List</b>
KWD-YH-5000	Yellow Housing Kit for TK-5x30 series Portables (Standard Key Model Only) Order L-5024 for Factory Install. (Eligible for warranty of IP67/68 immersion) Note: If you order only housing and perform Contract Price Installation, IP67/68 Warranty Claim will not be eligible.	\$32.00	\$40.00
KWD-OH-5000	Orange Housing Kit for TK-5x30 series Portables (Standard Key Model Only) Order L-5025 for Factory Install. (Eligible for warranty of IP67/68 immersion) Note: If you order only housing and perform Contract Price Installation, IP67/68 Warranty Claim will not be eligible.	\$32.00	\$40.00
<b>Microphones &amp;</b>		<b>Contract Price</b>	<b>List</b>

KMC-54WDM	MIL-SPEC, IP67 (Immersion) Speaker Mic <b>Compatible with ANR Feature</b> <b>Note:</b> only compatible with a TK-5x30 series portable	\$104.00	\$130.00
KMC-42WDM	MIL-SPEC, IP67 (Immersion) Noise-canceling Speaker Mic	\$91.20	\$114.00
KMC-49	MIL-SPEC, Speaker Mic. with Antenna Connector <b>Note:</b> 5/16" Coax cable hex wrench included (antenna is not included).	\$200.00	\$250.00
KEP-1	3.5mm earphone kit for KMC-41/42W/54W Speaker Mics	\$42.00	\$52.50
KEP-2	2.5mm earphone kit for KMC-49 Speaker Mic	\$42.00	\$52.50
KEP-3	30" Earphone kit w/ 2.5mm plug for KCT-30	\$41.20	\$51.50
KEP-4	48" Earphone kit w/ 2.5mm plug for KCT-30	\$43.80	\$54.75
KCT-30	2.5mm Audio Accessory Adapter for KEP-3/4	\$51.20	\$64.00
KCT-51	Hirose 6-pin Adapter (adapts KVL/aftermarket audio acc. to portable connector)	\$172.00	\$215.00
KHS-11BL	2-wire palm mic w/earphone, universal connector (Black)	\$125.20	\$156.50
KHS-12BL	3-wire mini lapel mic w/earphone, universal connector (Black)	\$147.20	\$184.00
KHS-14	Lt. Wt. Single muff headset w/boom mic & In-line PTT	\$100.80	\$126.00
KHS-15-BH	Hvy-duty noise reduction behind-the-headset w/noise cancelling boom mic & PTT	\$336.00	\$420.00
KHS-15-OH	Hvy-duty noise reduction over-the-headset w/noise cancelling boom mic & PTT	\$294.40	\$368.00
<b>Encryption Modules</b>		<b>Contract Price</b>	<b>List</b>
KWD-AE30K	AES FIPS140-2 & DES Encryption Module (Multi-Key) Order a Labor Code <b>L-5003</b> if installation is required. KWD-AE30K requires: a Motorola KVL3000 Plus/4000 key loader device. KWD-AE30K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1)	\$680.00	\$850.00
KWD-AE31K	AES & DES Encryption Module (Multi-Key) Order a Labor Code <b>L-5004</b> if installation is required. <b>Note:</b> Requires KPG-AE1/DE1 software key loader or Motorola KVL3000 Plus/4000 key loader device. KWD-AE31K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1)	\$440.00	\$550.00
KPG-AE1K	AES/DES Encryption Software Key Loader for KWD-AE31K <b>Authentication by KPT-300LMC is required</b> <b>Note:</b> KPG-AE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D002A)	\$420.00	\$525.00
KPG-DE1K	DES Encryption Software Key Loader for KWD-AE31K <b>Authentication by KPT-300LMC is required</b> <b>Note:</b> KPG-DE1 is a U.S. DOC/BIS Export Controlled Item (ECCN 5D992A.1)	\$294.40	\$368.00
<b>Service Related Accessories</b>		<b>Contract Price</b>	<b>List</b>
KPG-36XM	Full Speed USB Programming interface cable	\$126.80	\$158.50



KPG-93	KVL-3000 Plus/4000 Interface Cable for P25 Portables	\$210.00	\$262.50
	Access Key for KPG-D1NK P25 trunked programming		
	<b>Notes:</b> Enables P25 Trunked system programming privileges in a KPG-D1NK.		
	<ul style="list-style-type: none"> <li>• For TK-5x30 series only</li> <li>• Must be activated by trunked system operator (SYSOP) with</li> </ul>		
KWD-ASK-AK	KWD-ASK-MK Master Key	\$166.40	\$208.00
	<ul style="list-style-type: none"> <li>• Must have KPG-D1NK</li> <li>• Configurable expiration period of KWD-ASK-AK set by KWD-ASK-MK is available for 3 years for built in battery. USB Key must be replaced since the expiration set up dose not work after 3 years.</li> </ul>		

	Master Key for activating KWD-ASK-AK Access Keys		
	- <b>Restricted Purchase Requirements</b> -		
	<b>Notes:</b>		
	<ul style="list-style-type: none"> <li>• For TK-5x30 series only.</li> <li>• Sold to trunked system operator (SYSOP) or SYSOP authorized entities only</li> <li>• Must have KPG-D1NK</li> <li>• SYSOP must provide 3-digit HEX HSID to Kenwood with P25 Trunking System Keys Request Form placed on Kenwood Tools.</li> <li>• Purchase KWD-ASK-AK Access Keys if needed.</li> </ul>		
KWD-ASK-MK		\$400.00	\$500.00

Installation/Tuning Charges		Contract Price	List
L-5001	Factory Activation of Radio Feature Licenses (per Radio)	\$96.00	\$120.00
	<b>Note:</b> Must purchase Radio Feature Licenses separately		
L-5002	NX-5200/5300/5400 Programming (with basic TX/RX check)	\$30.00	\$37.50
L-5003	Install KWD-AE30K in TK-5x30 series Portable (Must purchase module separately)	\$60.00	\$75.00
L-5004	Install KWD-AE31K in TK-5x30 series Portable (Must purchase module separately)	\$60.00	\$75.00

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KPG-D1NK System Key File (SKF)

**Note:** Enables P25 Trunked system programming privileges in a KPG-D1NK.

**- Restricted Purchase Requirements -**

- Trunked system operator (SYSOP) must provide 3-digit HEX HSID to EF Johnson with P25 Trunking System Keys Request Form placed on Kenwood Tools.
- Must have KPG-D1NK.
- EF Johnson ships an encrypted \*.SKF file via E-Mail to the address provided on the P25 Trunking System Keys Request Form placed on Kenwood Tools.
- Non-SYSOP entities ordering L-5005 must provide verifiable written authorization from SYSOP to receive an \*.SKF file.
- 3-digit HEX HSID are securely encrypted & embedded in the \*.SKF file.

L-5005

\$105.60

\$132.00

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L-5024

Assemble Yellow Housing KWD-YH-5000 with TK-5x30 series  
Portable

\$21.60

\$27.00

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L-5025

Assemble Orange Housing KWD-OH-5000 with TK-5x30 series  
Portable

\$21.60

\$27.00

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**-- IMPORTANT NOTES --**

Encryption modules, key loaders and radios containing encryption are export controlled by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export license to most countries. See [www.bis.gov](http://www.bis.gov) for more information regarding export regulations. **DO NOT SHIP** encryption items outside the U.S. without proper DOC/BIS Export Licenses and/or compliances.

The following information may be requested to be submitted at time of order (this information must meet internal approvals prior to shipment even if being returned later:

a) Initial Destination: Initial delivery point if different from Ultimate Destination  
(customer distribution center, headquarters, Contract Priceship, manufacturer's representative)

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

b) Ultimate Destination: Final delivery point(s); deployment/distribution

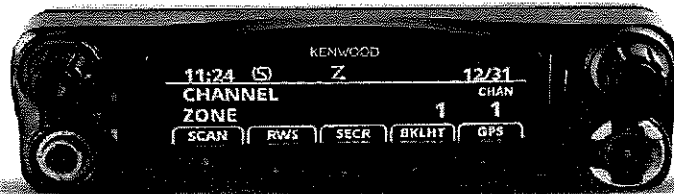
\* Business/Agency Name:

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***KWD-AE20 AES FIPS140-2 SCM , NIST Validation & Customer Shipping***

***A secure delivery method direct to the end user customer is required by the NIST AES FIPS 140-2 validation rules. For U.S. Federal Government entities the SCM must ship from Kenwood USA Corporation directly to the end user customer by a trusted carrier (FEDEX, UPS or a designated Kenwood USA Corporation employee); shipping/handling by a Contract Price or other entity is not acceptable. This may or may not be required by local/state government agencies or business/industrial users. Please check with the end use customer about their AES encryption handling requirements before ordering. Kenwood will not be responsible for shipments of KWD-AE20K modules to erroneous destinations specified on an order.***

# KENWOOD



P25 Mission Critical

## VM-900 Multi-Band

700/800 MHz + VHF

Multi-Band and multi-system radio equipped with industry leading audio, color display and advanced features including Over-the-Intranet (OTIP) programming.

### ROBUST & FLEXIBLE

- Compatible with Motorola® System v 7.x, Motorola Astro® & SMARTNET® II/SmartZone®
- All supported protocols (Phase 1 & 2, Motorola SMARTNET® II/SmartZone®, FM Analog) available simultaneously
- Advanced P25 features such as Authentication & Over-the-Air-Rekeying
- Industry-standard encryption capabilities: AES & DES-OFB
- ARC4™ software encryption; compatible with ADP™
- Conventional vote scan is standard
- Supports MDC-1200 and GE-Star signaling
- Up to 1024 channels
- Over-the-Air programming (OTAP) option enables you to program radios in the field
- Over-the-Intranet programming (OTIP) allows you to program radios through a wireless access point or Ethernet interface
- Enhanced radio security using software & hardware system-keys
- Armada® programming software provides simple fleet management of radios with features including profile templates & sorting/filtering by function or agency

### ACCESSORIES

- Complete line of accessories including microphones, speakers & antennas. Download the accessory catalog at [www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

### DATA & CONTROL INTERFACES

- Supports P25-IP packet data
- GPS AVL data (requires external GPS receiver)

### MULTIPLE CONFIGURATION OPTIONS

- Dash mount
- Remote mount
- Dash mount with remote control head
- Dual remote control heads
- Internal or external speaker
- Fixed control stations

### OPTIONAL VIKING® CONTROL HEAD

- Display resolution: 480 x 128 pixels
- Transmissive color display - high contrast for direct sunlight & night time viewing; not affected by polarized sunglasses
- Wide viewing angle - 120°



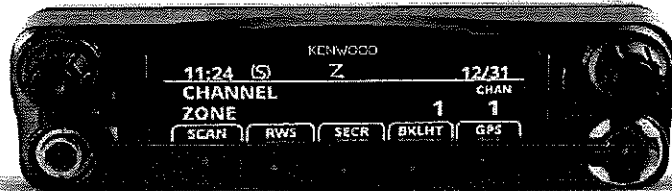
Radio - Base Model	Contract Price	List
700/800 MHz, 762-870 MHz + VHF, 30/35W Dash Mount	\$2,140.00	\$2,675.00

700/800 MHz, 762-870 MHz + VHF, 30/35W Remote Mount	\$2,140.00	\$2,675.00
700/800 MHz, 762-870 MHz + VHF, 30/35W Control Station (includes Power supply & cabinet)	\$2,376.00	\$2,970.00
700/800 MHz, 762-870 MHz, 30/35W Dash Mount (Single Band)	\$1,408.00	\$1,760.00
700/800 MHz, 762-870 MHz, 30/35W Remote Mount (Single Band)	\$1,408.00	\$1,760.00
700/800 MHz, 762-870 MHz, 30/35W Control Station (includes Power supply & cabinet) (Single Band)	\$1,752.00	\$2,190.00
VHF, 30/35W Dash Mount (Single Band)	\$1,408.00	\$1,760.00
VHF, 30/35W Remote Mount (Single Band)	\$1,408.00	\$1,760.00
VHF, 30/35W Control Station (includes Power supply & cabinet) (Single Band)	\$1,752.00	\$2,190.00
<b>Control Head Type</b>	<b>Contract Price</b>	<b>List</b>
<b>Dash Mount Options</b>		
<b>Standard LCD Control Head</b>		
Dash-Mount Control Head (includes standard palm mic)	\$64.00	\$80.00
Dash-Mount Control Head with no mic	\$0.00	\$0.00
Dash-Mount Control with Remote Control Head (includes one remote control head & normal bracket)	\$600.00	\$750.00
<b>Viking Control Head</b>		
Dash-Mount Control Head (includes standard palm mic & external speaker)	\$688.00	\$860.00
Dash-Mount Control Head with no mic (includes external speaker)	\$624.00	\$780.00
Dash-Mount Control with Remote Control Head (includes one remote control head, additional mic & remote control head)	\$1,752.00	\$2,190.00
<b>Remote Mount Options</b>		
<b>Standard LCD Control Head</b>		
Remote Control Head (includes standard palm mic)	\$440.00	\$550.00
Remote Control Head with no mic	\$376.00	\$470.00
Dual Control Head (includes two remote control heads attached to the remote mount radio, two microphones, and two mounting brackets)	\$960.00	\$1,200.00
Dual Control Head with no mics	\$832.00	\$1,040.00
<b>Remote Mount Options</b>		
<b>Viking Control Head</b>		
Remote Control Head (includes standard palm mic & external speaker)	\$1,056.00	\$1,320.00
Remote Control Head with no mic (includes external speaker)	\$992.00	\$1,240.00

	Dual Control Head (includes two remote control heads attached to the remote mount radio, two microphones, two mounting brackets, and two external speakers)	\$2,192.00	\$2,740.00
	Dual Control Head with no mics (includes two external speakers)	\$2,064.00	\$2,580.00
	<b>Accessory Cable</b>	<b>Contract Price</b>	<b>List</b>
	Cable, Serial, USB, Standard Interface R597-5357-70201 (included with dash mount)	\$0.00	\$0.00
	Cable, Single remote, Serial, USB, Standard Interface R597-5357-70701 (included with remote mount)	\$0.00	\$0.00
	Cable, Single remote, Serial, USB, Standard Interface R597-5357-70701 (dash mount)	\$24.00	\$30.00
	Cable, Single Remote, Serial, USB, PVP/UDDI, Standard Interface R597-5357-73801 (remote mount)	\$48.00	\$60.00
	Cable, Dual Remote, Serial, USB, Standard R597-5357-74201 (included with remote dual mount)	\$0.00	\$0.00
	Cable, Dual Remote, Serial, USB, Standard R597-5357-74201 (single remote mount)	\$48.00	\$60.00
	<b>Protocol</b>	<b>Contract Price</b>	<b>List</b>
1	Analog FM	\$0.00	\$0.00
2	Digital/Project 25 CAI AMBE+2 with Free Single-Key DES-OFB (includes protocol option 1)	\$280.00	\$350.00
	<b>System Option</b>	<b>Contract Price</b>	<b>List</b>
1	Conventional System	\$440.00	\$550.00
2	SMARTNET® II Trunking (includes system option 1)	\$480.00	\$600.00
3	SmartZone® Trunking (includes system options 1 & 2)	\$600.00	\$750.00
	<i>The following selections require Protocol Option 2 (Digital/Project 25 CAI AMBE+2).</i>		
4	Project 25 Conventional System	\$440.00	\$550.00
5	Project 25 Phase 1 Trunking Only (includes system option 4)	\$620.00	\$775.00
6	Project 25 Phase 2 TDMA (includes system option 4 & 5)	\$940.00	\$1,175.00
7	Project 25 Phase 1 Trunking and SmartZone® Trunking (includes system options 2 & 4)	\$780.00	\$975.00
8	Project 25 Phase 2 TDMA and SmartZone® Trunking (includes system options 2, 4 & 5)	\$1,100.00	\$1,375.00
	<b>Optional Features</b>	<b>Contract Price</b>	<b>List</b>
	<b>Channels/Talkgroups</b>		
	1024 Channels/Talkgroups (standard)	\$0.00	\$0.00
	<b>Encryption (requires Protocol Option 2 - Digital/Project 25)</b>		
	Single-Key DES-OFB (included with Protocol Option 2)	\$0.00	\$0.00
	Single-Key AES	\$120.00	\$150.00
	DES-OFB (multi-key)	\$440.00	\$550.00
	AES (multi-key)	\$380.00	\$475.00
	ARC4 (ADP compatible)	\$0.00	\$0.00
	<b>Programming &amp; Data</b>		
	MDC1200/GE-Star Signaling	\$40.00	\$50.00

Rebanding	\$88.00	\$110.00
<i>The following selection requires Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i>		
Project 25 Data Conventional	\$112.00	\$140.00
Project 25 OTAR Conventional & Trunking	\$600.00	\$750.00
OTAP (Over-the-Air Programming)	\$160.00	\$200.00
OTIP (Over-the-Intranet Programming)	\$160.00	\$200.00
<i>The following selections require a System Option 5-8 (options with Phase 1 or Phase 2):</i>		
Project 25 Authentication	\$80.00	\$100.00
Project 25 Data Trunking (includes Project 25 Data Conventional)	\$160.00	\$200.00

# KENWOOD



P25 Mission Critical

## VM-600 Single-Band

700/800 MHz

Multi-system P25 Phase 2 radio equipped with industry leading audio, color display and advanced features including Over-the-Intranet (OTIP) programming.

### ROBUST & FLEXIBLE

- Compatible with Motorola® System v.7.x, Motorola Astro® & SMARTNET® II/SmartZone®
- All supported protocols (Phase 1 & 2, Motorola SMARTNET® II/SmartZone®, FM Analog) available simultaneously
- Advanced P25 features such as Authentication & Over-the-Air-Rekeying
- Industry-standard encryption capabilities: AES & DES-OFB
- ARC4™ software encryption; compatible with ADP™
- Conventional vote scan is standard
- Supports MDC-1200 and GE-Star signaling
- Up to 1024 channels
- Over-the-Air programming (OTAP) option enables you to program radios in the field
- Over-the-Intranet programming (OTIP) allows you to program radios through a wireless access point or Ethernet interface
- Enhanced radio security using software & hardware system keys
- Armada® programming software provides simple fleet management of radios with features including profile templates & sorting/filtering by function or agency

### ACCESSORIES

- Complete line of accessories including microphones, speakers & antennas. Download the accessory catalog at [www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

### DATA & CONTROL INTERFACES

- Supports P25 IP packet data
- GPS AVL data (requires external GPS receiver)

### MULTIPLE CONFIGURATION OPTIONS

- Dash mount
- Remote mount
- Dash mount with remote control head
- Dual remote control heads
- Internal or external speaker
- Fixed control stations

### OPTIONAL VIKING® CONTROL HEAD

- Display resolution: 480 x 128 pixels
- Transmissive color display - high contrast for direct sunlight & night time viewing; not affected by polarized sunglasses
- Wide viewing angle - 120°



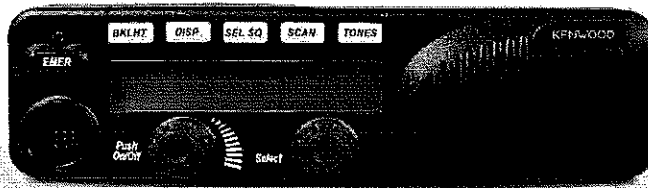
Radio - Base Model	Contract Price	List
242567GXXXXAA28 700/800 MHz, 30/35W, 762-870 MHz Dash Mount	\$1,408.00	\$1,760.00



242567HXXXXAA28	700/800 MHz, 30/35W, 762-870 MHz Remote Mount	\$1,408.00	\$1,760.00
242567GXXXBAA28	700/800 MHz, 30/35W, 762-870 MHz Control Station (includes Power supply & cabinet)	\$1,644.00	\$2,055.00
<b>Control Head Type</b>		<b>Contract Price</b>	<b>List</b>
<b><i>Dash Mount Options</i></b>			
<b><i>Standard LCD Control Head</i></b>			
	Dash-Mount Control Head (includes standard palm mic)	\$64.00	\$80.00
	Dash-Mount Control Head with no mic	\$0.00	\$0.00
	Dash-Mount Control with Remote Control Head (includes one remote control head & normal bracket)	\$600.00	\$750.00
	<b><i>Viking Control Head</i></b>	\$0.00	
	Dash-Mount Control Head (includes standard palm mic & external speaker)	\$688.00	\$860.00
	Dash-Mount Control Head with no mic (includes external speaker)	\$624.00	\$780.00
	Dash-Mount Control with Remote Control Head (includes one remote control head, additional mic & remote control head)	\$1,752.00	\$2,190.00
<b><i>Remote Mount Options</i></b>			
<b><i>Standard LCD Control Head</i></b>			
	Remote Control Head (includes standard palm mic)	\$440.00	\$550.00
	Remote Control Head with no mic	\$376.00	\$470.00
	Dual Control Head (includes two remote control heads attached to the remote mount radio, two microphones, and two mounting brackets)	\$960.00	\$1,200.00
	Dual Control Head with no mics	\$832.00	\$1,040.00
<b><i>Remote Mount Options</i></b>			
<b><i>Viking Control Head</i></b>			
	Remote Control Head (includes standard palm mic & external speaker)	\$1,056.00	\$1,320.00
	Remote Control Head with no mic (includes external speaker)	\$992.00	\$1,240.00
	Dual Control Head (includes two remote control heads attached to the remote mount radio, two microphones, two mounting brackets, and two external speakers)	\$2,192.00	\$2,740.00
	Dual Control Head with no mics (includes two external speakers)	\$2,064.00	\$2,580.00
<b>Accessory Cable</b>		<b>Contract Price</b>	<b>List</b>
	Cable, Serial, USB, Standard Interface R597-5357-70201 (included with dash mount)	\$0.00	\$0.00
	Cable, Single remote, Serial, USB, Standard Interface R597-5357-70701 (included with remote mount)	\$0.00	\$0.00
	Cable, Single remote, Serial, USB, Standard Interface R597-5357-70701 (dash mount)	\$24.00	\$30.00
	Cable, Single Remote, Serial, USB, PVP/UDDI, Standard Interface R597-5357-73801 (remote mount)	\$48.00	\$60.00

	Cable, Dual Remote, Serial, USB, Standard R597-5357-74201 (included with remote dual mount)	\$0.00	\$0.00
	Cable, Dual Remote, Serial, USB, Standard R597-5357-74201 (single remote mount)	\$48.00	\$60.00
	<b>Protocol</b>	<b>Contract Price</b>	<b>List</b>
1	Analog FM	\$0.00	\$0.00
2	Digital/Project 25 CAI AMBE+2 with Free Single-Key DES-OFB (includes protocol option 1)	\$280.00	\$350.00
	<b>System Option</b>	<b>Contract Price</b>	<b>List</b>
1	Conventional System	\$440.00	\$550.00
2	SMARTNET® II Trunking (includes system option 1)	\$480.00	\$600.00
3	SmartZone® Trunking (includes system options 1 & 2)	\$600.00	\$750.00
	<i>The following selections require Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i>	\$0.00	
4	Project 25 Conventional System	\$440.00	\$550.00
5	Project 25 Phase 1 Trunking Only (includes system option 4)	\$620.00	\$775.00
6	Project 25 Phase 2 TDMA (includes system option 4 & 5)	\$940.00	\$1,175.00
7	Project 25 Phase 1 Trunking and SmartZone® Trunking (includes system options 2 & 4)	\$780.00	\$975.00
8	Project 25 Phase 2 TDMA and SmartZone® Trunking (includes system options 2, 4 & 5)	\$1,100.00	\$1,375.00
	<b>Optional Features</b>	<b>Contract Price</b>	<b>List</b>
	<b>Channels/Talkgroups</b>		
	1024 Channels/Talkgroups (standard)	\$0.00	\$0.00
	<b>Encryption (requires Protocol Option 2 - Digital/Project 25</b>		
	Single-Key DES-OFB (included with Protocol Option 2)	\$0.00	\$0.00
	Single-Key AES	\$120.00	\$150.00
	DES-OFB (multi-key)	\$440.00	\$550.00
	AES (multi-key)	\$380.00	\$475.00
	ARC4 (ADP compatible)	\$0.00	\$0.00
	<b>Programming &amp; Data</b>		
	MDC1200/GE-Star Signaling	\$40.00	\$50.00
	Rebanding	\$88.00	\$110.00
	<i>The following selection requires Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i>		
	Project 25 Data Conventional	\$112.00	\$140.00
	Project 25 OTAR Conventional & Trunking	\$600.00	\$750.00
	OTAP (Over-the-Air Programming)	\$160.00	\$200.00
	OTIP (Over-the-Intranet Programming)	\$160.00	\$200.00
	<i>The following selections require a System Option 5-8 (options with Phase 1 or Phase 2):</i>		
	Project 25 Authentication	\$80.00	\$100.00
	Project 25 Data Trunking (includes Project 25 Data Conventional)	\$160.00	\$200.00

# KENWOOD



P25 Mission Critical

## VM-400 Single-Band

700/800 MHz

High performance public safety radio without the extra features required by larger departments. Equipped with industry leading audio, display and advanced feature capabilities such as Over-the-Intranet programming (OTIP).

### ROBUST & FLEXIBLE

- Advanced P25 features such as Authentication
- Industry standard encryption capabilities: AES & DES-OFB
- ARC4™ software encryption; compatible with ADP™
- Conventional vote scan is standard
- Up to 1024 channels
- Over-the-Air programming (OTAP) option enables you to program radios in the field
- Over-the-Intranet programming (OTIP) allows you to program radios through a wireless access point or Ethernet interface
- Enhanced radio security using software & hardware system keys
- Armada® programming software provides simple fleet management of radios with features including profile templates & sorting/filtering by function or agency

### ACCESSORIES

- Complete line of accessories including microphones, speakers & antennas. Download the accessory catalog at [www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

### SINGLE-PROTOCOL/DIGITAL-MODE CAPABILITY

Choose operation in either:

- Motorola SMARTNET® II/SmartZone™ protocol
- OR
- P25 Phase 1 trunked/conventional & P25 Phase 2 trunked
- Compatible with Motorola® System v 7.x, Motorola Astro® & SMARTNET® II/SmartZone®
- FM analog included, supports MDC-1200 & GE-Star signaling

### MULTIPLE CONFIGURATION OPTIONS

- Dash mount
- Remote mount
- Dash mount with remote control head
- Dual remote control heads
- Internal or external speaker
- Fixed control stations
- Conventional & trunking protocols



2425W7GXXXXXA28	700/800 MHz, 30/35W, 762-870 MHz Dash Mount	\$1,060.00	\$1,325.00
2425W7HXXXXXA28	700/800 MHz, 30/35W, 762-870 MHz Remote Mount	\$1,060.00	\$1,325.00
2425W7GXXXBXA28	700/800 MHz, 30/35W, 762-870 MHz Control Station (includes Power supply & cabinet)	\$1,296.00	\$1,620.00

	Control Head Type	Contract Price	List
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#### **Dash Mount Options**

##### **Standard LCD Control Head**

	Dash-Mount Control Head (includes standard palm mic)	\$48.00	\$60.00
	Dash-Mount Control Head with no mic	\$0.00	\$0.00
	Dash-Mount Control with Remote Control Head (includes one remote control head & normal bracket)	\$460.00	\$575.00

#### **Remote Mount Options**

##### **Standard LCD Control Head**

	Remote Control Head (includes standard palm mic)	\$340.00	\$425.00
	Remote Control Head with no mic	\$280.00	\$350.00
	Dual Control Head (includes two remote control heads attached to the remote mount radio, two microphones, and two mounting brackets)	\$720.00	\$900.00
	Dual Control Head with no mics	\$624.00	\$780.00

	Accessory Cable	Contract Price	List
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	Cable, Serial, USB, Standard Interface R597-5357-70201 (included with dash mount)	\$0.00	\$0.00
	Cable, Single remote, Serial, USB, Standard Interface R597-5357-70701 (included with remote mount)	\$0.00	\$0.00
	Cable, Single remote, Serial, USB, Standard Interface R597-5357-70701 (dash mount)	\$24.00	\$30.00
	Cable, Single Remote, Serial, USB, PVP/UDDI, Standard Interface R597-5357-73801 (remote mount)	\$48.00	\$60.00
	Cable, Dual Remote, Serial, USB, Standard R597-5357-74201 (included with remote dual mount)	\$0.00	\$0.00
	Cable, Dual Remote, Serial, USB, Standard R597-5357-74201 (single remote mount)	\$48.00	\$60.00

	Protocol	Contract Price	List
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1	Analog FM	\$0.00	\$0.00
2	Digital/Project 25 CAI AMBE+2 with Free Single-Key DES-OFB (includes protocol option 1)	\$200.00	\$250.00

	System Options	Contract Price	List
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#### **The following selections require Protocol Option 1 (Analog FM):**

1	Conventional System/SMARTNET® II Trunking	\$360.00	\$450.00
2	Conventional System/SMARTNET® II Trunking/SmartZone® Trunking	\$440.00	\$550.00

#### **The following selections require Protocol Option 2 (Digital/Project 25 CAI AMBE+2):**

3	Project 25 Conventional System	\$340.00	\$425.00
4	Project 25 Phase 1 Trunking Only (includes system option 3)	\$460.00	\$575.00

5	Project 25 Phase 2 TDMA (includes system option 3 & 4)	\$780.00	\$975.00
<b>Optional Features</b>		<b>Contract Price</b>	<b>List</b>
<b>Channels/Talkgroups</b>			
1024 Channels/Talkgroups (standard)		\$0.00	\$0.00
<b>Encryption (requires Protocol Option 2 - Digital/Project 25</b>			
Single-Key DES-OFB (included with Protocol Option 2)		\$0.00	\$0.00
Single-Key AES		\$96.00	\$120.00
DES-OFB (multi-key)		\$336.00	\$420.00
AES (multi-key)		\$288.00	\$360.00
ARC4 (ADP compatible)		\$0.00	\$0.00
<b>Programming &amp; Data</b>			
MDC1200/GE-Star Signaling		\$40.00	\$50.00
<i>The following selection requires System Option 4 or 5):</i>		\$0.00	
Project 25 Authentication		\$60.00	\$75.00
<i>The following selection requires Protocol Option 2 (Digital/Project 25 CAI AMBE+2):</i>			
OTAP (Over-the-Air Programming)		\$160.00	\$200.00
OTIP (Over-the-Intranet Programming)		\$160.00	\$200.00

# KENWOOD



P25 Mission Critical

## TK-5730/5830/5930

700/800 MHz • VHF • UHF • P25 PHASE 1 & 2 • FM ANALOG • LTR

Round-the-clock public safety operations can be extremely demanding for both personnel and equipment. The reliable TK-5x30 mobile radios offer clear mission critical communications for police, fire and EMS.

### MAIN FEATURES

- Digital operation in P25 Phase 1 & 2
- P25 Phase 1 Conventional/Trunked Operation (standard)
- Mixed Digital, FM Analog & LTR Operation allows intelligent migration in mixed sites & with digital radios in other sites
- Large, color 2.55" (154 x 422 pixels) TFT Display
- Easy to follow GUI & Multi-line Text to convey more information
- Dual Remote Control Head Option & Multi RF Deck Options
- Built-In GPS Receiver for effective fleet management
- Bluetooth® Module built-in for hands-free operation
- Active Noise Cancelling utilizes built-in DSP with 2 microphones for suppression of ambient noise (dual-mic)
- Built-in 56-bit DES encryption
- Optional 256-bit AES encryption
- microSD/microSDHC Memory Card Slot for increased memory capacity for voice and data
- IP54/55 and MIL-STD-810 C/D/E/F/G
- Maximum of 4,000 CH/Radio capacity, 512 CH/Zone, 128 Zones
- DB-25 Accessory Connector
- 4 W Speaker Audio

### FM MODES - GENERAL

- Conventional & LTR Zones
- MDC-1200: PTT ID ANI / Caller ID Display, Emergency, Radio Check / Inhibit
- QF / DQT & Two-Tone
- Built-in Voice Inversion Scrambler

### ACCESSORIES

- Complete line of accessories including mics & speakers.  
Download catalog at [www.efjohnson.com/products/accessories](http://www.efjohnson.com/products/accessories).

### DIGITAL - P25 MODE

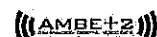
- P25 Phase 1 Conventional/Trunked Operation
- P25 Phase 2 Trunked Operation
- AMBE+2™ Enhanced Vocoder
- Talk Group ID Lists
- Individual ID Lists
- Caller ID Display
- Remote Monitor/Remote Check
- Radio Inhibit
- Encryption Key Zeroize & Retention
- P25 GPS Location
- P25 Over-the-Air Re-keying
- Over-the-Air Programming\*

### MULTIPLE CONFIGURATIONS (OPTION)

The TK-5x30 series allows users to create a variety of configurations to suit different requirements by combining different options.

- **Single Remote Control Head/Single RF Deck:**  
Mobile is controlled by a remote control head.
- **Single Remote Control Head/Multi RF Decks:**  
Operate multiple (up to 3) radio decks from single control head.
- **Dual Remote Control Heads/Single RF Deck:**  
One controller can be mounted on the dashboard with the other control head remotely mounted (such as the back of an ambulance or fire apparatus).
- **Dual Remote Control Heads/Multi RF Decks:**  
This adds the convenience of a dual control head to the above configuration so 2 operators can control up to 3 radios from separate control heads.

\* Requires OTAP management software.



TK-5730BF	VHF (136-174MHz), 50 Watts Analog, P25 Conventional, P25 Phase I Trunking <b>RF Deck Only (No KCH-19 Control Head, KMC-35 Microphone, KMB-33 Bracket, KCT-23 DC Cable)</b>	\$1,076.00	\$1,345.00
TK-5830BF	UHF (450-520MHz), 45 Watts Analog, P25 Conventional, P25 Phase I Trunking <b>RF Deck Only (No KCH-19 Control Head, KMC-35 Microphone, KMB-33 Bracket, KCT-23 DC Cable)</b>	\$1,076.00	\$1,345.00
TK-5830BF2	UHF (380-470MHz), 45 Watts Analog, P25 Conventional, P25 Phase I Trunking <b>RF Deck Only (No KCH-19 Control Head, KMC-35 Microphone, KMB-33 Bracket, KCT-23 DC Cable)</b>	\$1,076.00	\$1,345.00
TK-5930BF	7/800, 45 Watts, Analog, P25 Conventional, P25 Phase I Trunking <b>RF Deck Only (No KCH-19 Control Head, KMC-35 Microphone, KMB-33 Bracket, KCT-23 DC Cable)</b>	\$1,156.00	\$1,445.00

Licensing System		Dealer	List
<b>KPT-300LMC is a required software package that is used to authenticate software (FPU) and radio feature license keys for the TK-5x30 Series radios.</b>			
KPT-300LMC	License Management Client	\$0.00	\$0.00
L-5000	KPT-300LMC License Key	\$0.00	\$0.00

Software Licensing Options		Dealer	List
<b>Note: A unique license key is required for each PC with software installed. A single license key will not authorize multiple PCs.</b>			

KPG-D1NK	License Key for KPG-D1NK Programming Software for TK-5x30 Portable/Mobile (Windows® Vista/7/8/8.1)	\$124.00	\$155.00
<b>Note: Requires KPT-300LMC for authentication</b>			

<b>P25 Trunked Programming Capability (licensed by either 1 or 2 below):</b>			
<b>1. USB Key Type: Advanced System Key (ASK)- See KWD-ASK-MK and AK</b>			
<b>2. Software Key Type: System Key File (SKF)- See L-5005</b>			

KPG-180AP	OTAP Manager Software • License includes 50 radios • To add more radios / serial ports, you must contact EF Johnson Technologies (1-800-328-3911 Option 1) <b>Note: Requires KPT-300LMC for authentication</b>	\$707.20	\$884.00
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KAS-12K	License Key for KAS-12 Battery Reader Software for KNB-L1/2/3/ & KSC-Y32 (Windows® Vista/7/8/8.1) <b>Note: Requires KPT-300LMC for authentication</b>	\$68.00	\$85.00
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<b>Software License Key Discount Structure:</b>			
License Keys	1 License Key	-	
	2-4 License Keys	10% Off	
	5-14 License Keys	35% Off	
	15-24 License Keys	40% Off	
	25+ License Keys	45% Off	

Radio Feature License Options	Dealer	List
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PCs registered under the same KPT-300LMC Account Registration Key (License Key) will be able to authentic Radio Features that can then be viewed / shared / managed by all registered users for the account.

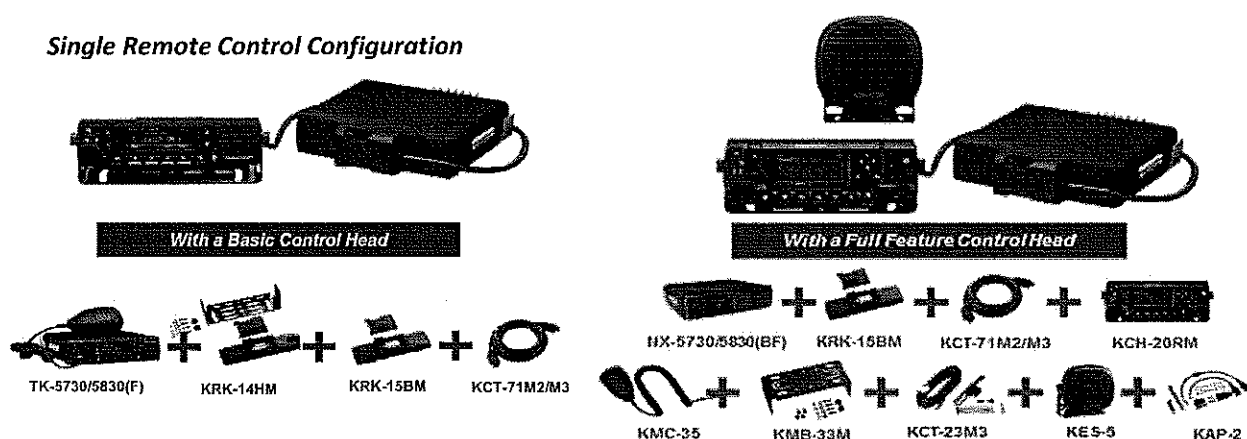
*Note: Radio Feature License Keys can be transferable from a radio to radio within 72 hours count started from being authenticated to a Radio. Once license transfered radio is authenticated by KPT-300LMC, 72 hours is reset and count started from first.*

L-5000	Account Registration Key	\$0.00	\$0.00
<b>General Radio Features</b>			
KWD-5000CH	License Key for 4000 Channel Expansion	\$336.00	\$420.00
KWD-5001FP	License Key for Front Panel Programming	\$240.00	\$300.00
KWD-5002SD	License Key for microSD Memory Card Slot Activation	\$84.00	\$105.00
<b>P25 Radio Features</b>			
KWD-5100CV	License Key for P25 Conventional	\$0.00	\$0.00
KWD-5101TR	License Key for P25 Phase 1 Trunking (requires KWD-5100CV)	\$0.00	\$0.00
KWD-5102TR	License Key for P25 Phase 2 Trunking (requires KWD-5100CV & KWD-5101TR)	\$320.00	\$400.00
KWD-5103RK	License Key for P25 OTAR (requires KWD-5106DT for a Trunking Operation)	\$560.00	\$700.00
KWD-5105VT	License Key for P25 Conventional Voting Scan	\$96.00	\$120.00
KWD-5106DT	License Key for P25 Packet Data (required for Trunked OTAR/GPS/Text)	\$144.00	\$180.00
<b>Dash or Remote Configuration (Firmware Release 1.5 or Later required)</b>		<b>Dealer</b>	<b>List</b>
TK-5730BF	TK-5730F (50W, 136-174 MHz) RF Deck Only (No KCH-19 Control Head, KMC-35 Microphone, KMB-33 Bracket, KCT-23 DC Cable)	\$1,076.00	\$1,345.00
TK-5830BF	TK-5380F (45W, 450-520 MHz) RF Deck Only (No KCH-19 Control Head, KMC-35 Microphone, KMB-33 Bracket, KCT-23 DC Cable)	\$1,076.00	\$1,345.00
TK-5830BF2	TK-5380F2 (45W, 380-470 MHz) RF Deck Only (No KCH-19 Control Head, KMC-35 Microphone, KMB-33 Bracket, KCT-23 DC Cable)	\$1,076.00	\$1,345.00
TK-5930BF	7/800, 45 Watts, Analog, P25 Conventional, P25 Phase I Trunking - <b>RF Deck Only (No KCH-19 Control Head, KMC-35 Microphone, KMB-33 Bracket, KCT-23 DC Cable)</b>	\$1,156.00	\$1,445.00
KCH-19M	Basic Control Panel	\$144.00	\$180.00
KCH-20RM	Full Featured Remote Control Panel	\$480.00	\$600.00
RRK-14HM	Control Head Interface Kit for KCH-19M	\$127.20	\$159.00
RRK-15BM	Control Head Remote Kit for a RF Deck	\$40.00	\$50.00
KCT-71M2	Remote Control Cable (17 feet)	\$56.00	\$70.00
KCT-71M3	Remote Control Cable (25 feet)	\$64.00	\$80.00
KMC-35	MIL-SPEC Standard electret mobile microphone (8-pin mod. plug)	\$42.00	\$52.50



KMC-36	MIL-SPEC Standard electret mobile microphone with 12 keypad (8-pin mod. plug)	\$75.60	\$94.50
KMB-33M	Standard Mounting Bracket (same as supplied)	\$11.20	\$14.00
KES-3S	External speaker (compact low profile; black case; 3.5 mm phono plug-in)	\$35.40	\$44.25
KES-5	External speaker, 40W max input	\$49.00	\$61.25
KAP-2	Horn Alert/P.A. Relay Option	\$50.40	\$63.00
KCT-72M	Accessory Connection Cable for KCH-20RM	\$29.36	\$36.70
KCT-23M3	DC Cable (35-50W Remote mount; pos.23 ft.; neg. 3.3. ft. leads)	\$27.80	\$34.75

### Single Remote Control Configuration



Mobile Installation Accessories		Dealer	List
KAP-2	Horn Alert/P.A. Relay Option	\$50.40	\$63.00
KCT-23M	DC Cable (35-50W Dash mount; pos/neg. 10 ft. leads)	\$25.20	\$31.50
KCT-23M3	DC Cable (35-50W Remote mount; pos.23 ft.; neg. 3.3. ft. leads)	\$27.80	\$34.75
KCT-46	Ignition sense cable (plugs directly into mobile chassis ignition sense line)	\$10.96	\$13.70
KLF-2	Line Filter (suppresses alternator whine, 25dB, 25A max).	\$33.60	\$42.00
KMB-10	Key lock adapter	\$21.04	\$26.30
KMB-33M	Standard Mounting Bracket (same as supplied)	\$11.20	\$14.00
KPS-15	DC Switching Power Supply (117/230 VAC; 23A max. continuous, 25A peak)	\$138.40	\$173.00
KRA-40GM	GPS Antenna	\$33.60	\$42.00
Microphones & Speakers		Dealer	List
KMC-35	MIL-SPEC Standard electret mobile microphone (8-pin mod. plug) - same as supplied	\$42.00	\$52.50
KMC-36	MIL-SPEC Standard electret mobile microphone with 12 keypad (8-pin mod. plug)	\$75.60	\$94.50
KMC-9C	Control Station Desktop Microphone (8-pin mod. plug)	\$68.80	\$86.00
KES-3	External speaker (compact low profile; black case; 3.5 mm phono plug-in)	\$35.40	\$44.25

KES-5	External speaker, 40W max input	\$49.00	\$61.25
KCT-73MIC	External Microphone kit w/ 9.8 ft. cord for Safer Driving	\$21.60	\$27.00
KCT-74PTT	External PTT Switch kit w/ 9.8 ft cord for Safer Driving	\$18.40	\$23.00

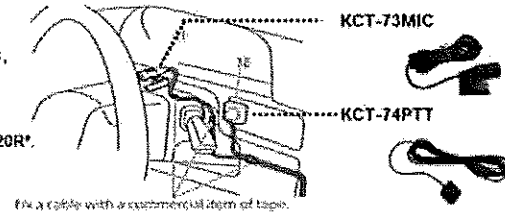
### Hands-free operation

To promote driver safety and meet hands-free regulations in certain regions, TK-5x30 series mobile offers external microphone and PTT as options.

**NOTE:** Connecting to the radio via DB25 terminal on backside of RF Deck or via optional KCT-72 "Connection Cable" on backside of KCH-19M and KCH-20R\*.

KCT-73MIC is not compatible with other NX/TK-mobile radios.

\*Available in 2015 3Q



Encryption Modules		Dealer	List
KWD-AE30K	AES FIPS140-2 & DES Encryption Module (Multi-Key) Order a Labor Code <b>L-5003</b> if installation is required. KWD-AE30K requires: a Motorola KVL3000 Plus/4000 key loader device. KWD-AE30K is an U.S. DOC/BIS Export Controlled Item (ECCN 5A002A.1)	\$680.00	\$850.00
	AES & DES Encryption Module (Multi-Key) Order a Labor Code <b>L-5004</b> if installation is required.	\$440.00	\$550.00
	AES/DES Encryption Software Key Loader for KWD-AE31K <b>Authentication by KPT-300LMC is required</b>	\$420.00	\$525.00
KPG-DE1K	DES Encryption Software Key Loader for KWD-AE31K <b>Authentication by KPT-300LMC is required</b>	\$294.40	\$368.00
Service Related Accessories		Dealer	List
KPG-46XM	Full Speed USB Programming interface cable	\$95.00	\$158.50
KPG-115	Key Loader Interface Cable for Motorola KVL-3000/3000 Plus	\$157.50	\$262.50
KPG-115AUT	KVL-4000 Radio Authentication Cable	<b>TBD</b>	<b>TBD</b>
KWD-ASK-AK	Access Key for KPG-D1NK P25 trunked programming <b>Notes:</b> Enables P25 Trunked system programming privileges in a KPG-D1NK. • For TK-5x30 series only • Must be activated by trunked system operator (SYSOP) with KWD-ASK-MK Master Key • Must have KPG-D1NK • Configurable expiration period of KWD-ASK-AK set by KWD-ASK-MK is available for 3 years for built in battery. USB Key must be replaced since the expiration set up dose not work after 3 years.	\$125.00	\$208.00

Master Key for activating KWD-ASK-AK Access Keys <b>- Restricted Purchase Requirements -</b> <b>Notes:</b> <ul style="list-style-type: none"> <li>• For TK-5x30 series only.</li> <li>• Sold to trunked system operator (SYSOP) or SYSOP authorized entities only</li> <li>• Must have KPG-D1NK</li> <li>• SYSOP must provide 3-digit HEX HSID to Kenwood with P25 Trunking System Keys Request Form placed on Kenwood Tools.</li> <li>• Purchase KWD-ASK-AK Access Keys if needed.</li> </ul>			
KWD-ASK-MK		\$300.00	\$500.00
Installation/Tuning Charges		Dealer	List
L-5006	TK-5730/5830 Programming (with basic TX/RX check)	\$30.00	\$37.50
L-5007	Install KWD-AE30K in TK-5x30 series Mobile (Must purchase module separately)	\$60.00	\$75.00
L-5008	Install KWD-AE31K in TK-5x30 series Mobile (Must purchase module separately)	\$60.00	\$75.00
KPG-D1NK System Key File (SKF) <b>Note:</b> Enables P25 Trunked system programming privileges in a KPG-D1NK. <b>- Restricted Purchase Requirements -</b> <ul style="list-style-type: none"> <li>• Trunked system operator (SYSOP) must provide 3-digit HEX HSID to EF Johnson with P25 Trunking System Keys Request Form placed on Kenwood Tools.</li> <li>• Must have KPG-D1NK.</li> <li>• EF Johnson ships an encrypted *.SKF file via E-Mail to the address provided on the P25 Trunking System Keys Request Form placed on Kenwood Tools.</li> <li>• Non-SYSOP entities ordering L-5005 must provide verifiable written authorization from SYSOP to receive an *.SKF file.</li> <li>• 3-digit HEX HSID are securely encrypted &amp; embedded in the *.SKF file.</li> </ul>			
L-5005		\$105.60	\$132.00
L-5015	Install KAP-2 (Default) HR1/Internal Sp./PA	\$20.00	\$25.00
L-5016	Assemble TK-5x30 Mobile for Single Remote Head Control	\$33.60	\$42.00
L-5020	KCT-71 Extended Control Head Cable (up to 50 ft. max.) <b>Note:</b> Please specify exact length at 1ft. increments when ordering. <b>Caution:</b> Extended control head cables exhibit a loss in speaker audio power to the control heads.	\$152.00	\$190.00
L-5021	KCT-71 Extended Control Head Cable (up to 100 ft. max.) <b>Note:</b> Please specify exact length at 1ft. increments when ordering. <b>Caution:</b> Extended control head cables exhibit a loss in speaker audio power to the control heads.	\$196.00	\$245.00

**-- IMPORTANT NOTES --**

**Encryption modules, key loaders and radios containing encryption are export controlled** by the U.S. Department of Commerce Bureau of Industry & Security EAR regulations and may either require an Export License, are eligible for a License Exception (ENC) or are exportable with No License Required (NLR) depending on the country, the consignee and the intended use. High level encryption is a special commodity that may require an export license to most countries. See [www.bis.gov](http://www.bis.gov) for more information regarding export regulations. **DO NOT SHIP** encryption items outside the U.S. without proper DOC/BIS Export Licenses and/or compliances.

**The following information may be requested to be submitted at time of order (this information must meet internal approvals prior to shipment even if being returned later:**

**a) Initial Destination:** Initial delivery point if different from Ultimate Destination  
(customer distribution center, headquarters, dealership, manufacturer's representative)

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

**b) Ultimate Destination :** Final delivery point(s); deployment/distribution

\* Business/Agency Name:

\* Address:

\* Contact Person Name:

\* Contact Phone:

**c) Intended Use of Radios:** Law enforcement, security operations, etc.

**KWD-AE20 AES FIPS140-2 SCM , NIST Validation & Customer Shipping**

A secure delivery method direct to the end user customer is required by the NIST AES FIPS 140-2 validation rules. For U.S. Federal Government entities the SCM must ship from Kenwood USA Corporation directly to the end user customer by a trusted carrier (FEDEX, UPS or a designated Kenwood USA Corporation employee); shipping/handling by a dealer or other entity is not acceptable. This may or may not be required by local/state government agencies or business/industrial users. Please check with the end use customer about their AES encryption handling requirements before ordering. Kenwood will not be responsible for shipments of KWD-AE20K modules to erroneous destinations specified on an order.



# ATLAS 1200

		Contract Price	List Price
	<b>ATLAS 1200 P25 STATION 100W VHF 148-174MHz</b>		
336-1212-101	Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode VHF station.	\$10,800.00	\$13,500.00
	<b>ATLAS 1200 P25 STATION 100W UHF 450-485MHz</b>		
336-1224-101	Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode UHF station.	\$10,800.00	\$13,500.00
	<b>ATLAS 1200 P25 STATION 100W 800 MHZ</b>		
336-1241-101	Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode 800 MHz station.	\$12,200.00	\$15,250.00
	<b>ATLAS 1200 P25 STATION 100W UHF (450-485MHz) 1PPM STAB</b>		
336-1224-102	Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode UHF station with high stability.	\$13,180.00	\$16,475.00
	<b>ATLAS 1200 P25 BASE STATION DFSI LICENSE KEY</b>		
336-1200-082	Includes one license key for P25 DFSI (Digital Fixed Station Interface).	\$1,320.00	\$1,650.00
	<b>ATLAS 1200 TOOLS PROGRAMMING KIT</b>		
336-1200-000	Includes programming software and cable.	\$236.00	\$295.00
	<b>ATLAS 1200 POWER SUPPLY KIT ATLAS 1-STATION VHF/UHF 120/240VAC</b>		
336-1200-091	Includes single power supply, rack mount kit and power cable.	\$720.00	\$900.00
	<b>ATLAS 1200 POWER SUPPLY KIT ATLAS 1-STATION 700/800 120/240VAC</b>		
336-1200-092	Includes single power supply, rack mount kit and power cable.	\$1,240.00	\$1,550.00

**STATE OF MICHIGAN**  
**DEPARTMENT OF TECHNOLOGY, MANAGEMENT & BUDGET**  
**PROCUREMENT**

625 W. ALLEGAN STREET  
 LANSING, MI 48203

P.O. BOX 30925  
 LANSING, MI 48209

CHANGE NOTICE NO. 006  
 to  
 CONTRACT NO. 071B0200124  
 between  
 THE STATE OF MICHIGAN  
 and

NAME & ADDRESS OF CONTRACTOR	PRIMARY CONTACT	EMAIL
E F Johnson Company 1440 Corporate Dr. Irving TX, 75038	Ryan Wray	rwwray@efji.com
	PHONE	CONTRACTOR'S TAX ID NO. (LAST FOUR DIGITS ONLY)
	972-819-2394	*****6849

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
PROGRAM MANAGER / CCI	DTMB	Gerald Leach	(517) 490-4148	leachg@michigan.gov
CONTRACT ADMINISTRATOR	DTMB	Mike Breen	(517) 284-7002	breenm@michigan.gov

CONTRACT SUMMARY			
DESCRIPTION: 2-Way Radios			
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
April 12, 2010	January 19, 2013	5 - 1 Year	February 5, 2016
PAYMENT TERMS		DELIVERY TIMEFRAME	
ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING
<input checked="" type="checkbox"/> P-card <input checked="" type="checkbox"/> Direct Voucher (DV) <input type="checkbox"/> Other			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS			
NA			

DESCRIPTION OF CHANGE NOTICE				
EXERCISE OPTION?	LENGTH OF OPTION	EXERCISE EXTENSION?	LENGTH OF EXTENSION	REVISED EXP. DATE
<input checked="" type="checkbox"/>	1 year	<input type="checkbox"/>		February 5, 2017
CURRENT VALUE		VALUE OF CHANGE NOTICE		ESTIMATED AGGREGATE CONTRACT VALUE
\$1,000,000.00		\$ 0.00		\$1,000,000.00
DESCRIPTION: Amend contract to exercise one year option to 2-5-2017. All other terms and conditions remain the same.				

# ATLAS 1200 Price List

		Contract Price	List Price
336-1212-101	<b>ATLAS 1200 P25 STATION 100W VHF 148-174MHz</b> Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode VHF station.	\$ 10,800.00	\$ 13,500.00
336-1224-101	<b>ATLAS 1200 P25 STATION 100W UHF 450-485MHz</b> Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode UHF station.	\$ 12,200.00	\$ 15,250.00
336-1212-102	<b>ATLAS 1200 P25 STATION 100W 800 MHZ</b> Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode 800 MHz station.	\$ 13,180.00	\$ 16,475.00
336-1224-102	<b>ATLAS 1200 P25 STATION 100W UHF (450-485MHz) 1PPM STAB</b> Includes one standalone 100W, 12.5/25Khz, Analog/P25 multimode UHF station with high stability.	\$ 13,180.00	\$ 16,475.00
336-1200-082	<b>ATLAS 1200 P25 BASE STATION DFSI LICENSE KEY</b> Includes one license key for P25 DFSI (Digital Fixed Station Interface).	\$ 1,320.00	\$ 1,650.00
336-1200-000	<b>ATLAS 1200 TOOLS PROGRAMMING KIT</b> Includes programming software and cable.	\$ 236.00	\$ 295.00
336-1200-091	<b>ATLAS 1200 POWER SUPPLY KIT ATLAS 1-STATION VHF/UHF 120/240VAC</b> Includes single power supply, rack mount kit and power cable.	\$ 720.00	\$ 900.00
336-1200-092	<b>ATLAS 1200 POWER SUPPLY KIT ATLAS 1-STATION 700/800 120/240VAC</b> Includes single power supply, rack mount kit and power cable.	\$ 1,240.00	\$ 1,550.00
TBD	<b>ATLAS 1200 PRE-TUNING</b> Includes single band tuning by EFJ.	\$ 280.00	\$ 350.00



Making Safe, Simple™

**EFJohnson**  
TECHNOLOGIES  
JVC KENWOOD Group

1440 Corporate Drive  
Irving, TX 75038

January 15, 2016

State of Michigan  
Department of Technology, Management & Budget  
Purchasing Operations  
P.O. Box 30026  
Lansing, MI 48909

Attn: Mr. Gerald Leach

RE: Option to Extend Contract No. 071B0200124

Dear Mr. Leach:

Please be advised that E.F. Johnson Company hereby provides notice of its desire to extend Contract No. 071B0200124 for an additional calendar year.

Please do not hesitate to contact me with any additional comments or questions.

Very truly yours,

  
Ryan Wray  
Contracts Manager





STATE OF MICHIGAN  
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET  
PROCUREMENT  
P.O. BOX 30026, LANSING, MI 48909  
OR  
525 W. ALLEGAN, LANSING, MI 48933

**CHANGE NOTICE NO. 5**  
to  
**CONTRACT NO. 071B0200124**  
between  
**THE STATE OF MICHIGAN**  
and

NAME & ADDRESS OF CONTRACTOR	PRIMARY CONTACT	EMAIL
E.F. Johnson Company 1440 Corporate Dr. Irving, TX 75038	Ryan Wray	rwwray@efji.com
	PHONE	VENDOR TAX ID # (LAST FOUR DIGITS ONLY)
	(972) 819-2394	4003

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
PROGRAM MANAGER	DTMB	Toney Casey	(517) 333-6618	caseyt1@michigan.gov
CONTRACT ADMINISTRATOR	DTMB	Mike Breen	(517) 284-7002	Breenm@michigan.gov

CONTRACT SUMMARY			
DESCRIPTION: Two Way Radios - Statewide			
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
April 12, 2010	January 19, 2013	Five (1) One Year	January 19, 2015
PAYMENT TERMS	F.O.B.	SHIPPED TO	
N/A	N/A	N/A	
ALTERNATE PAYMENT OPTIONS			EXTENDED PURCHASING
<input type="checkbox"/> P-card <input type="checkbox"/> Direct Voucher (DV) <input type="checkbox"/> Other			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS			
N/A			

DESCRIPTION OF CHANGE NOTICE				
EXTEND CONTRACT EXPIRATION DATE	EXERCISE CONTRACT OPTION YEAR(S)	EXTENSION BEYOND CONTRACT OPTION YEARS	LENGTH OF EXTENSION/OPTION	EXPIRATION DATE AFTER CHANGE
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<input type="checkbox"/>	<input checked="" type="checkbox"/>	One year	January 19, 2016
CURRENT VALUE		VALUE/COST OF CHANGE NOTICE	ESTIMATED REVISED AGGREGATE CONTRACT VALUE	
\$1,000,000.00		\$0.00	\$1,000,000.00	

DESCRIPTION:  
Effective April 17, 2015, this contract is hereby extended for twelve months. The revised contract expiration date is January 19, 2016. By mutual agreement this contract is amended to add Mideal and a 1% administrative fee.

All other terms, conditions, specifications and pricing remain the same. Per contractor) and agency agreement, and DTMB Procurement approval.

STATE OF MICHIGAN  
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET  
PROCUREMENT  
P.O. BOX 30026, LANSING, MI 48909  
OR  
530 W. ALLEGAN, LANSING, MI 48933

**CHANGE NOTICE NO. 4**  
to  
**CONTRACT NO. 071B0200124**  
between  
**THE STATE OF MICHIGAN**  
and

NAME & ADDRESS OF CONTRACTOR:	PRIMARY CONTACT	EMAIL
E.F. Johnson Company 1440 Corporate Dr. Irving, TX 75038	Jessica Vo	JVo@efji.com
	TELEPHONE	CONTRACTOR #, MAIL CODE
	(972) 819-2394	

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
CONTRACT COMPLIANCE INSPECTOR	DTMB	Toney Casey	(517) 333-6618	caseyt1@michigan.gov
BUYER	DTMB	Mike Breen	(517) 284-7002	<a href="mailto:Breenm@michigan.gov">Breenm@michigan.gov</a>

CONTRACT SUMMARY:			
DESCRIPTION: <b>Two Way Radios - Statewide</b>			
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
April 12, 2010	January 19, 2013	Five (1) One Year	January 19, 2014
PAYMENT TERMS	F.O.B	SHIPPED	SHIPPED FROM
N/A	N/A	N/A	N/A
ALTERNATE PAYMENT OPTIONS:			AVAILABLE TO MiDEAL PARTICIPANTS
<input type="checkbox"/> P-card	<input type="checkbox"/> Direct Voucher (DV)	<input type="checkbox"/> Other	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS:			
N/A			

DESCRIPTION OF CHANGE NOTICE:				
EXTEND CONTRACT EXPIRATION DATE	EXERCISE CONTRACT OPTION YEAR(S)	EXTENSION BEYOND CONTRACT OPTION YEARS	LENGTH OF OPTION/EXTENSION	EXPIRATION DATE AFTER CHANGE
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<input type="checkbox"/>	<input type="checkbox"/>	1 year	January 19, 2015
VALUE/COST OF CHANGE NOTICE:		ESTIMATED REVISED AGGREGATE CONTRACT VALUE:		
\$500,000.00		\$1,000,000.00		
Effective February 25, 2014, this contract hereby exercises a contract option year and is extended to January 19, 2015. Contract is also increased by \$500,000.00. Please note that the buyer has been changed to Mike Breen. All other terms, conditions and pricing remain unchanged. Per vendor and agency agreement, DTMB Procurement approval and the approval of the State Administrative Board on February 25, 2014.				

STATE OF MICHIGAN  
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET  
PROCUREMENT  
P.O. BOX 30026, LANSING, MI 48909  
OR  
530 W. ALLEGAN, LANSING, MI 48933

**CHANGE NOTICE NO. 3**  
to  
**CONTRACT NO. 071B0200124**  
between  
**THE STATE OF MICHIGAN**  
and

NAME & ADDRESS OF CONTRACTOR:	PRIMARY CONTACT	EMAIL
E.F. Johnson Company 1440 Corporate Dr. Irving, TX 75038	Jessica Vo	JVo@efji.com
	TELEPHONE	CONTRACTOR #, MAIL CODE
	(972) 819-2394	

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
CONTRACT COMPLIANCE INSPECTOR	DTMB	Toney Casey	(517) 333-6618	caseyt1@michigan.gov
BUYER	DTMB	Steve Motz	(517) 241-3215	motzs@michigan.gov

CONTRACT SUMMARY:			
DESCRIPTION: Two Way Radios - Statewide			
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
April 12, 2010	January 19, 2013	Five (1) One Year	January 19, 2014
PAYMENT TERMS	F.O.B	SHIPPED	SHIPPED FROM
N/A	N/A	N/A	N/A
ALTERNATE PAYMENT OPTIONS:			AVAILABLE TO MiDEAL PARTICIPANTS
<input type="checkbox"/> P-card	<input type="checkbox"/> Direct Voucher (DV)	<input type="checkbox"/> Other	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS:			
N/A			

DESCRIPTION OF CHANGE NOTICE:							
EXTEND CONTRACT EXPIRATION DATE	EXERCISE CONTRACT OPTION YEAR(S)	EXTENSION BEYOND CONTRACT OPTION YEARS	LENGTH OF OPTION/EXTENSION	EXPIRATION DATE AFTER CHANGE			
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	<input type="checkbox"/>	<input type="checkbox"/>		January 19, 2014			
VALUE/COST OF CHANGE NOTICE:		ESTIMATED REVISED AGGREGATE CONTRACT VALUE:					
\$0.00		\$500,000.00					
Effective immediately this Contract is amended to include the following new product listings available for purchase off of the Contract and makes description changes as described in the attached.							
All other terms, conditions and pricing remain unchanged.							

## **UPDATED PRICING and PRODUCT LISTING**

This attachment identifies new products and description changes. This includes the following 2 documents.

This attachments identifies new products to the pricing. This includes the following 2 documents.

### **1) *Michigan Pricelist Updated Copy***

- This copy is color coded:
  - Items highlighted in yellow are description changes
  - Items highlighted in grey indicate new products

### **2) *Michigan Pricelist Final Copy***

- This is a reorganized to follow the current Michigan Pricelist to include the additional items and includes them in the appropriate category.

**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
7	589-3600-058	VP600/VP900 GPS Speaker Mic with Emergency button, 3.5mm jack, hi/lo button	\$ 525.00	\$ 420.00
30	587-5700-374	Li-Ion battery, VP600/VP900 only	\$ 130.00	\$ 104.00
35	563-0600-235	VP600/VP900/ES multi chem single-bay charger. (NiMH, Li-Ion, & Li Polymer)	\$ 125.00	\$ 100.00
36	563-0600-361	VP600/VP900/ES multi chem multi-bay (6) charger. (NiMH, Li-Ion, & Li Polymer)	\$ 650.00	\$ 520.00
44	508-4600-611	VP600/VP900 Leather Case, Belt flap Mil Strap Model II and III	\$ 60.00	\$ 48.00
45	508-4600-612	VP600/VP900 Leather Case, D-Swivel Mil Strap Model II and III	\$ 70.00	\$ 56.00
51	508-4600-652	VP600/VP900 Nylon Case, D-Swivel Mil Strap Model II and III	\$ 65.00	\$ 52.00
52	508-4600-651	VP600/VP900 Nylon Case, Belt flap Mil Strap Model II and III	\$ 55.00	\$ 44.00
Add to Contract				
1	242-5AAA-A53-PZ8	VP900 Multi-Band Portable » Model I » Multi-Band 700/800 MHz + VHF » Immersion Housing » 700/800 MHz and VHF Multi-Band Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon » Black Housing » P25 Protocol » Conventional / P25 Trunking » 2048 Channels/Talkgroups	\$ 3,175.00	\$ 2,540.00
2	242-5AAC-A53-PZ8	VP900 Multi-Band Portable » Model III » Multi-Band 700/800 MHz + VHF » Immersion Housing » 700/800 MHz and VHF Multi-Band Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon » Black Housing » P25 Protocol » Conventional / P25 Trunking » 2048 Channels/Talkgroups	\$ 3,575.00	\$ 2,860.00
3	242-5AAA-A53-QG8	VP900 Multi-Band Portable » Model I » Multi-Band 700/800 MHz + VHF » Immersion Housing » 700/800 MHz and VHF Multi-Band Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon » Black Housing » P25 Protocol » Conventional System » 2048 Channels/Talkgroups	\$ 3,050.00	\$ 2,440.00
4	242-5AAC-A53-QG8	VP900 Multi-Band Portable » Model III » Multi-Band 700/800 MHz + VHF » Immersion Housing » 700/800 MHz and VHF Multi-Band Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon » Black Housing » P25 Protocol » Conventional System » 2048 Channels/Talkgroups	\$ 3,450.00	\$ 2,760.00
5	250-0600-245	Bracket, Wall-Mount for Multi-Bay charger	\$ 75.00	\$ 60.00
6	888-1190-010	Viking Vehicular Charger	\$ 148.00	\$ 118.40
7	589-3600-05218	VP600/VP900 Speaker Microphone with Emergency button, 3.5mm, Jack, 18"	\$ 150.00	\$ 120.00
8	589-3600-05225	VP600/VP900 Speaker Microphone with Emergency button, 3.5mm, Jack, 25"	\$ 150.00	\$ 120.00
9	589-3600-05230	VP600/VP900 Speaker Microphone with Emergency button, 3.5mm, Jack, 30"	\$ 150.00	\$ 120.00

**2- Michigan Pricelist Final Copy**

Line Number	Part Number	Description	List Price	20% Discount
Portables				
25	242-5AAA-A53-PZ8	VP900 Multi-Band Portable » Model I » Multi-Band 700/800 MHz + VHF » Immersion Housing » 700/800 MHz and VHF Multi-Band Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon » Black Housing » P25 Protocol » Conventional / P25 Trunking » 2048 Channels/Talkgroups	\$ 3,175.00	\$ 2,540.00
26	242-5AAC-A53-PZ8	VP900 Multi-Band Portable » Model III » Multi-Band 700/800 MHz + VHF » Immersion Housing » 700/800 MHz and VHF Multi-Band Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon » Black Housing » P25 Protocol » Conventional / P25 Trunking » 2048 Channels/Talkgroups	\$ 3,575.00	\$ 2,860.00
27	242-5AAA-A53-QG8	VP900 Multi-Band Portable » Model I » Multi-Band 700/800 MHz + VHF » Immersion Housing » 700/800 MHz and VHF Multi-Band Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon » Black Housing » P25 Protocol » Conventional System » 2048 Channels/Talkgroups	\$ 3,050.00	\$ 2,440.00
28	242-5AAC-A53-QG8	VP900 Multi-Band Portable » Model III » Multi-Band 700/800 MHz + VHF » Immersion Housing » 700/800 MHz and VHF Multi-Band Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon » Black Housing » P25 Protocol » Conventional System » 2048 Channels/Talkgroups	\$ 3,450.00	\$ 2,760.00
Portables Accessories				
7	589-3600-058	VP600/VP900 GPS Speaker Mic with Emergency button, 3.5mm jack, hi/lo button	\$ 525.00	\$ 420.00
30	587-5700-374	Li-Ion battery, VP600/VP900 only	\$ 130.00	\$ 104.00
35	563-0600-235	VP600/VP900/ES multi chem single-bay charger. (NiMH, Li-Ion, & Li Polymer)	\$ 125.00	\$ 100.00
36	563-0600-361	VP600/VP900/ES multi chem multi-bay (6) charger. (NiMH, Li-Ion, & Li Polymer)	\$ 650.00	\$ 520.00
44	508-4600-611	VP600/VP900 Leather Case, Belt flap Mil Strap Model II and III	\$ 60.00	\$ 48.00
45	508-4600-612	VP600/VP900 Leather Case, D-Swivel Mil Strap Model II and III	\$ 70.00	\$ 56.00
51	508-4600-652	VP600/VP900 Nylon Case, D-Swivel Mil Strap Model II and III	\$ 65.00	\$ 52.00
52	508-4600-651	VP600/VP900 Nylon Case, Belt flap Mil Strap Model II and III	\$ 55.00	\$ 44.00
66	250-0600-245	Bracket, Wall-Mount for Multi-Bay charger	\$ 75.00	\$ 60.00
67	888-1190-010	Viking Vehicular Charger	\$ 148.00	\$ 118.40
68	589-3600-05218	VP600/VP900 Speaker Microphone with Emergency button, 3.5mm, Jack, 18"	\$ 150.00	\$ 120.00
69	589-3600-05225	VP600/VP900 Speaker Microphone with Emergency button, 3.5mm, Jack, 25"	\$ 150.00	\$ 120.00
70	589-3600-05230	VP600/VP900 Speaker Microphone with Emergency button, 3.5mm, Jack, 30"	\$ 150.00	\$ 120.00

STATE OF MICHIGAN  
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET  
PROCUREMENT  
P.O. BOX 30026, LANSING, MI 48909  
OR  
530 W. ALLEGAN, LANSING, MI 48933

February 4, 2013

**CHANGE NOTICE NO. 2**  
to  
**CONTRACT NO. 071B0200124**  
between  
**THE STATE OF MICHIGAN**  
And

NAME & ADDRESS OF CONTRACTOR:	PRIMARY CONTACT	EMAIL
E.F. Johnson Company 1440 Corporate Dr. Irving, TX 75038	Jessica Vo	JVo@efji.com
	TELEPHONE	CONTRACTOR #, MAIL CODE
	972-819-2394	

STATE CONTACTS	AGENCY	NAME	PHONE	EMAIL
CONTRACT COMPLIANCE INSPECTOR	DTMB	Toney Casey	517-333-6618	caseyt1@michigan.gov
BUYER	DTMB	Steve Motz	517-241-3215	motzs@michigan.gov

CONTRACT SUMMARY:			
DESCRIPTION: Two Way Radios - Statewide			
INITIAL EFFECTIVE DATE	INITIAL EXPIRATION DATE	INITIAL AVAILABLE OPTIONS	EXPIRATION DATE BEFORE CHANGE(S) NOTED BELOW
April 12, 2010	January 19, 2013	Five (1) One Year	January 19, 2013
PAYMENT TERMS	F.O.B	SHIPPED	SHIPPED FROM
N/A	N/A	N/A	N/A
ALTERNATE PAYMENT OPTIONS:			AVAILABLE TO MiDEAL PARTICIPANTS
<input type="checkbox"/> P-card <input type="checkbox"/> Direct Voucher (DV) <input type="checkbox"/> Other			<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
MINIMUM DELIVERY REQUIREMENTS:			
N/A			

DESCRIPTION OF CHANGE NOTICE:						
EXTEND CONTRACT EXPIRATION DATE	EXERCISE CONTRACT OPTION YEAR(S)	EXTENSION BEYOND CONTRACT OPTION YEARS	LENGTH OF OPTION/EXTENSION	EXPIRATION DATE AFTER CHANGE		
<input type="checkbox"/> No <input type="checkbox"/> Yes	<input checked="" type="checkbox"/>	<input type="checkbox"/>	One (1) Year	1/19/2014		
VALUE/COST OF CHANGE NOTICE:			ESTIMATED REVISED AGGREGATE CONTRACT VALUE:			
\$0			\$500,000			
This Contract is hereby extended for one (1) year, through use of a contract option. Additionally the pricing and product listing have been update and are attached.						
All other terms, conditions and pricing remain unchanged.						

### **UPDATED PRICING and PRODUCT LISTING**

This attachment identifies new products, price changes and other clean ups to the pricing. This includes the following 3 documents.

1) ***Michigan Pricelist Updated Copy***

- This copy is color coded:
  - Items highlighted in yellow are description changes or part number changes
  - Items highlighted in red are deleted
  - Items highlighted in grey indicate price changes

2) ***Michigan Pricelist Clean Copy***

- This is a clean copy without colors and deletions.

3) ***Michigan Pricelist Final Copy***

- This is a reorganized pricing page that includes the additional items and includes them in the appropriate category.



**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
<b>Portables</b>				
1	<del>242-527B-830KA6</del> 242-527B-833KA6	51SL ES Portable » Model II » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 2,025.00	\$ 1,620.00
2	242-527B-830KJ6	51SL ES Portable » Model II » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 256 Channels/Talkgroups	\$ 1,955.00	\$ 1,564.00
3	<del>242-527E-873KA6</del> 242-527B-830KA6	51SL ES Portable » Model II » FM IS » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion and FM IS » Black Immersion Housing » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 1,925.00	\$ 1,540.00
4	<del>242-527F-873KA6</del> 242-527C-833KA6	51SL ES Portable » Model III » FM IS » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion and FM IS » Black Immersion Housing » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 2,175.00	\$ 1,740.00
5	517E-873-25-82	5100 ES Portable » Model II » FM IS » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion and FM IS » Black Immersion Housing » P25 Protocol » Conventional / P25 Trunking » 864 Channels/Talkgroups	\$ 3,064.00	\$ 2,451.20
6	517F-873-25-82	5100 ES Portable » Model III » FM IS » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion and FM IS » Black Immersion Housing » P25 Protocol » Conventional / P25 Trunking » 864 Channels/Talkgroups	\$ 3,298.00	\$ 2,638.40
7	<del>242-527A-830KL6</del> 242-527A-830KY6	51SL ES Portable » Model I » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 48 Channels/Talkgroups	\$ 1,600.00	\$ 1,280.00

**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
8	242-521A-630BZ6	51SL ES Portable » Model I » VHF » 136-174 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, <del>Immersion</del> » Black Housing » P25 Protocol » Conventional System » 48 Channels/Talkgroups	\$ 1,490.00	\$ 1,192.00
9	242-521A-630AG6	51SL ES Portable » Model I » VHF » 136-174 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, <del>Immersion</del> » Black Housing » Analog FM Protocol » Conventional System » 48 Channels/Talkgroups	\$ 1,440.00	\$ 1,152.00
10	<del>242-521B-630CD6</del> 242-521B-630BC6	51SL ES Portable » Model II » VHF » 136-174 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, <del>Immersion</del> » Black Housing » P25 Protocol » Conventional System » 512 Channels/Talkgroups	\$ 1,815.00	\$ 1,452.00
11	<del>242-522B-430CD6</del> 242-522B-430BC6	51SL ES Portable » Model II » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, <del>Immersion</del> » Black Housing » P25 Protocol » Conventional System » 512 Channels/Talkgroups	\$ 1,800.00	\$ 1,440.00
12	<del>242-522B-430AL6</del> 242-522B-430AA6	51SL ES Portable » Model II » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, <del>Immersion</del> » Black Housing » Analog FM Protocol » Conventional System » 512 Channels/Talkgroups	\$ 1,750.00	\$ 1,400.00
13	242-522A-430AG6	51SL ES Portable » Model I » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, <del>Immersion</del> » Black Housing » Analog FM Protocol » Conventional System » 48 Channels/Talkgroups	\$ 1,425.00	\$ 1,140.00
14	242-522A-430BZ6	51SL ES Portable » Model I » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, <del>Immersion</del> » Black Housing » P25 Protocol » Conventional System » 48 Channels/Talkgroups	\$ 1,475.00	\$ 1,180.00
<b>Mobiles</b>				
1	242-547G-201-AFAB6	53SL ES Mobile » Dash Mount » 700/800 MHz » Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 2,905.00	\$ 2,324.00
2	242-547G-201-AFAH6	53SL ES Mobile » Dash Mount » 700/800 MHz » Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 256 Channels/Talkgroups	\$ 2,755.00	\$ 2,204.00

**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
3	242-547G-20A-AFAB6	53SL ES Mobile » Dash Mount » 700/800 MHz » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 3,675.00	\$ 2,940.00
4	242-547H-201-RFAB6	53SL ES Mobile » Remote Mount » 700/800 MHz » Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 3,375.00	\$ 2,700.00
5	<del>242-547H-20E-RFAB6</del> 242-547H-20A-RFAB6	53SL ES Mobile » Remote Mount » 700/800 MHz » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 4,145.00	\$ 3,316.00
6	242-547H-205-RFAB6	53SL ES Mobile » Remote Mount » 700/800 MHz » Handheld Controller » Single Remote / Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 3,575.00	\$ 2,860.00
7	250-0151-005	Remote speaker, environmentally sealed	\$ 55.00	\$ 44.00
8	242-547H-206-TFAB6	53SL ES Mobile » Remote Mount » 700/800 MHz » Dual Control Head (with Palm Mics) » Dual Remote / Accessory/Data (DB9) / Siren Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 4,025.00	\$ 3,220.00
9	242-547H-20G-TFAB6	53SL ES Mobile » Remote Mount » 700/800 MHz » Dual Lightning Control Head (with Palm Mics) » Dual Remote / Accessory/Data (DB9) / Siren Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 5,565.00	\$ 4,452.00
10	242-537G-20A-AFAN6	5300 ES Mobile » Dash Mount » 700/800 MHz » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 864 Channels/Talkgroups	\$ 3,752.75	\$ 3,002.20
11	242-537H-20E-RFAN6	5300 ES Mobile » Remote Mount » 700/800 MHz » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 864 Channels/Talkgroups	\$ 4,277.75	\$ 3,422.20
12	242-541G-20A-AAAH6	53SL ES Mobile » Dash Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,300.00	\$ 2,640.00

**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
13	242-541G-801- AAAH6	53SL ES Mobile » Dash Mount » VHF 50 Watt » Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,180.00	\$ 1,744.00
14	242-541G-80A- AAAH6	53SL ES Mobile » Dash Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,950.00	\$ 2,360.00
15	242-541H-801- RAAH6	53SL ES Mobile » Remote Mount » VHF 50 Watt » Control Head w/ Palm Mic » Single Remote / Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,650.00	\$ 2,120.00
16	<del>242-541H-801- RAAH6</del> 242-541H- 80A-RAAH6	53SL ES Mobile » Remote Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,420.00	\$ 2,736.00
17	242-546C-201- AAAH6	53SL ES Mobile » Dash Mount » UHF » Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,670.00	\$ 2,136.00
18	242-546C-20A- AAAH6	53SL ES Mobile » Dash Mount » UHF » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,440.00	\$ 2,752.00
19	242-546C-801- AAAH6	53SL ES Mobile » Dash Mount » UHF » Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,320.00	\$ 1,856.00
20	242-546C-80A- AAAH6	53SL ES Mobile » Dash Mount » UHF » Lightning Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,090.00	\$ 2,472.00
21	<del>242-546D-201- RAAH6</del> 242-546D- 20A-RAAH6	53SL ES Mobile » Remote Mount » UHF » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,910.00	\$ 3,128.00

**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
22	242-541H-20E- RAAH6 242-541H- 20A-RAAH6	53SL ES Mobile » Remote Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,770.00	\$ 3,016.00
Portable Accessories				
1	589-0015-057	Speaker Microphone (Intrinsically Safe)	\$ 130.00	\$ 104.00
2	589-0015-054	Speaker Microphone with Emergency button	\$ 150.00	\$ 120.00
3	589-0015-056	Speaker Microphone (immersion capable)	\$ 160.00	\$ 128.00
4	589-0015-058	Public Safety Speaker Microphone (Must order antenna separately)	\$ 265.00	\$ 212.00
5	589-0015-063	Discover™ GPS Speaker Microphone (P25/Analog - includes mini USB cable for charging the unit, programming software, and manual)	\$ 725.00	\$ 580.00
6	589-0015-062	Discover™ GPS Speaker Microphone (Analog only - includes mini USB cable for charging the unit, programming software, and manual)	\$ 500.00	\$ 400.00
7	585-0015-063	External drop in battery charger for Discover mic	\$ 75.00	\$ 60.00
8	585-0015-062	110 volt wall battery charger for Discover mic	\$ 75.00	\$ 60.00
9	585-0015-064	12 VDC Lighter Plug Charger for Discover mic	\$ 75.00	\$ 60.00
10	587-0015-063	Spare Battery for Discover mic	\$ 75.00	\$ 60.00
11	597-0015-063	Spare USB Cable for Discover mic	\$ 33.00	\$ 26.40
12	585-0015-065	Accessory Kit, includes car & home charger, 2 USB cable and extra battery for Discover mic	\$ 175.00	\$ 140.00
13	589-0015-064	Google Earth software version 2.43 for Discover mic	\$ 1,200.00	\$ 960.00
14	589-5100-051	Accessory Adapter w/3.5 mm jack	\$ 85.00	\$ 68.00
15	589-0015-059	Lightweight Headset/ In-Line PTT (requires 589-5100-051 adapter)	\$ 115.00	\$ 92.00
16	589-5100-057	Coil Cord Earphone/ Right Angle Plug (requires 589-0015-057 speaker microphone)	\$ 70.00	\$ 56.00
17	589-5100-059	Coil Cord Earphone/ Straight Plug (requires 589-0015-057 speaker mic; not compatible with 589-0015-056)	\$ 70.00	\$ 56.00
18	589-5100-055	2-Wire Palm Mic Kit (requires 589-5100-051 adapter)	\$ 140.00	\$ 112.00
19	589-5100-056	3-Wire Lapel Microphone Kit (requires 589-5100-051 adapter)	\$ 180.00	\$ 144.00
20	589-5100-076	Throat mic w/built in PTT & 5100 connector w/ Velcro strap (requires speaker option 589-5100-078 or -079)	\$ 625.00	\$ 500.00
21	589-5100-080	Throat mic w/built in PTT & 3.5mm connector w/ Velcro strap (requires speaker option 589-5100-078 or -079 and 3.5mm adapter 589-5100-051)	\$ 540.00	\$ 432.00
22	589-5100-077	Throat mic with 80mm body PTT, IS (requires speaker option 589-5100-078 or -079)	\$ 700.00	\$ 560.00
23	589-5100-078	D-Loop on-ear speaker for Throat Mic	\$ 100.00	\$ 80.00
24	589-5100-079	Surveillance speaker for Throat Mic	\$ 100.00	\$ 80.00

**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
25	501-0017-110	VHF, 136-174 MHz, dipole, Red Core (wideband)	\$ 45.00	\$ 36.00
26	501-0017-101	VHF, 136-151 MHz, Helical, Yellow Core	\$ 30.00	\$ 24.00
27	501-0017-103	VHF 151-162 MHz, Helical, black core	\$ 30.00	\$ 24.00
28	501-0017-105	VHF, 162-174 MHz, Helical, blue core	\$ 30.00	\$ 24.00
29	501-0017-107	UHF 380-520 MHz, 1/4 wave whip	\$ 30.00	\$ 24.00
30	501-0105-073	700/800 MHz, 1/2 wave whip	\$ 30.00	\$ 24.00
31	501-0105-012	700/800 MHz, 1/4 wave whip	\$ 30.00	\$ 24.00
32	587-5100-362	NiMH Extra-High Capacity Battery Pack, Immersion Rated	\$ 100.00	\$ 80.00
33	587-5100-363 587-5100-373	NiMH Extra-High Capacity Battery Pack, Immersion Rated, FM IS	\$ 125.00	\$ 100.00
34	587-5100-364	Lilon Ultra-High Capacity Battery Pack, Immersion Rated	\$ 135.00	\$ 108.00
35	250-5100-280	Alkaline Clamshell Assembly (High Visibility Orange)	\$ 150.00	\$ 120.00
36	250-5100-281	Alkaline Clamshell Assembly (Black)	\$ 150.00	\$ 120.00
37	250-5100-010	Knob Kit #1, Round channel/round flat volume	\$ 12.00	\$ 9.60
38	250-5100-011	Knob Kit #2, Blade channel/round volume	\$ 12.00	\$ 9.60
39	250-5100-235	Charger Kit, Non-Switching Power Supply, USA A/C Cord (NiMH and NiCad only)	\$ 100.00	\$ 80.00
40	250-5100-315	Tri-Chemistry Charger/Conditioner with Switched Power Supply, Rapid Rate	\$ 150.00	\$ 120.00
41	250-5100-360	Multi-bay Tri-Chemistry Charger Base, 6 Docks, Normal Rate	\$ 750.00	\$ 600.00
42	250-5100-365	Multi-bay Tri-Chemistry Charger Base, 4 Docks, Rapid Rate	\$ 750.00	\$ 600.00
43	585-5100-245	Wall-Mount Bracket for Multi-Unit Charger Kit	\$ 75.00	\$ 60.00
44	585-5100-220	Linear Power Supply, Input 120V AC, Output 24V DC @ 1amp (for -235 Charger)	\$ 25.00	\$ 20.00
45	585-5100-315	Tri-Chemistry Single Unit Charger/Conditioner Dock without Power Supply	\$ 115.00	\$ 92.00
46	585-5100-360	Docking Station for Tri-Chemistry Multi-Bay Charger/Conditioner without Power Supply	\$ 225.00	\$ 180.00
47	585-5100-330	Switched Power Supply for Single Tri-Chemistry Charger/Conditioner	\$ 55.00	\$ 44.00
48	585-5100-350B	Switched Power Supply for Multi-Bay Tri-Chemistry Charger/Conditioner	\$ 150.00	\$ 120.00
49	585-5100-14001	Leather Case, Model I, Belt Flap	\$ 70.00	\$ 56.00
50	585-5100-14002	Leather Case, Model I, D-Swivel Belt Loop	\$ 70.00	\$ 56.00
51	585-5100-14003	Leather Case, Model II / III, Belt Flap	\$ 70.00	\$ 56.00
52	585-5100-14004	Leather Case, Model II / III, D-Swivel Belt Loop	\$ 70.00	\$ 56.00
53	585-5100-14501	Strap, Tee, Carry Case	\$ 15.00	\$ 12.00
54	585-5100-14502	Strap, Carry Case	\$ 15.00	\$ 12.00
55	585-5100-14801	3.0" D-Swivel Belt Loop, Leather	\$ 15.00	\$ 12.00
56	585-5100-14802	2.5" D-Swivel Belt Loop, Leather	\$ 15.00	\$ 12.00
57	585-5100-14803	2" D-Swivel Belt Loop, Nylon Webbing	\$ 15.00	\$ 12.00
58	585-5100-15001	Nylon Case, Model I, D-Swivel Belt Loop, Black	\$ 60.00	\$ 48.00

**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
59	585-5100-15002	Nylon Case, Model II / III, D-Swivel Belt Loop, Black	\$ 60.00	\$ 48.00
60	585-5100-15003	Nylon Case, Model I, B-Clip, Black	\$ 60.00	\$ 48.00
61	585-5100-15004	Nylon Case, Model II / III, D-Swivel, Yellow	\$ 60.00	\$ 48.00
62	585-5100-15005	Nylon Case, Model I, Military LBE Strap, Black	\$ 60.00	\$ 48.00
63	585-5100-128	Belt Clip 2 1/4", Spring Loaded	\$ 15.00	\$ 12.00
64	585-5100-129	Belt Clip 3", Spring Loaded	\$ 15.00	\$ 12.00
65	001-5100-70003CD	5100ES Family Service Manual CD	\$ 45.00	\$ 36.00
66	004-5100-70000	5100ES Family Tone Reference Guide	\$ 10.00	\$ 8.00
67	002-5100-70003CD	5100ES Model I Operating Manual CD	\$ 15.00	\$ 12.00
68	002-5100-72003CD	5100ES Model II/III Operating Manual CD	\$ 15.00	\$ 12.00
69	002-5100-74000	5100ES Model I Quick Reference Guide	\$ 15.00	\$ 12.00
70	002-5100-76000	5100ES Model II Quick Reference Guide	\$ 15.00	\$ 12.00
71	002-5100-78000	5100ES Model III Quick Reference Guide	\$ 15.00	\$ 12.00
72	002-5200-70003CD	51SL ES Model I Operating Manual CD	\$ 15.00	\$ 12.00
73	002-5200-72003CD	51SL ES Model II/III Operating Manual CD	\$ 15.00	\$ 12.00
74	002-5200-74000	51SL ES Model I Quick Reference Guide	\$ 15.00	\$ 12.00
75	002-5200-76001	51SL ES Model II Quick Reference Guide	\$ 15.00	\$ 12.00
76	002-5200-78001	51SL ES Model III Quick Reference Guide	\$ 15.00	\$ 12.00
77	002-5500-70003CD	Ascend Portable ES Model I Operating Manual CD	\$ 15.00	\$ 12.00
78	002-5500-72003CD	Ascend Portable ES Model II/III Operating Manual CD	\$ 15.00	\$ 12.00
79	002-5500-74000	Ascend Portable ES Model I Quick Reference Guide	\$ 15.00	\$ 12.00
80	002-5500-76001	Ascend Portable ES Model II Quick Reference Guide	\$ 15.00	\$ 12.00
81	002-5500-78000	Ascend Portable ES Model III Quick Reference Guide	\$ 15.00	\$ 12.00
Mobile Accessories				
1	250-0740-31001	Standard Microphone: 13 Pin	\$ 100.00	\$ 80.00
2	589-0016-56003	Dual Remote Noise Cancelling Microphone: 13 Pin	\$ 175.00	\$ 140.00
3	250-0151-006	5" remote speaker, environmentally sealed	\$ 55.00	\$ 44.00
4	250-0151-005	5" Remote Speaker, environmentally sealed, with connector (Required for Hand Held Controller)	\$ 55.00	\$ 44.00
5	597-5357-701	Accessory Cable	\$ 30.00	\$ 24.00
6	597-5357-70601	Single Remote / Accessory Cable	\$ 80.00	\$ 64.00
7	597-5357-73601	UDDI / Single Remote / Accessory Cable	\$ 120.00	\$ 96.00
8	597-5357-71601	Single Remote / Accessory / Data (DB9) / Siren Cable	\$ 120.00	\$ 96.00
9	597-5357-74101	Dual Remote / Accessory / Data (DB9) / Siren Cable	\$ 170.00	\$ 136.00
10	597-5357-74601	3rd Party DB-25 / Accessory Cable	\$ 150.00	\$ 120.00
11	597-5357-75601	5300 ES Power Cable	\$ 35.00	\$ 28.00
12	023-5300-012	Standard ES Series Mounting Bracket Kit	\$ 30.00	\$ 24.00



**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
13	023-5300-013	Low Profile ES Series Mounting Bracket Kit	\$ 30.00	\$ 24.00
14	017-2226-05002	Remote Control Head Mounting Bracket	\$ 15.00	\$ 12.00
15	017-9700-009	Mounting Bracket for 100W Radio	\$ 20.00	\$ 16.00
16	508-4000-005	Motorcycle Box, Black, Harley Davidson®	\$ 800.00	\$ 640.00
17	508-4000-007	Motorcycle Box, White, Harley Davidson®	\$ 800.00	\$ 640.00
18	501-0012-001	VHF & UHF tunable 1/4 wave whip roof-mount antenna with "N" connector (No adapter required)	\$ 55.00	\$ 44.00
19	501-0012-011	VHF & UHF tunable 1/4 wave whip magnetic base antenna	\$ 90.00	\$ 72.00
20	501-0012-020	762-870 MHz low profile le, roof mount, broadband Antenna Kit	\$ 85.00	\$ 68.00
21	597-2002-267	HandHeld Controller 17' Remote Cable	\$ 200.00	\$ 160.00
22	250-5300-002	5300 ES Remote Control Head Conversion Kit, Single or Dual (Includes ES remote shroud with blank faceplate, mounting bracket, 17' remote cable, and single / remote accessory cable)	\$ 475.00	\$ 380.00
23	250-5300-003	5300 ES remote control head kit for second control head (Includes ES remote control head and mounting bracket) - requires remote or dual-remote 60-pin cable and 6', 17', or 50' remote cable	\$ 650.00	\$ 520.00
24	250-5300-103	HandHeld Controller (HHC) Kit for 5300ES Includes HHC, Junction box, and Cable. Requires remote speaker 250-0151-005. (Must order separately.)	\$ 1,250.00	\$ 1,000.00
25	587-5357-51601	5300 ES Key Cap Kit	\$ 25.00	\$ 20.00
26	597-5357-77501	5300 Remote cable - 6'	\$ 100.00	\$ 80.00
27	597-5357-77502	5300 ES Remote Cable - 17'	\$ 160.00	\$ 128.00
28	597-5357-77503	5300 ES Remote Cable - 50'	\$ 300.00	\$ 240.00
29	721-5100-010	Removal tool for 5300 ES control head and 5100 ES Chassis		\$ -
30	250-4001-202	15 amp 120V Power Supply with cabinet and radio power cable	\$ 295.00	\$ 236.00
31	250-4001-204	15 amp 220V Power Supply with cabinet and radio power cable	\$ 295.00	\$ 236.00
32	250-5300-212	30 amp 120V Power Supply with cabinet and radio power cable (for 100W VHF radios)	\$ 430.00	\$ 344.00
33	589-0012-023	5300 Series Advanced Desktop Microphone	\$ 480.00	\$ 384.00
34	585-5300-100	Base Station Kit for 5300 radio	\$ 1,950.00	\$ 1,560.00
35	585-5300-102	Programming Kit including software and cable	\$ 130.00	\$ 104.00
36	585-5300-104	Tone Remote, Handset, 8 ch, 2 character display	\$ 1,035.00	\$ 828.00
37	585-5300-106	Tone Remote, Desk Mic, 8 ch, 2 character display	\$ 1,120.00	\$ 896.00
38	585-5300-108	Tone Termination Panel Interface between 5300 and tone remote	\$ 800.00	\$ 640.00
39	585-5300-110	Parallel TX/Notch Filter option (1 per tone remote for multiple tone remotes per station)	\$ 110.00	\$ 88.00
40	585-5300-112	Interface Cable to connect tone termination panel to 5300	\$ 88.00	\$ 70.40
41	585-5300-114	Clock VU MTR, Remote Option 610, IDA 431-	\$ 120.00	\$ 96.00



1- Michigan Pricelist Updated Copy				
Line Number	Part Number	Description	List Price	20% Discount
		RBC-610		
42	585-5300-116	4-Wire, Remote Option 611, IDA 431-RBC-611	\$ 60.00	\$ 48.00
43	585-5300-118	Supervisor / ALT LN, Remote Option 612, IDA 431-RBC-612	\$ 60.00	\$ 48.00
44	585-5300-120	12V Battery Cable, Remote Option 614, IDA 431-RBC-614	\$ 18.00	\$ 14.40
45	585-5300-122	2nd Line / SUM Audio, Remote Option 615, IDA 431-RBC-615	\$ 200.00	\$ 160.00
46	585-5300-124	One Touch TX, Remote Option 616, IDA 431-RBC-616	\$ 25.00	\$ 20.00
47	585-5300-126	99 Channel Remote Option 617, IDA 431-RBC-617	\$ 600.00	\$ 480.00
48	585-5300-128	99 Channel DTMF, Remote Option 618, IDA 431-RBC-618	\$ 1,000.00	\$ 800.00
49	585-5300-130	Alpha Numeric display, Remote Option 620, IDA 431-RBC-620	\$ 150.00	\$ 120.00
50	585-5300-132	Multi-line Remote Interface, 8-line, IDA 20-88-M02 (for loading encryption keys)	\$ 1,450.00	\$ 1,160.00
51	001-5300-70002CD	5300 ES Series Service Manual CD	\$ 45.00	\$ 36.00
52	004-5300-710-05	5300 ES Series Installation Manual - Dash Mount	\$ 15.00	\$ 12.00
53	004-5300-730-05	5300 ES Series Installation Manual - Remote Mount	\$ 15.00	\$ 12.00
54	004-5300-750-00	5300 ES Series Installation Manual - Motorcycle Mount	\$ 15.00	\$ 12.00
55	002-5300-715-00	5300 ES HHC Quick Reference Guide	\$ 15.00	\$ 12.00
56	002-5300-700-02CD	5300 ES Operating Manual CD	\$ 15.00	\$ 12.00
57	002-5300-72000	5300ES Quick Reference Guide	\$ 15.00	\$ 12.00
58	002-5400-70003CD	53SL ES Operating Manual CD	\$ 15.00	\$ 12.00
59	002-5400-72001	53SL ES Quick Reference Guide	\$ 15.00	\$ 12.00
60	002-5500-790-02CD	Ascend Mobile ES Operating Manual CD	\$ 15.00	\$ 12.00
61	002-5500-720-00	Ascend Mobile ES Quick Reference Guide	\$ 15.00	\$ 12.00
Common Accessories				
1	299-0045-017	1-Year Extended Warranty	\$ 45.00	\$ 45.00
2	299-0045-013	2-Year Extended Warranty	\$ 95.00	\$ 95.00
3	299-0045-029	3 Year Extended Warranty	\$ 150.00	\$ 150.00
4	299-0045-041	4 Year Extended Warranty: ES only	\$ 250.00	\$ 250.00
5	299-0045-075	1-Year 2nd Chance Warranty	\$ 70.00	\$ 56.00
6	299-0045-076	2-Year 2nd Chance Warranty	\$ 145.00	\$ 116.00
7	299-0045-077	3-Year 2nd Chance Warranty	\$ 225.00	\$ 180.00
8	299-0045-079	1 Year Extension of Existing Warranty	\$ 150.00	\$ 120.00
9	299-PRGM-001	Radio Profile Creation	\$ 150.00	\$ 120.00
10	299-PRGM-002	Factory Programming (If radio profile is not provided, then Radio Profile Creation must be purchased)	\$ 75.00	\$ 60.00

**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
11	250-5000-945	Subscriber Management Assistant (SMA) Keyloading Kit Includes: Handheld PDA device, case, adapter cable, charger, operating system, manuals. Supports DES, DES-OFB, AES, encryption keyloading via SLN/CKR protocol (Radio Cable ordered separately)	\$ 3,200.00	\$ 2,560.00
12	023-5000-940	5100 Series Portable Radio Key Loader Cable for Subscriber Management Assistant Keyloading Kit	\$ 275.00	\$ 220.00
13	023-5000-950	5300 Series Mobile Radio Key Loader Cable for Subscriber Management Assistant	\$ 300.00	\$ 240.00
14	585-5000-932	5100 Series Portable Radio Key Loader Cable for 3rd party keyloading systems	\$ 275.00	\$ 220.00
15	585-5000-938	5300 Series Mobile Radio Key Loader cable for 3rd party keyloading systems	\$ 300.00	\$ 240.00
16	299-UPGR-108	From Conventional System to SMARTNET	\$ 200.00	\$ 160.00
17	299-UPGR-109	From Conventional System or SMARTNET to SmartZone	\$ 400.00	\$ 320.00
18	299-UPGR-110	From Conventional System to P25 Common Air Interface (CAI)	\$ 500.00	\$ 400.00
19	299-UPGR-111	From Conventional System to P25 Trunking (Includes SMARTNET/SmartZone, but P25 CAI must be purchased if not previously purchased)	\$ 725.00	\$ 580.00
20	299-UPGR-112	From Conventional System to P25 Trunking only (P25 CAI must be purchased if not previously purchased)	\$ 425.00	\$ 340.00
21	299-UPGR-101	From SMARTNET or SmartZone to P25 Trunking only (P25 CAI must be purchased if not previously purchased)	\$ 475.00	\$ 380.00
22	299-UPGR-113	Add P25 Trunking to Multi-Net only Protocol (P25 CAI must be purchased if not previously purchased)	\$ 1,000.00	\$ 800.00
23	299-UPGR-100	DES/DES-OFB Multi-Key	\$ 600.00	\$ 480.00
24	299-UPGR-103	AES	\$ 500.00	\$ 400.00
25	299-UPGR-104	P25 OTAR (Over the Air Rekeying)	\$ 800.00	\$ 640.00
26	299-UPGR-105	P25 Data Conventional (requires appropriate data cable)	\$ 200.00	\$ 160.00
27	299-UPGR-106	P25 Data Trunking and Conventional (requires appropriate data cable)	\$ 250.00	\$ 200.00
28	299-UPGR-107	Zoned Fail-Site Lock	\$ 215.00	\$ 172.00
29	299-UPGR-114	MDC1200	\$ 100.00	\$ 80.00
30	299-UPGR-115	48 to 256 Channel / Talkgroup Upgrade (not available for Model I Portables)	\$ 300.00	\$ 240.00
31	299-UPGR-116	256 to 512 Channel / Talkgroup Upgrade	\$ 200.00	\$ 160.00
32	299-UPGR-117	512 to 864 Channel / Talkgroup Upgrade	\$ 300.00	\$ 240.00
33	299-UPGR-118	P25 OTAP (Over the Air Programming)	\$ 250.00	\$ 200.00
34	299-UPGR-119	Add 700 MHz to 800 MHz Radio	\$ 300.00	\$ 240.00
35	299-UPGR-120	SMARTNET/SmartZone Rebanding Option	\$ 300.00	\$ 240.00
36	299-UPGR-121	51LT Protocol Swap - P25 Trunking to SNSZ	\$ 150.00	\$ 120.00
37	299-UPGR-122	51LT Protocol Swap - SNSZ to P25 Trunking	\$ 150.00	\$ 120.00
38	299-UPGR-124	Hardware System Key Only	\$ 50.00	\$ 40.00

**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
39	299-UPGR-125	16 Zone/54 channel matrix option (requires 864 Channels/Talkgroups)	\$ 150.00	\$ 120.00
40	023-9998-527	PC Configure Software (Software and manual on CD)	\$ 350.00	\$ 280.00
41	023-9998-534201	Radio File Exchange (RFX), (Software and manual on CD)	\$ 15.00	\$ 12.00
42	250-5100-104	PC Configure and RFX Kit, Portable (software and manual on CD and portable USB programming cable)	\$ 495.00	\$ 396.00
43	250-5300-104	PC Configure and RFX Kit, Mobile (software and manual on CD and portable USB programming cable)	\$ 495.00	\$ 396.00
44	250-5400-104	PC Configure and RFX Kit, Portable and Mobile (software and manual on CD and mobile/portable USB programming cable)	\$ 620.00	\$ 496.00
45	023-9998-499	PC Tune Software (Software and manual on CD)	\$ 275.00	\$ 220.00
46	250-5100-005	PC Tune Kit, Portable (Software and manual on CD, radio cable and audio cable)	\$ 400.00	\$ 320.00
47	250-5300-006	PC Tune Kit, Mobile (Software and manual on CD, radio cable and audio cable)	\$ 600.00	\$ 480.00
48	250-5400-005	PC Tune Kit, Portable and Mobile (Software and manual on CD, and mobile/portable tuning hardware)	\$ 900.00	\$ 720.00
49	023-9998-531	Express Code Updater - 5100 ES (Software and manual on CD)	\$ 40.00	\$ 32.00
50	023-9998-530	Express Code Updater - 5100 Series 4 and 51LT (Software and manual on CD)	\$ 40.00	\$ 32.00
51	023-9998-533	Express Code Updater - 5300 ES (Software and manual on CD)	\$ 40.00	\$ 32.00
52	023-9998-532	Express Code Updater - 5300 Series 4 (Software and manual on CD)	\$ 40.00	\$ 32.00
53	299-0045-038	PC Configure Software Subscription (5 years)	\$ 500.00	\$ 400.00
54	299-0045-039	PC Tune Software Subscription (5 years)	\$ 400.00	\$ 320.00
55	023-5100-970	5100 Series Radio Personality Programming Cable (USB) (Not compatible with PC Tune)	\$ 200.00	\$ 160.00
56	023-5300-98001	5300 Series Radio Personality Programming Cable (USB) (Not compatible with PC Tune)	\$ 150.00	\$ 120.00
57	023-5100-920	5100 Series Radio Personality Programming Cable (serial)	\$ 120.00	\$ 96.00
58	250-5300-008	5300 Series Serial Programming Hardware Kit (includes RPI box serial cable and RPI to Radio cable)	\$ 400.00	\$ 320.00
59	023-5300-010	Programming Plug for 5300	\$ 50.00	\$ 40.00
60	023-5300-140	Programmer adapter for HHC (5300 Series Mobile)	\$ 200.00	\$ 160.00
61	585-5000-891	Single-Port USB to Serial Adapter	\$ 75.00	\$ 60.00
62	585-5000-894	4-port USB to Serial Adapter	\$ 355.00	\$ 284.00
63	585-5000-946	USB to DB9 cable connecting SMA to key loader cable (replacement for cable contained in 250-5000-945)	\$ 150.00	\$ 120.00
64	023-5100-930	5100 Series Radio Personality Cloning Cable, radio to radio (radio must have Flash code 1.5.0 or later and be programmed using PC Configure 1.17 or later.)	\$ 300.00	\$ 240.00

**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
65	250-5000-971	Enhanced System Key - Master Key	\$ 300.00	\$ 240.00
66	250-5000-973	Enhanced System Key - Slave Key	\$ 175.00	\$ 140.00
67	023-5100-940	5100 Series PC Tune Cable	\$ 155.00	\$ 124.00
68	023-5100-950	5100 Series PC Tune Audio Cable	\$ 25.00	\$ 20.00
69	023-5300-001	5300 Series Remote Programming Interface box (RPI box)	\$ 280.00	\$ 224.00
70	023-5300-005	5300 Series Radio Programming Cable (serial)	\$ 100.00	\$ 80.00
71	597-5900-002	Interface Cable to connect RPI to computer, DB-9 M-F	\$ 50.00	\$ 40.00
72	023-5100-955	Test Configuration Jumper 5100 Series Cable, UI board to Logic board	\$ 175.00	\$ 140.00
73	515-3102-050	SMA to BNC, F to F adapter	\$ 80.00	\$ 64.00
Add to Contract				
1	242-577A-853IF8	VP600 Portable » Model I » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,375.00	\$ 1,900.00
2	242-577B-853IF8	VP600 Portable » Model II » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,525.00	\$ 2,020.00
3	242-577C-853IF8	VP600 Portable » Model III » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,775.00	\$ 2,220.00
4	242-571A-653IF8	VP600 Portable » Model I » VHF, 136-174 MHz » VHF, 136-174 MHz Dipole, red core (Wideband) » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,390.00	\$ 1,912.00
5	242-571B-653IF8	VP600 Portable » Model II » VHF, 136-174 MHz » VHF, 136-174 MHz Dipole, red core (Wideband) » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,540.00	\$ 2,032.00

**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
6	242-571C-653IF8	VP600 Portable » Model III » VHF, 136-174 MHz » VHF, 136-174 MHz Dipole, red core (Wideband) » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,790.00	\$ 2,232.00
7	242-572A-453IF8	VP600 Portable » Model I » UHF R1, 380-470 MHz» UHF, 380-520 MHz » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,375.00	\$ 1,900.00
8	242-572B-453IF8	VP600 Portable » Model II » UHF R1, 380-470 MHz» UHF, 380-520 MHz » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,525.00	\$ 2,020.00
9	242-527C-453IF8	VP600 Portable » Model III » UHF R1, 380-470 MHz» UHF, 380-520 MHz » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,775.00	\$ 2,220.00
10	589-3600-05218	VP600 Basic Speaker Mic with Emergency button 18 inch	\$ 150.00	\$ 120.00
11	589-3600-05225	VP600 Basic Speaker Mic with Emergency button 25 inch	\$ 150.00	\$ 120.00
12	589-3600-05230	VP600 Basic Speaker Mic with Emergency button 30 inch	\$ 150.00	\$ 120.00
13	589-3600-05618	VP600 Public Safety Speaker Microphone (Must order antenna separately) Emergency button 3.5mm jack 18 inch	\$ 315.00	\$ 252.00
14	589-3600-05625	VP600 Public Safety Speaker Microphone (Must order antenna separately) Emergency button 3.5mm jack 25 inch	\$ 315.00	\$ 252.00
15	589-3600-05630	VP600 Public Safety Speaker Microphone (Must order antenna separately) Emergency button 3.5mm jack 30 inch	\$ 315.00	\$ 252.00
16	589-3015-05218	ES Basic Speaker Mic with Emergency button 18 inch	\$ 150.00	\$ 120.00
17	589-3015-05225	ES Basic Speaker Mic with Emergency button 25 inch	\$ 150.00	\$ 120.00
18	589-3015-05230	ES Basic Speaker Mic with Emergency button 30 inch	\$ 150.00	\$ 120.00

**1- Michigan Pricelist Updated Copy**

Line Number	Part Number	Description	List Price	20% Discount
19	589-3015-05618	ES Public Safety Speaker Microphone (Must order antenna separately) Emergency button 3.5mm jack 18 inch	\$ 315.00	\$ 252.00
20	589-3015-05625	ES Public Safety Speaker Microphone (Must order antenna separately) Emergency button 3.5mm jack 25 inch	\$ 315.00	\$ 252.00
21	589-3015-05630	ES Public Safety Speaker Microphone (Must order antenna separately) Emergency button 3.5mm jack 30 inch	\$ 315.00	\$ 252.00
22	589-3600-058	VP600 GPS Speaker Mic with Emergency button, 3.5mm jack, hi/lo button	\$ 525.00	\$ 420.00
23	589-3015-058	ES GPS Speaker Mic with Emergency button, 3.5mm jack, hi/lo button	\$ 525.00	\$ 420.00
24	589-3015-07318	ES Only Amplified speaker mic with emergency button, Hi/Lo switch and 3.5mm jack. 18 inch	\$ 271.00	\$ 216.80
25	589-3015-07325	ES Only Amplified speaker mic with emergency button, Hi/Lo switch and 3.5mm jack. 25 inch	\$ 271.00	\$ 216.80
26	589-3015-07330	ES Only Amplified speaker mic with emergency button, Hi/Lo switch and 3.5mm jack. 30 inch	\$ 271.00	\$ 216.80
27	563-0600-235	VP600/ES multi chem single-bay charger. (NiMH, Li-Ion, & Li Polymer)	\$ 125.00	\$ 100.00
28	563-0600-361	VP600/ES multi chem multi-bay (6) charger. (NiMH, Li-Ion, & Li Polymer)	\$ 650.00	\$ 520.00
29	888-1190-004	ES Vehicular Car Charger	\$ 120.00	\$ 96.00
30	587-5700-374	Li-Ion battery, VP600 only	\$ 130.00	\$ 104.00
31	508-4600-611	VP600 Leather Case, Belt flap Mil Strap Model II and III	\$ 60.00	\$ 48.00
32	508-4600-612	VP600 Leather Case, D-Swivel Mil Strap Model II and III	\$ 70.00	\$ 56.00
33	508-4600-652	VP600 Nylon Case, D-Swivel Mil Strap Model II and III	\$ 65.00	\$ 52.00
34	563-0600-651	VP600 Nylon Case, Belt flap Mil Strap Model II and III	\$ 55.00	\$ 44.00

**1- Michigan Pricelist Clean Copy**

Line Number	Part Number	Description	List Price	20% Discount
Portables				
1	242-527B-833KA6	51SL ES Portable » Model II » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 2,025.00	\$ 1,620.00
2	242-527B-830KA6	51SL ES Portable » Model II » FM IS » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, » Black Immersion Housing » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 1,925.00	\$ 1,540.00
3	242-527C-833KA6	51SL ES Portable » Model III » FM IS » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion and FM IS » Black Immersion Housing » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 2,175.00	\$ 1,740.00
4	242-527A-830KY6	51SL ES Portable » Model I » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, » Black Housing » P25 Protocol » Conventional / P25 Trunking » 48 Channels/Talkgroups	\$ 1,600.00	\$ 1,280.00
5	242-521A-630BZ6	51SL ES Portable » Model I » VHF » 136-174 MHz Antenna » Extra-High Capacity Battery Pack, NiMH » Black Housing » P25 Protocol » Conventional System » 48 Channels/Talkgroups	\$ 1,490.00	\$ 1,192.00
6	242-521A-630AG6	51SL ES Portable » Model I » VHF » 136-174 MHz Antenna » Extra-High Capacity Battery Pack, NiMH » Black Housing » Analog FM Protocol » Conventional System » 48 Channels/Talkgroups	\$ 1,440.00	\$ 1,152.00
7	242-521B-630BC6	51SL ES Portable » Model II » VHF » 136-174 MHz Antenna » Extra-High Capacity Battery Pack, NiMH » Black Housing » P25 Protocol » Conventional System » 512 Channels/Talkgroups	\$ 1,815.00	\$ 1,452.00
8	242-522B-430BC6	51SL ES Portable » Model II » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH » Black Housing » P25 Protocol » Conventional System » 512 Channels/Talkgroups	\$ 1,800.00	\$ 1,440.00



**1- Michigan Pricelist Clean Copy**

Line Number	Part Number	Description	List Price	20% Discount
9	242-522B-430AA6	51SL ES Portable » Model II » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, » Black Housing » Analog FM Protocol » Conventional System » 512 Channels/Talkgroups	\$ 1,750.00	\$ 1,400.00
10	242-522A-430AG6	51SL ES Portable » Model I » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH » Black Housing » Analog FM Protocol » Conventional System » 48 Channels/Talkgroups	\$ 1,425.00	\$ 1,140.00
11	242-522A-430BZ6	51SL ES Portable » Model I » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH » Black Housing » P25 Protocol » Conventional System » 48 Channels/Talkgroups	\$ 1,475.00	\$ 1,180.00
<b>Mobiles</b>				
1	242-547G-201-AFAB6	53SL ES Mobile » Dash Mount » 700/800 MHz » Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 2,905.00	\$ 2,324.00
2	242-547G-201-AFAH6	53SL ES Mobile » Dash Mount » 700/800 MHz » Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 256 Channels/Talkgroups	\$ 2,755.00	\$ 2,204.00
3	242-547G-20A-AFAB6	53SL ES Mobile » Dash Mount » 700/800 MHz » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 3,675.00	\$ 2,940.00
4	242-547H-201-RFAB6	53SL ES Mobile » Remote Mount » 700/800 MHz » Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 3,375.00	\$ 2,700.00
5	242-547H-20A-RFAB6	53SL ES Mobile » Remote Mount » 700/800 MHz » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 4,145.00	\$ 3,316.00
6	250-0151-005	Remote speaker, environmentally sealed	\$ 55.00	\$ 44.00



**1- Michigan Pricelist Clean Copy**

Line Number	Part Number	Description	List Price	20% Discount
7	242-547H-206-TFAB6	53SL ES Mobile » Remote Mount » 700/800 MHz » Dual Control Head (with Palm Mics) » Dual Remote / Accessory/Data (DB9) / Siren Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 4,025.00	\$ 3,220.00
8	242-547H-20G-TFAB6	53SL ES Mobile » Remote Mount » 700/800 MHz » Dual Lightning Control Head (with Palm Mics) » Dual Remote / Accessory/Data (DB9) / Siren Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 5,565.00	\$ 4,452.00
9	242-541G-20A-AAAH6	53SL ES Mobile » Dash Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,300.00	\$ 2,640.00
10	242-541G-801-AAAH6	53SL ES Mobile » Dash Mount » VHF 50 Watt » Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,180.00	\$ 1,744.00
11	242-541G-80A-AAAH6	53SL ES Mobile » Dash Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,950.00	\$ 2,360.00
12	242-541H-801-RAAH6	53SL ES Mobile » Remote Mount » VHF 50 Watt » Control Head w/ Palm Mic » Single Remote / Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,650.00	\$ 2,120.00
13	242-541H-80A-RAAH6	53SL ES Mobile » Remote Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,420.00	\$ 2,736.00
14	242-546C-201-AAAH6	53SL ES Mobile » Dash Mount » UHF » Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,670.00	\$ 2,136.00
15	242-546C-20A-AAAH6	53SL ES Mobile » Dash Mount » UHF » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,440.00	\$ 2,752.00

**1- Michigan Pricelist Clean Copy**

Line Number	Part Number	Description	List Price	20% Discount
16	242-546C-801-AAAH6	53SL ES Mobile » Dash Mount » UHF » Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,320.00	\$ 1,856.00
17	242-546C-80A-AAAH6	53SL ES Mobile » Dash Mount » UHF » Lightning Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,090.00	\$ 2,472.00
18	242-546D-20A-RAAH6	53SL ES Mobile » Remote Mount » UHF » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,910.00	\$ 3,128.00
19	242-541H-20A-RAAH6	53SL ES Mobile » Remote Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,770.00	\$ 3,016.00
Portable Accessories				
1	589-0015-057	Speaker Microphone (Intrinsically Safe)	\$ 130.00	\$ 104.00
2	589-0015-056	Speaker Microphone (immersion capable)	\$ 160.00	\$ 128.00
3	589-5100-051	Accessory Adapter w/3.5 mm jack	\$ 85.00	\$ 68.00
4	589-0015-059	Lightweight Headset/ In-Line PTT (requires 589-5100-051 adapter)	\$ 115.00	\$ 92.00
5	589-5100-057	Coil Cord Earphone/ Right Angle Plug (requires 589-0015-057 speaker microphone)	\$ 70.00	\$ 56.00
6	589-5100-059	Coil Cord Earphone/ Straight Plug (requires 589-0015-057 speaker mic; not compatible with 589-0015-056)	\$ 70.00	\$ 56.00
7	589-5100-055	2-Wire Palm Mic Kit (requires 589-5100-051 adapter)	\$ 140.00	\$ 112.00
8	589-5100-056	3-Wire Lapel Microphone Kit (requires 589-5100-051 adapter)	\$ 180.00	\$ 144.00
9	589-5100-076	Throat mic w/built in PTT & 5100 connector w/ Velcro strap (requires speaker option 589-5100-078 or -079)	\$ 625.00	\$ 500.00
10	589-5100-080	Throat mic w/built in PTT & 3.5mm connector w/ Velcro strap (requires speaker option 589-5100-078 or -079 and 3.5mm adapter 589-5100-051)	\$ 540.00	\$ 432.00
11	589-5100-077	Throat mic with 80mm body PTT, IS (requires speaker option 589-5100-078 or -	\$ 700.00	\$ 560.00

**1- Michigan Pricelist Clean Copy**

Line Number	Part Number	Description	List Price	20% Discount
		079)		
12	589-5100-078	D-Loop on-ear speaker for Throat Mic	\$ 100.00	\$ 80.00
13	589-5100-079	Surveillance speaker for Throat Mic	\$ 100.00	\$ 80.00
14	501-0017-110	VHF, 136-174 MHz, dipole, Red Core (wideband)	\$ 45.00	\$ 36.00
15	501-0017-101	VHF, 136-151 MHz, Helical, Yellow Core	\$ 30.00	\$ 24.00
16	501-0017-103	VHF 151-162 MHz, Helical, black core	\$ 30.00	\$ 24.00
17	501-0017-105	VHF, 162-174 MHz, Helical, blue core	\$ 30.00	\$ 24.00
18	501-0017-107	UHF 380-520 MHz, 1/4 wave whip	\$ 30.00	\$ 24.00
19	501-0105-073	700/800 MHz, 1/2 wave whip	\$ 30.00	\$ 24.00
20	501-0105-012	700/800 MHz, 1/4 wave whip	\$ 30.00	\$ 24.00
21	587-5100-373	NiMH Extra-High Capacity Battery Pack, Immersion Rated, FM IS	\$ 125.00	\$ 100.00
22	587-5100-364	Lilon Ultra-High Capacity Battery Pack, Immersion Rated	\$ 135.00	\$ 108.00
23	250-5100-010	Knob Kit #1, Round channel/round flat volume	\$ 12.00	\$ 9.60
24	250-5100-011	Knob Kit #2, Blade channel/round volume	\$ 12.00	\$ 9.60
25	250-5100-235	Charger Kit, Non-Switching Power Supply, USA A/C Cord (NiMH and NiCad only)	\$ 100.00	\$ 80.00
26	250-5100-315	Tri-Chemistry Charger/Conditioner with Switched Power Supply, Rapid Rate	\$ 150.00	\$ 120.00
27	585-5100-245	Wall-Mount Bracket for Multi-Unit Charger Kit	\$ 75.00	\$ 60.00
28	585-5100-14001	Leather Case, Model I, Belt Flap	\$ 70.00	\$ 56.00
29	585-5100-14002	Leather Case, Model I, D-Swivel Belt Loop	\$ 70.00	\$ 56.00
30	585-5100-14003	Leather Case, Model II / III, Belt Flap	\$ 70.00	\$ 56.00
31	585-5100-14801	3.0" D-Swivel Belt Loop, Leather	\$ 15.00	\$ 12.00
32	585-5100-14802	2.5" D-Swivel Belt Loop, Leather	\$ 15.00	\$ 12.00
33	585-5100-15001	Nylon Case, Model I, D-Swivel Belt Loop, Black	\$ 60.00	\$ 48.00
34	585-5100-15002	Nylon Case, Model II / III, D-Swivel Belt Loop, Black	\$ 60.00	\$ 48.00
35	585-5100-15003	Nylon Case, Model I, B-Clip, Black	\$ 60.00	\$ 48.00
36	585-5100-15004	Nylon Case, Model II / III, D-Swivel, Yellow	\$ 60.00	\$ 48.00
37	585-5100-15005	Nylon Case, Model I, Military LBE Strap, Black	\$ 60.00	\$ 48.00
38	585-5100-128	Belt Clip 2 1/4", Spring Loaded	\$ 15.00	\$ 12.00
39	585-5100-129	Belt Clip 3", Spring Loaded	\$ 15.00	\$ 12.00
40	004-5100-70000	5100ES Family Tone Reference Guide	\$ 10.00	\$ 8.00
41	002-5200-70003CD	51SL ES Model I Operating Manual CD	\$ 15.00	\$ 12.00

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Line Number	Part Number	Description	List Price	20% Discount
42	002-5200-72003CD	51SL ES Model II/III Operating Manual CD	\$ 15.00	\$ 12.00
43	002-5200-74000	51SL ES Model I Quick Reference Guide	\$ 15.00	\$ 12.00
44	002-5200-76001	51SL ES Model II Quick Reference Guide	\$ 15.00	\$ 12.00
45	002-5200-78001	51SL ES Model III Quick Reference Guide	\$ 15.00	\$ 12.00
Mobile Accessories				
1	250-0740-31001	Standard Microphone: 13 Pin	\$ 100.00	\$ 80.00
2	589-0016-56003	Dual Remote Noise Cancelling Microphone: 13 Pin	\$ 175.00	\$ 140.00
3	250-0151-006	5" remote speaker, environmentally sealed	\$ 55.00	\$ 44.00
4	250-0151-005	5" Remote Speaker, environmentally sealed, with connector (Required for Hand Held Controller)	\$ 55.00	\$ 44.00
5	597-5357-701	Accessory Cable	\$ 30.00	\$ 24.00
6	597-5357-70601	Single Remote / Accessory Cable	\$ 80.00	\$ 64.00
7	597-5357-73601	UDDI / Single Remote / Accessory Cable	\$ 120.00	\$ 96.00
8	597-5357-71601	Single Remote / Accessory / Data (DB9) / Siren Cable	\$ 120.00	\$ 96.00
9	597-5357-74101	Dual Remote / Accessory / Data (DB9) / Siren Cable	\$ 170.00	\$ 136.00
10	597-5357-74601	3rd Party DB-25 / Accessory Cable	\$ 150.00	\$ 120.00
11	597-5357-75601	5300 ES Power Cable	\$ 35.00	\$ 28.00
12	023-5300-012	Standard ES Series Mounting Bracket Kit	\$ 30.00	\$ 24.00
13	023-5300-013	Low Profile ES Series Mounting Bracket Kit	\$ 30.00	\$ 24.00
14	017-2226-05002	Remote Control Head Mounting Bracket	\$ 15.00	\$ 12.00
15	501-0012-001	VHF & UHF tunable 1/4 wave whip roof-mount antenna with "N" connector (No adapter required)	\$ 55.00	\$ 44.00
16	501-0012-011	VHF & UHF tunable 1/4 wave whip magnetic base antenna	\$ 90.00	\$ 72.00
17	501-0012-020	762-870 MHz low profile le, roof mount, broadband Antenna Kit	\$ 85.00	\$ 68.00
18	250-5300-002	5300 ES Remote Control Head Conversion Kit, Single or Dual (Includes ES remote shroud with blank faceplate, mounting bracket, 17' remote cable, and single / remote accessory cable)	\$ 475.00	\$ 380.00
19	250-5300-003	5300 ES remote control head kit for second control head (Includes ES remote control head and mounting bracket) - requires remote or dual-remote 60-pin cable and 6', 17', or 50' remote cable	\$ 650.00	\$ 520.00
20	587-5357-51601	5300 ES Key Cap Kit	\$ 25.00	\$ 20.00

**1- Michigan Pricelist Clean Copy**

Line Number	Part Number	Description	List Price	20% Discount
21	597-5357-77501	5300 Remote cable - 6'	\$ 100.00	\$ 80.00
22	597-5357-77502	5300 ES Remote Cable - 17'	\$ 160.00	\$ 128.00
23	597-5357-77503	5300 ES Remote Cable - 50'	\$ 300.00	\$ 240.00
24	250-4001-202	15 amp 120V Power Supply with cabinet and radio power cable	\$ 295.00	\$ 236.00
25	250-5300-212	30 amp 120V Power Supply with cabinet and radio power cable (for 100W VHF radios)	\$ 430.00	\$ 344.00
26	589-0012-023	5300 Series Advanced Desktop Microphone	\$ 480.00	\$ 384.00
27	585-5300-102	Programming Kit including software and cable	\$ 130.00	\$ 104.00
28	585-5300-114	Clock VU MTR, Remote Option 610, IDA 431-RBC-610	\$ 120.00	\$ 96.00
29	585-5300-116	4-Wire, Remote Option 611, IDA 431-RBC-611	\$ 60.00	\$ 48.00
30	001-5300-70002CD	5300 ES Series Service Manual CD	\$ 45.00	\$ 36.00
31	004-5300-710-05	5300 ES Series Installation Manual - Dash Mount	\$ 15.00	\$ 12.00
32	004-5300-730-05	5300 ES Series Installation Manual - Remote Mount	\$ 15.00	\$ 12.00
33	002-5300-72000	5300ES Quick Reference Guide	\$ 15.00	\$ 12.00
34	002-5400-70003CD	53SL ES Operating Manual CD	\$ 15.00	\$ 12.00
35	002-5400-72001	53SL ES Quick Reference Guide	\$ 15.00	\$ 12.00
<b>Common Accessories</b>				
1	299-0045-017	1-Year Extended Warranty	\$ 45.00	\$ 45.00
2	299-0045-013	2-Year Extended Warranty	\$ 95.00	\$ 95.00
3	299-0045-029	3 Year Extended Warranty	\$ 150.00	\$ 150.00
4	299-0045-041	4 Year Extended Warranty: ES only	\$ 250.00	\$ 250.00
5	299-PRGM-001	Radio Profile Creation	\$ 150.00	\$ 120.00
6	299-PRGM-002	Factory Programming (If radio profile is not provided, then Radio Profile Creation must be purchased)	\$ 75.00	\$ 60.00
7	250-5000-945	Subscriber Management Assistant (SMA) Keyloading Kit Includes: Handheld PDA device, case, adapter cable, charger, operating system, manuals. Supports DES, DES-OFB, AES, encryption keyloading via SLN/CKR protocol (Radio Cable ordered separately)	\$ 3,200.00	\$ 2,560.00
8	023-5000-940	5100 Series Portable Radio Key Loader Cable for Subscriber Management Assistant Keyloading Kit	\$ 275.00	\$ 220.00

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Line Number	Part Number	Description	List Price	20% Discount
9	023-5000-950	5300 Series Mobile Radio Key Loader Cable for Subscriber Management Assistant	\$ 300.00	\$ 240.00
10	299-UPGR-108	From Conventional System to SMARTNET	\$ 200.00	\$ 160.00
11	299-UPGR-109	From Conventional System or SMARTNET to SmartZone	\$ 400.00	\$ 320.00
12	299-UPGR-110	From Conventional System to P25 Common Air Interface (CAI)	\$ 500.00	\$ 400.00
13	299-UPGR-111	From Conventional System to P25 Trunking (Includes SMARTNET/SmartZone, but P25 CAI must be purchased if not previously purchased)	\$ 725.00	\$ 580.00
14	299-UPGR-112	From Conventional System to P25 Trunking only (P25 CAI must be purchased if not previously purchased)	\$ 425.00	\$ 340.00
15	299-UPGR-101	From SMARTNET or SmartZone to P25 Trunking only (P25 CAI must be purchased if not previously purchased)	\$ 475.00	\$ 380.00
16	299-UPGR-113	Add P25 Trunking to Multi-Net only Protocol (P25 CAI must be purchased if not previously purchased)	\$ 1,000.00	\$ 800.00
17	299-UPGR-100	DES/DES-OFB Multi-Key	\$ 600.00	\$ 480.00
18	299-UPGR-103	AES	\$ 500.00	\$ 400.00
19	299-UPGR-104	P25 OTAR (Over the Air Rekeying)	\$ 800.00	\$ 640.00
20	299-UPGR-105	P25 Data Conventional (requires appropriate data cable)	\$ 200.00	\$ 160.00
21	299-UPGR-106	P25 Data Trunking and Conventional (requires appropriate data cable)	\$ 250.00	\$ 200.00
22	299-UPGR-107	Zoned Fail-Site Lock	\$ 215.00	\$ 172.00
23	299-UPGR-114	MDC1200	\$ 100.00	\$ 80.00
24	299-UPGR-118	P25 OTAP (Over the Air Programming)	\$ 250.00	\$ 200.00
25	299-UPGR-120	SMARTNET/SmartZone Rebanding Option	\$ 300.00	\$ 240.00
26	299-UPGR-121	51LT Protocol Swap - P25 Trunking to SNSZ	\$ 150.00	\$ 120.00
27	299-UPGR-124	Hardware System Key Only	\$ 50.00	\$ 40.00
28	023-9998-527	PC Configure Software (Software and manual on CD)	\$ 350.00	\$ 280.00
29	023-9998-534201	Radio File Exchange (RFX), (Software and manual on CD)	\$ 15.00	\$ 12.00
30	250-5400-104	PC Configure and RFX Kit, Portable and Mobile (software and manual on CD and mobile/portable USB programming cable)	\$ 620.00	\$ 496.00
31	023-9998-531	Express Code Updater - 5100 ES (Software and manual on CD)	\$ 40.00	\$ 32.00

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Line Number	Part Number	Description	List Price	20% Discount
32	023-9998-530	Express Code Updater - 5100 Series 4 and 51LT (Software and manual on CD)	\$ 40.00	\$ 32.00
33	023-9998-533	Express Code Updater - 5300 ES (Software and manual on CD)	\$ 40.00	\$ 32.00
34	023-9998-532	Express Code Updater - 5300 Series 4 (Software and manual on CD)	\$ 40.00	\$ 32.00
35	299-0045-038	PC Configure Software Subscription (5 years)	\$ 500.00	\$ 400.00
36	023-5100-970	5100 Series Radio Personality Programming Cable (USB) (Not compatible with PC Tune)	\$ 200.00	\$ 160.00
37	023-5300-98001	5300 Series Radio Personality Programming Cable (USB) (Not compatible with PC Tune)	\$ 150.00	\$ 120.00
38	023-5100-920	5100 Series Radio Personality Programming Cable (serial)	\$ 120.00	\$ 96.00
39	250-5300-008	5300 Series Serial Programming Hardware Kit (includes RPI box serial cable and RPI to Radio cable)	\$ 400.00	\$ 320.00
40	023-5300-010	Programming Plug for 5300	\$ 50.00	\$ 40.00
41	585-5000-894	4-port USB to Serial Adapter	\$ 355.00	\$ 284.00
42	585-5000-946	USB to DB9 cable connecting SMA to key loader cable (replacement for cable contained in 250-5000-945)	\$ 150.00	\$ 120.00
43	023-5100-930	5100 Series Radio Personality Cloning Cable, radio to radio (radio must have Flash code 1.5.0 or later and be programmed using PC Configure 1.17 or later.)	\$ 300.00	\$ 240.00
44	250-5000-971	Enhanced System Key - Master Key	\$ 300.00	\$ 240.00
45	250-5000-973	Enhanced System Key - Slave Key	\$ 175.00	\$ 140.00
46	023-5300-001	5300 Series Remote Programming Interface box (RPI box)	\$ 280.00	\$ 224.00
47	023-5300-005	5300 Series Radio Programming Cable (serial)	\$ 100.00	\$ 80.00
48	597-5900-002	Interface Cable to connect RPI to computer, DB-9 M-F	\$ 50.00	\$ 40.00
49	515-3102-050	SMA to BNC, F to F adapter	\$ 80.00	\$ 64.00
Add to Contract				
1	242-577A-853IF8	VP600 Portable » Model I » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,375.00	\$ 1,900.00



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Line Number	Part Number	Description	List Price	20% Discount
2	242-577B-853IF8	VP600 Portable » Model II » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,525.00	\$ 2,020.00
3	242-577C-853IF8	VP600 Portable » Model III » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,775.00	\$ 2,220.00
4	242-571A-653IF8	VP600 Portable » Model I » VHF, 136-174 MHz » VHF, 136-174 MHz Dipole, red core (Wideband) » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,390.00	\$ 1,912.00
5	242-571B-653IF8	VP600 Portable » Model II » VHF, 136-174 MHz » VHF, 136-174 MHz Dipole, red core (Wideband) » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,540.00	\$ 2,032.00
6	242-571C-653IF8	VP600 Portable » Model III » VHF, 136-174 MHz » VHF, 136-174 MHz Dipole, red core (Wideband) » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,790.00	\$ 2,232.00
7	242-572A-453IF8	VP600 Portable » Model I » UHF R1, 380-470 MHz» UHF, 380-520 MHz » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,375.00	\$ 1,900.00
8	242-572B-453IF8	VP600 Portable » Model II » UHF R1, 380-470 MHz» UHF, 380-520 MHz » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,525.00	\$ 2,020.00
9	242-527C-453IF8	VP600 Portable » Model III » UHF R1, 380-470 MHz» UHF, 380-520 MHz » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,775.00	\$ 2,220.00



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Line Number	Part Number	Description	List Price	20% Discount
10	589-3015-05225	ES Basic Speaker Mic with Emergency button 25 inch	\$ 150.00	\$ 120.00
11	589-3015-05618	ES Public Safety Speaker Microphone (Must order antenna separately) Emergency button 3.5mm jack 18 inch	\$ 315.00	\$ 252.00
12	589-3015-05625	ES Public Safety Speaker Microphone (Must order antenna separately) Emergency button 3.5mm jack 25 inch	\$ 315.00	\$ 252.00
13	589-3015-05630	ES Public Safety Speaker Microphone (Must order antenna separately) Emergency button 3.5mm jack 30 inch	\$ 315.00	\$ 252.00
14	589-3600-058	VP600 GPS Speaker Mic with Emergency button, 3.5mm jack, hi/lo button	\$ 525.00	\$ 420.00
15	589-3015-058	ES GPS Speaker Mic with Emergency button, 3.5mm jack, hi/lo button	\$ 525.00	\$ 420.00
16	589-3015-07325	ES Only Amplified speaker mic with emergency button, Hi/Lo switch and 3.5mm jack. 25 inch	\$ 271.00	\$ 216.80
17	563-0600-235	VP600/ES multi chem single-bay charger. (NiMH, Li-Ion, & Li Polymer)	\$ 125.00	\$ 100.00
18	563-0600-361	VP600/ES multi chem multi-bay (6) charger. (NiMH, Li-Ion, & Li Polymer)	\$ 650.00	\$ 520.00
19	888-1190-004	ES Vehicular Car Charger	\$ 120.00	\$ 96.00
20	587-5700-374	Li-Ion battery, VP600 only	\$ 130.00	\$ 104.00
21	508-4600-611	VP600 Leather Case, Belt flap Mil Strap Model II and III	\$ 60.00	\$ 48.00
22	508-4600-612	VP600 Leather Case, D-Swivel Mil Strap Model II and III	\$ 70.00	\$ 56.00
23	508-4600-652	VP600 Nylon Case, D-Swivel Mil Strap Model II and III	\$ 65.00	\$ 52.00
24	563-0600-651	VP600 Nylon Case, Belt flap Mil Strap Model II and III	\$ 55.00	\$ 44.00

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Line Number	Part Number	Description	List Price	20% Discount
Portables				
1	242-527B-833KA6	51SL ES Portable » Model II » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 2,025.00	\$ 1,620.00
2	242-527B-830KA6	51SL ES Portable » Model II » FM IS » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, » Black Immersion Housing » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 1,925.00	\$ 1,540.00
3	242-527C-833KA6	51SL ES Portable » Model III » FM IS » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion and FM IS » Black Immersion Housing » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 2,175.00	\$ 1,740.00
4	242-527A-830KY6	51SL ES Portable » Model I » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, » Black Housing » P25 Protocol » Conventional / P25 Trunking » 48 Channels/Talkgroups	\$ 1,600.00	\$ 1,280.00
5	242-521A-630BZ6	51SL ES Portable » Model I » VHF » 136-174 MHz Antenna » Extra-High Capacity Battery Pack, NiMH » Black Housing » P25 Protocol » Conventional System » 48 Channels/Talkgroups	\$ 1,490.00	\$ 1,192.00
6	242-521A-630AG6	51SL ES Portable » Model I » VHF » 136-174 MHz Antenna » Extra-High Capacity Battery Pack, NiMH » Black Housing » Analog FM Protocol » Conventional System » 48 Channels/Talkgroups	\$ 1,440.00	\$ 1,152.00
7	242-521B-630BC6	51SL ES Portable » Model II » VHF » 136-174 MHz Antenna » Extra-High Capacity Battery Pack, NiMH » Black Housing » P25 Protocol » Conventional System » 512 Channels/Talkgroups	\$ 1,815.00	\$ 1,452.00
8	242-522B-430BC6	51SL ES Portable » Model II » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH » Black Housing » P25 Protocol » Conventional System » 512 Channels/Talkgroups	\$ 1,800.00	\$ 1,440.00

**1- Michigan Pricelist Final Copy**

Line Number	Part Number	Description	List Price	20% Discount
9	242-522B-430AA6	51SL ES Portable » Model II » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, » Black Housing » Analog FM Protocol » Conventional System » 512 Channels/Talkgroups	\$ 1,750.00	\$ 1,400.00
10	242-522A-430AG6	51SL ES Portable » Model I » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH » Black Housing » Analog FM Protocol » Conventional System » 48 Channels/Talkgroups	\$ 1,425.00	\$ 1,140.00
11	242-522A-430BZ6	51SL ES Portable » Model I » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH » Black Housing » P25 Protocol » Conventional System » 48 Channels/Talkgroups	\$ 1,475.00	\$ 1,180.00
12	242-577A-853IF8	VP600 Portable » Model I » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,375.00	\$ 1,900.00
13	242-577B-853IF8	VP600 Portable » Model II » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,525.00	\$ 2,020.00
14	242-577C-853IF8	VP600 Portable » Model III » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,775.00	\$ 2,220.00
15	242-571A-653IF8	VP600 Portable » Model I » VHF, 136-174 MHz » VHF, 136-174 MHz Dipole, red core (Wideband) » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,390.00	\$ 1,912.00
16	242-571B-653IF8	VP600 Portable » Model II » VHF, 136-174 MHz » VHF, 136-174 MHz Dipole, red core (Wideband) » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,540.00	\$ 2,032.00

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Line Number	Part Number	Description	List Price	20% Discount
17	242-571C-653IF8	VP600 Portable » Model III » VHF, 136-174 MHz » VHF, 136-174 MHz Dipole, red core (Wideband) » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,790.00	\$ 2,232.00
18	242-572A-453IF8	VP600 Portable » Model I » UHF R1, 380-470 MHz » UHF, 380-520 MHz » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,375.00	\$ 1,900.00
19	242-572B-453IF8	VP600 Portable » Model II » UHF R1, 380-470 MHz » UHF, 380-520 MHz » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,525.00	\$ 2,020.00
20	242-527C-453IF8	VP600 Portable » Model III » UHF R1, 380-470 MHz » UHF, 380-520 MHz » Extra-High Capacity Battery Pack, Lilon, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 1024 Channels/Talkgroups	\$ 2,775.00	\$ 2,220.00
<b>Mobiles</b>				
1	242-547G-201-AFAB6	53SL ES Mobile » Dash Mount » 700/800 MHz » Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 2,905.00	\$ 2,324.00
2	242-547G-201-AFAH6	53SL ES Mobile » Dash Mount » 700/800 MHz » Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 256 Channels/Talkgroups	\$ 2,755.00	\$ 2,204.00
3	242-547G-20A-AFAB6	53SL ES Mobile » Dash Mount » 700/800 MHz » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 3,675.00	\$ 2,940.00
4	242-547H-201-RFAB6	53SL ES Mobile » Remote Mount » 700/800 MHz » Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 3,375.00	\$ 2,700.00

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Line Number	Part Number	Description	List Price	20% Discount
5	242-547H-20A-RFAB6	53SL ES Mobile » Remote Mount » 700/800 MHz » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 4,145.00	\$ 3,316.00
6	250-0151-005	Remote speaker, environmentally sealed	\$ 55.00	\$ 44.00
7	242-547H-206-TFAB6	53SL ES Mobile » Remote Mount » 700/800 MHz » Dual Control Head (with Palm Mics) » Dual Remote / Accessory/Data (DB9) / Siren Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 4,025.00	\$ 3,220.00
8	242-547H-20G-TFAB6	53SL ES Mobile » Remote Mount » 700/800 MHz » Dual Lightning Control Head (with Palm Mics) » Dual Remote / Accessory/Data (DB9) / Siren Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	\$ 5,565.00	\$ 4,452.00
9	242-541G-20A-AAAH6	53SL ES Mobile » Dash Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,300.00	\$ 2,640.00
10	242-541G-801-AAAH6	53SL ES Mobile » Dash Mount » VHF 50 Watt » Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,180.00	\$ 1,744.00
11	242-541G-80A-AAAH6	53SL ES Mobile » Dash Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,950.00	\$ 2,360.00
12	242-541H-801-RAAH6	53SL ES Mobile » Remote Mount » VHF 50 Watt » Control Head w/ Palm Mic » Single Remote / Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,650.00	\$ 2,120.00
13	242-541H-80A-RAAH6	53SL ES Mobile » Remote Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,420.00	\$ 2,736.00
14	242-546C-201-AAAH6	53SL ES Mobile » Dash Mount » UHF » Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,670.00	\$ 2,136.00

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Line Number	Part Number	Description	List Price	20% Discount
15	242-546C-20A-AAAH6	53SL ES Mobile » Dash Mount » UHF » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,440.00	\$ 2,752.00
16	242-546C-801-AAAH6	53SL ES Mobile » Dash Mount » UHF » Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 2,320.00	\$ 1,856.00
17	242-546C-80A-AAAH6	53SL ES Mobile » Dash Mount » UHF » Lightning Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,090.00	\$ 2,472.00
18	242-546D-20A-RAAH6	53SL ES Mobile » Remote Mount » UHF » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,910.00	\$ 3,128.00
19	242-541H-20A-RAAH6	53SL ES Mobile » Remote Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	\$ 3,770.00	\$ 3,016.00
Portable Accessories				
1	589-0015-057	Speaker Microphone (Intrinsically Safe)	\$ 130.00	\$ 104.00
2	589-0015-056	Speaker Microphone (immersion capable)	\$ 160.00	\$ 128.00
3	589-3015-05225	ES Basic Speaker Mic with Emergency button 25 inch	\$ 150.00	\$ 120.00
4	589-3015-05618	ES Public Safety Speaker Microphone (Must order antenna separately) Emergency button 3.5mm jack 18 inch	\$ 315.00	\$ 252.00
5	589-3015-05625	ES Public Safety Speaker Microphone (Must order antenna separately) Emergency button 3.5mm jack 25 inch	\$ 315.00	\$ 252.00
6	589-3015-05630	ES Public Safety Speaker Microphone (Must order antenna separately) Emergency button 3.5mm jack 30 inch	\$ 315.00	\$ 252.00
7	589-3600-058	VP600 GPS Speaker Mic with Emergency button, 3.5mm jack, hi/lo button	\$ 525.00	\$ 420.00
8	589-3015-058	ES GPS Speaker Mic with Emergency button, 3.5mm jack, hi/lo button	\$ 525.00	\$ 420.00
9	589-3015-07325	ES Only Amplified speaker mic with emergency button, Hi/Lo switch and 3.5mm	\$ 271.00	\$ 216.80

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Line Number	Part Number	Description	List Price	20% Discount
		jack. 25 inch		
10	589-5100-051	Accessory Adapter w/3.5 mm jack	\$ 85.00	\$ 68.00
11	589-0015-059	Lightweight Headset/ In-Line PTT (requires 589-5100-051 adapter)	\$ 115.00	\$ 92.00
12	589-5100-057	Coil Cord Earphone/ Right Angle Plug (requires 589-0015-057 speaker microphone)	\$ 70.00	\$ 56.00
13	589-5100-059	Coil Cord Earphone/ Straight Plug (requires 589-0015-057 speaker mic; not compatible with 589-0015-056)	\$ 70.00	\$ 56.00
14	589-5100-055	2-Wire Palm Mic Kit (requires 589-5100-051 adapter)	\$ 140.00	\$ 112.00
15	589-5100-056	3-Wire Lapel Microphone Kit (requires 589-5100-051 adapter)	\$ 180.00	\$ 144.00
16	589-5100-076	Throat mic w/built in PTT & 5100 connector w/ Velcro strap (requires speaker option 589-5100-078 or -079)	\$ 625.00	\$ 500.00
17	589-5100-080	Throat mic w/built in PTT & 3.5mm connector w/ Velcro strap (requires speaker option 589-5100-078 or -079 and 3.5mm adapter 589-5100-051)	\$ 540.00	\$ 432.00
18	589-5100-077	Throat mic with 80mm body PTT, IS (requires speaker option 589-5100-078 or -079)	\$ 700.00	\$ 560.00
19	589-5100-078	D-Loop on-ear speaker for Throat Mic	\$ 100.00	\$ 80.00
20	589-5100-079	Surveillance speaker for Throat Mic	\$ 100.00	\$ 80.00
21	501-0017-110	VHF, 136-174 MHz, dipole, Red Core (wideband)	\$ 45.00	\$ 36.00
22	501-0017-101	VHF, 136-151 MHz, Helical, Yellow Core	\$ 30.00	\$ 24.00
23	501-0017-103	VHF 151-162 MHz, Helical, black core	\$ 30.00	\$ 24.00
24	501-0017-105	VHF, 162-174 MHz, Helical, blue core	\$ 30.00	\$ 24.00
25	501-0017-107	UHF 380-520 MHz, 1/4 wave whip	\$ 30.00	\$ 24.00
26	501-0105-073	700/800 MHz, 1/2 wave whip	\$ 30.00	\$ 24.00
27	501-0105-012	700/800 MHz, 1/4 wave whip	\$ 30.00	\$ 24.00
28	587-5100-373	NiMH Extra-High Capacity Battery Pack, Immersion Rated, FM IS	\$ 125.00	\$ 100.00
29	587-5100-364	Lilon Ultra-High Capacity Battery Pack, Immersion Rated	\$ 135.00	\$ 108.00
30	587-5700-374	Li-Ion battery, VP600 only	\$ 130.00	\$ 104.00
31	250-5100-010	Knob Kit #1, Round channel/round flat volume	\$ 12.00	\$ 9.60
32	250-5100-011	Knob Kit #2, Blade channel/round volume	\$ 12.00	\$ 9.60



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Line Number	Part Number	Description	List Price	20% Discount
33	250-5100-235	Charger Kit, Non-Switching Power Supply, USA A/C Cord (NiMH and NiCad only)	\$ 100.00	\$ 80.00
34	250-5100-315	Tri-Chemistry Charger/Conditioner with Switched Power Supply, Rapid Rate	\$ 150.00	\$ 120.00
35	563-0600-235	VP600/ES multi chem single-bay charger. (NiMH, Li-Ion, & Li Polymer)	\$ 125.00	\$ 100.00
36	563-0600-361	VP600/ES multi chem multi-bay (6) charger. (NiMH, Li-Ion, & Li Polymer)	\$ 650.00	\$ 520.00
37	888-1190-004	ES Vehicular Car Charger	\$ 120.00	\$ 96.00
38	585-5100-245	Wall-Mount Bracket for Multi-Unit Charger Kit	\$ 75.00	\$ 60.00
39	585-5100-14001	Leather Case, Model I, Belt Flap	\$ 70.00	\$ 56.00
40	585-5100-14002	Leather Case, Model I, D-Swivel Belt Loop	\$ 70.00	\$ 56.00
41	585-5100-14003	Leather Case, Model II / III, Belt Flap	\$ 70.00	\$ 56.00
42	585-5100-14801	3.0" D-Swivel Belt Loop, Leather	\$ 15.00	\$ 12.00
43	585-5100-14802	2.5" D-Swivel Belt Loop, Leather	\$ 15.00	\$ 12.00
44	508-4600-611	VP600 Leather Case, Belt flap Mil Strap Model II and III	\$ 60.00	\$ 48.00
45	508-4600-612	VP600 Leather Case, D-Swivel Mil Strap Model II and III	\$ 70.00	\$ 56.00
46	585-5100-15001	Nylon Case, Model I, D-Swivel Belt Loop, Black	\$ 60.00	\$ 48.00
47	585-5100-15002	Nylon Case, Model II / III, D-Swivel Belt Loop, Black	\$ 60.00	\$ 48.00
48	585-5100-15003	Nylon Case, Model I, B-Clip, Black	\$ 60.00	\$ 48.00
49	585-5100-15004	Nylon Case, Model II / III, D-Swivel, Yellow	\$ 60.00	\$ 48.00
50	585-5100-15005	Nylon Case, Model I, Military LBE Strap, Black	\$ 60.00	\$ 48.00
51	508-4600-652	VP600 Nylon Case, D-Swivel Mil Strap Model II and III	\$ 65.00	\$ 52.00
52	563-0600-651	VP600 Nylon Case, Belt flap Mil Strap Model II and III	\$ 55.00	\$ 44.00
53	585-5100-128	Belt Clip 2 1/4", Spring Loaded	\$ 15.00	\$ 12.00
54	585-5100-129	Belt Clip 3", Spring Loaded	\$ 15.00	\$ 12.00
55	004-5100-70000	5100ES Family Tone Reference Guide	\$ 10.00	\$ 8.00
56	002-5200-70003CD	51SL ES Model I Operating Manual CD	\$ 15.00	\$ 12.00
57	002-5200-72003CD	51SL ES Model II/III Operating Manual CD	\$ 15.00	\$ 12.00
58	002-5200-74000	51SL ES Model I Quick Reference Guide	\$ 15.00	\$ 12.00
59	002-5200-76001	51SL ES Model II Quick Reference Guide	\$ 15.00	\$ 12.00
60	002-5200-78001	51SL ES Model III Quick Reference Guide	\$ 15.00	\$ 12.00



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Line Number	Part Number	Description	List Price	20% Discount
Mobile Accessories				
1	250-0740-31001	Standard Microphone: 13 Pin	\$ 100.00	\$ 80.00
2	589-0016-56003	Dual Remote Noise Cancelling Microphone: 13 Pin	\$ 175.00	\$ 140.00
3	250-0151-006	5" remote speaker, environmentally sealed	\$ 55.00	\$ 44.00
4	250-0151-005	5" Remote Speaker, environmentally sealed, with connector (Required for Hand Held Controller)	\$ 55.00	\$ 44.00
5	597-5357-701	Accessory Cable	\$ 30.00	\$ 24.00
6	597-5357-70601	Single Remote / Accessory Cable	\$ 80.00	\$ 64.00
7	597-5357-73601	UDDI / Single Remote / Accessory Cable	\$ 120.00	\$ 96.00
8	597-5357-71601	Single Remote / Accessory / Data (DB9) / Siren Cable	\$ 120.00	\$ 96.00
9	597-5357-74101	Dual Remote / Accessory / Data (DB9) / Siren Cable	\$ 170.00	\$ 136.00
10	597-5357-74601	3rd Party DB-25 / Accessory Cable	\$ 150.00	\$ 120.00
11	597-5357-75601	5300 ES Power Cable	\$ 35.00	\$ 28.00
12	023-5300-012	Standard ES Series Mounting Bracket Kit	\$ 30.00	\$ 24.00
13	023-5300-013	Low Profile ES Series Mounting Bracket Kit	\$ 30.00	\$ 24.00
14	017-2226-05002	Remote Control Head Mounting Bracket	\$ 15.00	\$ 12.00
15	501-0012-001	VHF & UHF tunable 1/4 wave whip roof-mount antenna with "N" connector (No adapter required)	\$ 55.00	\$ 44.00
16	501-0012-011	VHF & UHF tunable 1/4 wave whip magnetic base antenna	\$ 90.00	\$ 72.00
17	501-0012-020	762-870 MHz low profile le, roof mount, broadband Antenna Kit	\$ 85.00	\$ 68.00
18	250-5300-002	5300 ES Remote Control Head Conversion Kit, Single or Dual (Includes ES remote shroud with blank faceplate, mounting bracket, 17' remote cable, and single / remote accessory cable)	\$ 475.00	\$ 380.00
19	250-5300-003	5300 ES remote control head kit for second control head (Includes ES remote control head and mounting bracket) - requires remote or dual-remote 60-pin cable and 6', 17', or 50' remote cable	\$ 650.00	\$ 520.00
20	587-5357-51601	5300 ES Key Cap Kit	\$ 25.00	\$ 20.00
21	597-5357-77501	5300 Remote cable - 6'	\$ 100.00	\$ 80.00
22	597-5357-77502	5300 ES Remote Cable - 17'	\$ 160.00	\$ 128.00
23	597-5357-77503	5300 ES Remote Cable - 50'	\$ 300.00	\$ 240.00
24	250-4001-202	15 amp 120V Power Supply with cabinet and radio power cable	\$ 295.00	\$ 236.00

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Line Number	Part Number	Description	List Price	20% Discount
25	250-5300-212	30 amp 120V Power Supply with cabinet and radio power cable (for 100W VHF radios)	\$ 430.00	\$ 344.00
26	589-0012-023	5300 Series Advanced Desktop Microphone	\$ 480.00	\$ 384.00
27	585-5300-102	Programming Kit including software and cable	\$ 130.00	\$ 104.00
28	585-5300-114	Clock VU MTR, Remote Option 610, IDA 431-RBC-610	\$ 120.00	\$ 96.00
29	585-5300-116	4-Wire, Remote Option 611, IDA 431-RBC-611	\$ 60.00	\$ 48.00
30	001-5300-70002CD	5300 ES Series Service Manual CD	\$ 45.00	\$ 36.00
31	004-5300-710-05	5300 ES Series Installation Manual - Dash Mount	\$ 15.00	\$ 12.00
32	004-5300-730-05	5300 ES Series Installation Manual - Remote Mount	\$ 15.00	\$ 12.00
33	002-5300-72000	5300ES Quick Reference Guide	\$ 15.00	\$ 12.00
34	002-5400-70003CD	53SL ES Operating Manual CD	\$ 15.00	\$ 12.00
35	002-5400-72001	53SL ES Quick Reference Guide	\$ 15.00	\$ 12.00
<b>Common Accessories</b>				
1	299-0045-017	1-Year Extended Warranty	\$ 45.00	\$ 45.00
2	299-0045-013	2-Year Extended Warranty	\$ 95.00	\$ 95.00
3	299-0045-029	3 Year Extended Warranty	\$ 150.00	\$ 150.00
4	299-0045-041	4 Year Extended Warranty: ES only	\$ 250.00	\$ 250.00
5	299-PRGM-001	Radio Profile Creation	\$ 150.00	\$ 120.00
6	299-PRGM-002	Factory Programming (If radio profile is not provided, then Radio Profile Creation must be purchased)	\$ 75.00	\$ 60.00
7	250-5000-945	Subscriber Management Assistant (SMA) Keyloading Kit Includes: Handheld PDA device, case, adapter cable, charger, operating system, manuals. Supports DES, DES-OFB, AES, encryption keyloading via SLN/CKR protocol (Radio Cable ordered separately)	\$ 3,200.00	\$ 2,560.00
8	023-5000-940	5100 Series Portable Radio Key Loader Cable for Subscriber Management Assistant Keyloading Kit	\$ 275.00	\$ 220.00
9	023-5000-950	5300 Series Mobile Radio Key Loader Cable for Subscriber Management Assistant	\$ 300.00	\$ 240.00
10	299-UPGR-108	From Conventional System to SMARTNET	\$ 200.00	\$ 160.00
11	299-UPGR-109	From Conventional System or SMARTNET to SmartZone	\$ 400.00	\$ 320.00

**1- Michigan Pricelist Final Copy**

Line Number	Part Number	Description	List Price	20% Discount
12	299-UPGR-110	From Conventional System to P25 Common Air Interface (CAI)	\$ 500.00	\$ 400.00
13	299-UPGR-111	From Conventional System to P25 Trunking (Includes SMARTNET/SmartZone, but P25 CAI must be purchased if not previously purchased)	\$ 725.00	\$ 580.00
14	299-UPGR-112	From Conventional System to P25 Trunking only (P25 CAI must be purchased if not previously purchased)	\$ 425.00	\$ 340.00
15	299-UPGR-101	From SMARTNET or SmartZone to P25 Trunking only (P25 CAI must be purchased if not previously purchased)	\$ 475.00	\$ 380.00
16	299-UPGR-113	Add P25 Trunking to Multi-Net only Protocol (P25 CAI must be purchased if not previously purchased)	\$ 1,000.00	\$ 800.00
17	299-UPGR-100	DES/DES-OFB Multi-Key	\$ 600.00	\$ 480.00
18	299-UPGR-103	AES	\$ 500.00	\$ 400.00
19	299-UPGR-104	P25 OTAR (Over the Air Rekeying)	\$ 800.00	\$ 640.00
20	299-UPGR-105	P25 Data Conventional (requires appropriate data cable)	\$ 200.00	\$ 160.00
21	299-UPGR-106	P25 Data Trunking and Conventional (requires appropriate data cable)	\$ 250.00	\$ 200.00
22	299-UPGR-107	Zoned Fail-Site Lock	\$ 215.00	\$ 172.00
23	299-UPGR-114	MDC1200	\$ 100.00	\$ 80.00
24	299-UPGR-118	P25 OTAP (Over the Air Programming)	\$ 250.00	\$ 200.00
25	299-UPGR-120	SMARTNET/SmartZone Rebanding Option	\$ 300.00	\$ 240.00
26	299-UPGR-121	51LT Protocol Swap - P25 Trunking to SNSZ	\$ 150.00	\$ 120.00
27	299-UPGR-124	Hardware System Key Only	\$ 50.00	\$ 40.00
28	023-9998-527	PC Configure Software (Software and manual on CD)	\$ 350.00	\$ 280.00
29	023-9998-534201	Radio File Exchange (RFX), (Software and manual on CD)	\$ 15.00	\$ 12.00
30	250-5400-104	PC Configure and RFX Kit, Portable and Mobile (software and manual on CD and mobile/portable USB programming cable)	\$ 620.00	\$ 496.00
31	023-9998-531	Express Code Updater - 5100 ES (Software and manual on CD)	\$ 40.00	\$ 32.00
32	023-9998-530	Express Code Updater - 5100 Series 4 and 51LT (Software and manual on CD)	\$ 40.00	\$ 32.00
33	023-9998-533	Express Code Updater - 5300 ES (Software and manual on CD)	\$ 40.00	\$ 32.00
34	023-9998-532	Express Code Updater - 5300 Series 4 (Software and manual on CD)	\$ 40.00	\$ 32.00

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Line Number	Part Number	Description	List Price	20% Discount
35	299-0045-038	PC Configure Software Subscription (5 years)	\$ 500.00	\$ 400.00
36	023-5100-970	5100 Series Radio Personality Programming Cable (USB) (Not compatible with PC Tune)	\$ 200.00	\$ 160.00
37	023-5300-98001	5300 Series Radio Personality Programming Cable (USB) (Not compatible with PC Tune)	\$ 150.00	\$ 120.00
38	023-5100-920	5100 Series Radio Personality Programming Cable (serial)	\$ 120.00	\$ 96.00
39	250-5300-008	5300 Series Serial Programming Hardware Kit (includes RPI box serial cable and RPI to Radio cable)	\$ 400.00	\$ 320.00
40	023-5300-010	Programming Plug for 5300	\$ 50.00	\$ 40.00
41	585-5000-894	4-port USB to Serial Adapter	\$ 355.00	\$ 284.00
42	585-5000-946	USB to DB9 cable connecting SMA to key loader cable (replacement for cable contained in 250-5000-945)	\$ 150.00	\$ 120.00
43	023-5100-930	5100 Series Radio Personality Cloning Cable, radio to radio (radio must have Flash code 1.5.0 or later and be programmed using PC Configure 1.17 or later.)	\$ 300.00	\$ 240.00
44	250-5000-971	Enhanced System Key - Master Key	\$ 300.00	\$ 240.00
45	250-5000-973	Enhanced System Key - Slave Key	\$ 175.00	\$ 140.00
46	023-5300-001	5300 Series Remote Programming Interface box (RPI box)	\$ 280.00	\$ 224.00
47	023-5300-005	5300 Series Radio Programming Cable (serial)	\$ 100.00	\$ 80.00
48	597-5900-002	Interface Cable to connect RPI to computer, DB-9 M-F	\$ 50.00	\$ 40.00
49	515-3102-050	SMA to BNC, F to F adapter	\$ 80.00	\$ 64.00

STATE OF MICHIGAN  
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET  
PURCHASING OPERATIONS  
P.O. BOX 30026, LANSING, MI 48909  
OR  
530 W. ALLEGAN, LANSING, MI 48933

June 20, 2011

CHANGE NOTICE NO. 1  
TO  
CONTRACT NO. 071B0200124  
between  
THE STATE OF MICHIGAN  
and

NAME & ADDRESS OF CONTRACTOR <b>E.F. Johnson Company</b> <b>1440 Corporate Dr.</b> <b>Irving, TX 75038</b> <b>Attention: Paul Singh</b> <b>Email: PSingh@efjohnson.com</b>		TELEPHONE Paul Singh <b>(630) 589-2409</b>
		VENDOR NUMBER/MAIL CODE
		BUYER/CA (517) 241-3215 <b>Steve Motz</b>
Contract Compliance Inspector: Tom Thompson <b>2-way Radios - DIT</b>		
CONTRACT PERIOD: From: <b>April 12, 2010</b> To: <b>January 19, 2013</b>		
TERMS <b>N/A</b>	SHIPMENT <b>N/A</b>	
F.O.B. <b>N/A</b>	SHIPPED FROM <b>N/A</b>	
MINIMUM DELIVERY REQUIREMENTS <b>N/A</b>		
MISCELLANEOUS INFORMATION:		

**THIS CONTRACT IS HEREBY EXTENDED TO LOCAL UNITS OF GOVERNMENT.**

**NATURE OF CHANGE (S):**

**The following individuals the Point of Contact for the Contractor:**

Primary Point of Contact - Paul Singh  
Director of Strategic Accounts  
630-663-1526 Off  
630-589-2409 cell  
[psingh@efji.com](mailto:psingh@efji.com)

Backup Point of Contact - Timi Jackson  
Legal Counsel  
972-819-2336  
[tjackson@efji.com](mailto:tjackson@efji.com)

**The attached 51 LT Radio has been added to the Contract Pricing (Attachment A, EF JOHNSON PRODUCT LIST) All other terms, conditions, pricing and specifications remain unchanged.**

**AUTHORITY/REASON:**

**Per Agency and Vendor agreement and DMB/Purchasing Operations approval.**

**TOTAL ESTIMATED CONTRACT VALUE REMAINS: \$500,000.00**

**Additional Models Added to Attachment A, (EF JOHNSON PRODUCT LIST) Through Change Notice No. 1**

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
3.0 - PORTABLE RADIOS	EF JOHNSON	51LT ES Portable Radio, Model II, P 25 CAI, MDC 1200/GESTAR, 700/800 MHz, P 25 Trunking, 48 channels/talkgroup	700/800	242-507B- 840-PE6	15.0%		\$475.00	YES	YES
3.0 - PORTABLE RADIOS	EF JOHNSON	51LT ES Portable Radio, Model II, P 25 CAI, MDC1200/GESTAR, 700/800 MHz, P 25 Trunking, 128 channels/talkgroup	700/800	242-507B- 840-PF6	15.0%		\$475.00	YES	YES

STATE OF MICHIGAN  
DEPARTMENT OF TECHNOLOGY, MANAGEMENT AND BUDGET  
PURCHASING OPERATIONS  
P.O. BOX 30026, LANSING, MI 48909  
OR  
530 W. ALLEGAN, LANSING, MI 48933

May 20, 2010

NOTICE  
OF  
CONTRACT NO. 071B0200124  
between  
THE STATE OF MICHIGAN  
and

NAME & ADDRESS OF CONTRACTOR <b>E.F. Johnson Company</b> <b>1440 Corporate Dr.</b> <b>Irving, TX 75038</b> <b>Attention: Ed McGlinchey</b> <b>Email: emcglinchey@efji.com</b>		TELEPHONE Ed McGlinchey <b>(616) 974-1565</b>
		VENDOR NUMBER/MAIL CODE
		BUYER/CA (517) 241-3215 <b>Steve Motz</b>
Contract Compliance Inspector: Patty Bogard <b>2-way Radios - DIT</b>		
CONTRACT PERIOD: From: <b>April 12, 2010</b> To: <b>January 19, 2013</b>		
TERMS <b>N/A</b>	SHIPMENT <b>N/A</b>	
F.O.B. <b>N/A</b>	SHIPPED FROM <b>N/A</b>	
MINIMUM DELIVERY REQUIREMENTS <b>N/A</b>		
MISCELLANEOUS INFORMATION:		

**THIS CONTRACT IS HEREBY EXTENDED TO LOCAL UNITS OF GOVERNMENT.**

**Estimated Contract Value: \$500,000.00**

Date \_\_\_\_\_



## Table of Contents

<b>DEFINITIONS.....</b>	<b>10</b>
<b>Article 1 – Statement of Work (SOW).....</b>	<b>12</b>
<b>1.010 PROJECT IDENTIFICATION .....</b>	<b>12</b>
1.011 Project Request.....	12
1.012 Background .....	12
<b>1.020 SCOPE OF WORK AND DELIVERABLES.....</b>	<b>12</b>
1.021 In Scope .....	12
1.022 Work and Deliverable.....	13
1.022 (A) Product Requirements.....	13
1.022 (A.1) Specifications.....	13
1.022 (A.2) Research and Development .....	13
1.022 (A.3) Quality Assurance Program .....	13
1.022 (A.4) Warranty for Products or Services .....	13
<b>Product Warranty.....</b>	<b>14</b>
1.022 (A.5) Extended Warranty for Products or Services.....	14
1.022 (A.6) Catalogs .....	15
1.022 (A.7) Service Manuals .....	15
1.022 (A.8) Environmental Requirements .....	15
1.022 (B) Service Capabilities .....	18
1.022 (B.1) Maintenance / Service / Equipment Repair / Replacement Parts.....	18
1.022 (B.2) Training .....	18
1.022 (B.3) RESERVED - Special Programs .....	19
1.022 (B.4) Security .....	19
1.022 (B.5) Reports.....	19
1.022 (B.6) Meetings.....	20
1.022 (B.7) Receiving Orders.....	20
1.022 (B.8) Customer Service.....	20
1.022 (C) Delivery Capabilities .....	21
1.022 (C.1) Terms and Time Frames .....	21
1.022 (C.2) Minimum Order.....	21
1.022 (C.3) Packaging .....	21
1.022 (C.4) Palletizing.....	21
<b>1.030 ROLES AND RESPONSIBILITIES.....</b>	<b>21</b>
1.031 Contractor Staff, Roles, and Responsibilities .....	21
1.032 Onsite Work Requirements .....	22
1.031 State Staff, Roles, and Responsibilities.....	23
<b>1.040 PROJECT PLAN MANAGEMENT .....</b>	<b>23</b>
<b>1.050 ACCEPTANCE .....</b>	<b>23</b>
1.051 Criteria.....	23
1.052 Final Acceptance.....	23
<b>1.060 CONTRACT PRICING AND PAYMENT.....</b>	<b>23</b>
1.061 Contract Pricing .....	24
1.062 Price Term.....	24
1.063 Tax Excluded from Price .....	25
1.064 Holdback - RESERVED .....	25
<b>Article 2, Terms and Conditions.....</b>	<b>26</b>
<b>2.000 Contract Structure and Term .....</b>	<b>26</b>
2.001 Contract Term.....	26
2.002 Options to Renew.....	26
2.003 Legal Effect.....	26

2.004	Attachments & Exhibits .....	26
2.005	Ordering .....	26
2.006	Order of Precedence .....	26
2.007	Headings .....	27
2.008	Form, Function & Utility .....	27
2.009	Reformation and Severability .....	27
2.010	Consents and Approvals .....	27
2.011	No Waiver of Default .....	27
2.012	Survival .....	27
<b>2.020</b>	<b><i>Contract Administration</i> .....</b>	<b>27</b>
2.021	Issuing Office .....	27
2.022	Contract Compliance Inspector (CCI) .....	27
2.023	Project Manager .....	28
2.024	Change Requests .....	28
2.025	Notices .....	28
2.026	Binding Commitments .....	29
2.027	Relationship of the Parties .....	29
2.028	Covenant of Good Faith .....	29
2.029	Assignments .....	29
<b>2.030</b>	<b><i>General Provisions</i> .....</b>	<b>29</b>
2.031	Media Releases .....	30
2.032	Contract Distribution .....	30
2.033	Permits .....	30
2.034	Website Incorporation .....	30
2.035	Future Bidding Preclusion .....	30
2.036	Freedom of Information .....	30
2.037	Disaster Recovery .....	30
<b>2.040</b>	<b><i>Financial Provisions</i> .....</b>	<b>30</b>
2.041	Fixed Prices for Services/Deliverables .....	30
2.042	Adjustments for Reductions in Scope of Services/Deliverables .....	30
2.043	Services/Deliverables Covered .....	31
2.044	Invoicing and Payment – In General .....	31
2.045	Pro-ration .....	31
2.046	Antitrust Assignment .....	31
2.047	Final Payment .....	31
2.048	Electronic Payment Requirement .....	32
<b>2.050</b>	<b><i>Taxes</i> .....</b>	<b>32</b>
2.051	Employment Taxes .....	32
2.052	Sales and Use Taxes .....	32
<b>2.060</b>	<b><i>Contract Management</i> .....</b>	<b>32</b>
2.061	Contractor Personnel Qualifications .....	32
2.062	Contractor Key Personnel .....	32
2.063	Re-assignment of Personnel at the State’s Request .....	33
2.064	Contractor Personnel Location .....	33
2.065	Contractor Identification .....	33
2.066	Cooperation with Third Parties .....	33
2.067	Contract Management Responsibilities .....	33
2.068	Contractor Return of State Equipment/Resources .....	34
<b>2.070</b>	<b><i>Subcontracting by Contractor</i> .....</b>	<b>34</b>
2.071	Contractor full Responsibility .....	34
2.072	State Consent to delegation .....	34
2.073	Subcontractor bound to Contract .....	34
2.074	Flow Down .....	34

2.075	Competitive Selection.....	34
<b>2.080</b>	<b><i>State Responsibilities.....</i></b>	<b>34</b>
2.081	Equipment.....	35
2.082	Facilities.....	35
<b>2.090</b>	<b><i>Security.....</i></b>	<b>35</b>
2.091	Background Checks .....	35
2.092	Security Breach Notification .....	35
2.093	PCI Data Security Requirements - RESERVED .....	35
<b>2.100</b>	<b><i>Confidentiality .....</i></b>	<b>35</b>
2.101	Confidentiality .....	35
2.102	Protection and Destruction of Confidential Information .....	36
2.103	Exclusions .....	36
2.104	No Implied Rights.....	36
2.105	Respective Obligations .....	36
<b>2.110</b>	<b><i>Records and Inspections .....</i></b>	<b>36</b>
2.111	Inspection of Work Performed .....	36
2.112	Examination of Records .....	37
2.113	Retention of Records.....	37
2.114	Audit Resolution .....	37
2.115	Errors .....	37
<b>2.120</b>	<b><i>Warranties.....</i></b>	<b>37</b>
2.121	Warranties and Representations .....	37
2.122	Warranty of Title.....	39
2.123	Equipment Warranty .....	39
2.124	Equipment to be New.....	39
2.125	Prohibited Products.....	39
2.126	Consequences For Breach.....	39
<b>2.130</b>	<b><i>Insurance .....</i></b>	<b>39</b>
2.131	Liability Insurance.....	39
2.132	Subcontractor Insurance Coverage .....	41
2.133	Certificates of Insurance and Other Requirements .....	41
<b>2.140</b>	<b><i>Indemnification.....</i></b>	<b>42</b>
2.141	General Indemnification .....	42
2.142	Code Indemnification.....	42
2.143	Employee Indemnification.....	42
2.144	Patent/Copyright Infringement Indemnification.....	42
2.145	Continuation of Indemnification Obligations .....	43
2.146	Indemnification Procedures.....	43
<b>2.150</b>	<b><i>Termination/Cancellation .....</i></b>	<b>43</b>
2.151	Notice and Right to Cure .....	43
2.152	Termination for Cause .....	44
2.153	Termination for Convenience .....	44
2.154	Termination for Non-Appropriation .....	44
2.155	Termination for Criminal Conviction.....	45
2.156	Termination for Approvals Rescinded .....	45
2.157	Rights and Obligations upon Termination .....	45
2.158	Reservation of Rights .....	45
<b>2.160</b>	<b><i>Termination by Contractor .....</i></b>	<b>45</b>
2.161	Termination by Contractor .....	46
<b>2.170</b>	<b><i>Transition Responsibilities .....</i></b>	<b>46</b>
2.171	Contractor Transition Responsibilities .....	46
2.172	Contractor Personnel Transition .....	46

2.173	Contractor Information Transition.....	46
2.174	Contractor Software Transition .....	46
2.175	Transition Payments .....	46
2.176	State Transition Responsibilities .....	47
<b>2.180</b>	<b><i>Stop Work</i></b> .....	<b>47</b>
2.181	Stop Work Orders .....	47
2.182	Cancellation or Expiration of Stop Work Order .....	47
2.183	Allowance of Contractor Costs.....	47
<b>2.190</b>	<b><i>Dispute Resolution</i></b> .....	<b>47</b>
2.191	In General.....	47
2.192	Informal Dispute Resolution .....	48
2.193	Injunctive Relief.....	48
2.194	Continued Performance .....	48
<b>2.200</b>	<b><i>Federal and State Contract Requirements</i></b> .....	<b>48</b>
2.201	Nondiscrimination.....	48
2.202	Unfair Labor Practices.....	49
2.203	Workplace Safety and Discriminatory Harassment .....	49
<b>2.210</b>	<b><i>Governing Law</i></b> .....	<b>49</b>
2.211	Governing Law .....	49
2.212	Compliance with Laws.....	49
2.213	Jurisdiction.....	49
<b>2.220</b>	<b><i>Limitation of Liability</i></b> .....	<b>49</b>
2.221	Limitation of Liability .....	49
<b>2.230</b>	<b><i>Disclosure Responsibilities</i></b> .....	<b>50</b>
2.231	Disclosure of Litigation .....	50
2.232	Call Center Disclosure.....	50
2.233	Bankruptcy .....	50
<b>2.240</b>	<b><i>Performance</i></b> .....	<b>51</b>
2.241	Time of Performance .....	51
2.242	Service Level Agreements (SLA(s)) .....	51
2.243	Liquidated Damages .....	52
2.244	Excusable Failure.....	52
<b>2.250</b>	<b><i>Acceptance of Deliverables</i></b> .....	<b>53</b>
2.251	Delivery Responsibilities.....	53
2.252	Delivery of Deliverables.....	53
2.253	Testing .....	53
2.254	Acceptance of Deliverables, In General .....	54
2.255	Process For Acceptance of Written Deliverables .....	55
2.256	Process for Acceptance of Services .....	55
2.257	Process for Acceptance of Physical Deliverables .....	55
2.258	Final Acceptance.....	55
<b>2.260</b>	<b><i>Ownership</i></b> .....	<b>55</b>
2.261	Ownership of Work Product by State.....	55
2.262	Vesting of Rights.....	56
2.263	Rights in Data .....	56
2.264	Ownership of Materials.....	56
<b>2.270</b>	<b><i>State Standards</i></b> .....	<b>56</b>
2.271	Existing Technology Standards .....	56
2.272	Acceptable Use Policy.....	56
2.273	Systems Changes .....	56
<b>2.280</b>	<b><i>Extended Purchasing</i></b> .....	<b>57</b>

2.281	MiDEAL .....	57
2.282	State Employee Purchases .....	57
2.290	Environmental Provision.....	57
2.291	Environmental Provision.....	57
Attachment A – Pricing Matrix.....		59
Attachment B – Authorized Dealers and Contractor Contact Information.....		80
Exhibit 1 – Additional Ordering Requirements .....		82

## **DEFINITIONS**

"Days" means calendar days unless otherwise specified.

"24x7x365" means 24 hours a day, seven days a week, and 365 days a year (including the 366th day in a leap year).

"Additional Service" means any Services/Deliverables within the scope of the Contract, but not specifically provided under any Statement of Work, that once added will result in the need to provide the Contractor with additional consideration.

"Audit Period" has the meaning given in **Section 2.093**.

"Business Day," whether capitalized or not, shall mean any day other than a Saturday, Sunday or State-recognized legal holiday (as identified in the Collective Bargaining Agreement for State employees) from 8:00am EST through 5:00pm EST unless otherwise stated.

"Blanket Purchase Order" is an alternate term for Contract and is used in the States computer system.

"Business Critical" means any function identified in any Statement of Work as Business Critical.

"Chronic Failure" is defined in any applicable Service Level Agreements.

"Deleted – Not Applicable" means that section is not applicable or included in this RFP. This is used as a placeholder to maintain consistent numbering.

"Deliverable" means physical goods, products and/or commodities as required or identified by a Statement of Work

"DMB" means the Michigan Department of Management and Budget

"Environmentally preferable products" means a product or service that has a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose. Such products or services may include, but are not limited to, those which contain recycled content, minimize waste, conserve energy or water, and reduce the amount of toxics either disposed of or consumed.

"Excusable Failure" has the meaning given in **Section 2.214**.

"Hazardous material" means any material defined as hazardous under the latest version of federal Emergency Planning and Community Right-to-Know Act of 1986 (including revisions adopted during the term of the Contract).

"Incident" means any interruption in Services.

"Key Personnel" means any Personnel designated in **Section 1.031** as Key Personnel.

"MDIT" means the Michigan Department of Information Technology

"New Work" means any Services/Deliverables outside the scope of the Contract and not specifically provided under any Statement of Work, that once added will result in the need to provide the Contractor with additional consideration.

"Ozone-depleting substance" means any substance the Environmental Protection Agency designates in 40 CFR part 82 as: (1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or (2) Class II, including, but not limited to, hydrochlorofluorocarbons.

"Post-Consumer Waste" means any product generated by a business or consumer which has served its intended end use, and which has been separated or diverted from solid waste for the purpose of recycling into a usable commodity or product, and which does not include post-industrial waste.

"Post-Industrial Waste" means industrial by-products which would otherwise go to disposal and wastes generated after completion of a manufacturing process, but does not include internally generated scrap commonly returned to industrial or manufacturing processes.

"Recycling" means the series of activities by which materials that are no longer useful to the generator are collected, sorted, processed, and converted into raw materials and used in the production of new products. This definition excludes the use of these materials as a fuel substitute or for energy production.

"Reuse" means using a product or component of municipal solid waste in its original form more than once.

"RFP" means a Request for Proposal designed to solicit proposals for services.

"Services" means any function performed for the benefit of the State.

“Source reduction” means any practice that reduces the amount of any hazardous substance, pollutant, or contaminant entering any waste stream or otherwise released into the environment prior to recycling, energy recovery, treatment, or disposal.

“State Location” means any physical location where the State performs work. State Location may include state-owned, leased, or rented space.

“Subcontractor” means a company Contractor delegates performance of a portion of the Services to, but does not include independent contractors engaged by Contractor solely in a staff augmentation role.

“Unauthorized Removal” means the Contractor’s removal of Key Personnel without the prior written consent of the State.

“Waste prevention” means source reduction and reuse, but not recycling.

“Waste reduction” or “pollution prevention” means the practice of minimizing the generation of waste at the source and, when wastes cannot be prevented, utilizing environmentally sound on-site or off-site reuse and recycling. The term includes equipment or technology modifications, process or procedure modifications, product reformulation or redesign, and raw material substitutions. Waste treatment, control, management, and disposal are not considered pollution prevention, per the definitions under Part 143, Waste Minimization, of the Natural Resources and Environmental Protection Act (NREPA), 1994 PA 451, as amended.

“Work in Progress” means a Deliverable that has been partially prepared, but has not been presented to the State for acceptance.

“Work Product” refers to any data compilations, reports, and other media, materials, or other objects or works of authorship created or produced by the Contractor as a result of an in furtherance of performing the services required by this Contract.



## **Article 1 – Statement of Work (SOW)**

### **1.010 PROJECT IDENTIFICATION**

#### **1.011 Project Request**

This contract provides the ability to purchase two-way radios, mobile data computers, software, accessories and related services for the Michigan Department of Information Technology (MDIT), Michigan Public Safety Communications System (MPSCS). Additionally, the Contractor will provide professional services, to include but not limited to: extended warranty, installation, maintenance, repair, and training services.

Exact quantities to be purchased are unknown, however the Contractor will be required to furnish all such materials and services as may be ordered during the contract period. Quantities specified if any, are estimates based on prior purchases, and the State is not obligated to purchase in these or any other quantities. Orders for delivery will be issued directly to the Contractor by various State Agencies.

This contract is available to MiDEAL purchasing members as identified in Article 2, Section 2.281 MiDEAL.

#### **1.012 Background**

Due to federal mandate, all VHF and UHF radios used by the State that are not narrow band capable will need to be replaced by 2012. Most of the communications equipment is now over 11 years old and has reached its end of life cycle. Replacement of this equipment is necessary as it is cost prohibited to continue making repairs.

Contractor will provide state agencies and local units of government including cities, villages, counties, townships, school districts, non-profit hospitals, and institutions of higher education a means to purchase two-way radios, mobile data computers, software, accessories and related services.

### **1.020 SCOPE OF WORK AND DELIVERABLES**

#### **1.021 In Scope**

The following commodities and services categories (but not limited to) shall be considered in scope for the resulting contract:

- 1.0** FIXED STATIONS
  - 1.1** FIXED STATION ACCESSORIES
  - 1.2** FIXED STATION CONTROLS
  - 1.3** ANTENNA SYSTEMS
  - 1.4** RECEIVERS
  - 1.5** MICROWAVE
- 2.0** MOBILE RADIOS
  - 2.1** MOBILE ACCESSORY
- 3.0** PORTABLE RADIOS
- 4.0** PAGERS
  - 4.1** PAGING ENCODERS
- 5.0** SECURE SOLUTIONS
- 6.0** TRUNKED RADIO
- 7.0** FLASHPORT
- 8.0** DATA SYSTEMS
- 9.0** BROADBAND SOLUTIONS
- 10.0** BIOMETRICS
- 11.0** FIXED & MOBILE DATA
- 12.0** INTEGRATED SOLUTIONS (SOFTWARE)
- 13.0** PARTS & ACCESSORIES
- 14.0** PROFESSIONAL SERVICES
  - Extended Warranty
  - Installation





- Maintenance
- Repair
- Training services

See Attachment A for the complete list of products and services that are currently available through this contract.

### **1.022 Work and Deliverable**

Contractor must provide Deliverables/Services and staff, and otherwise do all things necessary for or incidental to the performance of work, as set forth in Article 1 of this Contract.

#### **1.022 (A) Product Requirements**

##### **1.022 (A.1) Specifications**

All pre-approved MDIT commodities to be furnished hereunder are listed in Attachment A. Any additional items will require pre-approval by MPSCS, and submission the product specifications.

##### **1.022 (A.2) Research and Development**

Contractor shall invest in new product research and development to stay current with ongoing demands.

##### **1.022 (A.3) Quality Assurance Program**

The Contractor shall have a written quality control program which ensures that all manufacturers and suppliers to the Contractor have effective quality control programs, have standard operating procedures and use good manufacturing practices. The Contractor shall monitor the quality control program of all suppliers and manufacturers.

The State reserves the right to test products prior to acceptance in accordance with Section 1.050 which have been received to verify compliance with specifications. It is agreed and acknowledged that once the State has tested a particular product(s) to verify compliance with the Contractor's published technical specifications and such verification occurs, the State has effectively accepted that product for purposes of compliance with specifications. A verified product shall then be subject to inspection only in accordance with Section 2.251(c). If after testing an unverified product, laboratory analysis shows that the product does not meet specifications, the State shall notify Contractor and provide detailed information regarding such analysis. The Contractor shall then conduct its own analysis and, if necessary, provide a mutually-agreeable plan to cure any verified non-compliance.

##### **1.022 (A.4) Warranty for Products or Services**

Contractor(s) will proceed expeditiously to complete the repair of any defect or failure reported by the State.



## Product Warranty

The EF Johnson Technologies, Inc. group of companies, including E.F. Johnson Company, 3e Technologies International, Inc. and Transcrypt International, Inc. (hereinafter collectively referred to as "EFJohnson"), warrants to the original purchaser for use ("Buyer") that products manufactured by EFJohnson ("Products") are free from defects in material and workmanship and will conform to EFJohnson's published technical specifications for a period of, except as noted below, one (1) year from the date of shipment to Buyer. EFJohnson makes no warranty with respect to the equipment not manufactured by EFJohnson, and any such equipment shall carry the original equipment manufacturer's warranty only. EFJohnson further makes no warranty as to, and specifically disclaims liability for, availability, range, coverage, grade of service or operation of the repeater system provided by the carrier or repeater operator.

If any product fails to meet the Warranty set forth above during the applicable warranty period and is returned to a location designated by EFJohnson, EFJohnson, at its option, shall either repair or replace such defective Product, directly or through an authorized service agent, within thirty (30) days of receipt of same. No Products may be returned without the prior authorization from EFJohnson. Any repaired or replaced Products shall be warranted for the remainder of the original warranty period. Buyer shall pay all shipping and handling charges for returning all defective products to EFJohnson or EFJohnson's authorized service agent. Buyer is also responsible for other cost and expenses of transit and delivery, including all applicable taxes and duties. EFJohnson will pay the returned shipping charges if the product is repaired or replaced under warranty. Repair or replacement of defective Products as set forth in this paragraph fulfills any and all warranty obligations on the part of EFJohnson.

This warranty is void and EFJohnson shall not be obligated to replace or repair any Products if (i) the Product has been used in other than its normal and customary manner (ii) the Product has been subject to misuse, accident, neglect or damage or has been used with other than EFJohnson approved accessories and equipment or has been improperly installed, (iii) unauthorized alterations or repairs have been made or unapproved parts have been used with the Product, or (iv) Buyer failed to notify EFJohnson or EFJohnson authorized service agent of the defect during the applicable warranty period.

THE AFORESAID WARRANTIES ARE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED AND IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. EFJohnson AND BUYER AGREE THAT BUYER'S EXCLUSIVE REMEDY FOR ANY BREACH OF ANY SAID WARRANTIES IS AS SET FORTH ABOVE. BUYER AGREES THAT IN NO EVENT SHALL EFJohnson BE LIABLE FOR INCIDENTAL, CONSEQUENTIAL, SPECIAL, INDIRECT, OR EXEMPLARY DAMAGES WHETHER ON THE BASIS OF NEGLIGENCE, STRICT LIABILITY OR OTHERWISE. The purpose of the exclusive remedies set forth above shall be to provide Buyer with repair or replacement of non-complying products in the manner provided above. These exclusive remedies shall not be deemed to have failed of their essential purpose so long as EFJohnson is willing and able to repair or replace non-complying Products in the manner set forth above.

Some states do not allow limitations or implied warranties so the above limitations may not be applicable. You may also have other rights which vary from state to state.

### **Exception**

Thirty Day: Tuning and adjustment of portable and mobile radios

### **1.022 (A.5) Extended Warranty for Products or Services**

Contractor may provide extended warranty options for a minimum of an additional 12 month period after the first year for the following categories:

- Mobile radios
- Hand Held Portables
- Base Stations/Repeaters
- Base Stations/Programmable Desktop
- Mobile Data Computers, etc.



A full listing of the extended warranties are available through this contract at the MSRP discount rates provided in Attachment A:

The standard product warranty provided in 1.022 (A.5) will apply to all extended warranties.

**1.022 (A.6) Catalogs**

**Products**

The official manufacturer's suggested retail price (MSRP) will be provided to the State as requested. The catalog shall contain a complete description of all available models within each category, manufacturer catalog and product numbers.

**Professional Services**

The Contractor's current list price for the professional services is identified in **Attachment A**. The price listed in Attachment A, will be reduced by the discount percentage provided in Attachment A.

**1.022 (A.7) Service Manuals**

All equipment must have a detailed service manual available for purchase. Detailed service manuals will include theory of operation, electronic schematics, and detailed parts diagrams.

**1.022 (A.8) Environmental Requirements**

**See below, Contractors response to the environmental requirements.**

Energy Efficiency Purchasing Policy – The State shall seek wherever possible to purchase energy efficient products. This may include giving preference to U.S. Environmental Protection Agency (EPA) certified 'Energy Star' products for any category of products for which EPA has established Energy Star certification. For other purchases, the State may include energy efficiency as one of the priority factors to consider when choosing among comparable bids.

Environmental Purchasing Policy – The State of Michigan has committed to encourage the use of products and services that impact the environment less than competing products. This can be best accomplished by including environmental considerations in purchasing decisions, while remaining fiscally responsible, to promote practices that improve worker health, conserve natural resources, and prevent pollution. Environmental components that may be considered in Best Value Purchasing evaluation include: recycled content and recyclability; energy efficiency; and the presence of undesirable materials in the products, especially those toxic chemicals which are persistent and bio-accumulative. Bidders able to supply products containing recycled and environmentally preferable materials that meet performance requirements are encouraged to offer them in bids and proposals. Information on any relevant third party certification (such as Green Seal, Energy Star, etc.) should also be provided.

**I. Recycled Content and Recyclability**

A. Recycled Packaging. Bidders may offer some or all of the following items listed below or provide alternative proposal as to how packaging materials can be reduced, eliminated or otherwise made more environmentally preferable. It is desirable that Bidders offer packaging which:

- a. is made from recycled content which meets or exceeds all federal and state recycled content guidelines (currently 35% post-consumer for all corrugated cardboard).
- b. minimizes or eliminates the use of polystyrene or other difficult to recycle materials. (N/A)
- c. minimizes or eliminates the use packaging and containers and, in the alternative, minimizes or eliminates the use of non-recyclable packaging and containers.(Yes)
- d. provides for a return program where packaging can be returned to a specific location for recycling. (No)
- e. contains materials which are easily recyclable in Michigan.(Yes)



All Bidders are requested to indicate below an estimate of the percentage of recycled materials, if any, contained in each item bid. Higher percentages of recycled materials are preferred. Product performance is paramount, whether containing recycled material or not; however, preference will be given to products that perform up to specification and are environmentally preferable without compromising quality.

\_\_\_16\_\_\_ % (Total estimated percentage of recovered material)

\_\_\_20\_\_\_ % (Estimated percentage of post-consumer material)

\_\_\_0\_\_\_ % (Estimated percentage of post-industrial waste)

#### Certification

I, N/A (name of certifier), am an officer or employee responsible for the performance of this contract and hereby certify that the percentage of recovered material content for EPA-designated products met the applicable contract specifications.

\_\_\_\_\_ (Initial)

#### II. Materials Identification and Tracking

A. Hazardous Material Identification. 'Hazardous material', as used in this clause, includes any material defined as hazardous under the latest version of federal Emergency Planning and Community Right-to-Know Act of 1986 (including revisions adopted during the term of the contract).

- (1) The bidder must list any hazardous material, as defined in §370.20 (a) of 40 CFR, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material (if none, enter 'None')	Identification Number
None	N/A

- (2) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.
- (3) The apparently successful bidder agrees to submit, for each item as required prior to award, a Material Safety Data Sheet for each hazardous material identified in paragraph (1) of this clause. Data shall be submitted in accordance with Section 312 of the federal Emergency Planning and Community Right-to-Know Act, whether or not the apparently successful bidder is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful bidder being considered non-responsive and ineligible for award.

B. Mercury Content. It is the clear intent of state agencies to avoid purchasing products that contain intentionally-added mercury whenever possible. Bidders shall offer mercury-free product alternatives whenever available. Should mercury-free alternatives not exist, as presently is the case with a few select products and devices such as fluorescent lamps or where the alternative is not yet cost competitive, such as dental amalgam, bidders shall offer the lowest mercury content available for a given application. Bidders shall disclose whenever products contain added-mercury by using the following format.

(\_\_\_) Product contains added-Mercury (attach an explanation that includes: the amount or concentration of mercury and justification as to why this particular product is essential).

In addition, the Bidder shall also ensure that all products to be purchased containing intentionally added-mercury shall be labeled as: "product contains mercury/recycle or dispose of properly." For instances where space constraints limit the amount or size of print, the chemical symbol "Hg" followed by a picture of a trash container with a diagonal line through it shall suffice for labeling requirements.



BIDDERS PLEASE NOTE: Michigan Law prohibits the sale of mercury-containing thermostats, thermometers, sphygmomanometers (blood pressure monitors) and other types of medical devices. For specific details visit: [http://www.michigan.gov/deq/0,1607,7-135-3307\\_29693\\_4175-160230--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3307_29693_4175-160230--,00.html)

C. Brominated Flame Retardants (BFR). Bidders shall disclose whether the products being offered contain toxic flame retardants. Bidders are encouraged to provide BFR-free alternatives when available.

(X) Product does not contain BFR's

( ) Product does contain BFR's (attach an explanation)

#### D. Ozone Depleting Substances

'Ozone-depleting substance', as used in this clause, means any substance the Environmental Protection Agency designates in 40 CFR part 82 as:

(1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbon tetrachloride, and methyl chloroform; or

(2) Class II, including, but not limited to, hydrochlorofluorocarbons.

The Contractor shall label products which contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j (b), (c), and (d) and 40 CFR part 82, Subpart E, as follows:

'Warning: Contains (or manufactured with, if applicable) N/A (insert the name of the substance(s).), a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere.'

#### A. Clean Air and Water

Vendor certifies that any facility to be used in the performance of this contract has all the necessary environmental permits and is in consistent compliance with all applicable environmental requirements and has no outstanding unresolved violations.

The vendor will immediately notify the state, before award, of the receipt of any communication from the Environmental Protection Agency or any state environmental agency, of civil or criminal enforcement for any facility that the vendor proposes to use in the performance of this contract.

MS (Initial)

B. Emergency Planning and Community Right-to-Know Reporting - By signing this offer, the bidder certifies that:

(1) The owner or operator of each facility that will be used in the performance of this contract is in compliance with the filing and reporting requirements described in sections 302, 304, 311, 312 and 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11001, et. seq.) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13101, et. seq.). EPCRA filing and reporting requirements include emergency planning notification, release reporting, hazardous chemical inventory reporting, and toxic chemical release inventory (TRI) reporting.

(2) The owner or operator of each facility that will be used in the performance of this contract will maintain compliance with the filing and reporting requirements described in sections 302, 304, 311, 312 and 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11001, et. seq.) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13101, et. seq.) for the life of the contract.

MS (Initial)



## **1.022 (B) Service Capabilities**

### **1.022 (B.1) Maintenance / Service / Equipment Repair / Replacement Parts**

Contractor shall maintain and provide depot repair and/or service center support, including offering technical assistance, spare parts and accessories, for any discontinued equipment or parts thereof for a period of five (5) years following the date of discontinuance. *Should for unforeseen reasons replacement/repair parts not be available, EFJohnson will supply comparable product at equal price.*

If a Depot repair radio is not able to be repaired due to unavailability of parts or service information within the 5 year window, the Contractor will provide a comparable product a price comparable to repair costs.

The Contractor shall make available, a listing of all equipment replacement parts. Only new parts will be considered. That information shall include pricing information and applied discounts. Parts supply depot address(s) and contact person(s) name and phone numbers shall be included.

### **1.022 (B.2) Training**

The Contractor will provide training to the State agencies at the agencies request. This training will include operational, technical, installation and product safety training. Contractors pricing for training is provided in the Professional Services worksheet of **Attachment A**.

EFJohnson Technologies  
Training Course List Price

The Field Service & Training department is proud to announce our newly approved training cost model. We devised this model with our customers in mind for convenience and continuity.

Training modules will be conducted in day entities. Travel with airfare is built into this model and assumes the training days are consecutive. Add the total number of consecutive training days to calculate the on site training cost. (Course duration can be found in the course catalog or the EFJohnson Technologies web site.)

**On site training costs**

	<b>1 Day</b>	<b>2 Day</b>	<b>3 Day</b>	<b>4 Day</b>	<b>5 Day</b>	<b>Weekend 1</b>
Instructor	\$1,500.00	\$3,000.00	\$4,500.00	\$6,000.00	\$7,500.00	\$7,500.00
Material	\$535.00	\$535.00	\$535.00	\$535.00	\$535.00	\$535.00
Travel Days	\$665.00	\$665.00	\$665.00	\$665.00	\$700.00	\$665.00
Travel	\$1,600.00	\$2,100.00	\$2,600.00	\$3,100.00	\$3,600.00	\$4,100.00
<b>List Price</b>	<b>\$4,300.00</b>	<b>\$6,300.00</b>	<b>\$8,300.00</b>	<b>\$10,300.00</b>	<b>\$12,300.00</b>	<b>\$12,750.00</b>
	<b>Weekend 2</b>	<b>6 Day</b>	<b>7 Day</b>	<b>8 Day</b>	<b>9 Day</b>	<b>10 Day</b>
Instructor	\$7,500.00	\$9,000.00	\$10,500.00	\$12,000.00	\$13,500.00	\$15,000.00
Material	\$535.00	\$1,035.00	\$1,035.00	\$1,035.00	\$1,035.00	\$1,035.00
Travel Days	\$665.00	\$665.00	\$665.00	\$665.00	\$665.00	\$665.00
Travel	\$4,500.00	\$5,000.00	\$5,500.00	\$6,000.00	\$6,500.00	\$7,000.00
<b>List Price</b>	<b>\$13,200.00</b>	<b>\$15,700.00</b>	<b>\$17,700.00</b>	<b>\$19,700.00</b>	<b>\$21,700.00</b>	<b>\$23,700.00</b>

*This chart assumes consecutive training days. Maximum 10 students per course.*

Training courses that are not scheduled back-to-back will use day one as the starting point.

Example: Customer requests two two-day training courses.

Scenario 1: Two two-day consecutive training courses (4 days = \$10,300)

Scenario 2: Two two-day non consecutive training courses

(2 day \$6,300 + 2 day \$6300 = \$12,600)

Training can be scheduled for up to 10 consecutive training days. This is the most economic package for our customers as they will incur only one airfare expense built into the model. In this case the instructor would stay at the travel location over the weekend. If training requires longer than 10 training days the instructor will travel home and return to the site at another date. Day one will be the starting point again to complete the required days.





Example: Customer requires training modules that equal 14 days of training. His training cost would be \$34,000. (10 day training, \$23,700 + 4 day training, \$10,300 = \$34,000)

#### On site training costs

<i>Consecutive training days</i>	<i>Total Cost</i>
One	\$4,300.00
Two	\$6,300.00
Three	\$8,300.00
Four	\$10,300.00
Five	\$12,300.00
Six	\$15,700.00
Seven	\$17,700.00
Eight	\$19,700.00
Nine	\$21,700.00
Ten	\$23,700.00
This chart can be shared with EFJ customers.	

#### In House / Resident Training

Training courses that are offered at our EFJohnson corporate location will be billed at \$500 per person, per day. Each course requires a collective minimum of four students. In many cases we can meet the minimum obligation by adding internal EFJ students. Courses and schedules will be posted on an as needed basis.

#### Webinars

We introduced our free training webinar to our dealers this year. This has been a successful program covering 5100 ES / 5300 ES Users Training, PC Configure Overview and Software Navigation, Conventional System Programming, SMARTNET/SmartZone System Programming, and P25 Trunking System Programming. We will continue to offer these webinars at least once per quarter. We will add additional webinar topics for 2009.

#### Questions / Feedback

Please contact the EFJ Training Team with any questions or feedback. We welcome your input.

Jim Nechamkin  
Director of Field Service & Training  
Ext. 2692

#### **1.022 (B.3) RESERVED - Special Programs**

#### **1.022 (B.4) Security**

The Contractor and its subcontractors shall comply with the security access requirements of individual State facilities; see section 2.090, Security.

#### **1.022 (B.5) Reports**

The Contractor will work with the State to agree on specific reporting requirements.

Contractor shall be able to provide various reports, when requested by the State. Examples include itemized report of total items (commodities and services) purchased by all agencies or individual agencies, open invoice reports, delivery compliance reports, quantity reports, service compliance reports, etc.



Contractor shall provide an itemized report of Contract usage by State agencies and/or local units of government. Such usage shall be reported upon request from the State. The format of the report(s) will be agreed to by the State and Contractor.

Contractor shall submit MiDEAL reports of purchasing activities to the DMB Purchasing Operations, on a quarterly basis. Reports shall include, at a minimum, an itemized listing of purchasing activities by each agency, with the agency name, and the total value of purchases for each agency, and a grand total of all purchases.

Within thirty (30) days after contract execution, the parties shall determine an appropriate set of periodic reports to be issued by Contractor to the State. Such reports may include:

- Contractor's performance in each area of the Product Delivery and Professional Services;
  - for each area of the Professional Services, assess the degree to which Contractor has attained or failed to attain the pertinent objectives in that area, including on-time completion and delivery of Deliverables;
  - explain the reasons for any failure to achieve on-time completion and delivery of Deliverables and include a plan for corrective action where appropriate;
  - describe any circumstances that Contractor anticipates will impair or prevent on-time completion and delivery of Deliverables in upcoming reporting periods;
  - include plans for corrective action or risk mitigation where appropriate and describe the status of ongoing problem resolution efforts;
  - provide reports setting forth a comparison of actual hours spent by Contractor (including its augmented personnel and Subcontractors) in performing the Project versus hours budgeted by Contractor.
  - set forth a record of the material personnel changes that pertain to the Services and describe planned changes during the upcoming month that may affect the Services.
  - include such documentation and other information may be mutually agreed to verify compliance with, and meeting the objectives of, this Contract.
  - set forth an updated schedule that provides information on the status of upcoming Deliverables, expected dates of delivery (or redelivery) of such Deliverables and estimates on timing for completion of the Project.

**1.022 (B.6) Meetings**

Within thirty (30) days after contract execution, the parties shall determine an appropriate set of meetings to be held between representatives of the State and Contractor. Contractor shall prepare and circulate an agenda sufficiently in advance of each such meeting to give participants an opportunity to prepare for the meeting. Contractor shall incorporate into such agenda items that the State desires to discuss. At the State's request, Contractor shall prepare and circulate minutes within 5 business days of the meeting.

**1.022 (B.7) Receiving Orders**

The Contractor shall verify orders that have quantities that appear to be abnormal or excessive.

The contractor may receive orders through the following methods:

**EFJohnson Order Administration**  
Irving, TX

**Phone: 800-328-3911 Press 1**  
Fax: 972-819-2307  
Email: [orders@efji.com](mailto:orders@efji.com)

**1.022 (B.8) Customer Service**

The Contractor's customer service must respond to State agency inquiries within 2 business days. It is the preference of the State of Michigan that the Contractor provides a statewide toll-free number for customer service calls.



**1.022 (C) Delivery Capabilities****1.022 (C.1) Terms and Time Frames**

Prices shall be quoted **Free On Board (FOB) Delivered** with transportation charges prepaid on all orders. Other FOB terms **will not be accepted**.

Responsibility and liability for loss or damage shall remain with the Contractor until final inspection and acceptance when responsibility shall pass to the agency except as to latent defects, fraud, and the Contractor's warranty obligations, if any.

All orders/services shall be delivered throughout the State of Michigan no later than 45 calendar days FOB Delivered after receipt of order. Exceptions may be allowed, based on mutually agreed upon reasonable efforts, at the State's discretion based on quantity and complexity. The State is interested in both a standard delivery program and a quick-ship program.

The Contractor shall be responsible for contacting the State agencies to arrange delivery schedules. Failure to deliver items according to established delivery schedules may result in cancellation of the contract for default.

**1.022 (C.2) Minimum Order**

There shall be no minimum order requirement for the resulting contract(s).

**1.022 (C.3) Packaging**

The State reserves the right of final approval on packaging offered by the Contractor.

Each order shall be accompanied with a packing slip or invoice. The contractor will provide a detailed invoice within 30 days for shipment and repairs. The packing slip or invoice shall contain the following information:

- Agency name and address
- Purchase order number
- Stock number and brief description of each item
- Unit of issue and quantity issued for each item
- Unit price and extended price for each item
- Date order was received by Contractor
- Total price of order

If order is more than one box, the boxes must be labeled with total number of boxes, individual number of box (i.e. Box 1 of 8), and the purchase order number.

**1.022 (C.4) Palletizing**

Shipments shall be palletized whenever possible and shall conform to the following:

- Manufacturers standard 4-way shipping pallets are acceptable.
- Maximum height: 5'6"; including pallet.
- Maximum weight: 3500 pounds; including pallet.
- Pallets are to be securely banded or shrink-wrapped.
- The cost of palletizing must be included in the unit price.

**1.030 ROLES AND RESPONSIBILITIES****1.031 Contractor Staff, Roles, and Responsibilities**

A list of authorized dealers and Contractor contact information is provided in **Attachment B**.

The Contractor will provide written notification to the State in the event of any add or removes to the authorized dealer list.

The Contractor will provide a **Single Point of Contact (SPOC)**. The duties of the SPOC shall include, but not be limited to:



- supporting the management of the Contract,
- facilitating dispute resolution, and
- advising the State of performance under the terms and conditions of the Contract.

The State reserves the right to require a change in the current SPOC if the assigned SPOC is not, in the opinion of the State, adequately serving the needs of the State.

The SPOC for this contract is:

Ed McGlinchey  
Territory Sales Manager  
EFJohnson Company  
1812 Middleground Drive SE  
Grand Rapids, MI 49546  
616-974-1565 office  
616-828-3465 mobile  
[emcglinchey@efji.com](mailto:emcglinchey@efji.com)

If the State requests professional services during the term of this contract, the Contractor may be asked to provide a **Project Manager**. The duties of the Project Manager may include, but are not be limited to:

- Manage all defined Contractor responsibilities in this Scope of Services.
- Manage Contractor's subcontractors, if any
- Develop the project plan and schedule, and update as needed
- Serve as the point person for all project issues
- Coordinate and oversee the day-to-day project activities of the project team
- Assess and report project feedback and status
- Escalate project issues, project risks, and other concerns
- Review all project deliverables and provide feedback
- Proactively propose/suggest options and alternatives for consideration
- Utilize change control procedures
- Prepare project documents and materials
- Manage and report on the project's budget

### **1.032 Onsite Work Requirements**

#### **1. Location of Work**

Onsite professional services work is to be performed, completed, and managed at various locations throughout the State.

#### **2. Hours of Operation:**

- a. Normal State working hours are 8:00 a.m. to 5:00 p.m. EST, Monday through Friday, with work performed as necessary after those hours to meet project deadlines. No overtime will be authorized or paid.
- b. The State is not obligated to provide State management of assigned work outside of normal State working hours. The State reserves the right to modify the work hours in the best interest of the project.
- c. Contractor shall observe the same standard holidays as State employees. The State does not compensate for holiday pay.

#### **3. Travel:**

- a. No travel or expenses will be reimbursed. This includes travel costs related to training provided to the State by Contractor.
- b. Travel time will not be reimbursed.



#### **4. Security and Background Check Requirements:**

See Section 2.090.

##### **1.031 State Staff, Roles, and Responsibilities**

MDIT shall provide a Project Manager

<b>Name</b>	<b>Agency/Division</b>	<b>Title</b>
Tom Thompson	MDIT/MPSCS	Project Manager

MDIT shall provide a Contract Compliance Inspector whose duties shall include, but not limited to, supporting the management of the Contract.

<b>Name</b>	<b>Agency/Division</b>	<b>Title</b>
Patty Bogard	MDIT/Enterprise Portfolio Management Office	Contract Compliance Inspector

##### **1.040 PROJECT PLAN MANAGEMENT**

The following section will apply if the State requests professional services that require project management from the Contractor.

The Contractor will carry out this project under the direction and control of the MDIT, MPSCS.

Although there will be continuous liaison with the contractor team, the State project manager will meet with the Contractor's project manager as needed, for the purpose of reviewing progress and providing necessary guidance to the contractor in solving problems that arise.

The Contractor will submit brief written summaries of progress as needed, which outline the work accomplished during the reporting period; work to be accomplished during the subsequent reporting period; problems, real and anticipated, which should be brought to the attention of the MDIT project manager; and notification of any significant deviation from previously agreed upon work plans.

The Contractor will provide a Microsoft Project work plan, detailing the project breakdown showing sub-projects, activities and tasks, and resources required and allocated to each.

The plan shall be in the form of a graphic display, showing each event, task, and decision point in the work plan.

##### **1.050 ACCEPTANCE**

###### **1.051 Criteria**

All particular Deliverables (including particular Physical Deliverables and Written Deliverables) and Services received by the State for the first time shall be subject to acceptance in accordance with Sections 2.254, 2.255, 2.256, and 2.257.

After acceptance of a particular product, subsequent deliveries of the product will be subject to inspection by depot or the ordering agency within fourteen days from receipt in accordance with Section 2.251(c). Contractor and agency will mutually agree on the exchange or credit of the rejected product.

###### **1.052 Final Acceptance**

Final Acceptance of professional services will occur when the project is completed and functions according to the requirements specified in an applicable Statement of Work. Any intermediate acceptance of sub-Deliverables does not complete the requirement of Final Acceptance.

##### **1.060 CONTRACT PRICING AND PAYMENT**

**1.061 Contract Pricing**

This Contract is a unit price contract based on a percentage off the MSRP for products, and time and material or firm fixed price for professional services.

Prices quoted are **Free On Board (FOB) Delivered** with transportation charges prepaid on all orders. Other FOB terms **will not be accepted**.

Any new or replacement product shall be available at the negotiated discount rate, which will be based on the pricing of a comparable product line or series.

**Quick Payment Terms:** None

**Product Discounts:** The State of Michigan reserves the right to negotiate pricing, discounts and/or rebates directly with the manufacturers for large volume purchases. The Contractor shall pass on to the State all price discounts and reductions in which the State of Michigan is entitled to receive from the manufacturers. These discounts and reductions shall include, without limitation, nonprofit allowances, free goods, rebates, quarterly and other discounts and special manufacturer deal prices. The State reserves the right to change to other product brands carried by the Contractor if the cost is beneficial to the State.

**If a manufacturer offers rebates directly to an agency, the Contractor shall track purchase information for each agency for the items affected and submit this information to the manufacturer as required by the manufacturer.**

Contractor's out-of-pocket expenses are not separately reimbursable by the State unless, on a case-by-case basis for unusual expenses, the State has agreed in advance and in writing to reimburse Contractor for the expense at the State's current travel reimbursement rates. See [www.michigan.gov/dmb](http://www.michigan.gov/dmb) for current rates.

**1.062 Price Term**

The MSRP Discount Percentage quoted in **Attachment A**, **shall remain fixed for the duration of the contract.**

The Professional Services Percentage of discount quoted in **Attachment A**, **shall remain fixed for the duration of the contract.**

**Statements of Work and Issuance of Purchase Orders**

The parties agree that the Services/Deliverables to be rendered by Contractor pursuant to this Contract (and any future amendments of it) will be defined and described in detail in Statements of Work or Purchase Orders (PO) executed under this Contract. Contractor shall not be obliged or authorized to commence any work to implement a Statement of Work until authorized via a PO issued against this Contract. Contractor shall perform in accordance with this Contract, including the Statements of Work/Purchase Orders executed under it.

All purchase orders are subject to the terms and conditions of any contract resulting from this Request for Proposals. In the event of a conflict between a purchase order and the contract, the contract shall control.

If mailed, a purchase order is considered "issued" when the State deposits the order in the mail. Orders may be issued by facsimile, or by electronic commerce methods.

**Invoicing**

Contractor will submit properly itemized invoices to "Bill To" Address on Purchase Order. Invoices must provide and itemize, as applicable:

- Contract number;
- Purchase Order number
- Contractor name, address, phone number, and Federal Tax Identification Number;



- Description of any commodities/hardware, including quantity ordered;
- Date(s) of delivery and/or date(s) of installation and set up;
- Price for each item, or Contractor's list price for each item and applicable discounts;
- Maintenance charges;
- Net invoice price for each item;
- Shipping costs;
- Other applicable charges;
- Total invoice price; and
- Payment terms, including any available prompt payment discount.

The State may pay maintenance and support charges on a monthly basis, in arrears. Payment of maintenance service/support of less than one (1) month's duration shall be prorated at 1/30th of the basic monthly maintenance charges for each calendar day.

The Contractor will make reasonable efforts to include all information on invoices since all information may not be available to E.F. Johnson. Incorrect or incomplete invoices will be returned to Contractor for correction and reissue.

**1.063 Tax Excluded from Price**

(a) Sales Tax: For purchases made directly by the State, the State is exempt from State and Local Sales Tax. Prices must not include the taxes. Exemption Certificates for State Sales Tax will be furnished upon request.

(b) Federal Excise Tax: The State may be exempt from Federal Excise Tax, or the taxes may be reimbursable, if articles purchased under any resulting Contract are used for the State's exclusive use. Certificates showing exclusive use for the purposes of substantiating a tax-free, or tax-reimbursable sale will be sent upon request. If a sale is tax exempt or tax reimbursable under the Internal Revenue Code, prices must not include the Federal Excise Tax.

**1.064 Holdback - RESERVED**



## **Article 2, Terms and Conditions**

### **2.000 Contract Structure and Term**

#### **2.001 Contract Term**

This Contract is for a period beginning **April 12, 2010** through **January 19, 2013**. All outstanding Purchase Orders must also expire upon the termination (cancellation for any of the reasons listed in **Section 2.130**) of the Contract, unless otherwise extended under the Contract. Absent an early termination for any reason, Purchase Orders issued but not expired, by the end of the Contract's stated term, will remain in effect for the balance of the fiscal year for which they were issued.

#### **2.002 Options to Renew**

This Contract may be renewed in writing by mutual agreement of the parties not less than 30 days before its expiration. The Contract may be renewed for up to **5** additional **1 year** periods.

#### **2.003 Legal Effect**

Contractor shall show acceptance of this Contract by signing two copies of the Contract and returning them to the Contract Administrator. The Contractor shall not proceed with the performance of the work to be done under the Contract, including the purchase of necessary materials, until both parties have signed the Contract to show acceptance of its terms, and the Contractor receives a contract release/purchase order that authorizes and defines specific performance requirements.

Except as otherwise agreed in writing by the parties, the State assumes no liability for costs incurred by Contractor or payment under this Contract, until Contractor is notified in writing that this Contract (or Change Order) has been approved by the State Administrative Board (if required), approved and signed by all the parties, and a Purchase Order against the Contract has been issued.

#### **2.004 Attachments & Exhibits**

All Attachments and Exhibits affixed to any and all Statement(s) of Work, or appended to or referencing this Contract, are incorporated in their entirety and form part of this Contract.

#### **2.005 Ordering**

The State will issue a written Purchase Order, Blanket Purchase Order, Direct Voucher or Procurement Card Order, which must be approved by the Contract Administrator or the Contract Administrator's designee, to order any Services/Deliverables under this Contract. All orders are subject to the terms and conditions of this Contract. No additional terms and conditions contained on either a Purchase Order or Blanket Purchase Order apply unless they are also specifically contained in that Purchase Order's or Blanket Purchase Order's accompanying Statement of Work. Exact quantities to be purchased are unknown; however, the Contractor will be required to furnish all such materials and services as may be ordered during the CONTRACT period. Quantities specified, if any, are estimates based on prior purchases, and the State is not obligated to purchase in these or any other quantities.

#### **2.006 Order of Precedence**

(a) The Contract, including any Statements of Work and Exhibits, to the extent not contrary to the Contract, each of which is incorporated for all purposes, constitutes the entire agreement between the parties with respect to the subject matter and supersedes all prior agreements, whether written or oral, with respect to the subject matter and as additional terms and conditions on the purchase order must apply as limited by **Section 2.005**.

(b) In the event of any inconsistency between the terms of the Contract and a Statement of Work, the terms of the Statement of Work will take precedence (as to that Statement of Work only); provided, however, that a Statement of Work may not modify or amend the terms of the Contract, which may be modified or amended only by a formal Contract amendment.

**2.007 Headings**

Captions and headings used in the Contract are for information and organization purposes. Captions and headings, including inaccurate references, do not, in any way, define or limit the requirements or terms and conditions of the Contract.

**2.008 Form, Function & Utility**

If the Deliverable/Service does not meet the form, function, and utility required by that State agency, that agency may, subject to State purchasing policies, procure the Deliverable/Service from another source.

**2.009 Reformation and Severability**

Each provision of the Contract is severable from all other provisions of the Contract and, if one or more of the provisions of the Contract is declared invalid, the remaining provisions of the Contract remain in full force and effect.

**2.010 Consents and Approvals**

Except as expressly provided otherwise in the Contract, if either party requires the consent or approval of the other party for the taking of any action under the Contract, the consent or approval must be in writing and must not be unreasonably withheld or delayed.

**2.011 No Waiver of Default**

If a party fails to insist upon strict adherence to any term of the Contract then the party has not waived the right to later insist upon strict adherence to that term, or any other term, of the Contract.

**2.012 Survival**

Any provisions of the Contract that impose continuing obligations on the parties, including without limitation the parties' respective warranty, indemnity and confidentiality obligations, survive the expiration or termination of the Contract for any reason. Specific references to survival in the Contract are solely for identification purposes and not meant to limit or prevent the survival of any other section.

**2.020 Contract Administration****2.021 Issuing Office**

This Contract is issued by the Department of Management and Budget, Purchasing Operations (collectively, including all other relevant State of Michigan departments and agencies, the "State"). Purchasing Operations is the sole point of contact in the State with regard to all procurement and contractual matters relating to the Contract. Purchasing Operations **is the only State office authorized to change, modify, amend, alter or clarify the prices, specifications, terms and conditions of this Contract.** The Contractor Administrator within Purchasing Operations for this Contract is:

**Steve Motz**

Purchasing Operations  
Department of Management and Budget  
Mason Bldg, 2nd Floor  
PO Box 30026  
Lansing, MI 48909  
motzs@michigan.gov  
517-241-3215

**2.022 Contract Compliance Inspector (CCI)**

After DMB-PurchOps receives the properly executed Contract, it is anticipated that the Director of Purchasing Operations, will direct the person named below, or any other person so designated, to monitor and coordinate the activities for the Contract on a day-to-day basis during its term. However, monitoring of this Contract implies **no authority to change, modify, clarify, amend, or otherwise alter the prices, terms, conditions and specifications of the Contract as that authority is retained by DMB Purchasing Operations.** The Contract Compliance Inspector for this Contract is:





Patty Bogard  
Department of Information Technology  
Constitution Hall, 1<sup>st</sup> Floor  
525 W. Allegan St.  
Lansing, MI 48933  
bogardp@michigan.gov  
517-335-4051

### **2.023 Project Manager**

Tom Thompson  
Department of Information Technology  
4000 Collins Road  
Lansing, MI  
[thomsont8@michigan.gov](mailto:thomsont8@michigan.gov)  
517-336-6618

### **2.024 Change Requests**

The State reserves the right to request from time to time any changes to the requirements and specifications of the Contract and the work to be performed by the Contractor under the Contract. During the course of ordinary business, it may become necessary for the State to discontinue certain business practices or create Additional Services/Deliverables. At a minimum, to the extent applicable, the State would like the Contractor to provide a detailed outline of all work to be done, including tasks necessary to accomplish the services/deliverables, timeframes, listing of key personnel assigned, estimated hours for each individual per task, and a complete and detailed cost justification.

If the Contractor does not so notify the State, the Contractor has no right to claim thereafter that it is entitled to additional compensation for performing that service or providing that deliverable.

#### **Change Requests:**

- (a) By giving Contractor written notice within a reasonable time, the State must be entitled to accept a Contractor proposal for Change, to reject it, or to reach another agreement with Contractor. Should the parties agree on carrying out a Change, a written Contract Change Notice must be prepared and issued under this Contract, describing the Change and its effects on the Services and any affected components of this Contract (a "Contract Change Notice").
- (b) No proposed Change must be performed until the proposed Change has been specified in a duly executed Contract Change Notice issued by the Department of Management and Budget, Purchasing Operations.
- (c) If the State requests or directs the Contractor to perform any activities that Contractor believes constitute a Change, the Contractor must notify the State that it believes the requested activities are a Change before beginning to work on the requested activities. If the Contractor fails to notify the State before beginning to work on the requested activities, then the Contractor waives any right to assert any claim for additional compensation or time for performing the requested activities. If the Contractor commences performing work outside the scope of this Contract and then ceases performing that work, the Contractor must, at the request of the State, retract any out-of-scope work that would adversely affect the Contract.

### **2.025 Notices**

Any notice given to a party under the Contract must be deemed effective, if addressed to the party as addressed below, upon: (i) delivery, if hand delivered; (ii) receipt of a confirmed transmission by facsimile if a copy of the notice is sent by another means specified in this Section; (iii) the third Business Day after being sent by U.S. mail, postage pre-paid, return receipt requested; or (iv) the next Business Day after being sent by a nationally recognized overnight express courier with a reliable tracking system.



**State:**

State of Michigan  
Purchasing Operations  
Attention:  
PO Box 30026  
530 West Allegan  
Lansing, Michigan 48909

**Contractor:** Attention General Counsel  
Fax Number: (972) 819-0201  
E.F. Johnson Company  
1440 Corporate Dr.  
Irving, TX 75038

Either party may change its address where notices are to be sent by giving notice according to this Section.

**2.026 Binding Commitments**

Representatives of Contractor must have the authority to make binding commitments on Contractor's behalf within the bounds set forth in the table. Contractor may change the representatives from time to time upon written notice.

**2.027 Relationship of the Parties**

The relationship between the State and Contractor is that of client and independent contractor. No agent, employee, or servant of Contractor or any of its Subcontractors must be or must be deemed to be an employee, agent or servant of the State for any reason. Contractor will be solely and entirely responsible for its acts and the acts of its agents, employees, servants and Subcontractors during the performance of the Contract.

**2.028 Covenant of Good Faith**

Each party must act reasonably and in good faith. Unless stated otherwise in the Contract, the parties will not unreasonably delay, condition or withhold the giving of any consent, decision or approval that is either requested or reasonably required of them in order for the other party to perform its responsibilities under the Contract.

**2.029 Assignments**

(a) Neither party may assign the Contract, or assign or delegate any of its duties or obligations under the Contract, to any other party (whether by operation of law or otherwise), without the prior written consent of the other party; provided, however, that the State may assign the Contract to any other State agency, department, division or department without the prior consent of Contractor and Contractor may assign the Contract to an affiliate so long as the affiliate is adequately capitalized and can provide adequate assurances that the affiliate can perform the Contract. The State may withhold consent from proposed assignments, subcontracts, or novations when the transfer of responsibility would operate to decrease the State's likelihood of receiving performance on the Contract or the State's ability to recover damages.

(b) Contractor may not, without the prior written approval of the State, assign its right to receive payments due under the Contract. If the State permits an assignment, the Contractor is not relieved of its responsibility to perform any of its contractual duties, and the requirement under the Contract that all payments must be made to one entity continues.

(c) If the Contractor intends to assign the contract or any of the Contractor's rights or duties under the Contract, the Contractor must notify the State in writing at least 90 days before the assignment. The Contractor also must provide the State with adequate information about the assignee within a reasonable amount of time before the assignment for the State to determine whether to approve the assignment.

**2.030 General Provisions**

**2.031 Media Releases**

News releases (including promotional literature and commercial advertisements) pertaining to the RFP and Contract or project to which it relates shall not be made without prior written State approval, and then only in accordance with the explicit written instructions from the State. No results of the activities associated with the RFP and Contract are to be released without prior written approval of the State and then only to persons designated.

**2.032 Contract Distribution**

Purchasing Operations retains the sole right of Contract distribution to all State agencies and local units of government unless other arrangements are authorized by Purchasing Operations.

**2.033 Permits**

Contractor must obtain and pay any associated costs for all required governmental permits, licenses and approvals for the delivery, installation and performance of the Services. The State must pay for all costs and expenses incurred in obtaining and maintaining any necessary easements or right of way.

**2.034 Website Incorporation**

The State is not bound by any content on the Contractor's website, even if the Contractor's documentation specifically referenced that content and attempts to incorporate it into any other communication, unless the State has actual knowledge of the content and has expressly agreed to be bound by it in a writing that has been manually signed by an authorized representative of the State.

**2.035 Future Bidding Preclusion**

Contractor acknowledges that, to the extent this Contract involves the creation, research, investigation or generation of a future RFP; it may be precluded from bidding on the subsequent RFP. The State reserves the right to disqualify any bidder if the State determines that the bidder has used its position (whether as an incumbent Contractor, or as a Contractor hired to assist with the RFP development, or as a Vendor offering free assistance) to gain a competitive advantage on the RFP.

**2.036 Freedom of Information**

All information in any proposal submitted to the State by Contractor and this Contract is subject to the provisions of the Michigan Freedom of Information Act, 1976 Public Act No. 442, as amended, MCL 15.231, et seq (the "FOIA").

**2.037 Disaster Recovery**

Contractor and the State recognize that the State provides essential services in times of natural or man-made disasters. Therefore, except as so mandated by Federal disaster response requirements, Contractor personnel dedicated to providing Services/Deliverables under this Contract will provide the State with priority service for repair and work around in the event of a natural or man-made disaster.

**2.040 Financial Provisions****2.041 Fixed Prices for Services/Deliverables**

Each Statement of Work or Purchase Order issued under this Contract shall specify (or indicate by reference to the appropriate Contract Exhibit) the firm, fixed prices for all Services/Deliverables, and the associated payment milestones and payment amounts. The State may make progress payments to the Contractor when requested as work progresses, but not more frequently than monthly, in amounts approved by the Contract Administrator, after negotiation. Contractor must show verification of measurable progress at the time of requesting progress payments.

**2.042 Adjustments for Reductions in Scope of Services/Deliverables**

If the scope of the Services/Deliverables under any Statement of Work issued under this Contract is subsequently reduced by the State, the parties shall negotiate an equitable reduction in Contractor's charges under such Statement of Work commensurate with the reduction in scope.



#### **2.043 Services/Deliverables Covered**

For all Services/Deliverables to be provided by Contractor (and its Subcontractors, if any) under this Contract, the State shall not be obligated to pay any amounts in addition to the charges specified in this Contract.

#### **2.044 Invoicing and Payment – In General**

(a) Correct invoices will be due and payable by the State, in accordance with the State's standard payment procedure as specified in 1984 Public Act No. 279, MCL 17.51 et seq., within 45 days after receipt, provided the State determines that the invoice was properly rendered.

(b) If a Statement of Work is issued under this Contract, it shall list (or indicate by reference to the appropriate Contract Exhibit) the prices for all Services/Deliverables, equipment and commodities to be provided, and the associated payment milestones and payment amounts as mutually agreed upon by the parties.

(b) Each Contractor invoice will show details as to charges by Service/Deliverable component and location at a level of detail reasonably necessary to satisfy the State's accounting and charge-back requirements. Invoices for Services performed on a time and materials basis will show, for each individual, the number of hours of Services performed during the billing period, the billable skill/labor category for such person and the applicable hourly billing rate. Prompt payment by the State is contingent on the Contractor's invoices showing the amount owed by the State minus any holdback amount to be retained by the State in accordance with **Section 1.064**.

(c) All invoices should reflect actual work done. Specific details of invoices and payments will be agreed upon between the Contract Administrator and the Contractor after the proposed Contract Agreement has been signed and accepted by both the Contractor and the Director of Purchasing Operations, Department of Management & Budget. This activity will occur only upon the specific written direction from Purchasing Operations.

The specific payment schedule for any Contract(s) entered into, as the State and the Contractor(s) will mutually agree upon. The schedule should show payment amount and should reflect actual goods delivered or work done by the payment dates, less any penalty cost charges accrued by those dates. As a general policy statements shall be forwarded to the designated representative by the 15th day of the following month.

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1 The Government may make progress payments to the Contractor when requested as work progresses, but not more frequently than monthly, in amounts approved by the Contract Administrator, after negotiation. Contractor must show verification of measurable progress at the time of requesting progress payments.

#### **2.045 Pro-ration**

To the extent there are any Services that are to be paid for on a monthly basis, the cost of such Services shall be pro-rated for any partial month.

#### **2.046 Antitrust Assignment**

The Contractor assigns to the State any claim for overcharges resulting from antitrust violations to the extent that those violations concern materials or services supplied by third parties to the Contractor, toward fulfillment of this Contract.

#### **2.047 Final Payment**

The making of final payment by the State to Contractor does not constitute a waiver by either party of any rights or other claims as to the other party's continuing obligations under the Contract, nor will it constitute a waiver of any claims by one party against the other arising from unsettled claims or failure by a party to comply with this Contract, including claims for Services and Deliverables not reasonably known until after acceptance to be defective or substandard. Contractor's acceptance of final payment by the State under this Contract shall constitute a waiver of all claims by Contractor against the State for payment under this Contract, other than those claims previously filed in writing on a timely basis and still unsettled.

**2.048 Electronic Payment Requirement**

Electronic transfer of funds is required for payments on State Contracts. Contractors are required to register with the State electronically at <http://www.cpexpress.state.mi.us>. As stated in Public Act 431 of 1984, all contracts that the State enters into for the purchase of goods and services shall provide that payment will be made by electronic fund transfer (EFT).

**2.050 Taxes****2.051 Employment Taxes**

Contractors are expected to collect and pay all applicable federal, state, and local employment taxes, including the taxes.

**2.052 Sales and Use Taxes**

Contractors are required to be registered and to remit sales and use taxes on taxable sales of tangible personal property or services delivered into the State. Contractors that lack sufficient presence in Michigan to be required to register and pay tax must do so as a volunteer. This requirement extends to: (1) all members of any controlled group as defined in § 1563(a) of the Internal Revenue Code and applicable regulations of which the company is a member, and (2) all organizations under common control as defined in § 414(c) of the Internal Revenue Code and applicable regulations of which the company is a member that make sales at retail for delivery into the State are registered with the State for the collection and remittance of sales and use taxes. In applying treasury regulations defining "two or more trades or businesses under common control" the term "organization" means sole proprietorship, a partnership (as defined in § 701(a)(2) of the Internal Revenue Code), a trust, an estate, a corporation, or a limited liability company.

**2.060 Contract Management****2.061 Contractor Personnel Qualifications**

All persons assigned by Contractor to the performance of Services under this Contract must be employees of Contractor or its majority-owned (directly or indirectly, at any tier) subsidiaries (or a State-approved Subcontractor) and must be fully qualified to perform the work assigned to them. Contractor must include a similar provision in any subcontract entered into with a Subcontractor. For the purposes of this Contract, independent contractors engaged by Contractor solely in a staff augmentation role must be treated by the State as if they were employees of Contractor for this Contract only; however, the State understands that the relationship between Contractor and Subcontractor is an independent contractor relationship.

**2.062 Contractor Key Personnel**

- (a) The Contractor must provide the Contract Compliance Inspector with the names of the Key Personnel.
- (b) Key Personnel must be dedicated as defined in the Statement of Work to the Project for its duration in the applicable Statement of Work with respect to other individuals designated as Key Personnel for that Statement of Work.
- (c) The State will have the right to recommend and approve in writing the initial assignment, as well as any proposed reassignment or replacement, of any Key Personnel. Before assigning an individual to any Key Personnel position, Contractor will notify the State of the proposed assignment, will introduce the individual to the appropriate State representatives, and will provide the State with a resume and any other information about the individual reasonably requested by the State. The State reserves the right to interview the individual before granting written approval. In the event the State finds a proposed individual unacceptable, the State will provide a written explanation including reasonable detail outlining the reasons for the rejection.
- (d) Contractor must not remove any Key Personnel from their assigned roles or the Contract without the prior written consent of the State. The Contractor's removal of Key Personnel without the prior written consent of the State is an unauthorized removal ("Unauthorized Removal"). Unauthorized Removals does not include replacing Key Personnel for reasons beyond the reasonable control of Contractor, including illness, disability, leave of absence, personal emergency circumstances, resignation or for cause termination of the Key Personnel's employment. Unauthorized Removals does not include replacing Key Personnel because of promotions or other job movements allowed by Contractor personnel policies or Collective Bargaining Agreement(s) as long as the State receives prior written notice before shadowing occurs and Contractor



provides 30 days of shadowing unless parties agree to a different time period. The Contractor with the State must review any Key Personnel replacements, and appropriate transition planning will be established. Any Unauthorized Removal may be considered by the State to be a material breach of the Contract, in respect of which the State may elect to exercise its termination and cancellation rights.

(e) The Contractor must notify the Contract Compliance Inspector and the Contract Administrator at least 10 business days before redeploying non-Key Personnel, who are dedicated to primarily to the Project, to other projects. If the State does not object to the redeployment by its scheduled date, the Contractor may then redeploy the non-Key Personnel.

#### **2.063 Re-assignment of Personnel at the State's Request**

The State reserves the right to require the removal from the Project of Contractor personnel found, in the judgment of the State, to be unacceptable. The State's request must be written with reasonable detail outlining the reasons for the removal request. Additionally, the State's request must be based on legitimate, good-faith reasons. Replacement personnel for the removed person must be fully qualified for the position. If the State exercises this right, and the Contractor cannot immediately replace the removed personnel, the State agrees to an equitable adjustment in schedule or other terms that may be affected by the State's required removal. If any incident with removed personnel results in delay not reasonably anticipatable under the circumstances and which is attributable to the State, the applicable SLA(s) for the affected Service will not be counted for a time as agreed to by the parties.

#### **2.064 Contractor Personnel Location**

All staff assigned by Contractor to work on the Contract will perform their duties either primarily at Contractor's offices and facilities or at State facilities. Without limiting the generality of the foregoing, Key Personnel will, at a minimum, spend at least the amount of time on-site at State facilities as indicated in the applicable Statement of Work. Subject to availability, selected Contractor personnel may be assigned office space to be shared with State personnel.

#### **2.065 Contractor Identification**

Contractor employees must be clearly identifiable while on State property by wearing a State-issued badge, as required. Contractor employees are required to clearly identify themselves and the company they work for whenever making contact with State personnel by telephone or other means.

#### **2.066 Cooperation with Third Parties**

Contractor agrees to cause its personnel and the personnel of any Subcontractors to cooperate with the State and its agents and other contractors including the State's Quality Assurance personnel. As reasonably requested by the State in writing, the Contractor will provide to the State's agents and other contractors reasonable access to Contractor's Project personnel, systems and facilities to the extent the access relates to activities specifically associated with this Contract and will not interfere or jeopardize the safety or operation of the systems or facilities. The State acknowledges that Contractor's time schedule for the Contract is very specific and agrees not to unnecessarily or unreasonably interfere with, delay or otherwise impeded Contractor's performance under this Contract with the requests for access.

#### **2.067 Contract Management Responsibilities**

The Contractor will be required to assume responsibility for all contractual activities, whether or not that Contractor performs them. Further, the State will consider the Contractor to be the sole point of contact with regard to contractual matters, including payment of any and all charges resulting from the anticipated Contract. If any part of the work is to be subcontracted, the Contract must include a list of subcontractors, including firm name and address, contact person and a complete description of work to be subcontracted. The State reserves the right to approve subcontractors and to require the Contractor to replace subcontractors found to be unacceptable. The Contractor is totally responsible for adherence by the subcontractor to all provisions of the Contract. Any change in subcontractors must be approved by the State, in writing, prior to such change.



**2.068 Contractor Return of State Equipment/Resources**

The Contractor must return to the State any State-furnished equipment, facilities and other resources when no longer required for the Contract in the same condition as when provided by the State, reasonable wear and tear excepted.

**2.070 Subcontracting by Contractor****2.071 Contractor full Responsibility**

Contractor shall have full responsibility for the successful performance and completion of all of the Services and Deliverables. The State will consider Contractor to be the sole point of contact with regard to all contractual matters under this Contract, including payment of any and all charges for Services and Deliverables.

**2.072 State Consent to delegation**

Contractor shall not delegate any duties under this Contract to a Subcontractor unless the Department of Management and Budget, Purchasing Operations has given written consent to such delegation. The State shall have the right of prior written approval of all Subcontractors and to require Contractor to replace any Subcontractors found, in the reasonable judgment of the State, to be unacceptable. The State's request shall be written with reasonable detail outlining the reasons for the removal request. Additionally, the State's request shall be based on legitimate, good-faith reasons. Replacement Subcontractor(s) for the removed Subcontractor shall be fully qualified for the position. If the State exercises this right, and the Contractor cannot immediately replace the removed Subcontractor, the State will agree to an equitable adjustment in schedule or other terms that may be affected by the State's required removal. If any such incident with a removed Subcontractor results in delay not reasonable anticipatable under the circumstances and which is attributable to the State, the applicable SLA for the affected Work will not be counted in time agreed upon by the parties.

**2.073 Subcontractor bound to Contract**

In any subcontracts entered into by Contractor for the performance of the Services, Contractor shall require the Subcontractor, to the extent of the Services to be performed by the Subcontractor, to be bound to Contractor by the terms of this Contract and to assume toward Contractor all of the obligations and responsibilities that Contractor, by this Contract, assumes toward the State. The State reserves the right to receive copies of and review all subcontracts, although Contractor may delete or mask any proprietary information, including pricing, contained in such contracts before providing them to the State. The management of any Subcontractor will be the responsibility of Contractor, and Contractor shall remain responsible for the performance of its Subcontractors to the same extent as if Contractor had not subcontracted such performance. Contractor shall make all payments to Subcontractors or suppliers of Contractor. Except as otherwise agreed in writing by the State and Contractor, the State will not be obligated to direct payments for the Services other than to Contractor. The State's written approval of any Subcontractor engaged by Contractor to perform any obligation under this Contract shall not relieve Contractor of any obligations or performance required under this Contract. Attached as **Exhibit A** is a list of the Subcontractors, if any, approved by the State as of the execution of this Contract, together with a copy of the applicable subcontract.

**2.074 Flow Down**

Except where specifically approved in writing by the State on a case-by-case basis, Contractor shall flow down the obligations in **Sections 2.031, 2.060, 2.100, 2.110, 2.120, 2.130, 2.200** in all of its agreements with any Subcontractors.

**2.075 Competitive Selection**

The Contractor shall select subcontractors (including suppliers) on a competitive basis to the maximum practical extent consistent with the objectives and requirements of the Contract.

**2.080 State Responsibilities**

**2.081 Equipment**

The State will provide only the equipment and resources identified in the Statements of Work and other Contract Exhibits.

**2.082 Facilities**

The State must designate space as long as it is available and as provided in the Statement of Work, to house the Contractor's personnel whom the parties agree will perform the Services/Deliverables at State facilities (collectively, the "State Facilities"). The Contractor must have reasonable access to, and unless agreed otherwise by the parties in writing must observe and comply with all rules and regulations relating to each of the State Facilities (including hours of operation) used by the Contractor in the course of providing the Services. Contractor agrees that it will not, without the prior written consent of the State, use any State Facilities or access any State information systems provided for the Contractor's use, or to which the Contractor otherwise gains access in the course of performing the Services, for any purpose other than providing the Services to the State.

**2.090 Security****2.091 Background Checks**

On a case-by-case basis, the State may investigate the Contractor's personnel before they may have access to State facilities and systems. The scope of the background check is at the discretion of the State and the results will be used to determine Contractor personnel eligibility for working within State facilities and systems. The investigations will include Michigan State Police Background checks (ICHAT) and may include the National Crime Information Center (NCIC) Finger Prints. Proposed Contractor personnel may be required to complete and submit an RI-8 Fingerprint Card for the NCIC Finger Print Check. Any request for background checks will be initiated by the State and will be reasonably related to the type of work requested. The Contractor will be responsible for all costs associated with the background checks.

All Contractor personnel shall comply with the State's security and acceptable use policies for State IT equipment and resources. See <http://www.michigan.gov/dit>. Furthermore, Contractor personnel shall comply with the State's security and acceptable use policies before the Contractor personnel will be accepted as a resource to perform work for the State. The Contractor shall present these documents to the prospective employee before the Contractor presents the individual to the State as a proposed resource. Contractor staff shall comply with all Physical Security procedures in place within the facilities where they are working.

**2.092 Security Breach Notification**

If the Contractor breaches this Section, the Contractor must (i) promptly cure any deficiencies and (ii) comply with any applicable federal and state laws and regulations pertaining to unauthorized disclosures. Contractor and the State will cooperate to mitigate, to the extent practicable, the effects of any breach, intrusion, or unauthorized use or disclosure. Contractor must report to the State in writing any use or disclosure of Confidential Information, whether suspected or actual, other than as provided for by the Contract within 10 days of becoming aware of the use or disclosure or the shorter time period as is reasonable under the circumstances.

**2.093 PCI Data Security Requirements - RESERVED****2.100 Confidentiality****2.101 Confidentiality**

Contractor and the State each acknowledge that the other possesses and will continue to possess confidential information that has been developed or received by it. As used in this Section, "Confidential Information" of Contractor must mean all non-public proprietary information of Contractor (other than Confidential Information of the State as defined below) which is marked confidential, restricted, proprietary or with a similar designation. "Confidential Information" of the State must mean any information which is retained in confidence by the State (or otherwise required to be held in confidence by the State under applicable federal, state and local laws and regulations) or which, in the case of tangible materials provided to Contractor by the State under its



performance under this Contract, is marked as confidential, proprietary or with a similar designation by the State. "Confidential Information" excludes any information (including this Contract) that is publicly available under the Michigan FOIA.

### **2.102 Protection and Destruction of Confidential Information**

The State and Contractor will each use at least the same degree of care to prevent disclosing to third parties the Confidential Information of the other as it employs to avoid unauthorized disclosure, publication or dissemination of its own confidential information of like character, but in no event less than reasonable care. Neither Contractor nor the State will (i) make any use of the Confidential Information of the other except as contemplated by this Contract, (ii) acquire any right in or assert any lien against the Confidential Information of the other, or (iii) if requested to do so, refuse for any reason to promptly return the other party's Confidential Information to the other party. Each party will limit disclosure of the other party's Confidential Information to employees and Subcontractors who must have access to fulfill the purposes of this Contract. Disclosure to, and use by, a Subcontractor is permissible where (A) use of a Subcontractor is authorized under this Contract, (B) the disclosure is necessary or otherwise naturally occurs in connection with work that is within the Subcontractor's scope of responsibility, and (C) Contractor obligates the Subcontractor in a written Contract to maintain the State's Confidential Information in confidence. At the State's request, any employee of Contractor and of any Subcontractor having access or continued access to the State's Confidential Information may be required to execute an acknowledgment that the employee has been advised of Contractor's and the Subcontractor's obligations under this Section and of the employee's obligation to Contractor or Subcontractor, as the case may be, to protect the Confidential Information from unauthorized use or disclosure.

Promptly upon termination or cancellation of the Contract for any reason, Contractor must certify to the State that Contractor has destroyed all State Confidential Information.

### **2.103 Exclusions**

Notwithstanding the foregoing, the provisions of **Section 2.100** will not apply to any particular information which the State or Contractor can demonstrate (i) was, at the time of disclosure to it, in the public domain; (ii) after disclosure to it, is published or otherwise becomes part of the public domain through no fault of the receiving party; (iii) was in the possession of the receiving party at the time of disclosure to it without an obligation of confidentiality; (iv) was received after disclosure to it from a third party who had a lawful right to disclose the information to it without any obligation to restrict its further disclosure; or (v) was independently developed by the receiving party without reference to Confidential Information of the furnishing party. Further, the provisions of **Section 2.100** will not apply to any particular Confidential Information to the extent the receiving party is required by law to disclose the Confidential Information, provided that the receiving party (i) promptly provides the furnishing party with notice of the legal request, and (ii) assists the furnishing party in resisting or limiting the scope of the disclosure as reasonably requested by the furnishing party.

### **2.104 No Implied Rights**

Nothing contained in this Section must be construed as obligating a party to disclose any particular Confidential Information to the other party, or as granting to or conferring on a party, expressly or impliedly, any right or license to the Confidential Information of the other party.

### **2.105 Respective Obligations**

The parties' respective obligations under this Section must survive the termination or expiration of this Contract for any reason.

### **2.110 Records and Inspections**

#### **2.111 Inspection of Work Performed**

The State's authorized representatives must at all reasonable times and with 10 days prior written request, have the right to enter Contractor's premises, or any other places, where the Services are being performed, and must have access, upon reasonable request, to interim drafts of Deliverables or work-in-progress. Upon 10 Days prior written notice and at all reasonable times, the State's representatives must be allowed to inspect, monitor, or otherwise evaluate the work being performed and to the extent that the access will not reasonably





interfere or jeopardize the safety or operation of the systems or facilities. Contractor must provide all reasonable facilities and assistance for the State's representatives.

#### **2.112 Examination of Records**

For seven years after the Contractor provides any work under this Contract (the "Audit Period"), the State may examine and copy any of Contractor's books, records, documents and papers pertinent to establishing Contractor's compliance with the Contract and with applicable laws and rules. The State must notify the Contractor 20 days before examining the Contractor's books and records. The State does not have the right to review any information deemed confidential by the Contractor to the extent access would require the confidential information to become publicly available. This provision also applies to the books, records, accounts, documents and papers, in print or electronic form, of any parent, affiliated or subsidiary organization of Contractor, or any Subcontractor of Contractor performing services in connection with the Contract.

#### **2.113 Retention of Records**

Contractor must maintain at least until the end of the Audit Period all pertinent financial and accounting records (including time sheets and payroll records, and information pertaining to the Contract and to the Services, equipment, and commodities provided under the Contract) pertaining to the Contract according to generally accepted accounting principles and other procedures specified in this Section. Financial and accounting records must be made available, upon request, to the State at any time during the Audit Period. If an audit, litigation, or other action involving Contractor's records is initiated before the end of the Audit Period, the records must be retained until all issues arising out of the audit, litigation, or other action are resolved or until the end of the Audit Period, whichever is later.

#### **2.114 Audit Resolution**

If necessary, the Contractor and the State will meet to review each audit report promptly after issuance. The Contractor will respond to each audit report in writing within 30 days from receipt of the report, unless a shorter response time is specified in the report. The Contractor and the State must develop, agree upon and monitor an action plan to promptly address and resolve any deficiencies, concerns, and/or recommendations in the audit report.

#### **2.115 Errors**

- (a) If the audit demonstrates any errors in the documents provided to the State, then the amount in error must be reflected as a credit or debit on the next invoice and in subsequent invoices until the amount is paid or refunded in full. However, a credit or debit may not be carried for more than four invoices. If a balance remains after four invoices, then the remaining amount will be due as a payment or refund within 45 days of the last quarterly invoice that the balance appeared on or termination of the contract, whichever is earlier.
- (b) In addition to other available remedies, the difference between the payment received and the correct payment amount is greater than 10%, then the Contractor must pay all of the reasonable costs of the audit.

#### **2.120 Warranties**

##### **2.121 Warranties and Representations**

The Contractor represents and warrants:

- (a) It is capable in all respects of fulfilling and must fulfill all of its obligations under this Contract. The performance of all obligations under this Contract must be provided in a timely, professional, and workman-like manner and must meet the performance and operational standards required under this Contract.
- (b) The Contract Appendices, Attachments and Exhibits identify the equipment and software and services necessary for the Deliverable(s) to perform and Services to operate in compliance with the Contract's requirements and other standards of performance.
- (c) It is the lawful owner or licensee of any Deliverable licensed or sold to the State by Contractor or developed by Contractor under this Contract, and Contractor has all of the rights necessary to convey to the State the ownership rights or licensed use, as applicable, of any and all Deliverables. None of the Deliverables



provided by Contractor to the State under this Contract, nor their use by the State, will infringe the patent, copyright, trade secret, or other proprietary rights of any third party.

- (d) If, under this Contract, Contractor procures any equipment, software or other Deliverable for the State (including equipment, software and other Deliverables manufactured, re-marketed or otherwise sold by Contractor under Contractor's name), then in addition to Contractor's other responsibilities with respect to the items in this Contract, Contractor must assign or otherwise transfer to the State or its designees, or afford the State the benefits of, any manufacturer's warranty for the Deliverable.
- (e) The contract signatory has the power and authority, including any necessary corporate authorizations, necessary to enter into this Contract, on behalf of Contractor.
- (f) It is qualified and registered to transact business in all locations where required.
- (g) Neither the Contractor nor any Affiliates, nor any employee of either, has, must have, or must acquire, any contractual, financial, business, or other interest, direct or indirect, that would conflict in any manner or degree with Contractor's performance of its duties and responsibilities to the State under this Contract or otherwise create an appearance of impropriety with respect to the award or performance of this Agreement. Contractor must notify the State about the nature of the conflict or appearance of impropriety within two days of learning about it.
- (h) Neither Contractor nor any Affiliates, nor any employee of either has accepted or must accept anything of value based on an understanding that the actions of the Contractor or Affiliates or employee on behalf of the State would be influenced. Contractor must not attempt to influence any State employee by the direct or indirect offer of anything of value.
- (i) Neither Contractor nor any Affiliates, nor any employee of either has paid or agreed to pay any person, other than bona fide employees and consultants working solely for Contractor or the Affiliate, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award or making of this Contract.
- (j) The prices proposed by Contractor were arrived at independently, without consultation, communication, or agreement with any other bidder for the purpose of restricting competition; the prices quoted were not knowingly disclosed by Contractor to any other bidder; and no attempt was made by Contractor to induce any other person to submit or not submit a proposal for the purpose of restricting competition.
- (k) All financial statements, reports, and other information furnished by Contractor to the State as part of its response to the RFP or otherwise in connection with the award of this Contract fairly and accurately represent the business, properties, financial condition, and results of operations of Contractor as of the respective dates, or for the respective periods, covered by the financial statements, reports, other information. Since the respective dates or periods covered by the financial statements, reports, or other information, there have been no material adverse change in the business, properties, financial condition, or results of operations of Contractor.
- (l) All written information furnished to the State by or for the Contractor in connection with this Contract, including its bid, is true, accurate, and complete, and contains no untrue statement of material fact or omits any material fact necessary to make the information not misleading.
- (m) It is not in material default or breach of any other contract or agreement that it may have with the State or any of its departments, commissions, boards, or agencies. Contractor further represents and warrants that it has not been a party to any contract with the State or any of its departments that was terminated by the State or the department within the previous five years for the reason that Contractor failed to perform or otherwise breached an obligation of the contract.



(n) If any of the certifications, representations, or disclosures made in the Contractor's original bid response change after contract award, the Contractor is required to report those changes immediately to the Department of Management and Budget, Purchasing Operations.

#### **2.122 Warranty of Title**

Contractor shall, in providing goods to the State, convey good title in those goods, whose transfer is right and lawful. All goods provided by Contractor shall be delivered free from any security interest, lien, or encumbrance of which the State, at the time of contracting, has no knowledge. Goods provided by Contractor, under this Contract, shall make best efforts to deliver products free of any rightful claim of any third person by of infringement or the like. However, should a third party make a patent infringement claim, the State and Contractor shall resolve the claim in accordance with **Section 2.144** below.

#### **2.123 Equipment Warranty**

See Article 1, Section 1.022 (A.4)

#### **2.124 Equipment to be New**

If applicable, all equipment provided under this Contract by Contractor shall be new where Contractor has knowledge regarding whether the equipment is new or assembled from new or serviceable used parts that are like new in performance or has the option of selecting one or the other. Equipment that is assembled from new or serviceable used parts that are like new in performance is acceptable where Contractor does not have knowledge or the ability to select one or other, unless specifically agreed otherwise in writing by the State.

#### **2.125 Prohibited Products**

The State will not accept salvage, distressed, outdated or discontinued merchandise. Shipping of such merchandise to any State agency, as a result of an order placed against the Contract, shall be considered default by the Contractor of the terms and conditions of the Contract and may result in cancellation of the Contract by the State. The brand and product number offered for all items shall remain consistent for the term of the Contract, unless Purchasing Operations has approved a change order pursuant to **Section 2.024**.

#### **2.126 Consequences For Breach**

In addition to any remedies available in law, if the Contractor breaches any of the warranties contained in this section, the breach may be considered as a default in the performance of a material obligation of this Contract.

#### **2.130 Insurance**

##### **2.131 Liability Insurance**

The Contractor must provide proof of the minimum levels of insurance coverage as indicated below. The insurance must protect the State from claims which may arise out of or result from the Contractor's performance of services under the terms of this Contract, whether the services are performed by the Contractor, or by any subcontractor, or by anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable.

The Contractor waives all rights against the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents for recovery of damages to the extent these damages are covered by the insurance policies the Contractor is required to maintain under this Contract.

All insurance coverages provided relative to this Contract/Purchase Order are PRIMARY and NON-CONTRIBUTING to any comparable liability insurance (including self-insurances) carried by the State.

The insurance must be written for not less than any minimum coverage specified in this Contract or required by law, whichever is greater.



The insurers selected by Contractor must have an A.M. Best rating of A or better, or as otherwise approved in writing by the State, or if the ratings are no longer available, with a comparable rating from a recognized insurance rating agency. All policies of insurance required in this Contract must be issued by companies that have been approved to do business in the State.

See [www.michigan.gov/dleg](http://www.michigan.gov/dleg).

Where specific limits are shown, they are the minimum acceptable limits. If Contractor's policy contains higher limits, the State must be entitled to coverage to the extent of the higher limits.

The Contractor is required to pay for and provide the type and amount of insurance checked ☒ below:

- ☒ 1. Commercial General Liability with the following minimum coverage:  
 \$2,000,000 General Aggregate Limit other than Products/Completed Operations  
 \$2,000,000 Products/Completed Operations Aggregate Limit  
 \$1,000,000 Personal & Advertising Injury Limit  
 \$1,000,000 Each Occurrence Limit

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSUREDS on the Commercial General Liability certificate. The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company.

- ☒ 2. If a motor vehicle is used to provide services or products under this Contract, the Contractor must have vehicle liability insurance on any auto including owned, hired and non-owned vehicles used in Contractor's business for bodily injury and property damage as required by law.

The Contractor must list the State of Michigan, its departments, divisions, agencies, offices, commissions, officers, employees and agents as ADDITIONAL INSUREDS on the vehicle liability certificate. The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company.

- ☒ 3. Workers' compensation coverage must be provided according to applicable laws governing the employees and employers work activities in the state of the Contractor's domicile. If the applicable coverage is provided by a self-insurer, proof must be provided of approved self-insured authority by the jurisdiction of domicile. For employees working outside of the state of qualification, Contractor must provide appropriate certificates of insurance proving mandated coverage levels for the jurisdictions where the employees' activities occur.

Any certificates of insurance received must also provide a list of states where the coverage is applicable.

The Contractor also agrees to provide evidence that insurance policies contain a waiver of subrogation by the insurance company. This provision must not be applicable where prohibited or limited by the laws of the jurisdiction in which the work is to be performed.

- ☒ 4. Employers liability insurance with the following minimum limits:  
 \$100,000 each accident  
 \$100,000 each employee by disease  
 \$500,000 aggregate disease

- ☐ 5. Employee Fidelity, including Computer Crimes, insurance naming the State as a loss payee, providing coverage for direct loss to the State and any legal liability of the State arising out of or related to fraudulent or dishonest acts committed by the employees of Contractor or its Subcontractors, acting alone or in collusion with others, in a minimum amount of one million dollars (\$1,000,000.00) with a maximum deductible of fifty thousand dollars (\$50,000.00).



- ☒ 6. Umbrella or Excess Liability Insurance in a minimum amount of ten million dollars (\$5,000,000.00), which must apply, at a minimum, to the insurance required in Subsection 1 (Commercial General Liability) above.
- ☐ 7. Professional Liability (Errors and Omissions) Insurance with the following minimum coverage: three million dollars (\$3,000,000.00) each occurrence and three million dollars (\$3,000,000.00) annual aggregate.
- ☐ 8. Fire and Personal Property Insurance covering against any loss or damage to the office space used by Contractor for any reason under this Contract, and the equipment, software and other contents of the office space, including without limitation, those contents used by Contractor to provide the Services to the State, up to its replacement value, where the office space and its contents are under the care, custody and control of Contractor. The policy must cover all risks of direct physical loss or damage, including without limitation, flood and earthquake coverage and coverage for computer hardware and software. The State must be endorsed on the policy as a loss payee as its interests appear.

### **2.132 Subcontractor Insurance Coverage**

Except where the State has approved in writing a Contractor subcontract with other insurance provisions, Contractor must require all of its Subcontractors under this Contract to purchase and maintain the insurance coverage as described in this Section for the Contractor in connection with the performance of work by those Subcontractors. Alternatively, Contractor may include any Subcontractors under Contractor's insurance on the coverage required in this Section. Subcontractor(s) must fully comply with the insurance coverage required in this Section. Failure of Subcontractor(s) to comply with insurance requirements does not limit Contractor's liability or responsibility.

### **2.133 Certificates of Insurance and Other Requirements**

Contractor must furnish to DMB-PurchOps, certificate(s) of insurance verifying insurance coverage or providing satisfactory evidence of self-insurance as required in this Section (the "Certificates"). The Certificate must be on the standard "accord" form or equivalent. **THE CONTRACT OR PURCHASE ORDER NO. MUST BE SHOWN ON THE CERTIFICATE OF INSURANCE TO ASSURE CORRECT FILING.** All Certificate(s) are to be prepared and submitted by the Insurance Provider. All Certificate(s) must contain a provision indicating that coverages afforded under the policies WILL NOT BE CANCELLED, MATERIALLY CHANGED, OR NOT RENEWED without 30 days prior written notice, except for 10 days for non-payment of premium, having been given to the Director of Purchasing Operations, Department of Management and Budget. The notice must include the Contract or Purchase Order number affected. Before the Contract is signed the Contractor must provide evidence that the State and its agents, officers and employees are listed as additional insureds under each commercial general liability and commercial automobile liability policy. The Contractor will make reasonable efforts within 20 days before the insurance expiration to provide the evidence described above. In the event the State approves the representation of the State by the insurer's attorney, the attorney may be required to be designated as a Special Assistant Attorney General by the Attorney General of the State of Michigan.

The Contractor must maintain all required insurance coverage throughout the term of the Contract and any extensions and, in the case of claims-made Commercial General Liability policies, must secure tail coverage for at least three years following the expiration or termination for any reason of this Contract. The minimum limits of coverage specified above are not intended, and must not be construed, to limit any liability or indemnity of Contractor under this Contract to any indemnified party or other persons. Contractor is responsible for all deductibles with regard to the insurance. If the Contractor fails to pay any premium for required insurance as specified in this Contract, or if any insurer cancels or significantly reduces any required insurance as specified in this Contract without the State's written consent, then the State may, after the State has given the Contractor at least 30 days written notice, pay the premium or procure similar insurance coverage from another company or companies. The State may deduct any part of the cost from any payment due the Contractor, or the Contractor must pay that cost upon demand by the State.





## **2.140 Indemnification**

### **2.141 General Indemnification**

To the extent permitted by law, the Contractor must indemnify, defend and hold harmless the State from liability, including all claims and losses, and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest and penalties), accruing or resulting to any person, firm or corporation that may be injured or damaged by the Contractor in the performance of this Contract and that are attributable to the negligence or tortious acts of the Contractor or any of its subcontractors, or by anyone else for whose acts any of them may be liable.

### **2.142 Code Indemnification**

To the extent permitted by law, the Contractor shall indemnify, defend and hold harmless the State from any claim, loss, or expense arising from Contractor's breach of the No Surreptitious Code Warranty.

### **2.143 Employee Indemnification**

In any claims against the State of Michigan, its departments, divisions, agencies, sections, commissions, officers, employees and agents, by any employee of the Contractor or any of its subcontractors, the indemnification obligation under the Contract must not be limited in any way by the amount or type of damages, compensation or benefits payable by or for the Contractor or any of its subcontractors under worker's disability compensation acts, disability benefit acts or other employee benefit acts. This indemnification clause is intended to be comprehensive. Any overlap in provisions, or the fact that greater specificity is provided as to some categories of risk, is not intended to limit the scope of indemnification under any other provisions.

### **2.144 Patent/Copyright Infringement Indemnification**

To the extent permitted by law, the Contractor must indemnify, defend and hold harmless the State from and against all losses, liabilities, damages (including taxes), and all related costs and expenses (including reasonable attorneys' fees and costs of investigation, litigation, settlement, judgments, interest and penalties) incurred in connection with any action or proceeding threatened or brought against the State to the extent that the action or proceeding is based on a claim that any piece of equipment, software, commodity or service supplied by the Contractor or its subcontractors, or the operation of the equipment, software, commodity or service, or the use or reproduction of any documentation provided with the equipment, software, commodity or service infringes any United States patent, copyright, trademark or trade secret of any person or entity, which is enforceable under the laws of the United States.

In addition, should the equipment, software, commodity, or service, or its operation, become or in the State's or Contractor's opinion be likely to become the subject of a claim of infringement, the Contractor must at the Contractor's sole expense (i) procure for the State the right to continue using the equipment, software, commodity or service or, if the option is not reasonably available to the Contractor, (ii) replace or modify to the State's satisfaction the same with equipment, software, commodity or service of equivalent function and performance so that it becomes non-infringing, or, if the option is not reasonably available to Contractor, (iii) accept its return by the State with appropriate credits to the State against the Contractor's charges and reimburse the State for any losses or costs incurred as a consequence of the State ceasing its use and returning it.

Notwithstanding the foregoing, the Contractor has no obligation to indemnify or defend the State for, or to pay any costs, damages or attorneys' fees related to, any claim based upon (i) equipment developed based on written specifications of the State; (ii) use of the equipment in a configuration other than implemented or approved in writing by the Contractor, including, but not limited to, any modification of the equipment by the State; or (iii) the combination, operation, or use of the equipment with equipment or software not supplied by the Contractor under this Contract.

**2.145 Continuation of Indemnification Obligations**

The Contractor's duty to indemnify under this Section continues in full force and effect, notwithstanding the expiration or early cancellation of the Contract, with respect to any claims based on facts or conditions that occurred before expiration or cancellation.

**2.146 Indemnification Procedures**

The procedures set forth below must apply to all indemnity obligations under this Contract.

(a) After the State receives notice of the action or proceeding involving a claim for which it will seek indemnification, the State must promptly notify Contractor of the claim in writing and take or assist Contractor in taking, as the case may be, any reasonable action to avoid the imposition of a default judgment against Contractor. No failure to notify the Contractor relieves the Contractor of its indemnification obligations except to the extent that the Contractor can prove damages attributable to the failure. Within 10 days following receipt of written notice from the State relating to any claim, the Contractor must notify the State in writing whether Contractor agrees to assume control of the defense and settlement of that claim (a "Notice of Election"). After notifying Contractor of a claim and before the State receiving Contractor's Notice of Election, the State is entitled to defend against the claim, at the Contractor's expense, and the Contractor will be responsible for any reasonable costs incurred by the State in defending against the claim during that period.

(b) If Contractor delivers a Notice of Election relating to any claim: (i) the State is entitled to participate in the defense of the claim and to employ counsel at its own expense to assist in the handling of the claim and to monitor and advise the State about the status and progress of the defense; (ii) the Contractor must, at the request of the State, demonstrate to the reasonable satisfaction of the State, the Contractor's financial ability to carry out its defense and indemnity obligations under this Contract; (iii) the Contractor must periodically advise the State about the status and progress of the defense and must obtain the prior written approval of the State before entering into any settlement of the claim or ceasing to defend against the claim and (iv) to the extent that any principles of Michigan governmental or public law may be involved or challenged, the State has the right, at its own expense, to control the defense of that portion of the claim involving the principles of Michigan governmental or public law. But the State may retain control of the defense and settlement of a claim by notifying the Contractor in writing within 10 days after the State's receipt of Contractor's information requested by the State under clause (ii) of this paragraph if the State determines that the Contractor has failed to demonstrate to the reasonable satisfaction of the State the Contractor's financial ability to carry out its defense and indemnity obligations under this Section. Any litigation activity on behalf of the State, or any of its subdivisions under this Section, must be coordinated with the Department of Attorney General. In the event the insurer's attorney represents the State under this Section, the insurer's attorney may be required to be designated as a Special Assistant Attorney General by the Attorney General of the State of Michigan.

(c) If Contractor does not deliver a Notice of Election relating to any claim of which it is notified by the State as provided above, the State may defend the claim in the manner as it may deem appropriate, at the cost and expense of Contractor. If it is determined that the claim was one against which Contractor was required to indemnify the State, upon request of the State, Contractor must promptly reimburse the State for all the reasonable costs and expenses.

**2.150 Termination/Cancellation****2.151 Notice and Right to Cure**

If the Contractor breaches the contract, and the State in its sole discretion determines that the breach is curable, then the State will provide the Contractor with written notice of the breach and a time period (not less than 30 days) to cure the Breach. The notice of breach and opportunity to cure is inapplicable for successive or repeated breaches or if the State determines in its sole discretion that the breach poses a serious and imminent threat to the health or safety of any person or the imminent loss, damage, or destruction of any real or tangible personal property.

**2.152 Termination for Cause**

- (a) The State may terminate this contract, for cause, by notifying the Contractor in writing, if the Contractor (i) breaches any of its material duties or obligations under this Contract (including a Chronic Failure to meet any particular SLA), or (ii) fails to cure a breach within the time period specified in the written notice of breach provided by the State
- (b) If this Contract is terminated for cause, the Contractor must pay all costs incurred by the State in terminating this Contract, including but not limited to, State administrative costs, reasonable attorneys' fees and court costs, and any reasonable additional costs the State may incur to procure the Services/Deliverables required by this Contract from other sources. Re-procurement costs are not consequential, indirect or incidental damages, and cannot be excluded by any other terms otherwise included in this Contract, provided the costs are not in excess of 50% more than the prices for the Service/Deliverables provided under this Contract.
- (c) If the State chooses to partially terminate this Contract for cause, charges payable under this Contract will be equitably adjusted to reflect those Services/Deliverables that are terminated and the State must pay for all Services/Deliverables for which Final Acceptance has been granted provided up to the termination date. Services and related provisions of this Contract that are terminated for cause must cease on the effective date of the termination.
- (d) If the State terminates this Contract for cause under this Section, and it is determined, for any reason, that Contractor was not in breach of contract under the provisions of this section, that termination for cause must be deemed to have been a termination for convenience, effective as of the same date, and the rights and obligations of the parties must be limited to that otherwise provided in this Contract for a termination for convenience.

**2.153 Termination for Convenience**

The State may terminate this Contract for its convenience, in whole or part, if the State determines that a termination is in the State's best interest. Reasons for the termination must be left to the sole discretion of the State and may include, but not necessarily be limited to (a) the State no longer needs the Services or products specified in the Contract, (b) relocation of office, program changes, changes in laws, rules, or regulations make implementation of the Services no longer practical or feasible, (c) unacceptable prices for Additional Services or New Work requested by the State, or (d) falsification or misrepresentation, by inclusion or non-inclusion, of information material to a response to any RFP issued by the State. The State may terminate this Contract for its convenience, in whole or in part, by giving Contractor written notice at least 30 days before the date of termination. If the State chooses to terminate this Contract in part, the charges payable under this Contract must be equitably adjusted to reflect those Services/Deliverables that are terminated. Services and related provisions of this Contract that are terminated for cause must cease on the effective date of the termination.

**2.154 Termination for Non-Appropriation**

- (a) Contractor acknowledges that, if this Contract extends for several fiscal years, continuation of this Contract is subject to appropriation or availability of funds for this Contract. If funds to enable the State to effect continued payment under this Contract are not appropriated or otherwise made available, the State must terminate this Contract and all affected Statements of Work, in whole or in part, at the end of the last period for which funds have been appropriated or otherwise made available by giving written notice of termination to Contractor. The State must give Contractor at least 30 days advance written notice of termination for non-appropriation or unavailability (or the time as is available if the State receives notice of the final decision less than 30 days before the funding cutoff).
- (b) If funding for the Contract is reduced by law, or funds to pay Contractor for the agreed-to level of the Services or production of Deliverables to be provided by Contractor are not appropriated or otherwise unavailable, the State may, upon 30 days written notice to Contractor, reduce the level of the Services or the change the production of Deliverables in the manner and for the periods of time as the State may elect. The charges payable under this Contract will be equitably adjusted to reflect any equipment, services or commodities not provided by reason of the reduction.





(c) If the State terminates this Contract, eliminates certain Deliverables, or reduces the level of Services to be provided by Contractor under this Section, the State must pay Contractor for all Work-in-Process performed through the effective date of the termination or reduction in level, as the case may be and as determined by the State, to the extent funds are available. This Section will not preclude Contractor from reducing or stopping Services/Deliverables or raising against the State in a court of competent jurisdiction, any claim for a shortfall in payment for Services performed or Deliverables finally accepted before the effective date of termination.

#### **2.155 Termination for Criminal Conviction**

The State may terminate this Contract immediately and without further liability or penalty in the event Contractor, an officer of Contractor, or an owner of a 25% or greater share of Contractor is convicted of a criminal offense related to a State, public or private Contract or subcontract.

#### **2.156 Termination for Approvals Rescinded**

The State may terminate this Contract if any final administrative or judicial decision or adjudication disapproves a previously approved request for purchase of personal services under Constitution 1963, Article 11, § 5, and Civil Service Rule 7-1. In that case, the State will pay the Contractor for only the work completed to that point under the Contract. Termination may be in whole or in part and may be immediate as of the date of the written notice to Contractor or may be effective as of the date stated in the written notice.

#### **2.157 Rights and Obligations upon Termination**

(a) If the State terminates this Contract for any reason, the Contractor must (a) stop all work as specified in the notice of termination, (b) take any action that may be necessary, or that the State may direct, for preservation and protection of Deliverables or other property derived or resulting from this Contract that may be in Contractor's possession, (c) return all materials and property provided directly or indirectly to Contractor by any entity, agent or employee of the State, (d) transfer title in, and deliver to, the State, unless otherwise directed, all Deliverables intended to be transferred to the State at the termination of the Contract and which are resulting from the Contract (which must be provided to the State on an "As-Is" basis except to the extent the amounts paid by the State in respect of the items included compensation to Contractor for the provision of warranty services in respect of the materials), and (e) take any action to mitigate and limit any potential damages, or requests for Contractor adjustment or termination settlement costs, to the maximum practical extent, including terminating or limiting as otherwise applicable those subcontracts and outstanding orders for material and supplies resulting from the terminated Contract.

(b) If the State terminates this Contract before its expiration for its own convenience, the State must pay Contractor for all charges due for Services provided before the date of termination and, if applicable, as a separate item of payment under this Contract, for Work In Process, on a percentage of completion basis at the level of completion determined by the State. All completed or partially completed Deliverables prepared by Contractor under this Contract, at the option of the State, becomes the State's property, and Contractor is entitled to receive equitable fair compensation for the Deliverables. Regardless of the basis for the termination, the State is not obligated to pay, or otherwise compensate, Contractor for any lost expected future profits, costs or expenses incurred with respect to Services not actually performed for the State.

(c) Upon a good faith termination, the State may assume, at its option, any subcontracts and agreements for services and deliverables provided under this Contract, and may further pursue completion of the Services/Deliverables under this Contract by replacement contract or otherwise as the State may in its sole judgment deem expedient.

#### **2.158 Reservation of Rights**

Any termination of this Contract or any Statement of Work issued under it by a party must be with full reservation of, and without prejudice to, any rights or remedies otherwise available to the party with respect to any claims arising before or as a result of the termination.

#### **2.160 Termination by Contractor**

**2.161 Termination by Contractor**

If the State breaches the Contract, and the Contractor in its sole discretion determines that the breach is curable, then the Contractor will provide the State with written notice of the breach and a time period (not less than 30 days) to cure the breach. The Notice of Breach and opportunity to cure is inapplicable for successive and repeated breaches.

The Contractor may terminate this Contract if the State (i) materially breaches its obligation to pay the Contractor undisputed amounts due and owing under this Contract, (ii) breaches its other obligations under this Contract to an extent that makes it impossible or commercially impractical for the Contractor to perform the Services, or (iii) does not cure the breach within the time period specified in a written notice of breach. But the Contractor must discharge its obligations under **Section 2.160** before it terminates the Contract.

**2.170 Transition Responsibilities****2.171 Contractor Transition Responsibilities**

If the State terminates this contract, for convenience or cause, or if the Contract is otherwise dissolved, voided, rescinded, nullified, expires or rendered unenforceable, the Contractor agrees to comply with direction provided by the State to assist in the orderly transition of equipment, services, software, leases, etc. to the State or a third party designated by the State. If this Contract expires or terminates, the Contractor agrees to make all reasonable efforts to effect an orderly transition of services within a reasonable period of time that in no event will exceed 60 days. These efforts must include, but are not limited to, those listed in **Sections 2.141, 2.142, 2.143, 2.144, and 2.145**.

**2.172 Contractor Personnel Transition**

The Contractor must work with the State, or a specified third party, to develop a transition plan setting forth the specific tasks and schedule to be accomplished by the parties, to effect an orderly transition. The Contractor must allow as many personnel as practicable to remain on the job to help the State, or a specified third party, maintain the continuity and consistency of the services required by this Contract. In addition, during or following the transition period, in the event the State requires the Services of the Contractor's subcontractors or vendors, as necessary to meet its needs, Contractor agrees to reasonably, and with good-faith, work with the State to use the Services of Contractor's subcontractors or vendors. Contractor will notify all of Contractor's subcontractors of procedures to be followed during transition.

**2.173 Contractor Information Transition**

The Contractor agrees to provide reasonable detailed specifications for all Services/Deliverables needed by the State, or specified third party, to properly provide the Services/Deliverables required under this Contract. The Contractor will provide the State with asset management data generated from the inception of this Contract through the date on which this Contractor is terminated in a comma-delineated format unless otherwise requested by the State. The Contractor will deliver to the State any remaining owed reports and documentation still in Contractor's possession subject to appropriate payment by the State.

**2.174 Contractor Software Transition**

The Contractor must reasonably assist the State in the acquisition of any Contractor software required to perform the Services/use the Deliverables under this Contract. This must include any documentation being used by the Contractor to perform the Services under this Contract. If the State transfers any software licenses to the Contractor, those licenses must, upon expiration of the Contract, transfer back to the State at their current revision level. Upon notification by the State, Contractor may be required to freeze all non-critical changes to Deliverables/Services.

**2.175 Transition Payments**

If the transition results from a termination for any reason, reimbursement must be governed by the termination provisions of this Contract. If the transition results from expiration, the Contractor will be reimbursed for all reasonable transition costs (i.e. costs incurred within the agreed period after contract expiration that result from



transition operations) at the rates agreed upon by the State. The Contractor will prepare an accurate accounting from which the State and Contractor may reconcile all outstanding accounts.

#### **2.176 State Transition Responsibilities**

In the event that this Contract is terminated, dissolved, voided, rescinded, nullified, or otherwise rendered unenforceable, the State agrees to perform the following obligations, and any others upon which the State and the Contractor agree:

- (a) Reconciling all accounts between the State and the Contractor;
- (b) Completing any pending post-project reviews.

#### **2.180 Stop Work**

##### **2.181 Stop Work Orders**

The State may, at any time, by written stop work order to Contractor, require that Contractor stop all, or any part, of the work called for by the Contract for a period of up to 90 calendar days after the stop work order is delivered to Contractor, and for any further period to which the parties may agree. The stop work order must be identified as a stop work order and must indicate that it is issued under this **Section 2.150**. Upon receipt of the stop work order, Contractor must immediately comply with its terms and take all reasonable steps to minimize incurring costs allocable to the work covered by the stop work order during the period of work stoppage. Within the period of the stop work order, the State must either: (a) cancel the stop work order; or (b) terminate the work covered by the stop work order as provided in **Section 2.130**.

##### **2.182 Cancellation or Expiration of Stop Work Order**

The Contractor must resume work if the State cancels a Stop Work Order or if it expires. The parties will agree upon an equitable adjustment in the delivery schedule, the Contract price, or both, and the Contract must be modified, in writing, accordingly, if: (a) the stop work order results in an increase in the time required for, or in Contractor's costs properly allocable to, the performance of any part of the Contract; and (b) Contractor asserts its right to an equitable adjustment within 30 calendar days after the end of the period of work stoppage; provided that, if the State decides the facts justify the action, the State may receive and act upon a Contractor proposal submitted at any time before final payment under the Contract. Any adjustment will conform to the requirements of **Section 2.024**.

##### **2.183 Allowance of Contractor Costs**

If the stop work order is not canceled and the work covered by the stop work order is terminated for reasons other than material breach, the termination must be deemed to be a termination for convenience under **Section 2.130**, and the State will pay reasonable costs resulting from the stop work order in arriving at the termination settlement. For the avoidance of doubt, the State is not be liable to Contractor for loss of profits because of a stop work order issued under this **Section 2.150**.

#### **2.190 Dispute Resolution**

##### **2.191 In General**

Any claim, counterclaim, or dispute between the State and Contractor arising out of or relating to the Contract or any Statement of Work must be resolved as follows. For all Contractor claims seeking an increase in the amounts payable to Contractor under the Contract, or the time for Contractor's performance, Contractor must submit a letter, together with all data supporting the claims, executed by Contractor's Contract Administrator or the Contract Administrator's designee certifying that (a) the claim is made in good faith, (b) the amount claimed accurately reflects the adjustments in the amounts payable to Contractor or the time for Contractor's performance for which Contractor believes the State is liable and covers all costs of every type to which Contractor is entitled from the occurrence of the claimed event, and (c) the claim and the supporting data are current and complete to Contractor's best knowledge and belief.

**2.192 Informal Dispute Resolution**

- (a) All disputes between the parties must be resolved under the Contract Management procedures in this Contract. If the parties are unable to resolve any disputes after compliance with the processes, the parties must meet with the Director of Purchasing Operations, DMB, or designee, for the purpose of attempting to resolve the dispute without the need for formal legal proceedings, as follows:
- (i) The representatives of Contractor and the State must meet as often as the parties reasonably deem necessary to gather and furnish to each other all information with respect to the matter in issue which the parties believe to be appropriate and germane in connection with its resolution. The representatives must discuss the problem and negotiate in good faith in an effort to resolve the dispute without the necessity of any formal proceeding.
  - (ii) During the course of negotiations, all reasonable requests made by one party to another for non-privileged information reasonably related to the Contract will be honored in order that each of the parties may be fully advised of the other's position.
  - (iii) The specific format for the discussions will be left to the discretion of the designated State and Contractor representatives, but may include the preparation of agreed upon statements of fact or written statements of position.
  - (iv) Following the completion of this process within 60 calendar days, the Director of Purchasing Operations, DMB, or designee, must issue a written opinion regarding the issue(s) in dispute within 30 calendar days. The opinion regarding the dispute must be considered the State's final action and the exhaustion of administrative remedies.
- (b) This Section will not be construed to prevent either party from instituting, and a party is authorized to institute, formal proceedings earlier to avoid the expiration of any applicable limitations period, to preserve a superior position with respect to other creditors, or under **Section 2.193**
- (c) The State will not mediate disputes between the Contractor and any other entity, except state agencies, concerning responsibility for performance of work under the Contract.

**2.193 Injunctive Relief**

The only circumstance in which disputes between the State and Contractor will not be subject to the provisions of **Section 2.192** is where a party makes a good faith determination that a breach of the terms of the Contract by the other party is the that the damages to the party resulting from the breach will be so immediate, so large or severe and so incapable of adequate redress after the fact that a temporary restraining order or other immediate injunctive relief is the only adequate remedy.

**2.194 Continued Performance**

Each party agrees to continue performing its obligations under the Contract while a dispute is being resolved except to the extent the issue in dispute precludes performance (dispute over payment must not be deemed to preclude performance) and without limiting either party's right to terminate the Contract as provided in **Section 2.150**, as the case may be.

**2.200 Federal and State Contract Requirements****2.201 Nondiscrimination**

In the performance of the Contract, Contractor agrees not to discriminate against any employee or applicant for employment, with respect to his or her hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment, because of race, color, religion, national origin, ancestry, age, sex, height, weight, marital status, physical or mental disability. Contractor further agrees that every subcontract entered into for the performance of this Contract or any purchase order resulting from this Contract will contain a provision requiring non-discrimination in employment, as specified here, binding upon each Subcontractor. This covenant is required under the Elliot Larsen Civil Rights Act, 1976 PA 453, MCL 37.2101, et seq., and the Persons with Disabilities Civil Rights Act, 1976 PA 220, MCL 37.1101, et seq., and any breach of this provision may be regarded as a material breach of the Contract.

**2.202 Unfair Labor Practices**

Under 1980 PA 278, MCL 423.321, et seq., the State must not award a Contract or subcontract to an employer whose name appears in the current register of employers failing to correct an unfair labor practice compiled under section 2 of the Act. This information is compiled by the United States National Labor Relations Board. A Contractor of the State, in relation to the Contract, must not enter into a contract with a Subcontractor, manufacturer, or supplier whose name appears in this register. Under section 4 of 1980 PA 278, MCL 423.324, the State may void any Contract if, after award of the Contract, the name of Contractor as an employer or the name of the Subcontractor, manufacturer or supplier of Contractor appears in the register.

**2.203 Workplace Safety and Discriminatory Harassment**

In performing Services for the State, the Contractor must comply with the Department of Civil Services Rule 2-20 regarding Workplace Safety and Rule 1-8.3 regarding Discriminatory Harassment. In addition, the Contractor must comply with Civil Service regulations and any applicable agency rules provided to the Contractor. For Civil Service Rules, see <http://www.mi.gov/mdcs/0,1607,7-147-6877---,00.html>.

**2.210 Governing Law****2.211 Governing Law**

The Contract must in all respects be governed by, and construed according to, the substantive laws of the State of Michigan without regard to any Michigan choice of law rules that would apply the substantive law of any other jurisdiction to the extent not inconsistent with, or pre-empted by federal law.

**2.212 Compliance with Laws**

Contractor shall comply with all applicable state, federal and local laws and ordinances in providing the Services/Deliverables.

**2.213 Jurisdiction**

Any dispute arising from the Contract must be resolved in the State of Michigan. With respect to any claim between the parties, Contractor consents to venue in Ingham County, Michigan, and irrevocably waives any objections it may have to the jurisdiction on the grounds of lack of personal jurisdiction of the court or the laying of venue of the court or on the basis of forum non conveniens or otherwise. Contractor agrees to appoint agents in the State of Michigan to receive service of process.

**2.220 Limitation of Liability****2.221 Limitation of Liability**

Neither the Contractor nor the State is liable to each other, regardless of the form of action, for consequential, incidental, indirect, or special damages.

The Contractor's liability for damages to the State is limited to the price of the Equipment, Software, or services with respect to which losses or damages are claimed. This limitation of liability does not apply to claims for infringement of United States patent, copyright, or trademark; to claims for personal injury or damage to property caused by the gross negligence or willful misconduct of the Contractor; or to court costs or attorney's fees awarded by a court in addition to damages after litigation based on this Contract.

Neither the Contractor nor the State is liable to each other, regardless of the form of action, for consequential, incidental, indirect, or special damages. This limitation of liability does not apply to claims for infringement of United States patent, copyright, trademark or trade secrets; to claims for personal injury or damage to property caused by the gross negligence or willful misconduct of the Contractor; to claims covered by other specific provisions of this Contract calling for liquidated damages; or to court costs or attorney's fees awarded by a court in addition to damages after litigation based on this Contract.

The State's liability for damages to the Contractor is limited to the value of the Contract.





## **2.230 Disclosure Responsibilities**

### **2.231 Disclosure of Litigation**

(a) Disclosure. Contractor must disclose any material criminal litigation, investigations or proceedings involving the Contractor (and each Subcontractor) or any of its officers or directors or any litigation, investigations or proceedings under the Sarbanes-Oxley Act. In addition, each Contractor (and each Subcontractor) must notify the State of any material civil litigation, arbitration or proceeding which arises during the term of the Contract and extensions, to which Contractor (or, to the extent Contractor is aware, any Subcontractor) is a party, and which involves: (i) disputes that might reasonably be expected to adversely affect the viability or financial stability of Contractor or any Subcontractor; or (ii) a claim or written allegation of fraud against Contractor or, to the extent Contractor is aware, any Subcontractor by a governmental or public entity arising out of their business dealings with governmental or public entities. The Contractor must disclose in writing to the Contract Administrator any litigation, investigation, arbitration or other proceeding (collectively, "Proceeding") within 30 days of its occurrence. Details of settlements which are prevented from disclosure by the terms of the settlement may be annotated. Information provided to the State from Contractor's publicly filed documents referencing its material litigation will be deemed to satisfy the requirements of this Section.

(b) Assurances. If any Proceeding disclosed to the State under this Section, or of which the State otherwise becomes aware, during the term of this Contract would cause a reasonable party to be concerned about:

- (i) the ability of Contractor (or a Subcontractor) to continue to perform this Contract according to its terms and conditions, or
- (ii) whether Contractor (or a Subcontractor) in performing Services for the State is engaged in conduct which is similar in nature to conduct alleged in the Proceeding, which conduct would constitute a breach of this Contract or a violation of Michigan law, regulations or public policy, then the Contractor must provide the State all reasonable assurances requested by the State to demonstrate that:
  - (a) Contractor and its Subcontractors will be able to continue to perform this Contract and any Statements of Work according to its terms and conditions, and
  - (b) Contractor and its Subcontractors have not and will not engage in conduct in performing the Services which is similar in nature to the conduct alleged in the Proceeding.

(c) Contractor must make the following notifications in writing:

- (1) Within 30 days of Contractor becoming aware that a change in its ownership or officers has occurred, or is certain to occur, or a change that could result in changes in the valuation of its capitalized assets in the accounting records, Contractor must notify DMB Purch-Ops.
- (2) Contractor must also notify DMB Purch-Ops within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership or officers.
- (3) Contractor must also notify DMB Purch-Ops within 30 days whenever changes to company affiliations occur.

### **2.232 Call Center Disclosure**

Contractor and/or all subcontractors involved in the performance of this Contract providing call or contact center services to the State must disclose the location of its call or contact center services to inbound callers. Failure to disclose this information is a material breach of this Contract.

### **2.233 Bankruptcy**

The State may, without prejudice to any other right or remedy, terminate this Contract, in whole or in part, and, at its option, may take possession of the "Work in Process" and finish the Works in Process by whatever appropriate method the State may deem expedient if:

- (a) the Contractor files for protection under the bankruptcy laws;
- (b) an involuntary petition is filed against the Contractor and not removed within 30 days;
- (c) the Contractor becomes insolvent or if a receiver is appointed due to the Contractor's insolvency;



- (d) the Contractor makes a general assignment for the benefit of creditors; or
- (e) the Contractor or its affiliates are unable to provide reasonable assurances that the Contractor or its affiliates can deliver the services under this Contract.

Contractor will fix appropriate notices or labels on the Work in Process to indicate ownership by the State. To the extent reasonably possible, materials and Work in Process must be stored separately from other stock and marked conspicuously with labels indicating ownership by the State.

## **2.240 Performance**

### **2.241 Time of Performance**

- (a) Contractor must use commercially reasonable efforts to provide the resources necessary to complete all Services and Deliverables according to the time schedules contained in the Statements of Work and other Exhibits governing the work, and with professional quality.
- (b) Without limiting the generality of **Section 2.241(a)**, Contractor must notify the State in a timely manner upon becoming aware of any circumstances that may reasonably be expected to jeopardize the timely and successful completion of any Deliverables/Services on the scheduled due dates in the latest State-approved delivery schedule and must inform the State of the projected actual delivery date.
- (c) If the Contractor believes that a delay in performance by the State has caused or will cause the Contractor to be unable to perform its obligations according to specified Contract time periods, the Contractor must notify the State in a timely manner and must use commercially reasonable efforts to perform its obligations according to the Contract time periods notwithstanding the State's failure. Contractor will not be in default for a delay in performance to the extent the delay is caused by the State.

### **2.242 Service Level Agreements (SLA(s))**

- (a) If the State and Contractor negotiate and mutually agree on a Service Level Agreement for products or service, the following operational considerations will be taken into consideration:
  - (i) SLA(s) will not be calculated for individual Incidents where any event of Excusable Failure has been determined; Incident means any interruption in Services.
  - (ii) SLA(s) will not be calculated for individual Incidents where loss of service is planned and where the State has received prior notification or coordination.
  - (iii) SLA(s) will not apply if the applicable Incident could have been prevented through planning proposed by Contractor and not implemented at the request of the State. To invoke this consideration, complete documentation relevant to the denied planning proposal must be presented to substantiate the proposal.
  - (iv) Time period measurements will be based on the time Incidents are received by the Contractor and the time that the State receives notification of resolution based on 24x7x365 time period, except that the time period measurement will be suspended based on the following:
    - 1. Time period(s) will not apply where Contractor does not have access to a physical State Location and where access to the State Location is necessary for problem identification and resolution.
    - 2. Time period(s) will not apply where Contractor needs to obtain timely and accurate information or appropriate feedback and is unable to obtain timely and accurate information or appropriate feedback from the State.
- (b) Chronic Failure for any Service(s) will be defined as three unscheduled outage(s) or interruption(s) on any individual Service for the same reason or cause or if the same reason or cause was reasonably discoverable in the first instance over a rolling 30 day period. Chronic Failure will result in the State's option to terminate the effected individual Service(s) and procure them from a different vendor for the chronic location(s) with Contractor to pay the difference in charges for up to three additional months. The termination of the Service will not affect any tiered pricing levels.
- (c) Root Cause Analysis will be performed on any Business Critical outage(s) or outage(s) on Services when requested by the Contract Administrator. Contractor will provide its analysis within two weeks of outage(s) and provide a recommendation for resolution.
- (d) All decimals must be rounded to two decimal places with five and greater rounding up and four and less rounding down unless otherwise specified.



### **2.243 Liquidated Damages**

If a Statement of Work is issued under this Contract, it shall list (or indicate by reference to the appropriate Contract Exhibit) the timeline for Services/Deliverables, equipment and commodities to be provided, and the associated performance milestones as mutually agreed upon by the parties. Under these circumstances, the parties acknowledge that late or improper completion of the Work will cause loss and damage to the State, and that it would be impracticable and extremely difficult to fix the actual damage sustained by the State as a result. Therefore, Contractor and the State agree that if there is late or improper completion of the Work, liquidated damages may be assessed as mutually-agreed upon in the applicable Statement of Work.:

(b) Other Remedies: The assessment and collection of Liquidated Damages for compliance with section 2.242 shall not be construed to limit in any way any other legal or equitable remedies of the State for such Failure to Comply (including, without limitation, the right to terminate this Contract for cause), except that the State's right to seek actual damages shall be as set forth below. The State may seek actual damages for any Failure to Comply described above (regardless of whether the State terminates this Contract), if in the State's judgment it is possible to fix actual damages for such Failure to Comply; provided, however, that if the State commences an action or proceeding seeking actual damages for any such Failure to Comply, the State will be entitled to receive only the amount of actual damages awarded in such action or proceeding (after the exhaustion of all appeals) or agreed to by the State and the Contractor in a written settlement agreement.

The State may retain any applicable Liquidated Damages collected for such Failure to Comply pending final determination in such action or proceeding of the amount of actual damages to which the State is entitled. Such Liquidated Damages will be applied by the State as a credit against the amount of actual damages to which the State becomes entitled is less than the liquidated damages collected by the State for such Failure to Comply, the State will promptly refund the difference to the Contractor.

### **2.244 Excusable Failure**

Neither party will be liable for any default, damage or delay in the performance of its obligations under the Contract to the extent the default, damage or delay is caused by government regulations or requirements (executive, legislative, judicial, military or otherwise), power failure, electrical surges or current fluctuations, lightning, earthquake, war, water or other forces of nature or acts of God, delays or failures of transportation, equipment shortages, suppliers' failures, or acts or omissions of common carriers, fire; riots, civil disorders; strikes or other labor disputes, embargoes; injunctions (provided the injunction was not issued as a result of any fault or negligence of the party seeking to have its default or delay excused); or any other cause beyond the reasonable control of a party; provided the non-performing party and its Subcontractors are without fault in causing the default or delay, and the default or delay could not have been prevented by reasonable precautions and cannot reasonably be circumvented by the non-performing party through the use of alternate sources, workaround plans or other means, including disaster recovery plans.

If a party does not perform its contractual obligations for any of the reasons listed above, the non-performing party will be excused from any further performance of its affected obligation(s) for as long as the circumstances prevail. But the party must use commercially reasonable efforts to recommence performance whenever and to whatever extent possible without delay. A party must promptly notify the other party in writing immediately after the excusable failure occurs, and also when it abates or ends.

If any of the above-enumerated circumstances substantially prevent, hinder, or delay the Contractor's performance of the Services/provision of Deliverables for more than 10 Business Days, and the State determines that performance is not likely to be resumed within a period of time that is satisfactory to the State in its reasonable discretion, then at the State's option: (a) the State may procure the affected Services/Deliverables from an alternate source, and the State is not be liable for payment for the unperformed Services/ Deliverables not provided under the Contract for so long as the delay in performance continues; (b) the State may terminate any portion of the Contract so affected and the charges payable will be equitably adjusted to reflect those Services/Deliverables terminated; or (c) the State may terminate the affected Statement of Work without liability to Contractor as of a date specified by the State in a written notice of





termination to the Contractor, except to the extent that the State must pay for Services/Deliverables provided through the date of termination.

The Contractor will not have the right to any additional payments from the State as a result of any Excusable Failure occurrence or to payments for Services not rendered/Deliverables not provided as a result of the Excusable Failure condition. Defaults or delays in performance by Contractor which are caused by acts or omissions of its Subcontractors will not relieve Contractor of its obligations under the Contract except to the extent that a Subcontractor is itself subject to an Excusable Failure condition described above and Contractor cannot reasonably circumvent the effect of the Subcontractor's default or delay in performance through the use of alternate sources, workaround plans or other means.

### **2.250 Acceptance of Deliverables**

See Article 1, Section 1.051 (Criteria) for additional detail.

### **2.251 Delivery Responsibilities**

Unless otherwise specified by the State within an individual order, the following must be applicable to all orders issued under this Contract.

(a) Shipment responsibilities - Services performed/Deliverables provided under this Contract must be delivered "FOB Destination, within Government Premises." The Contractor must have complete responsibility for providing all Services/Deliverables to all site(s) unless otherwise stated. Actual delivery dates will be specified on the individual purchase order.

(b) Delivery locations - Services will be performed/Deliverables will be provided at every State of Michigan location within Michigan unless otherwise stated in the SOW. Specific locations will be provided by the State or upon issuance of individual purchase orders.

(c) Damage Disputes - At the time of delivery to State Locations, the State must examine all packages. The quantity of packages delivered must be recorded and any obvious visible or suspected damage must be noted at time of delivery using the shipper's delivery document(s) and appropriate procedures to record the damage.

Where there is no obvious or suspected damage, all deliveries to a State Location must be opened by the State and the contents inspected for possible internal damage not visible externally within fourteen days of receipt. Any damage must be reported to the Contractor within five days of inspection.

### **2.252 Delivery of Deliverables**

Where applicable and agreed-upon by the parties, the Statements of Work/POs contain lists of the Deliverables to be prepared and delivered by Contractor including, for each Deliverable, the scheduled delivery date and a designation of whether the Deliverable is a document ("Written Deliverable"), a good or product ("Physical Deliverable") or a Service. All Deliverables must be completed and delivered for State review and written acceptance and, where applicable, installed according to the State-approved delivery schedule and any other applicable terms and conditions of the Contract.

### **2.253 Testing**

(a) Before delivering any of the above-mentioned Statement of Work Physical Deliverables or Services to the State, Contractor will first perform all required quality assurance activities to verify that the Physical Deliverable or Service is complete and conforms with its specifications listed in the applicable Statement of Work or Purchase Order. Before delivering a Physical Deliverable or Service to the State, Contractor must certify to the State that (1) it has performed the quality assurance activities, (2) it has performed any applicable testing, (3) it has corrected all material deficiencies discovered during the quality assurance activities and testing, (4) the Deliverable or Service is in a suitable state of readiness for the State's review and acceptance, and (5) the Deliverable/Service has all Critical Security patches/updates applied.

(b) If a Deliverable includes installation at a State Location, then Contractor must (1) perform any applicable testing, (2) correct all material deficiencies discovered during the quality assurance activities and testing, and (3) inform the State that the Deliverable is in a suitable state of readiness for the State's review and acceptance. To the extent that testing occurs at State Locations, the State is entitled to observe or otherwise participate in testing.

**2.254 Acceptance of Deliverables, In General**

- (a) All particular Deliverables (including particular Physical Deliverables and Written Deliverables) and Services received by the State for the first time require formal written acceptance by the State, according to the following procedures. Formal acceptance by the State requires the State to confirm in writing within 30 days from receipt that the Deliverable meets the Contractor's technical specifications. If notice is not received within 30 days from receipt of acceptance or rejection, the Deliverables and Services shall be deemed accepted. Formal acceptance may include the successful completion of Testing as applicable in **Section 2.253**, to be led by the State with the support and assistance of Contractor. The acceptance process will be facilitated by ongoing consultation between the parties, inspection of interim and intermediate Deliverables and collaboration on key decisions.
- (b) The State's obligation to comply with any State Review Period is conditioned on the timely delivery of Deliverables/Services being reviewed.
- (c) After the initial Testing and acceptance has been completed of a particular Deliverable/Services, the State may inspect subsequent deliveries of the same Deliverable/Service to confirm that all components of the Deliverable/Service have been delivered without material deficiencies within seven days of receipt. If the State determines that the Deliverable/Service has material deficiencies, the State may refuse delivery of the Deliverable/Service if notice is given to Contractor within five days of inspection without performing any further inspection or testing of the Deliverable/Service. Otherwise, the review period will be deemed to have started on the day the State receives the Deliverable or the Service begins, and the State and Contractor agree that the Deliverable/Service is ready for use and, where applicable, certification by Contractor according to **Section 2.253**.
- (d) The State will accept in writing a Deliverable/Service received by the State for the first time in accordance with an applicable Statement of Work after confirming that it conforms to and performs according to its specifications without material deficiency within 30 days after receipt of the Deliverable/Service. If notice is not received within 30 days after receipt of acceptance or rejection, the Deliverable/Service shall be deemed accepted. The State may, but is not be required to, conditionally approve in writing a Deliverable/Service that contains material deficiencies if the State elects to permit Contractor to rectify them post-acceptance. In any case, Contractor will be responsible for working diligently to correct within a reasonable time at Contractor's expense all deficiencies in the Deliverable/Service that remain outstanding at the time of State acceptance.
- (e) If, after three opportunities (the original and two repeat efforts), the Contractor is unable to correct all deficiencies preventing Final Acceptance of a Deliverable/Service in any applicable Statement of Work, the State may: (i) demand that the Contractor cure the failure and give the Contractor additional time to cure the failure at the sole expense of the Contractor; or (ii) keep the Contract in force and do, either itself or through other parties, whatever the Contractor has failed to do, and recover the difference between the cost to cure the deficiency and the contract price plus an additional sum equal to 10% of the cost to cure the deficiency to cover the State's general expenses provided the State can furnish proof of the general expenses; or (iii) terminate the particular Statement of Work for default, either in whole or in part by notice to Contractor provided Contractor is unable to cure the breach. Notwithstanding the foregoing, the State cannot use, as a basis for exercising its termination rights under this Section, deficiencies discovered in a repeat State Review Period that could reasonably have been discovered during a prior State Review Period.
- (f) The State, at any time within 30 days after receipt and in its reasonable discretion, may halt the testing or acceptance process if the process reveals deficiencies in or problems with a Deliverable/Service in a sufficient quantity or of a sufficient severity that renders continuing the process unproductive or unworkable. If notice is not given within the 30 days after receipt, the Deliverable/Service shall be deemed accepted. If that happens, the State may stop using the Service or return the applicable Deliverable to Contractor within seven days of notice to Contractor for correction and re-delivery before resuming the testing or acceptance process.

**2.255 Process For Acceptance of Written Deliverables**

The State Review Period for Written Deliverables will be the number of days set forth in the applicable Statement of Work following delivery of the final version of the Deliverable (and if the Statement of Work does not state the State Review Period, it is by default five Business Days for Written Deliverables of 100 pages or less and 10 Business Days for Written Deliverables of more than 100 pages). The duration of the State Review Periods will be doubled if the State has not had an opportunity to review an interim draft of the Written Deliverable before its submission to the State. The State agrees to notify Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by Contractor or describing any deficiencies that must be corrected before acceptance of the Deliverable (or at the State's election, after acceptance of the Deliverable). If the State notifies the Contractor about deficiencies, the Contractor will correct the described deficiencies and within 30 Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. Contractor's correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

**2.256 Process for Acceptance of Services**

The State Review Period for acceptance of Services is governed by the applicable Statement of Work (and if the Statement of Work does not state the State Review Period, it is by default 30 Business Days for Services). The State agrees to notify the Contractor in writing by the end of the State Review Period either stating that the Service is approved in the form delivered by the Contractor or describing any deficiencies that must be corrected before acceptance of the Services (or at the State's election, after acceptance of the Service). If the State delivers to the Contractor a notice of deficiencies, the Contractor will correct the described deficiencies and within 30 Business Days resubmit the Service in a form that shows all revisions made to the original version delivered to the State. The Contractor's correction efforts will be made at no additional charge. Upon implementation of a corrected Service from Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Service for conformity and that the identified deficiencies have been corrected.

**2.257 Process for Acceptance of Physical Deliverables**

The State Review Period for acceptance of Physical Deliverables is governed by the applicable Statement of Work (and if the Statement of Work does not state the State Review Period, it is by default 30 days for a Physical Deliverable). The State agrees to notify the Contractor in writing by the end of the State Review Period either stating that the Deliverable is approved in the form delivered by the Contractor or describing any deficiencies that must be corrected before acceptance of the Deliverable (or at the State's election, after acceptance of the Deliverable). If the State delivers to the Contractor a notice of deficiencies, the Contractor will correct the described deficiencies and within 30 Business Days resubmit the Deliverable in a form that shows all revisions made to the original version delivered to the State. The Contractor's correction efforts will be made at no additional charge. Upon receipt of a corrected Deliverable from the Contractor, the State will have a reasonable additional period of time, not to exceed the length of the original State Review Period, to review the corrected Deliverable to confirm that the identified deficiencies have been corrected.

**2.258 Final Acceptance**

Unless otherwise stated in the Article 1, Statement of Work or Purchase Order, "Final Acceptance" of each Deliverable must occur when each Deliverable/Service has been approved by the State following the State Review Periods identified in **Sections 2.251-2.257**. Payment will be made for Deliverables installed and accepted if applicable. Upon acceptance of a Service, the State will pay for all Services provided during the State Review Period that conformed to the acceptance criteria.

**2.260 Ownership****2.261 Ownership of Work Product by State**

If a SOW is entered into by the State and the Contractor that includes works made for hire designed and/or developed by the Contractor exclusively for the State, the State shall own the Deliverables. Further, the State shall own all United States and international copyrights, trademarks, patents or other proprietary rights in the Deliverables.



### **2.262 Vesting of Rights**

With the sole exception of any preexisting licensed works identified in a SOW entered into by the State and the Contractor including works made for hire, the Contractor assigns, and upon creation of each Deliverable, including such works made for hire, automatically assigns, to the State, ownership of all United States and international copyrights, trademarks, patents, or other proprietary rights in each and every Deliverable, whether or not registered by the Contractor, insofar as any the Deliverable, by operation of law, may not be considered work made for hire by the Contractor for the State. From time to time upon the State's request, the Contractor must confirm the assignment by execution and delivery of the assignments, confirmations of assignment, or other written instruments as the State may request. The State may obtain and hold in its own name all copyright, trademark, and patent registrations and other evidence of rights that may be available for Deliverables.

### **2.263 Rights in Data**

(a) The State is the owner of all data made available by the State to the Contractor or its agents, Subcontractors or representatives under the Contract. The Contractor will not use the State's data for any purpose other than providing the Services, nor will any part of the State's data be disclosed, sold, assigned, leased or otherwise disposed of to the general public or to specific third parties or commercially exploited by or on behalf of the Contractor. No employees of the Contractor, other than those on a strictly need-to-know basis, have access to the State's data. Contractor will not possess or assert any lien or other right against the State's data. Without limiting the generality of this Section, the Contractor must only use personally identifiable information as strictly necessary to provide the Services and must disclose the information only to its employees who have a strict need-to-know the information. The Contractor must comply at all times with all laws and regulations applicable to the personally identifiable information.

(b) The State is the owner of all State-specific data under the Contract. The State may use the data provided by the Contractor for any purpose. The State will not possess or assert any lien or other right against the Contractor's data. Without limiting the generality of this Section, the State may use personally identifiable information only as strictly necessary to utilize the Services and must disclose the information only to its employees who have a strict need to know the information, except as provided by law. The State must comply at all times with all laws and regulations applicable to the personally identifiable information. Other material developed and provided to the State remains the State's sole and exclusive property.

### **2.264 Ownership of Materials**

The State and the Contractor will continue to own their respective proprietary technologies developed before entering into the Contract. Any hardware bought through the Contractor by the State, and paid for by the State, will be owned by the State. Any software licensed through the Contractor and sold to the State, will be licensed directly to the State.

### **2.270 State Standards**

#### **2.271 Existing Technology Standards**

The Contractor will adhere to all existing standards as described within the comprehensive listing of the State's existing technology standards at <http://www.michigan.gov/dit>.

#### **2.272 Acceptable Use Policy**

To the extent that Contractor has access to the State computer system, Contractor must comply with the State's Acceptable Use Policy, see <http://www.michigan.gov/ditservice>. All Contractor employees must be required, in writing, to agree to the State's Acceptable Use Policy before accessing the State system. The State reserves the right to terminate Contractor's access to the State system if a violation occurs.

#### **2.273 Systems Changes**

Contractor is not responsible for and not authorized to make changes to any State systems without written authorization from the Project Manager. Any changes Contractor makes to State systems with the State's acceptance must be done according to applicable State procedures, including security, access and configuration management procedures.



## **2.280 Extended Purchasing**

### **2.281 MiDEAL**

Act Number 431 of the Public Acts of 1984 permits the State of Michigan, Department of Management and Budget, to provide purchasing services to any city, village, county, township, school district, intermediate school district, non-profit hospital, institution of higher education, community, or junior college. As a result of the enactment of this legislation, the MIDEAL Program has been developed. This program extends the use of state contracts to program members. The governmental agency must enter into an agreement with the State of Michigan to become authorized to participate, thus ensuring that local units of government secure a greater return for the expenditure of public funds.

In those cases, contract vendors supply merchandise at the established State of Michigan contract prices and terms. The Bidder must submit invoices and pay the authorized MIDEAL member on a direct and individual basis according to contract terms.

**THIS CONTRACT IS AVAILABLE TO ALL STATE OF MICHIGAN AGENCIES AND AUTHORIZED MIDEAL PURCHASING PROGRAM MEMBERS.**

Please Visit Mi DEAL at [www.michigan.gov/buymichiganfirst](http://www.michigan.gov/buymichiganfirst) under MiDeal.

### **2.282 State Employee Purchases**

The State allows State employees to purchase from this Contract. Unless otherwise stated, it is the responsibility of the Contractor to ensure that the State employee is an authorized purchaser before extending the Contract pricing.

The Contractor will supply Contract Services and Deliverables at the established State of Michigan contract prices and terms to the extent applicable and where available. The Contractor must send its invoices to and pay the State employee on a direct and individual basis.

To the extent that authorized State employees purchase quantities of Services or Deliverables under this Contract, the quantities of Services and/or Deliverables purchased will be included in determining the appropriate rate wherever tiered pricing based on quantity is provided.

## **2.290 Environmental Provision**

### **2.291 Environmental Provision**

Energy Efficiency Purchasing Policy – The State seeks wherever possible to purchase energy efficient products. This includes giving preference to U.S. Environmental Protection Agency (EPA) certified ‘Energy Star’ products for any category of products for which EPA has established Energy Star certification. For other purchases, the State may include energy efficiency as one of the priority factors to consider when choosing among comparable products.

Environmental Purchasing Policy – The State of Michigan is committed to encouraging the use of products and services that impact the environment less than competing products. The State is accomplishing this by including environmental considerations in purchasing decisions, while remaining fiscally responsible, to promote practices that improve worker health, conserve natural resources, and prevent pollution.

Environmental components that are to be considered include: recycled content and recyclability; energy efficiency; and the presence of undesirable materials in the products, especially those toxic chemicals which are persistent and bioaccumulative. The Contractor should be able to supply products containing recycled and environmentally preferable materials that meet performance requirements and is encouraged to offer such products throughout the duration of this Contract. Information on any relevant third party certification (such as Green Seal, Energy Star, etc.) should also be provided.



**Hazardous Materials:**

For the purposes of this Section, "Hazardous Materials" is a generic term used to describe asbestos, ACBMs, PCBs, petroleum products, construction materials including paint thinners, solvents, gasoline, oil, and any other material the manufacture, use, treatment, storage, transportation or disposal of which is regulated by the federal, state or local laws governing the protection of the public health, natural resources or the environment. This includes, but is not limited to, materials the as batteries and circuit packs, and other materials that are regulated as (1) "Hazardous Materials" under the Hazardous Materials Transportation Act, (2) "chemical hazards" under the Occupational Safety and Health Administration standards, (3) "chemical substances or mixtures" under the Toxic Substances Control Act, (4) "pesticides" under the Federal Insecticide Fungicide and Rodenticide Act, and (5) "hazardous wastes" as defined or listed under the Resource Conservation and Recovery Act.

(a) The Contractor must use, handle, store, dispose of, process, transport and transfer any material considered a Hazardous Material according to all federal, State and local laws. The State must provide a safe and suitable environment for performance of Contractor's Work. Before the commencement of Work, the State must advise the Contractor of the presence at the work site of any Hazardous Material to the extent that the State is aware of the Hazardous Material. If the Contractor encounters material reasonably believed to be a Hazardous Material and which may present a substantial danger, the Contractor must immediately stop all affected Work, notify the State in writing about the conditions encountered, and take appropriate health and safety precautions.

(b) Upon receipt of a written notice, the State will investigate the conditions. If (a) the material is a Hazardous Material that may present a substantial danger, and (b) the Hazardous Material was not brought to the site by the Contractor, or does not result in whole or in part from any violation by the Contractor of any laws covering the use, handling, storage, disposal of, processing, transport and transfer of Hazardous Materials, the State must order a suspension of Work in writing. The State must proceed to have the Hazardous Material removed or rendered harmless. In the alternative, the State must terminate the affected Work for the State's convenience.

(c) Once the Hazardous Material has been removed or rendered harmless by the State, the Contractor must resume Work as directed in writing by the State. Any determination by the Michigan Department of Community Health or the Michigan Department of Environmental Quality that the Hazardous Material has either been removed or rendered harmless is binding upon the State and Contractor for the purposes of resuming the Work. If any incident with Hazardous Material results in delay not reasonable anticipatable under the circumstances and which is attributable to the State, the applicable SLA(s) for the affected Work will not be counted in time as mutually agreed by the parties.

(d) If the Hazardous Material was brought to the site by the Contractor, or results in whole or in part from any violation by the Contractor of any laws covering the use, handling, storage, disposal of, processing, transport and transfer of Hazardous Material, or from any other act or omission within the control of the Contractor, the Contractor must bear its proportionate share of the delay and costs involved in cleaning up the site and removing and rendering harmless the Hazardous Material according to Applicable Laws to the condition approved by applicable regulatory agency(ies).

Michigan has a Consumer Products Rule pertaining to labeling of certain products containing volatile organic compounds. For specific details visit [http://www.michigan.gov/deq/0,1607,7-135-3310\\_4108-173523--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3310_4108-173523--,00.html)

**Refrigeration and Air Conditioning:**

The Contractor shall comply with the applicable requirements of Sections 608 and 609 of the Clean Air Act (42 U.S.C. 7671g and 7671h) as each or both apply to this contract.

**Environmental Performance:**

Waste Reduction Program - Contractor shall establish a program to promote cost-effective waste reduction in all operations and facilities covered by this contract. The Contractor's programs shall comply with applicable Federal, State, and local requirements, specifically including Section 6002 of the Resource Conservation and Recovery Act (42 U.S.C. 6962, et seq.).



### Attachment A – Pricing Matrix

## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Dash Mount » 700/800 MHz » Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	7/800MHz	242-547G-201-AFAB6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Dash Mount » 700/800 MHz » Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 256 Channels/Talkgroups	7/800MHz	242-547G-201-AFAH6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Dash Mount » 700/800 MHz » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	7/800MHz	242-547G-20A-AFAB6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Remote Mount » 700/800 MHz » Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	7/800MHz	242-547H-201-RFAB6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Remote Mount » 700/800 MHz » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	7/800MHz	242-547H-20E-RFAB6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Remote Mount » 700/800 MHz » Handheld Controller » Single Remote / Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	7/800MHz	242-547H-205-RFAB6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Remote Mount » 700/800 MHz » Dual Control Head » Dual Remote / Accessory/Data (DB9) / Siren Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	7/800MHz	242-547H-206-TFAB6	15.0%	15.0%	\$ 475.00	YES	YES



## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Remote Mount » 700/800 MHz » Dual Lightning Control Head » Dual Remote / Accessory/Data (DB9) / Siren Cable » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	7/800MHz	242-547H-20G-TFAB6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	5300 ES Mobile » Dash Mount » 700/800 MHz » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 864 Channels/Talkgroups	7/800MHz	242-537G-20A-AFAN6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	5300 ES Mobile » Remote Mount » 700/800 MHz » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional / P25 Trunking » 864 Channels/Talkgroups	7/800MHz	242-537H-20E-RFAN6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Dash Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	VHF	242-541G-20A-AAAH6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Dash Mount » VHF 50 Watt » Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	VHF	242-541G-801-AAAH6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Dash Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	VHF	242-541G-80A-AAAH6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Remote Mount » VHF 50 Watt » Control Head w/ Palm Mic » Single Remote / Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	VHF	242-541H-801-RAAH6	15.0%	15.0%	\$ 475.00	YES	YES





# EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Remote Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	VHF	242-541H-80E-RAAH6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Dash Mount » UHF » Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	UHF	242-546C-201-AAAH6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Dash Mount » UHF » Lightning Control Head w/ Palm Mic » Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	UHF	242-546C-20A-AAAH6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Dash Mount » UHF » Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	UHF	242-546C-801-AAAH6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Dash Mount » UHF » Lightning Control Head w/ Palm Mic » Accessory Cable » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	UHF	242-546C-80A-AAAH6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Remote Mount » UHF » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	UHF	242-546D-20E-RAAH6	15.0%	15.0%	\$ 475.00	YES	YES
2.0 - MOBILE RADIOS	EF JOHNSON	53SL ES Mobile » Remote Mount » VHF 50 Watt » Lightning Control Head w/ Palm Mic » Single Remote / Accessory Cable » P25 Protocol » Conventional System » 256 Channels/Talkgroups	VHF	242-541H-20E-RAAH6	15.0%	15.0%	\$ 475.00	YES	YES
2.1 - MOBILE ACCESSORY	EF JOHNSON	Standard Microphone		250-0740-310	15.0%	15.0%	\$ -	N/A	N/A
2.1 - MOBILE ACCESSORY	EF JOHNSON	Noise cancelling, weather resistant microphone		589-0016-592	15.0%	15.0%	\$ -	N/A	N/A



## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
2.1 - MOBILE ACCESSORY	EF JOHNSON	5" remote speaker, environmentally sealed		250-0151-006	15.0%	15.0%	\$ -	N/A	N/A
2.1 - MOBILE ACCESSORY	EF JOHNSON	5" Remote Speaker, environmentally sealed, with connector (Required for Hand Held Controller)		250-0151-005	15.0%	15.0%	\$ -	N/A	N/A
2.1 - MOBILE ACCESSORY	EF JOHNSON	Mobile Accessory Kit 1 Includes 762-870 MHz low profile, roof mount, broadband antenna kit, 2-year extended warranty 501-0012-020 299-0045-013		Mobile Kit 1	15.0%	0.0%	\$ -	N/A	N/A
3.0 - PORTABLE RADIOS	EF JOHNSON	51SL ES Portable » Model II » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	700/800	242-527B-830KA6	15.0%	15.0%	\$ 475.00	YES	YES
3.0 - PORTABLE RADIOS	EF JOHNSON	51SL ES Portable » Model II » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 256 Channels/Talkgroups	700/800	242-527B-830KJ6	15.0%	15.0%	\$ 475.00	YES	YES
3.0 - PORTABLE RADIOS	EF JOHNSON	51SL ES Portable » Model II » FM IS » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion and FM IS » Black Immersion Housing » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	700/800	242-527E-873KA6	15.0%	15.0%	\$ 475.00	YES	YES
3.0 - PORTABLE RADIOS	EF JOHNSON	51SL ES Portable » Model III » FM IS » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion and FM IS » Black Immersion Housing » P25 Protocol » Conventional / P25 Trunking » 512 Channels/Talkgroups	700/800	242-527F-873KA6	15.0%	15.0%	\$ 475.00	YES	YES



## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
3.0 - PORTABLE RADIOS	EF JOHNSON	5100 ES Portable » Model II » FM IS » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion and FM IS » Black Immersion Housing » P25 Protocol » Conventional / P25 Trunking » 864 Channels/Talkgroups	700/800	517E-873-25-82	15.0%	15.0%	\$ 475.00	YES	YES
3.0 - PORTABLE RADIOS	EF JOHNSON	5100 ES Portable » Model III » FM IS » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion and FM IS » Black Immersion Housing » P25 Protocol » Conventional / P25 Trunking » 864 Channels/Talkgroups	700/800	517F-873-25-82	15.0%	15.0%	\$ 475.00	YES	YES
3.0 - PORTABLE RADIOS	EF JOHNSON	51SL ES Portable » Model I » 700/800 MHz » 700/800 MHz Half Wave Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » P25 Protocol » Conventional / P25 Trunking » 48 Channels/Talkgroups	700/800	242-527A-830KL6	15.0%	15.0%	\$ 475.00	YES	YES
3.0 - PORTABLE RADIOS	EF JOHNSON	51SL ES Portable » Model I » VHF » 136-174 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » P25 Protocol » Conventional System » 48 Channels/Talkgroups	VHF	242-521A-630BZ6	15.0%	15.0%	\$ 475.00	YES	YES
3.0 - PORTABLE RADIOS	EF JOHNSON	51SL ES Portable » Model I » VHF » 136-174 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » Analog FM Protocol » Conventional System » 48 Channels/Talkgroups	VHF	242-521A-630AG6	15.0%	15.0%	\$ 475.00	YES	YES
3.0 - PORTABLE RADIOS	EF JOHNSON	51SL ES Portable » Model II » VHF » 136-174 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » P25 Protocol » Conventional System » 256 Channels/Talkgroups	VHF	242-521B-630CD6	15.0%	15.0%	\$ 475.00	YES	YES



## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
3.0 - PORTABLE RADIOS	EF JOHNSON	51SL ES Portable » Model II » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » P25 Protocol » Conventional System » 256 Channels/Talkgroups	UHF	242-522B-430CD6	15.0%	15.0%	\$ 475.00	YES	YES
3.0 - PORTABLE RADIOS	EF JOHNSON	51SL ES Portable » Model II » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » Analog FM Protocol » Conventional System » 256 Channels/Talkgroups	UHF	242-522B-430AL6	15.0%	15.0%	\$ 475.00	YES	YES
3.0 - PORTABLE RADIOS	EF JOHNSON	51SL ES Portable » Model I » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » Analog FM Protocol » Conventional System » 48 Channels/Talkgroups	UHF	242-522A-430AG6	15.0%	15.0%	\$ 475.00	YES	YES
3.0 - PORTABLE RADIOS	EF JOHNSON	51SL ES Portable » Model I » UHF » 380-520 MHz Antenna » Extra-High Capacity Battery Pack, NiMH, Immersion » Black Housing » P25 Protocol » Conventional System » 48 Channels/Talkgroups	UHF	242-522A-430BZ6	15.0%	15.0%	\$ 475.00	YES	YES
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Portable Accessory Kit 1 includes speaker microphone (intrinsically safe), tri-chemistry charger/conditioner with switched power supply, rapid rate, 2-year extended warranty 589-0015-057 250-5100-315 299-0045-013		Portable Kit 1	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Portable Accessory Kit 2 includes Public Safety Speaker Microphone (must order antenna separately), 700/800 MHz, 1/4 wave whip, Tri-chemistry charger/conditioner with switched power supply, rapid rate, 2-year extended warranty 589-0015-058501-0105-012250-5100-315299-0045-013		Portable Kit 2	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Accessory Cable		597-5357-701	15.0%	15.0%	\$ -	N/A	N/A



## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Single Remote / Accessory Cable		597-5357-706	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	UDDI / Single Remote / Accessory Cable		597-5357-736	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Single Remote / Accessory / Data (DB9) / Siren Cable		597-5357-716	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Dual Remote / Accessory / Data (DB9) / Siren Cable		597-5357-741	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	3rd Party DB-25 / Accessory Cable		597-5357-746	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 ES Power Cable		597-5357-756	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Standard ES Series Mounting Bracket Kit		023-5300-012	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Low Profile ES Series Mounting Bracket Kit		023-5300-013	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Remote Control Head Mounting Bracket		017-2226-050	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Mounting Bracket for 100W Radio		017-9700-009	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Motorcycle Box, Black, Harley Davidson®		508-4000-005	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Motorcycle Box, White, Harley Davidson®		508-4000-007	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	VHF & UHF tunable 1/4 wave whip roof-mount antenna with "N" connector (No adapter required)		501-0012-001	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	VHF & UHF tunable 1/4 wave whip magnetic base antenna		501-0012-011	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	762-870 MHz low profile, roof mount, broadband Antenna Kit		501-0012-020	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	HandHeld Controller 17' Remote Cable		597-2002-267	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 ES Remote Control Head Conversion Kit, Single or Dual (Includes ES remote shroud with blank faceplate, mounting bracket, 17' remote cable, and single / remote accessory cable)		250-5300-002	15.0%	15.0%	\$ -	N/A	N/A



## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 ES remote control head kit for second control head (Includes ES remote control head and mounting bracket) - requires remote or dual-remote 60-pin cable and 6', 17', or 50' remote cable		250-5300-003	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	HandHeld Controller (HHC) Kit for 5300ES Includes HHC, Junction box, and Cable. Requires remote speaker 250-0151-005. (Must order separately.)		250-5300-103	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 ES Key Cap Kit		587-5357-516	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 Remote cable - 6'		597-5357-775-01	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 ES Remote Cable - 17'		597-5357-775-02	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 ES Remote Cable - 50'		597-5357-775-03	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Removal tool for 5300 ES control head and 5100 ES Chassis		721-5100-010	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	15 amp 120V Power Supply with cabinet and radio power cable		250-4001-202	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	15 amp 220V Power Supply with cabinet and radio power cable		250-4001-204	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	30 amp 120V Power Supply with cabinet and radio power cable (for 100W VHF radios)		250-5300-212	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 Series Advanced Desktop Microphone		589-0012-023	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Base Station Kit for 5300 radio		585-5300-100	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Programming Kit including software and cable		585-5300-102	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Tone Remote, Handset, 8 ch, 2 character display		585-5300-104	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Tone Remote, Desk Mic, 8 ch, 2 character display		585-5300-106	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Tone Termination Panel Interface between 5300 and tone remote		585-5300-108	15.0%	15.0%	\$ -	N/A	N/A



## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Parallel TX/Notch Filter option (1 per tone remote for multiple tone remotes per station)		585-5300-110	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Interface Cable to connect tone termination panel to 5300		585-5300-112	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Clock VU MTR, Remote Option 610, IDA 431-RBC-610		585-5300-114	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	4-Wire, Remote Option 611, IDA 431-RBC-611		585-5300-116	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Supervisor / ALT LN, Remote Option 612, IDA 431-RBC-612		585-5300-118	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	12V Battery Cable, Remote Option 614, IDA 431-RBC-614		585-5300-120	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	2nd Line / SUM Audio, Remote Option 615, IDA 431-RBC-615		585-5300-122	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	One Touch TX, Remote Option 616, IDA 431-RBC-616		585-5300-124	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	99 Channel Remote Option 617, IDA 431-RBC-617		585-5300-126	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	99 Channel DTMF, Remote Option 618, IDA 431-RBC-618		585-5300-128	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Alpha Numeric display, Remote Option 620, IDA 431-RBC-620		585-5300-130	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Multi-line Remote Interface, 8-line, IDA 20-88-M02 (for loading encryption keys)		585-5300-132	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 ES Series Service Manual CD		001-5300-70000CD	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 ES Series Installation Manual - Dash Mount		004-5300-710-01	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 ES Series Installation Manual - Remote Mount		004-5300-730-01	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 ES Series Installation Manual - Motorcycle Mount		004-5300-750-00	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 ES HHC Quick Reference Guide		002-5300-715-00	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 ES Operating Manual CD		002-5300-700-02CD	15.0%	15.0%	\$ -	N/A	N/A





## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300ES Quick Reference Guide		002-5300-720-00	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	53SL ES Operating Manual CD		002-5400-700-02CD	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	53SL ES Quick Reference Guide		002-5400-720-01	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Ascend Mobile ES Operating Manual CD		002-5500-790-02CD	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Ascend Mobile ES Quick Reference Guide		002-5500-720-00	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Speaker Microphone (Instinsically Safe)		589-0015-057	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Speaker Microphone with Emergency button		589-0015-054	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Speaker Microphone (immersion capable)		589-0015-056	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Public Safety Speaker Microphone (Must order antenna separately)		589-0015-058	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Discover™ GPS Speaker Microphone (P25/Analog - includes mini USB cable for charging the unit, programming software, and manual)		589-0015-063	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Discover™ GPS Speaker Microphone (Analog only - includes mini USB cable for charging the unit, programming software, and manual)		589-0015-062	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	External drop in battery charger for Discover mic		585-0015-063	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	110 volt wall battery charger for Discover mic		585-0015-062	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	12 VDC Lighter Plug Charger for Discover mic		585-0015-064	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Spare Battery for Discover mic		587-0015-063	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Spare USB Cable for Discover mic		597-0015-063	15.0%	15.0%	\$ -	N/A	N/A





## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Accessory Kit, includes car & home charger, 2 USB cable and extra battery for Discover mic		585-0015-065	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Google Earth software version 2.43 for Discover mic		589-0015-064	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Accessory Adapter w/3.5 mm jack		589-5100-051	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Lightweight Headset/ In-Line PTT (requires 589-5100-051 adapter)		589-0015-059	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Coil Cord Earphone/ Right Angle Plug (requires 589-0015-057 speaker microphone)		589-5100-057	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Coil Cord Earphone/ Straight Plug (requires 589-0015-057 speaker mic; not compatible with 589-0015-056)		589-5100-059	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	2-Wire Palm Mic Kit (requires 589-5100-051 adapter)		589-5100-055	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	3-Wire Lapel Microphone Kit (requires 589-5100-051 adapter)		589-5100-056	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Throat mic w/built in PTT & 5100 connector w/ Velcro strap (requires speaker option 589-5100-078 or -079)		589-5100-076	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Throat mic w/built in PTT & 3.5mm connector w/ Velcro strap (requires speaker option 589-5100-078 or -079 and 3.5mm adapter 589-5100-051)		589-5100-080	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Throat mic with 80mm body PTT, IS (requires speaker option 589-5100-078 or -079)		589-5100-077	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	D-Loop on-ear speaker for Throat Mic		589-5100-078	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Survelence speaker for Throat Mic		589-5100-079	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	VHF, 136-174 MHz, dipole, Red Core (wideband)		501-0017-110	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	VHF, 136-151 MHz, Helical, Yellow Core		501-0017-101	15.0%	15.0%	\$ -	N/A	N/A



# EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
13.0 - PARTS & ACCESSORIES	EF JOHNSON	VHF 151-162 MHz, Helical, black core		501-0017-103	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	VHF, 162-174 MHz, Helical, blue core		501-0017-105	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	UHF 380-520 MHz, 1/4 wave whip		501-0017-107	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	700/800 MHz, 1/2 wave whip		501-0105-073	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	700/800 MHz, 1/4 wave whip		501-0105-012	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	NiMH Extra-High Capacity Battery Pack, Immersion Rated		587-5100-362	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	NiMH Extra-High Capacity Battery Pack, Immersion Rated, FM IS		587-5100-363	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Lilon Ultra-High Capacity Battery Pack, Immersion Rated		587-5100-364	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Alkaline Clamshell Assembly (High Visibility Orange)		250-5100-280	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Alkaline Clamshell Assembly (Black)		250-5100-281	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Knob Kit #1, Round channel/round flat volume		250-5100-010	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Knob Kit #2, Blade channel/round volume		250-5100-011	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Charger Kit, Non-Switching Power Supply, USA A/C Cord (NiMH and NiCad only)		250-5100-235	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Tri-Chemistry Charger/Conditioner with Switched Power Supply, Rapid Rate		250-5100-315	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Multi-bay Tri-Chemistry Charger Base, 6 Docks, Normal Rate		250-5100-360	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Multi-bay Tri-Chemistry Charger Base, 4 Docks, Rapid Rate		250-5100-365	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Wall-Mount Bracket for Multi-Unit Charger Kit		585-5100-245	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Linear Power Supply, Input 120V AC, Output 24V DC @ 1amp (for -235 Charger)		585-5100-220	15.0%	15.0%	\$ -	N/A	N/A



## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Tri-Chemistry Single Unit Charger/Conditioner Dock without Power Supply		585-5100-315	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Docking Station for Tri-Chemistry Multi-Bay Charger/Conditioner without Power Supply		585-5100-360	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Switched Power Supply for Single Tri-Chemistry Charger/Conditioner		585-5100-330	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Switched Power Supply for Multi-Bay Tri-Chemistry Charger/Conditioner		585-5100-350	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Leather Case, Model I, Belt Flap		585-5100-14001	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Leather Case, Model I, D-Swivel Belt Loop		585-5100-14002	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Leather Case, Model II / III, Belt Flap		585-5100-14003	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Leather Case, Model II / III, D-Swivel Belt Loop		585-5100-14004	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Strap, Tee, Carry Case		585-5100-14501	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Strap, Carry Case		585-5100-14502	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	3.0" D-Swivel Belt Loop, Leather		585-5100-14801	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	2.5" D-Swivel Belt Loop, Leather		585-5100-14802	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	2" D-Swivel Belt Loop, Nylon Webbing		585-5100-14803	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Nylon Case, Model I, D-Swivel Belt Loop, Black		585-5100-15001	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Nylon Case, Model II / III, D-Swivel Belt Loop, Black		585-5100-15002	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Nylon Case, Model I, B-Clip, Black		585-5100-15003	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Nylon Case, Model II / III, D-Swivel, Yellow		585-5100-15004	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Nylon Case, Model I, Military LBE Strap, Black		585-5100-15005	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Belt Clip 2 1/4", Spring Loaded		585-5100-128	15.0%	15.0%	\$ -	N/A	N/A



## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Belt Clip 3", Spring Loaded		585-5100-129	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100ES Family Service Manual CD		001-5100-70003CD	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100ES Family Tone Reference Guide		004-5100-70003	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100ES Model I Operating Manual CD		002-5100-70003CD	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100ES Model II/III Operating Manual CD		002-5100-72003CD	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100ES Model I Quick Reference Guide		002-5100-74000	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100ES Model II Quick Reference Guide		002-5100-76000	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100ES Model III Quick Reference Guide		002-5100-78000	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	51SL ES Model I Operating Manual CD		002-5200-70003CD	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	51SL ES Model II/III Operating Manual CD		002-5200-72003CD	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	51SL ES Model I Quick Reference Guide		002-5200-74000	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	51SL ES Model II Quick Reference Guide		002-5200-76000	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	51SL ES Model III Quick Reference Guide		002-5200-78000	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Ascend Portable ES Model I Operating Manual CD		002-5500-70003CD	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Ascend Portable ES Model II/III Operating Manual CD		002-5500-72003CD	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Ascend Portable ES Model I Quick Reference Guide		002-5500-74000	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Ascend Portable ES Model II Quick Reference Guide		002-5500-76000	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Ascend Portable ES Model III Quick Reference Guide		002-5500-78000	15.0%	15.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	1-Year Extended Warranty		299-0045-017	15.0%	0.0%	\$ -	N/A	N/A



## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
13.0 - PARTS & ACCESSORIES	EF JOHNSON	2-Year Extended Warranty		299-0045-013	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	3 Year Extended Warranty		299-0045-029	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	4 Year Extended Warranty		299-0045-045	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	1-Year 2nd Chance Warranty		299-0045-075	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	2-Year 2nd Chance Warranty		299-0045-076	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	3-Year 2nd Chance Warranty		299-0045-077	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	1 Year Extension of Existing Warranty		299-0045-079	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Radio Profile Creation		299-PRGM-001	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Factory Programming (If radio profile is not provided, then Radio Profile Creation must be purchased)		299-PRGM-002	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Subscriber Management Assistant (SMA) Keyloading Kit Includes: Handheld PDA device, case, adapter cable, charger, operating system, manuals. Supports DES, DES-OFB, AES, encryption keyloading via SLN/CKR protocol (Radio Cable ordered separately)		250-5000-945	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100 Series Portable Radio Key Loader Cable for Subscriber Management Assistant Keyloading Kit		023-5000-940	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 Series Mobile Radio Key Loader Cable for Subscriber Management Assistant		023-5000-950	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100 Series Portable Radio Key Loader Cable for 3rd party keyloading systems		585-5000-932	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 Series Mobile Radio Key Loader cable for 3rd party keyloading systems		585-5000-938	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	From Conventional System to SMARTNET		299-UPGR-108	15.0%	0.0%	\$ -	N/A	N/A



## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
13.0 - PARTS & ACCESSORIES	EF JOHNSON	From Conventional System or SMARTNET to SmartZone		299-UPGR-109	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	From Conventional System to P25 Common Air Interface (CAI)		299-UPGR-110	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	From Conventional System to P25 Trunking (Includes SMARTNET/SmartZone, but P25 CAI must be purchased if not previously purchased)		299-UPGR-111	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	From Conventional System to P25 Trunking only (P25 CAI must be purchased if not previously purchased)		299-UPGR-112	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	From SMARTNET or SmartZone to P25 Trunking only (P25 CAI must be purchased if not previously purchased)		299-UPGR-101	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Add P25 Trunking to Multi-Net only Protocol (P25 CAI must be purchased if not previously purchased)		299-UPGR-113	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	DES/DES-OFB Multi-Key		299-UPGR-100	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	AES		299-UPGR-103	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	P25 OTAR (Over the Air Rekeying)		299-UPGR-104	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	P25 Data Conventional (requires appropriate data cable)		299-UPGR-105	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	P25 Data Trunking and Conventional (requires appropriate data cable)		299-UPGR-106	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Zoned Fail-Site Lock		299-UPGR-107	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	MDC1200		299-UPGR-114	15.0%	0.0%	\$ -	N/A	N/A



## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
13.0 - PARTS & ACCESSORIES	EF JOHNSON	48 to 256 Channel / Talkgroup Upgrade (not available for Model I Portables)		299-UPGR-115	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	256 to 512 Channel / Talkgroup Upgrade		299-UPGR-116	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	512 to 864 Channel / Talkgroup Upgrade		299-UPGR-117	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	P25 OTAP (Over the Air Programming)		299-UPGR-118	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Add 700 MHz to 800 MHz Radio		299-UPGR-119	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	SMARTNET/SmartZone Rebanding Option		299-UPGR-120	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	51LT Protocol Swap - P25 Trunking to SNSZ		299-UPGR-121	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	51LT Protocol Swap - SNSZ to P25 Trunking		299-UPGR-122	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Hardware System Key Only		299-UPGR-124	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	16 Zone/54 channel matrix option (requires 864 Channels/Talkgroups)		299-UPGR-125	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	PC Configure Software (Software and manual on CD)		023-9998-527	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Radio File Exchange (RFX), (Software and manual on CD)		023-9998-534	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	PC Configure and RFX Kit, Portable (software and manual on CD and portable USB programming cable)		250-5100-104	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	PC Configure and RFX Kit, Mobile (software and manual on CD and portable USB programming cable)		250-5300-104	15.0%	0.0%	\$ -	N/A	N/A





## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
13.0 - PARTS & ACCESSORIES	EF JOHNSON	PC Configure and RFX Kit, Portable and Mobile (software and manual on CD and mobile/portable USB programming cable)		250-5400-104	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	PC Tune Software (Software and manual on CD)		023-9998-499	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	PC Tune Kit, Portable (Software and manual on CD, radio cable and audio cable)		250-5100-005	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	PC Tune Kit, Mobile (Software and manual on CD, radio cable and audio cable)		250-5300-006	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	PC Tune Kit, Portable and Mobile (Software and manual on CD, and mobile/portable tuning hardware)		250-5400-005	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Express Code Updater - 5100 ES (Software and manual on CD)		023-9998-531	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Express Code Updater - 5100 Series 4 and 51LT (Software and manual on CD)		023-9998-530	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Express Code Updater - 5300 ES (Software and manual on CD)		023-9998-533	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Express Code Updater - 5300 Series 4 (Software and manual on CD)		023-9998-532	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	PC Configure Software Subscription (5 years)		299-0045-038	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	PC Tune Software Subscription (5 years)		299-0045-039	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100 Series Radio Personality Programming Cable (USB) (Not compatible with PC Tune)		023-5100-970	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 Series Radio Personality Programming Cable (USB) (Not compatible with PC Tune)		023-5300-980	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100 Series Radio Personality Programming Cable (serial)		023-5100-920	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 Series Serial Programming Hardware Kit (includes RPI box serial cable and RPI to Radio cable)		250-5300-008	15.0%	0.0%	\$ -	N/A	N/A





## EF JOHNSON PRODUCT LIST

SECTION - CATEGORY	MANUFACTURE	MODEL DESCRIPTION	FREQUENCY BAND	PART NUMBER	MSRP DISCOUNT PERCENTAGE	OPTIONS MSRP DISCOUNT PERCENTAGE (Purchased with model)	FLAT RATE REPAIR COST AFTER WARRANTY	PUBLIC SAFETY RATED RADIO	NARROW BAND CAPABLE
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Programming Plug for 5300		023-5300-010	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Programmer adapter for HHC (5300 Series Mobile)		023-5300-140	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Single-Port USB to Serial Adapter		585-5000-891	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	4-port USB to Serial Adapter		585-5000-894	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	USB to DB9 cable connecting SMA to key loader cable (replacement for cable contained in 250-5000-945)		585-5000-946	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100 Series Radio Personality Cloning Cable, radio to radio (radio must have Flash code 1.5.0 or later and be programmed using PC Configure 1.17 or later.)		023-5100-930	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Enhanced System Key - Master Key		250-5000-971	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Enhanced System Key - Slave Key		250-5000-973	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100 Series PC Tune Cable		023-5100-940	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5100 Series PC Tune Audio Cable		023-5100-950	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 Series Remote Programming Interface box (RPI box)		023-5300-001	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	5300 Series Radio Programming Cable (serial)		023-5300-005	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Interface Cable to connect RPI to computer, DB-9 M-F		597-5900-002	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	Test Configuration Jumper 5100 Series Cable, UI board to Logic board		023-5100-955	15.0%	0.0%	\$ -	N/A	N/A
13.0 - PARTS & ACCESSORIES	EF JOHNSON	SMA to BNC, F to F adapter		515-3102-050	15.0%	0.0%	\$ -	N/A	N/A



## EF JOHNSON PROFESSIONAL SERVICES LIST

DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
Dash Mount Mobile Install	EFJohnson	0.0%	\$ 150.00	Fixed	Mobile Install Rate.
Remote Mount Mobile Install	EFJohnson	0.0%	\$ 250.00	Fixed	Mobile Install Rate.
Dual Control head Mobile Install	EFJohnson	0.0%	\$ 750.00	Fixed	Mobile Install Rate.
Installation Hourly Labor Rate	EFJohnson	0.0%	\$ 120.00	Hourly	Install Hourly Rate.
Technical Hourly Labor Rate	EFJohnson	0.0%	\$ 150.00	Hourly	Technical Hourly Rate.
Onsite Training	EFJohnson	0.0%	\$ 1,500.00	Fixed	Instructor - 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 1,600.00	Fixed	Travel - 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 3,000.00	Fixed	Instructor - 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 2,100.00	Fixed	Travel - 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 4,500.00	Fixed	Instructor - 3-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 3-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 3-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 2,600.00	Fixed	Travel - 3-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 6,000.00	Fixed	Instructor - 4-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 4-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 4-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 3,100.00	Fixed	Travel - 4-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 6,000.00	Fixed	Instructor - 5-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 5-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 5-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 3,100.00	Fixed	Travel - 5-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 7,500.00	Fixed	Instructor - 6-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - 6-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 700.00	Fixed	Travel Day - 6-Day Onsite Training



## EF JOHNSON PROFESSIONAL SERVICES LIST

DESCRIPTION OF SERVICES	MANUFACTURE	CONTRACTOR DISCOUNT PERCENT	MOST CURRENT CONTRACTOR LIST PRICE	Rate Type	Comments
Onsite Training	EFJohnson	0.0%	\$ 3,600.00	Fixed	Travel - 6-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 7,500.00	Fixed	Instructor - Weekend 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - Weekend 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - Weekend 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 4,100.00	Fixed	Travel - Weekend 1-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 7,500.00	Fixed	Instructor - Weekend 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 535.00	Fixed	Material - Weekend 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - Weekend 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 4,500.00	Fixed	Travel - Weekend 2-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 9,000.00	Fixed	Instructor - 6-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 1,035.00	Fixed	Material - 6-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 6-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 5,000.00	Fixed	Travel - 6-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 10,500.00	Fixed	Instructor - 7-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 1,035.00	Fixed	Material - 7-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 7-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 5,500.00	Fixed	Travel - 7-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 12,000.00	Fixed	Instructor - 8-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 1,035.00	Fixed	Material - 8-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 8-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 6,000.00	Fixed	Travel - 8-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 13,500.00	Fixed	Instructor - 9-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 1,035.00	Fixed	Material - 9-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 9-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 6,500.00	Fixed	Travel - 9-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 15,000.00	Fixed	Instructor - 10-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 1,035.00	Fixed	Material - 10-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 665.00	Fixed	Travel Day - 10-Day Onsite Training
Onsite Training	EFJohnson	0.0%	\$ 7,000.00	Fixed	Travel - 10-Day Onsite Training



## **Attachment B – Authorized Dealers and Contractor Contact Information**

<b><i>Subcontractor Company Information</i></b>	<b><i>Subcontractor Contact Information</i></b>
• Grand Traverse Mobile Communications	• Neil Pickard
• 716 Boon Street	• 231-947-9851
• Traverse City, MI 49686	
• Advanced Wireless Telecom	• Todd Jones
• 49716 Martin Drive	• 248-478-0403
• Wixom, MI 48393	
• Anderson Communications	• Fred Anderson
• 1009 W. Bluff	• 906-228-6006
• Marquette, MI 49855	
• General Mobile Radio Service, Inc.	• Chris Deluge
• P.O. Box 520	• 585-779-3600
• Roseville, MI	
• Hi-Tech SMR Communications	• Michael Ruedinger
• 255 Bell Road, Suite A	• 269-683-7451
• Niles, MI 46615	
• Midcom Service	• Steven Crow
• 2131 E. Laketon Avenue	• 231-773-3107
• Muskegon, MI 49442	
• State Systems Radio	• Charles Agosti
• 5090 S. Sprinkle Road	• 269-349-1935
• Portage, MI 49002	
• Thumb Radio, Inc.	• Mary Ann Robinson
• 1020 N. Van Dyke	• 989-269-6420
• Bad Axe, MI 48413	
• Tri-County Communications	• Thomas Rivard
• 23519 Little Mack Avenue	• 586-772-5870
• St. Clair, MI 48080	

Additional contact information is provided below. Contractor may change the representatives from time to time upon written notice.

### **Sales Support:**

**Karin Kilburn**, Supervisor of Sales Support 1-800-328-3911 x2874 [kkilburn@efjohnson.com](mailto:kkilburn@efjohnson.com)



Juan Marquez 1-800-328-3911 x2909 [jmarquez@efjohnson.com](mailto:jmarquez@efjohnson.com)

**Important Phone numbers:**

<b>Supervisor of Sales Support</b>	Karin Kilburn 1-800-328-3911 x2874
<b>Sales Support (English &amp; Spanish)</b>	Juan Marquez 1-800-328-3911 x2909
<b>Technical Support</b>	1-800-328-3911 ext 3
<b>Warranty Administration</b>	1-800-328-3911 ext 5
<b>Place an Order or Check Order Status</b>	1-800-328-3911 ext 1
<b>Repair Depot</b>	Bob Golden 1-800-328-3911 ext 4
<b>Service Parts</b>	Elizabeth Cram 507-837-5107
<b>Service Center Manager</b>	Linda McSweeney 1-800-328-3911 x2321
<b>Dealer Management</b>	Tammie Mischke 1-800-328-3911 x2723
<b>EFJohnson Main Number</b>	972-819-0700

**Exhibit 1 – Additional Ordering Requirements**

The State has established an internal policy that enables State agencies to use their delegated authority to purchase radio communication equipment, accessories, and services.

Actual radio purchases and any communication service or accessory purchased off a State contract (BPO) must first have MDIT/MPSCS approval obtained through ITRAC.

The following items may be purchased by agencies within their delegated authority and are NOT required to be submitted through ITRAC for MDIT/MPSCS approval:

- Communication accessories purchased using the P-Card
- Communication accessories or service purchases using a Direct Purchase Order DA-DP

The following items must be submitted through ITRAC for MPSCS approval:

- All radio purchases (whether or not off contract)
- All communication accessories and services purchased off a contract (BPO)

All radio accessories and services purchased by issuing a Direct Purchase Order and/or P Card may still leverage the State contract (BPO) prices.

Once approval is obtained from MPSCS, agencies are responsible for creating their own purchase orders, receiving the product, and paying the invoices.

**Contractor Responsibilities:**

The Contractor shall ensure that all orders received that require approval from MPSCS have an ITRAC reference number included in Line Item #1 description field of the purchase order. The contractor is not authorized to process the order without this ITRAC #. (*Note: This does not apply to MiDEAL purchases*)

If the Contractor receives an order that requires MPSCS approval without an ITRAC reference number they shall provide the requesting agency and MPSCS with notification that the request cannot be fulfilled and the ITRAC reference number must be obtained prior to order fulfillment.