

# Unication G4 800 MHz P25 Pager

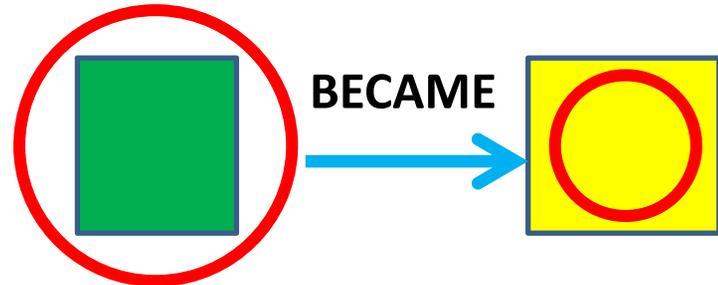


February 2016

## G4 800 MHz Pager

- Why does Michigan need an 800 MHz P25 pager?

- Public safety agencies lost considerable coverage due to the FCC narrow band mandate.



- Some areas now use a combination of commercial text paging, cell phone notification, and conventional paging. Result: Multiple dispatch processes. Multiple back up processes. Multiple points of failure.
- Typical cost to upgrade existing paging system is \$500,000 to \$600,000 per county !!!
- Many MPSCS agencies use the system for all daily operations EXCEPT paging.
- Side Benefit: MPSCS is recognized as a national leader.



# G4 800 MHz Pager

- How did we get here?
  - MPSCS system looking for a P25 pager
  - Unication manufacturer looking for a P25 System
  - Planning and engineering meetings
    - Features
    - Functionality
  - Concurrent software and hardware engineering
  - MPSCS certified the G4 October 2015



**G4** Industry's First P25 Voice Pager

**It's HERE!**

Unication is partnering with Michigan's Public Safety Communications System, Michigan's Statewide P25 Network!

Initial Release in 700-800 MHz  
VHF & UHF Coming Soon

Supports Multiple P25 Systems  
P25 Trunking  
P25 Conventional  
Conventional  
Image Transfer & Text Messaging Capability  
IP67 Rating Waterproof & Dustproof  
High Impact Resistant Color Screen

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# G4 800 MHz Pager



## Our Partner: Unication USA – Arlington, Texas

A major supplier of voice and critical messaging solutions to Operators in Asia, the Americas and Europe



A Taiwan based company founded in 1992 with extensive experience designing and manufacturing wireless communications products



# G4 800 MHz Pager

- MPSCS network advantages:
  - Defined coverage with in and out of range notification
  - Network uses multiple tower sites redundant coverage
  - Pager background scans home sites for best signal
  - Extremely well maintained and upgraded infrastructure
  - 7 x 24 x 365 system monitoring
  - Utilize existing network and dispatch resources
  - No paging leased lines and paging site maintenance
  - Compatible with existing MPSCS BDAs
  - G4 is beginning of life and is being developed to meet public safety needs now and going forward
    - Station Alerting
    - Text message
    - AES 256 Encryption
    - Picture transfer



# G4 800 MHz Pager

- Pager Features

- Multiple Zones
- 8 switch positions per Zone
- Up to 64 Pagegroups or Talkgroups per switch position
- Groups are assigned a priority level. When monitoring multiple groups, pager switches to highest priority active group.
- Voice record with time stamp. Voice notes. Message lock.
- Micro USB charging and programming
- P25 Trunking, P25 Conventional, NFM Analog
- IP67 Rating Waterproof and Dustproof
- **DHS Compliance Assessment Program certification**  
→ **Grant \$\$\$ Eligible**

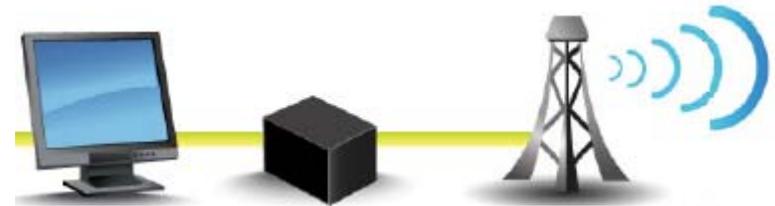


# G4 800 MHz Pager

## - How does P25 Trunked Paging Work?

- Motorola MCC7500 Consoles

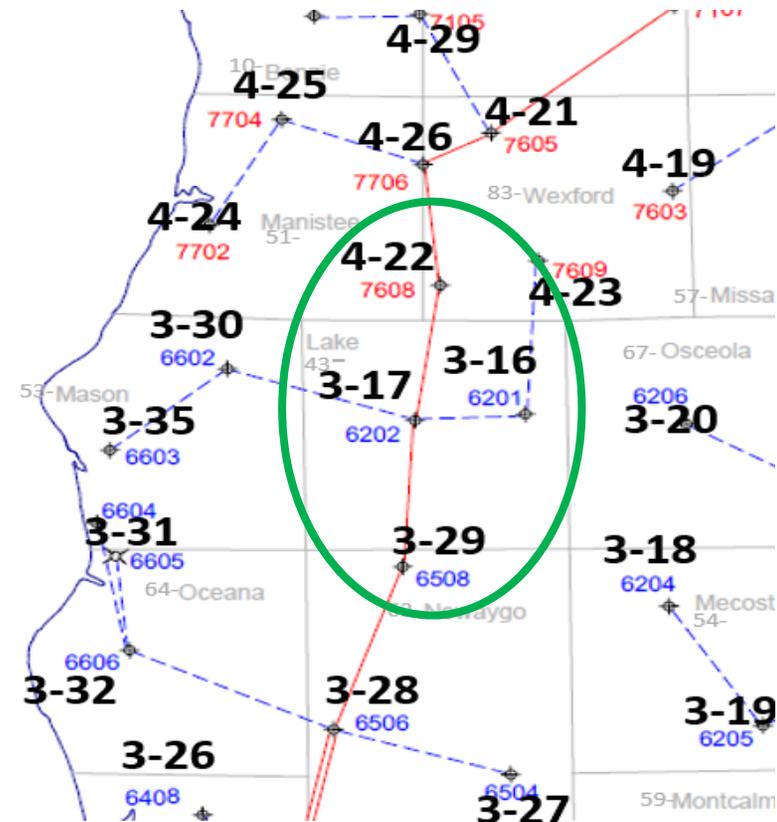
- Console sends call to MPSCS pagegroup
- MPSCS network transmits page on all Critical Sites
- Dispatch can multiselect Page Group
  - And P911 + F911 + EMS + EM
- Control Station Limitations
  - Dispatching via RF control stations uses one backroom transmitter and one site transmitter per group
  - Can cause sites to become busy = 'Bonk'



# G4 800 MHz Pager

## - How does P25 Trunked Paging Work?

- Network
  - Defined Critical Site List determines coverage area for paging group
  - The same site list is programmed into the pager.
  - Pager knows when it is 'In Range' or 'Out of Range'



# G4 800 MHz Pager

## - How does P25 Trunked Paging Work?



- Pager

- G4 Pager looks for MPSCS network and the programmed Critical Sites to confirm it is in range
- Pager uses optimized back-ground site scanning to select best system signal
- Pager receives page call. If more than one call, pager moves to the highest priority group that is active.



# G4 800 MHz Pager

## - How does P25 Trunked Paging Work?



- Pager
  - Site Trunking
    - Pager can be programmed to reject site trunking sites and search for network connected sites in the home site list.
  - Failsoft
    - Pager has zones. One zone can be configured as Failsoft Zone. User selects Failsoft zone.



## G4 800 MHz Pager

### MPSCS Fee:

- One time set up fee
  - Cap Code = One Pagegroup = \$1500 set up
  - Programming network connected consoles included
  - MPSCS credits can be used
- County All-Call group no fee
- Unication will have contract pricing with the State of Michigan



# G4 800 MHz Pager

## How To Start:

- Order trial pagers / demos from dealer
- Local coverage testing
- Determine number paging groups needed / stations / agencies
- Contact MPSCS TDU/RPU to set up test paging group and help develop pager template file
- Test. Test. Test. Develop dispatch process and user training.
- Determine cut over strategy
  - All at once / one agency at a time
- Determine back up dispatch process
- Schedule console programming update
- Order pagers
- Station alerting
- Test and update dispatch processes
- Schedule cut over



# G4 800 MHz Pager

- G4 PPS Software – Agency loads files into pagers

The screenshot displays the G4 PPS software interface. The top status bar shows 'Version: V0.2.1 Beta 1', 'Customer: admin', and 'Connected Devices: 1'. The main window is titled 'View/Edit Existing Profile >> Conventional Freq. & Trunking System'. The left sidebar contains navigation options: A User Guide, B Setting, C Create Profile for User Group, D View/Edit Existing Profile, E Program from Existing Profile, F Programming Log, and G Profile Import/Export. The central area is divided into 'Conventional Frequency Setting' and 'P25 Trunking System Setting'. The 'P25 Trunking System List' table shows 6 created systems:

Name	WACN ID(HEX)	System ID(HEX)	Site Trunking	Error Rate Threshold	Site List	Control CH List	Full Spectr Scan
49PG-1	92493	796	<input type="checkbox"/>	4	Site:8	Control CH:62	Enabled
49PG-2	92493	796	<input type="checkbox"/>	4	Site:6	Control CH:62	Enabled
49PG-3	92493	796	<input type="checkbox"/>	4	Site:23	Control CH:62	Enabled
48PG-1	92493	796	<input type="checkbox"/>	4	Site:13	Control CH:62	Enabled
17PG-1	92493	796	<input type="checkbox"/>	4	Site:10	Control CH:62	Enabled
RSSI	92493	796	<input type="checkbox"/>	10	Site:1	Control CH:1	Disabled

The right pane shows the 'Parameter Description' for WACN ID, System ID, and Site Trunking.

- WACN ID**
  - Definition:** Selects (in hex format) the identification number of the WACN (Wide Area Communication Network) within which the radio normally operates. The WACN ID can be set to 'Auto' which means radio can automatically search and match a appropriate WACN ID to use.
  - Range:** Minimum: 0, Maximum: FFFFF, Increments: 1, Default: 1
  - Note:** The radio uses this WACN ID, the System ID and the Unit ID to identify itself to the FNE (Fixed Network Equipment) when performing registration and authentication. A WACN is made up of one or more Systems.
- System ID**
  - Definition:** Selects (in hex format) the identification number of the P25 Trunking System on which this radio normally operates. The System ID can be set to 'Auto' which means radio can automatically search and match a appropriate System ID to use.
  - Range:** Minimum: 0, Maximum: FFF, Increments: 1, Default: 1
- Site Trunking**
  - Definition:** Enable/Disable the Site Trunking.
  - Options:** 1. Disabled: Site trunking not allowed. Only wide-area-trunking is accepted during the control channel scanning (Default) 2. Enabled: Both site trunking and wide-area-trunking are accepted.



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- Questions

