



New P25 Products and Services APCO 2024

Project 25 Technology Interest Group (PTIG)

www.project25.org

L3Harris XL Onboard™ 85M Mobile Radio



Expanded Capabilities, Powerful P25 Options

XL-200M	XL-185M	XL-85M
Multiband P25/LTE Converged	Single-band P25/LTE Converged	Single-band P25
VHF, UHF, 700/800 MHz and 900 MHz	VHF, UHF, 700/800 MHz or 900 MHz	VHF, UHF, or 7/800 MHz

Each model comes standard with:

- Wi-Fi®, Bluetooth®, and GPS
- Active Noise Cancellation
- Multiple encryption options for security
- Supports P25, EDACS & Conventional

P25 Interoperability solution

- CAP certified, field-proven P25 mobile interoperability
- Converged P25 with Wi-Fi capability

Benefits to Public Safety

- Connect in more places in more situations
- PTT and Device Management over Wi-Fi

XL-85M Single Band Mobile Radio



Enhanced Connectivity



GPS



Wi-Fi



Bluetooth



L3HARRIS®

www.l3harris.com

L3Harris XL EXTREME™ 400P Radio



VHF, UHF, 7/800, GPS, Wi-Fi, LTE, Bluetooth

ENHANCED CONNECTIVITY
BUILT IN



GPS



Bluetooth™



Wi-Fi



LTE



WHAT IS NEW

- XL Extreme Portable Radio and XL Extreme Speaker Mic certified to NFPA 1802
 - Heat resistant to withstand temperatures up to 500° for 5 minutes and 1700° for 10 sec
 - Ruggedized against damage from 3-meter drops, salt water and humidity corrosion
- Provides advanced ergonomics for fireground operation
 - Large Glove friendly ergonomics
 - Top display with unique visual zone coding on radio and speaker mic
 - NFPA 1802 Software safety feature set

P25 INTEROPERABILITY SOLUTION

- Multiband P25 operation in VHF, UHF, 7/800
- CAP certified, field-proven P25 interoperability
- Converged P25, Wi-Fi and LTE technologies

BENEFITS TO PUBLIC SAFETY

- Keep everyone connected while performing under the harshest conditions
- Enhanced PTT coverage & simple device management over LTE networks like AT&T® and Verizon®
- Loud and clear audio with industry-leading noise cancellation



L3HARRIS®

New P25 Portable Radios



TP9800 Wildland Fire Radio and TP9900 Multiprotocol Portable

- Both portables are multiband
- **TP9900** Multiprotocol P25 and DMR
- **TP9800** Wildland Fire option with Clamshell AA Battery Pack

P25 Interoperability Solution

- Operate on any combination of VHF, UHF, 700/800 MHz
- **TP9800** Front Panel Programming, Cloning and User Selectable Signaling for wildland fire fighting operations in remote areas
- **TP9900** Enables P25 users to talk directly to DMR users such as schools for joint incident response

Benefits to Public Safety

- **TP9800** Easily reprogram radio fleets for any area of operations
- **TP9900** Easily change between P25 and DMR modes with channel selector



Booth

[taitcommunications.com/
products/p25-radio](http://taitcommunications.com/products/p25-radio)

New P25 Control Heads

TM9000 Mobile Radio Control Head Options

- Bright and clear, easy to read, high resolution color displays
- Local or remote mount options
- Compatible with standard and keypad microphones
- Covert microphone options
- External remote loudspeaker options



P25 Interoperability Solution

- Compatible with Tait 9000 series P25 mobiles

Benefits to Public Safety

- Easy to read and use at a glance, with programmable function keys
- Flexible options to suit a variety of needs, including dual head or dual body
- Upgrade existing TM9400 fleets for an enhanced user experience

Booth

[taitcommunications.com/
products/p25-radio](https://taitcommunications.com/products/p25-radio)

APX NEXT XN & XVN500

All-band P25 Smart Radio & Radio Speaker Mic
VHF, UHF, 7/800, GPS, WiFi, Bluetooth, LTE



What is New

- Offering the new platform of public safety applications introduced with APX NEXT in a more ruggedized design with exaggerated controls for gloved use
- The radio and RSM are built to the latest fire industry standards for operation in the most extreme environments

P25 Interoperability Solution

- FDMA and TDMA P25 Air Interface interoperability as well as LTE

Benefits to Public Safety

- Firefighters can keep eyes up and focus forward with intuitive ergonomic design and voice control, even in extreme conditions
- Always stay connected by automatically switching between LTE and LMR based on coverage. All P25 features stay intact.
- Continuously transmit location data over LTE
- Keep devices in the field longer by implementing updates over LTE



MOTOROLA SOLUTIONS

What is New

- Transparent Data for Trunking
- ADP / AES combo license
- Premier Solutions Provider (PSP) program

P25 Interoperability solution

- VHF, UHF and 700/800 MHz models
- Conventional Analog, Phase 1 and Phase 2 trunking

Benefits to Public Safety

- Small, lightweight and concealable
- Voice recording & GPS saved to SD card



Booth # IcomAmerica.com

VP8000 Multi-Band Portable

The KENWOOD Viking 8000 series Multi-Band, Multi-Protocol 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.

- Next generation Viking
- Multi-Band operation (VHF, UHF, 7/800 MHz)
- Multi-Protocol
- Large full-color top LCD
 - Multi-line text – front & top displays
 - Top flip display changes text orientation
 - Configurable display lines / color schemes
- Mixed protocol zones
- Wi-Fi
- GPS
- Bluetooth
- Public safety ergonomics



Introducing the new BKR 9000 P25 All-band Portable Radio and InteropONE

OUR MULTI-BAND RADIO:

KEY FEATURES:

- **5-YEAR STANDARD WARRANTY**
- Single, dual, multi-band operation (VHF, UHF, 700/800 MHz)
- P25 conventional and trunking (phase 1 and 2)
- IP 68, MIL SPEC 810 C, D, E, F, G
- FIPS 140-2 Level 3 validated AES encryption (with OTAR) capable
- USB & Field programmable (up to 5,000 channels)
- Four tiers available



InteropONE DELIVERS:

Ease of use – quickly create talkgroups on demand from your smartphone, within minutes

Local Control into the hands of incident commanders and emergency management personnel

Secure communications using Azure Government cloud, NIST FIPS-140 compliant ciphering suites, multi-factor authentication





New Multi-Mode TETRA-P25 Radios



What is New

- Dual-Mode TETRA-P25 selectable through the user menu.
- FCC certified 764-869 MHz (except NPSPAC 806-809/851-854 MHz).

P25 Interoperability solution

- P25 CAP certified for nationwide interoperability channels.
- Fully compliant with requirements set forth in Feb 12, 2018 FCC Report & Order governing 700 MHz band.

Benefits to Public Safety

- Cellphone-like speech quality, background noise cancellation, GPS data, Image App.



HTT-500-2



MDT-500-2



<http://www.powertrunk.com>

L3Harris Two47 P25 Base Station

7/800 MHz P25 Trunking Base Station



WHAT IS NEW

- L3Harris is pleased to introduce a new family of P25 site products that is available in single-site, multi-site, and simulcast configurations.

Open – Endlessly upgradeable to evolve with your operation

Adaptable – Small package with expansive range

Unstoppable – Rugged, resilient and protected around the clock

P25 INTEROPERABILITY SOLUTION

- P25 Trunking solution in 7/800 MHz available to order now
- P25 CAP Certification in-process

BENEFITS TO PUBLIC SAFETY

- **Small footprint:** saves space, money, and is eco-friendly. Supports up to 10 channels in a single rack including the RF combining equipment
- **No single point of failure:** industry leading resiliency including:
 - Distributed control points offer four levels of simulcast control point resiliency
 - All channels capable of being the control channel; never reverts to conventional



www.L3Harris.com

MT-5 Modular, Low-Power Analog & P25 Repeater Base Station

What is New

- **MT-5 Subrack** with improved maintenance, lower power draw, and new software-defined controls
- **MT-5 Utility Module** simplifies on-site maintenance, includes meter jacks, speaker, and toggglable LED active channel display
- **GPS Location Services** enable field resource tracking and other DFSI data capabilities
- Remote site monitoring and programming with **MT-5 Site Controller** (coming soon)

P25 Interoperability Solution

- Zetron MAX Dispatch and ACOM solutions are fully P25 compliant via CSSI and DFSI
- P25 Standard interfaces to third-party applications and technology for turnkey solutions
- Modular design allows for hot-swappable components and incremental upgrade paths



Benefits to Public Safety

- Backwards-compatible with MT-4E modules, allowing for modular, affordable upgrade path for advanced capabilities
- Built to thrive in the harshest environments on the planet

P25/DMR Multi-Protocol Systems



- Multi-Protocol (Analog, DMR & P25)
- Multi-mode (Analog/Digital) operation
- Fully IP-based distributed network architecture
- Single site, Multi-site conventional & Simulcast solutions
- Compact, Rugged, Small footprint
- Low power consumption
- Hot standby repeater offering
- Powerful remote control & monitoring
- Soft diversity receiver
- Seamless system upgrades (no need to change hardware)
- System redundancy

Booth
#



New P25 Fire Station Alerting and Warning Siren Controller Solutions



P25 Fire Station Alerting

- Allows you to alert your fire stations utilizing your P25 Network.
- It can also be upgraded to use Analog, LTE and IP networks.
- The FSA offers 8 Relays to allow you to open doors, turn on lights among other possibilities at the Fire Stations.
- Listen to your alerts & P25 Fire Grounds throughout the station

P25 Warning Siren Controller

- Allows you to alert your warning sirens utilizing your P25 Network.
- It can also be upgraded to use Analog, LTE and IP networks.
- Allows for easy migration and redundancy.

RadioHub™

Tactical P25 Digital Voter / Call Router



What is New

- IP operation over low bandwidth topology neutral network configurations
- Frequency neutral voting and crossbanding
- Cloud or On-premise operation

P25 Interoperability solution

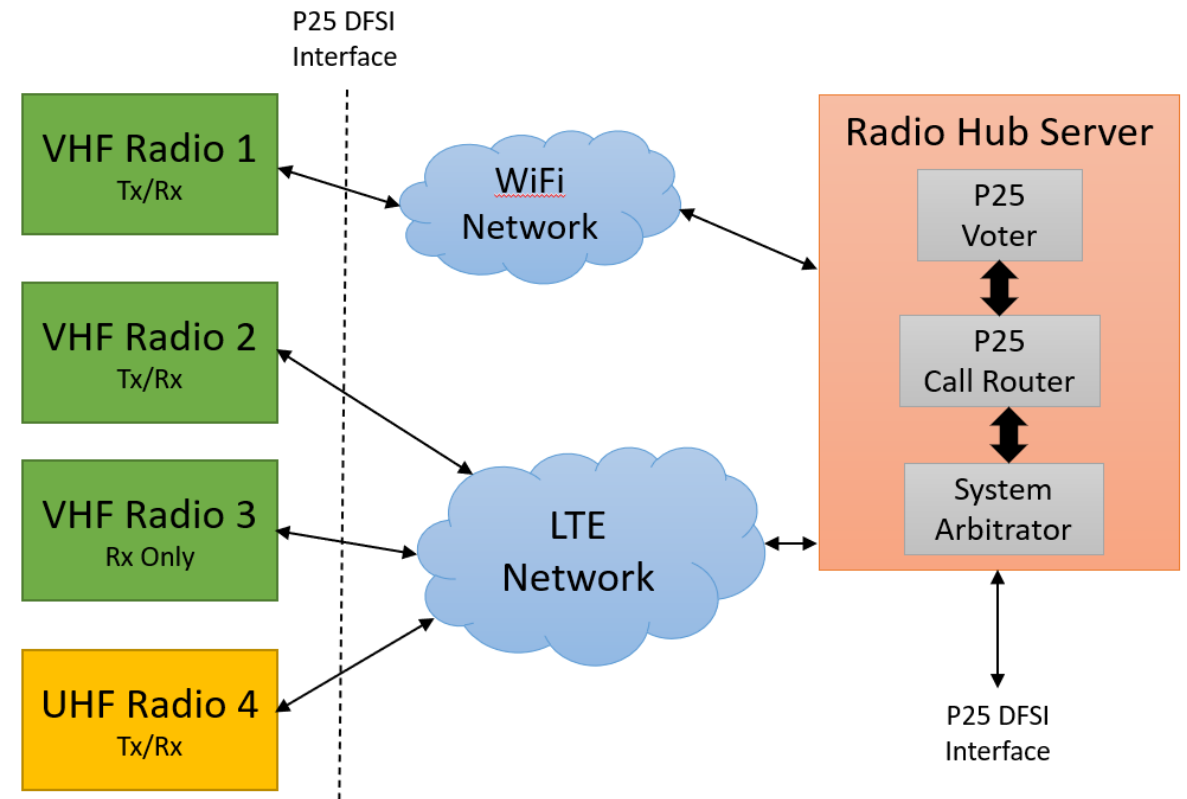
- P25 DFSI Interface
- Support for P25 Voice and Data

Benefits to Public Safety

- Rapid easy deployment and configuration
- Inter-agency communication and interoperability

<https://www.adcomllc.com/>

Sales: 480-626-2318





New Skymira P25 IP Relay



What is New

- Portable P25 Network — take your coverage with you
- Highly Secure — FIPS 140-2 level 1 validated

P25 Interoperability solution

- Manufacturer agnostic — supports all manufacturers, mix and match preferred P25 radios
- Network Agnostic — satellite, LTE, FirstNet, fixed site ISPs, and/or fiber
- Transmits all P25 Audio & Data — audio, subscriber ID, GPS location & emergency call

Benefits to Public Safety

- Extend coverage so users are never out of range
- Get real-time GPS location and emergency alerts from anywhere
- Keep comms online during outages and disasters

www.Skymira.com/skymira-p25-ip-relay



SKYMIRA
Radio over IP Reinvented

P25 IP RELAY

Works with all conventional P25 radios

- Portable P25 Network
- LTE/FirstNet/Satellite
- Interoperability
- FIPS 140-2, AES-256



PUBLIC SAFETY **WILDLAND FIRE** **ENERGY**

P25 LMR – LTE InterWorking Function (IWF)



What is New

- Carrier-grade 3GPP to LMR standards-based interoperability platform

P25 Interoperability Solution

- IWF support of DFSI and both Phases of the CSSI and ISSI standards

Benefits to Public Safety

- Seamless communications using standards-based multi-vendor subscribers on 4G LTE/5G and P25 eco-systems



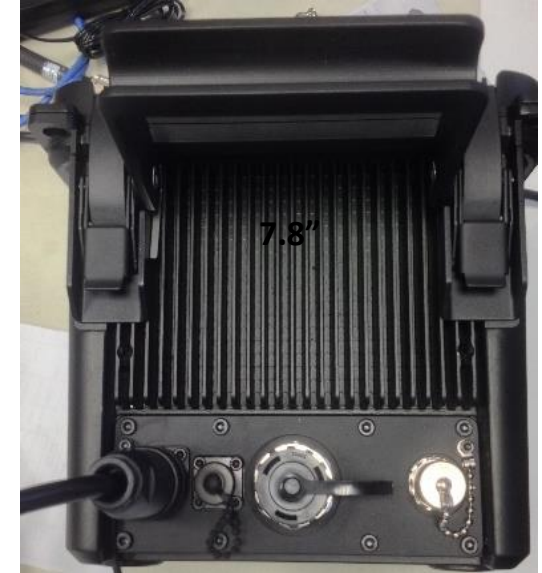
www.etherstack.com

New P25 Tactical Mixed Mode Repeater



What is New

- Tactical Mixed Mode repeater
- Rugged Extremely Compact Housing
- All P25 Network Interfaces available



P25 Interoperability solution

- Supports IP/H.F. & Satellite Backhauls
- Interfaces with FSI (BAHA)+CSSI+ISSI (Phase One &Two)

Benefits to Public Safety

- Deployable P25 Repeater for Emergency Communications



www.etherstack.com



What is new

- Enhanced GUI for all tactical markets
- **Wide Band Transceiver** – 29.7 – 960 MHz P25 Compliant – Compact
- **Search & Rescue (SAR)**
 - 121.5 MHz AM
 - 243.0 MHz AM
 - 156.8 MHz FM (Channel 16)
 - 156.525 MHz FSK (DSC, Channel 70)
- Seamless relay, simulcast, and relay/simulcast

P25 Interoperability solution

- All P25 bands Common Air Interface (CAI), Phase I, II trunking
- 29.7 – 960 MHz Common Air Interface (CAI) AES encryption
- P25 VHF – 6W Min UHF – 5W Min 700/800 MHz – 3W Min

Benefits to Public Safety

- Lowest cost of ownership through easily upgradable modular architecture
- Best in class color display and interface
- Most interoperable radio on the market



P25 Products



Popular P25 RoIP & Interoperability Gateways:

[IPR100](#) Flexible RoIP Gateway for Analog Systems

[DRG100](#) Digital Radio Gateway

[IPR400 S2](#) A 2-in-1 Interoperability and RoIP Gateway

[omniGate](#) P25 CSSI Software Gateway

APCO International AWARD
Technology Leadership
Tait DMR T3 & Statewide P25

**AWARD | APCO Int
Technology Leadership Award**

Omnitronics omnicore Dispatch Technology Wins Prestigious APCO International Technology Leadership Award with Tait DMR T3 Integration into...

Media Release
New Radio Gateway
P25 CSSI
etherstack

Omnitronics releases NEW omniGateP25 Software-Based Radio Interoperability...

The NEW Radio Interoperability Gateway with Auria Wireless P25 Trunked Network using the P25 Console Interface (CSSI) connects up to 12 ...

NEW
omnicore
RediTalk-Flex
omnitronics
AGNOSTIC Dispatch
NOW INTEGRATES TO:
P25 CSSI

Omnitronics Dispatch P25 CSSI Integration

NEWS Omnitronics Integrates With P25 Console Sub-System Interface (CSSI) Testing was conducted on an AS ...

P25 Dispatch Solutions:

omnicore EXPRESS Dispatch Console



SML Organization
≤ 5 active Operators
≤ 40 total Operators
≤ 12 Channels

omnicore ESSENTIALS Dispatch Software



MED Organization
≤ 8 active Operators
≤ 80 total Operators
≤ 24 Channels

omnicore ENTERPRISE Dispatch System



LGE Organization
100+ active Operators
>1000 total Operators
200+ Channels

BYNE ControlONE is the critical mission communication solution for operations centers



What is New

- **BYNE ControlONE** is a critical mission communication platform for operation centers, that integrates radio, telephony, PTT over Cellular and text messaging systems, in addition to allowing the connection of geolocation and video systems.
- **BYNE ControlONE** provides P.25 connectivity.

P25 Interoperability solution

- Connect to P25 systems via DFSI and/or CSSI/ISSI.
- Provides interoperability between all supported LMR protocols, such as DMR, Tetra, NXDN, Satellite PTT and analog gateways.
- Provides interoperability between LMR, Satellite PTT, PTT over Cellular, and Telephony systems.

Benefits to Public Safety

- Seamless integration of communication platforms with CAD systems.
- Simplified user experience for dispatch operators.
- Interoperability with multiple agency communication systems, with integrated audit and recording.

BYNE



www.byne.com.br

Avtec Scout Dispatch Console



What is New

P25 Conventional and Trunking Wireless Interface with APX™ Consolette & APX™ Mobile Radios - Group Call, PTT ID, Emergency Call, Zone and Channel Control, Paging & other signaling features

1. Tested and updated with the Department of Defense's Security Technical Implementation Guides (STIG)
2. Microsoft OS and third party application patches applied each Scout release
3. Nessus scans ran to identify and mitigate vulnerabilities each Scout release
4. Third Party Cyber Security audit once per year to verify security posture

<https://www.avtecinc.com>

P25 Interoperability Solution

1. Avtec Scout dispatch console connects to P25 via CSSI, DFSI, APX Consolette, or APX Mobile
2. Interoperability with Broadband, DMR, LTE, NENA, Telephony
3. P25 DFSI an CSSI endpoints benefit from the standard Scout console features, in addition to the P25-specific features that Scout supports

Benefits to Public Safety

1. Connect P25 systems to other critical communications technologies for maximum interoperability
2. Dynamic and scalable platform that easily accommodates new and legacy technologies
3. Ideal solution for supporting communication technology migration plans and building a future proof solution
4. Designed, built, and supported in the U.S.



InterTalk Enlite™ Dispatch Console System



What is New

- **Enlite™** is a first-to-market dispatch solution in North America.
- Offers a public-safety-grade dispatch console with industry-standard **on-premises** deployment (Enterprise) or empowered with the **cloud** (Hosted).
- **Enlite™** provides P25 connectivity in the field via mobile-connected devices.

P25 Interoperability solution

- Connect **Enlite™** console to P25 via DFSI or CSSI/ISSI.
- Convergence of analog radio, P25, LTE, call-taking capabilities, and more.
- Allows a user to extend their P25 network over Wifi and LTE.

Benefits To Public Safety

- Empower your P25 system to create seamless communications across multiple devices.
- Utilize P25 **Talkpath Pooling** to reduce the number of required audio talkpath licenses on a system.
- P25 **Resource Sharing** allows dispatchers to share P25 channels connected over DFSI or CSSI between independent InterTalk console systems for interoperability and continuity of operations.



Learn more at InterTalk Booth #

www.intertalksystems.com

Telex Radio Dispatch



What is New

IP-3000 series desktop consoles supporting optional P25 CSSI and DFSI connections with AES-256 encryption.

P25 Interoperability Solution

When coupled with IP-224's and donor control stations, P25 and non-P25 channels can be cross-patched between agencies.

Benefits to Public Safety

Best ROI for P25 solutions and use of public funds.

Remote configuration and management

IP-3008-PS



IP-3018-PS



P25 Control Room Solution: Frequentis 3020 LifeX



What is New

- Offers a public-safety-grade control room solution
- **3020 LifeX** provides P25 connectivity in the field via mobile-connected devices

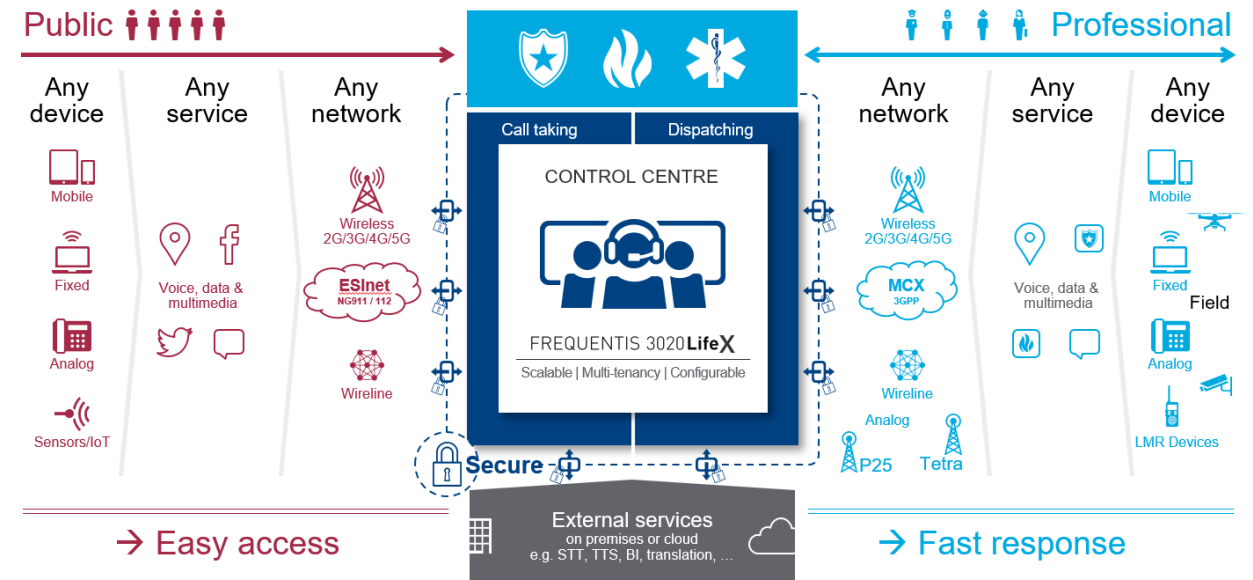
P25 Interoperability solution

- Connection to P25 via DFSI or CSSI/ISSI
- Convergence of analog radio, P25, MCX, TETRA, NG-call-taking and –dispatching capabilities
- Allows organizations to extend and cross-connect their current networks to other technologies (“Message Broker” - Governed by US10,869,593)

Benefits to Public Safety

- Empower public safety users to use multimedia communications across multiple technologies
- Open Platform for current and future demands of public safety control rooms

FREQUENTIS 3020 LifeX



Governed by US10,869,593

FREQUENTIS

www.frequentis.com



MOTOROLA
SOLUTIONS

CommandCentral AXS Console

Dispatching for the Modern World



What is New

- Works the Way You Do with the Next Generation Dispatch Experience
- Retain Your Focus with Cross Platform Integration Capabilities
- Connect to Multiple Communication Platforms Simultaneously
- Experience Pain Free Enhancements

P25 Interoperability solution

- Seamless Multisystem (P25, MOTOTRBO, Analog, Firstnet) Access

Benefits to Public Safety

- Improves Ease of Learning
- Eliminates New User Frustration and Burnout
- Improves Speed and Efficiency



Critical Connect

P25 Interoperability Made Easy



What is New

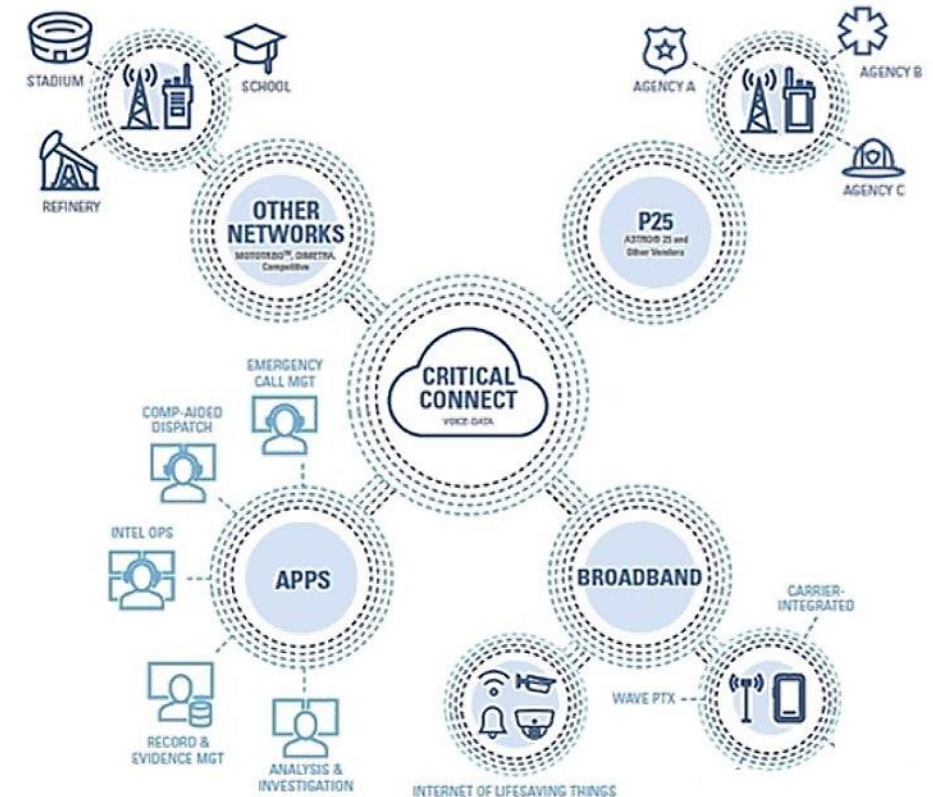
- **Interoperability between P25 land mobile radio systems**
 - ASTRO 25 to ASTRO 25, ASTRO 25 to other P25 systems, ASTRO 25 to broadband PTT
- **Seamless communication between users on different networks**
 - Voice, Location and Messaging

P25 Interoperability Solution

- **Critical Connect ISSI First to Achieve P25 CAP Compliance**

Benefits to Public Safety

- **Easier to Share Information Between Agencies**
- **Improved Collaboration**
- **Greater Situational Awareness**



MOTOROLA SOLUTIONS

P25 LMR LTE Interworking and Push to Talk over Broadband Interoperability Solutions



What is New

- Demonstrating IntelliLink™ Interworking Solution from Catalyst
- Standards Based Communications between P25 LMR and MCPTT on LTE Networks (FirstNet™, Southern Linc, etc.)
- **NEW: Broadband Interoperability Platform provides comprehensive Interoperability solutions:**
 - LMR – LMR: **Traditional patching / interoperability solution**
 - LMR – LTE : **Interworking P25 to 3GPP Mission Critical Push-to-Talk**
 - LTE – LTE: **Broadband Interoperability between MCPTT Carrier Services**



www.catcomtec.com

Booth

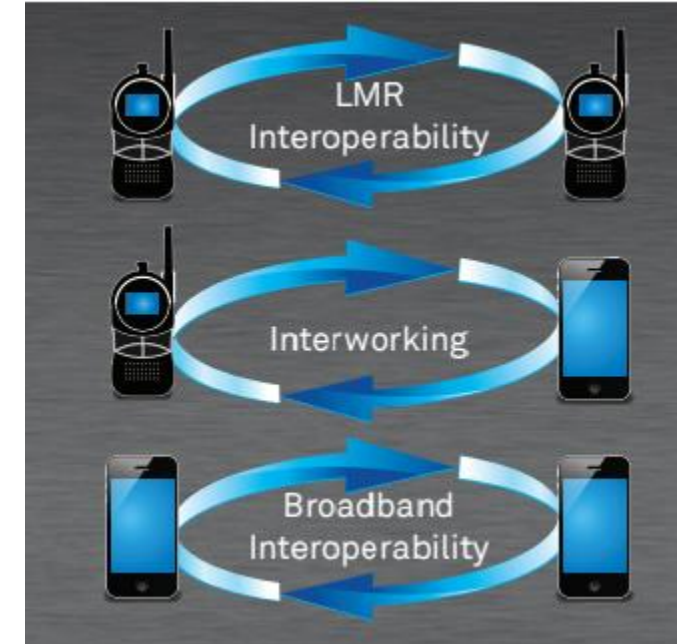
P25 Interoperability Solution

- Provides Interworking Communications between P25 subscribers on LMR Radios and Smartphone users with MCPTT Application

Benefits to Public Safety

Standards based solution for Critical Communications

- Enables transition to MCPTT on LTE for current P25 Systems



DFSI Gateway



What is New

General Features

- DFSI v1 and v2 compatibility
- Channel Change
- Repeat On/Off
- Monitor (Squelch Bypass)
- Voter receiver and transmitter selected/enabled/disabled status and control

Digital Features

- Full-Rate AMBE voice encode/decode
- Group Calling
- Individual Calling
- Emergency Calling and Alarming
- Radio Check, Stun, Revive, Remote Listen, Call Alert, Status Querying, Status Messaging
- NAC Control
- DES/AES Encryption
- RX/TX Level Settings
- RX EQ

Analog Features

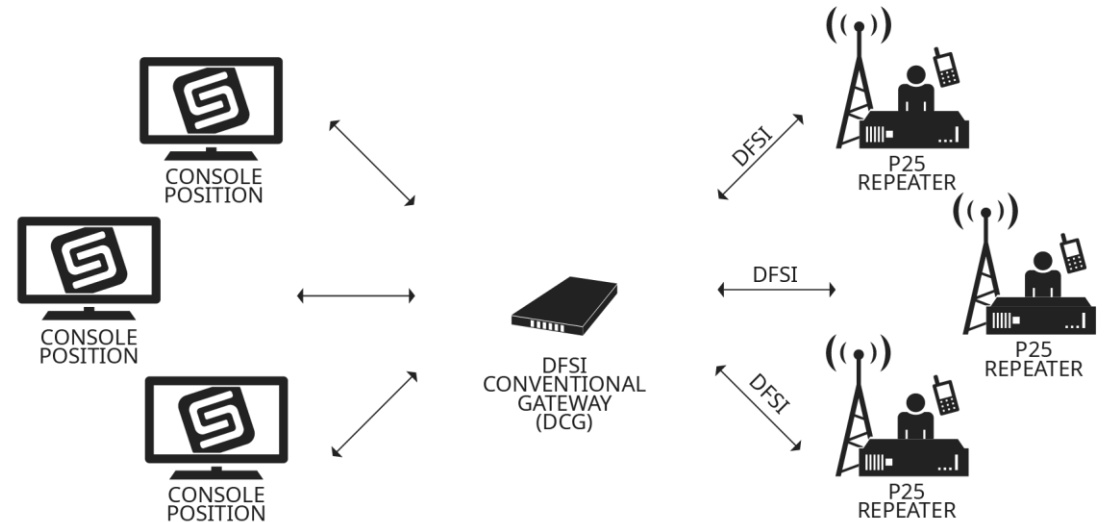
- MDC-1200 Emergency alarm decode
- MDC-1200 ID encode/decode
- CTCSS/CDCSS control
- RX/TX Level Settings
- RX EQ

P25 Interoperability solution

- Patch traffic between different base stations at talk-group level.
- Patch P25 base station with numerous other technologies when paired with the Mindshare Radio Interface (MRI)

Benefits to Public Safety

- Migrates legacy analog infrastructure to P25
- Single gateway supports multi-vendor stations via DFSI standard
- Lower cost with more features than previous offering

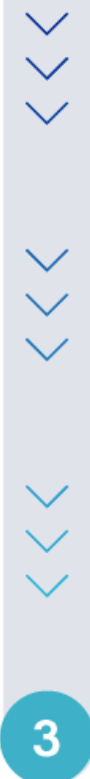
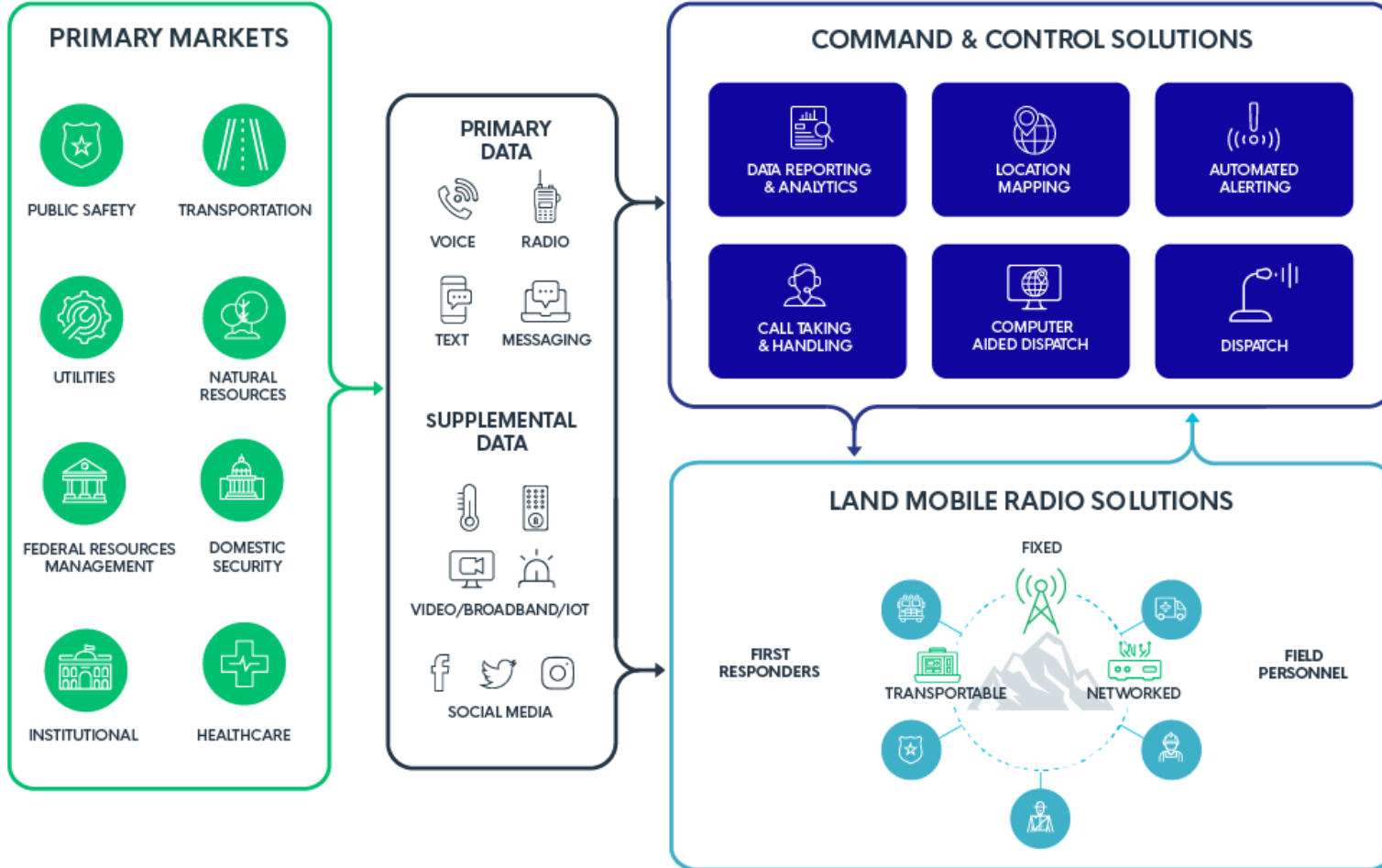


www.css-mindshare.com

Booth #

MISSION CRITICAL SOLUTIONS

From public safety emergencies to commercial needs for collaboration and managing corresponding actions, Zetron solutions empower integrated mission critical communications.



3
COORDINATED
REAL-TIME
SMART
RESPONSE

ZETRON

IWCE BOOTH#:
www.zetron.com

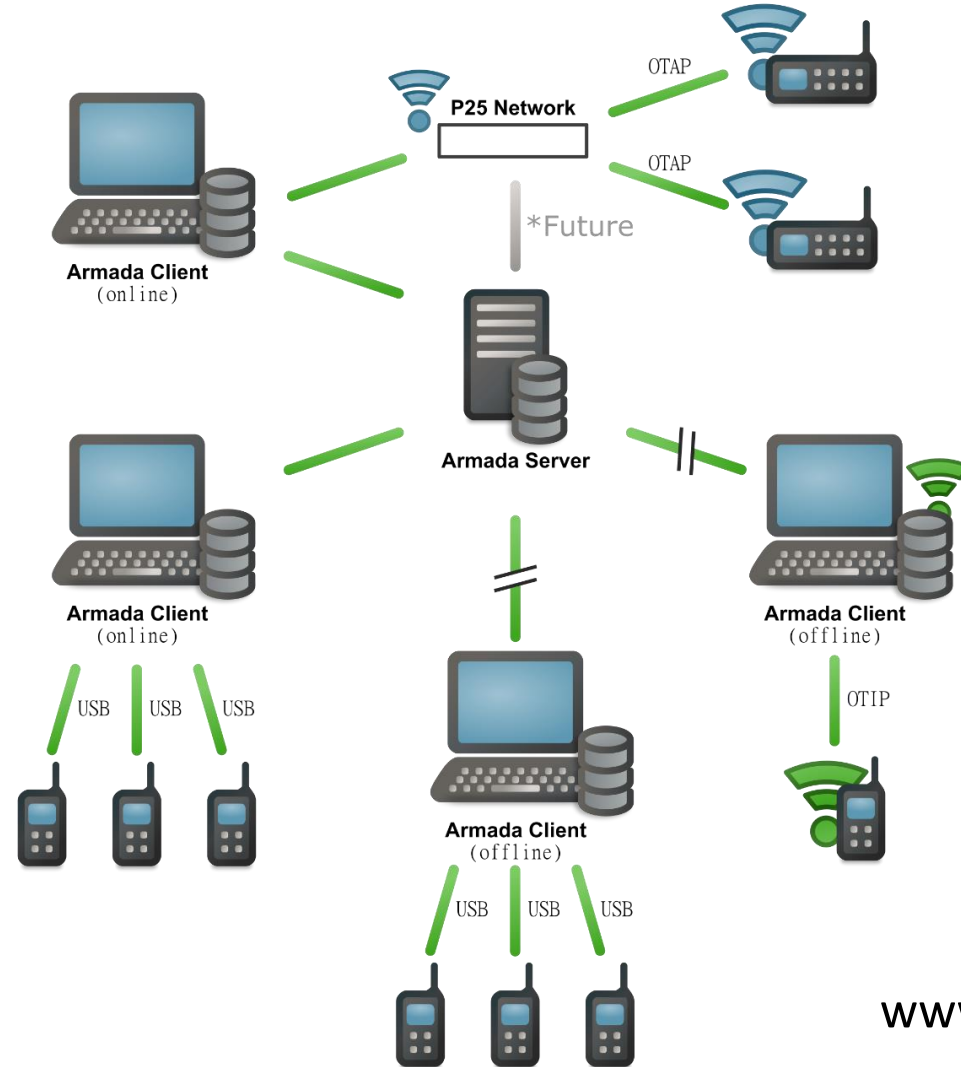
Viking Armada Server

Distributed Programming Capability for Fleet Management



NEW: Armada Server for Viking P25 public safety radios

- Allows multiple radio managers to share a common, central database.
- Offline mode allows radio managers to make updates that are synchronized when returning on-line.



www.EFJohnson.com

NEW! 5G Ultra Wideband Antenna



What is New

- High-efficiency antenna
- Offering expansive coverage from 600 MHz to 7.2 GHz
- Supports 5G NR FR1, Wi-Fi 6e, CBRS, Band14, Bluetooth® and FirstNet

P25 Interoperability solution

- Rugged, compact, low-profile design
- For public safety, fleet, rail, military and IoT applications
- Meets MIL-STD-810, AREMA, IPX7, SAE J1455 environment standard

Benefits to Public Safety

- Available in black or white
- In stock & ready to ship
- Proudly designed & manufactured in the U.S.A.



[Click Here For More Information](#)

Booth #

CX300 ComXpert



Communications Service Monitor

What's New



- AES/DES Encryption and Key Loader
- P25 Phase 1 and Phase 2 Vocoder
- Even more radios added to Auto-Test and Alignment
 - BK KNG M150/B150 models and other radios
 - Kenwood VP8000 multi-band, multi-protocol radios
 - Additional Motorola APX models

Benefits to Public Safety

- Compact, 15 lb., field portable package with built-in VNA
- Bench-level test for high-end radios & infrastructure
- Industry's largest library of OEM Approved Automated Test and Alignment applications
- Custom scripting with the VIAVI Instrument Programming Tool

Visit Booth
1114



Visit Booth
1114

8800SX

Digital Radio Test Set

What's New

- Even more radios added to Auto-Test and Alignment
 - BK KNG M150/B150 HP and other radios
 - Kenwood VP8000 multi-band, multi-protocol radios
 - Additional Motorola APX models

Benefits to Public Safety

- Integrated Wide Band Power Sensor for measurements to 500 W
- Hybrid, portable, fully featured P25 test solution for bench and field
- Rugged, 17 lb., with the industry's largest touch-screen display
- Industry's largest library of OEM Approved Automated Test and Alignment applications
- Custom scripting with the VIAVI Instrument Programming Tool

R8200 New LMR Service Monitor with VNA



What is New

- Single Port Vector Network Analyzer: The only LMR test set to include a VNA
- Includes multiple general use options
 - Remote Front Panel
 - Extended Gen Port Output
 - Process Automation Toolkit ("PAT")

P25 Interoperability solution

- P25 Phase 1 Conventional Test Option
- P25 Phase 1 Trunking Test Option
- P25 Phase 2 Test Option

Benefits to Public Safety

- Perform comprehensive subscriber and network testing with a single instrument
- Save space by combining multiple instruments into one portable device

FREEDOM



FREEDOM

www.astronics.com/lmr

What is New

- **SeeHawk™ Monitor** – Improved spectrum monitoring and uplink testing, plus new downlink monitoring feature
- **Public Safety Network Testing Solution** – Uplink testing and **automated, graded BDA commissioning tests**
- **SeeHawk™ Central cloud platform** – In-building coverage approval system, BDA tracking, and analytics

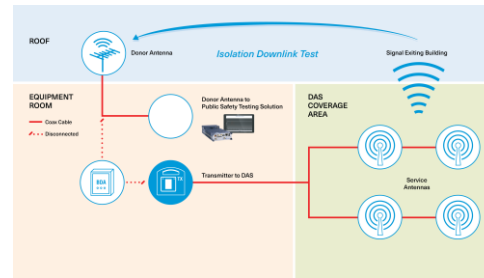
P25 Interoperability solution

- In-building coverage and commissioning testing & reporting based on FCC, NFPA, IFC & local regulations
- Automated indoor/outdoor P25 uplink/downlink testing
- Automated spectrum monitoring

Benefits to Public Safety

- Verify and manage indoor/outdoor critical communications coverage and systems (DAS/BDA/ERCES)
- Quickly identify interference throughout the network

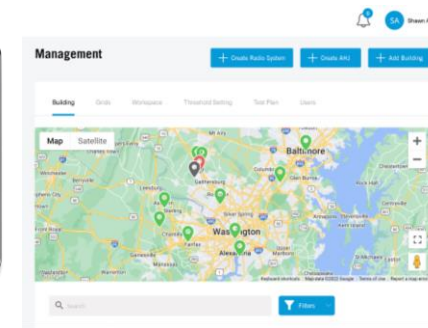
<https://www.pctel.com/ptig>



▲ SeeHawk™ Monitor



▲ Public Safety Network Testing Solution



▲ SeeHawk™ Central

Valid8 P25 ISSI/CSSI Test Solution



What is New

- Security Test Suites
 - Security test Consoles or RFSSs on CSSI and ISSI
- Digital Twin Emulators
 - Emulate RFSS, Console, Radios, LTE-LMR IWF, 5G, 4G, IMS network elements
- Passive Conformance
 - Verify compliance of equipment on the network without disconnecting anything
 - Online (live) mode works via a network tap point
 - Offline mode works by analyzing a PCAP file, isolating the DUT and reporting the test result

P25 Interoperability Solution

- Use Valid8's Pre-Canned Test Scenarios to Ensure Interoperability with Other Vendor Devices

Benefits to Public Safety

- Real World Testing with Multiple form-factors
- Flexibility to Customize Test Scenarios
- Upgradable to MCX, 5G, NG911, P25 Cyber-Security Testing Suites



ProtocolEngine 9.3.17
6/1/2023, 10:46:50 AM

SUCCESS Rating AAA

Summary

Application	Start	Stop	Config	Environment	Tag	Package	Firmware
MCX Conformance	6/1/2023, 3:53:47 AM	6/1/2023, 3:54:10 AM	00:00:24	selftestDutServer2Clients	selftestDutServer	NEMES_BIO_LAB.001	9.3.17

Verdicts

Scenario	Fail	Inconclusive	Pass
mcx/mcpttServerClientOperation/6_1Item	0	0	1
mcx/mcpttServerClientOperation/6_1orig	0	0	1

Test Steps

Campaign Scenario	Time	Verdict	Comment
mcx/mcpttServerClientOperation/6_1Item	6/1/2023, 3:52:48 AM	pass	SIP Link Up
mcx/mcpttServerClientOperation/6_1Item.scenarios/common/mcx/ue/idms	6/1/2023, 3:52:48 AM	pass	Idms HTTP link up
	6/1/2023, 3:52:48 AM	pass	*0m0.005s Received HTTP 200 to Authentication Request
	6/1/2023, 3:52:48 AM	pass	*0m0.009s Received HTTP 302 to Username/Password
	6/1/2023, 3:52:48 AM	pass	*0m0.012s Received Response to Token Request
	6/1/2023, 3:52:48 AM	pass	*0m0.018s Idms Link successfully taken down
mcx/mcpttServerClientOperation/6_1Item	6/1/2023, 3:52:48 AM	pass	Idms successful
mcx/mcpttServerClientOperation/6_1Item.scenarios/common/mcx/ue/register	6/1/2023, 3:52:48 AM	pass	MCX Client: Received 401 Authentication Challenge
	6/1/2023, 3:52:48 AM	pass	*0m0.017s MCX Client: Received 200 to REGISTER
	6/1/2023, 3:52:48 AM	pass	Registration successful



<https://www.valid8.com/solutions-for/test-mcx>
<https://www.valid8.com/datasheets/p25-issi-cssi-conformance>

PX-900 Portable Instrument

for P25 Conventional and Trunked Radio Systems

What is New

- The PX-900 is a portable radio analyzer that enables agencies to identify two-way radios in need of service while they are in the field

P25 Interoperability Solution

- Conventional or Trunked
- VHF, UHF, and 700/800/900 MHz

Benefits to Public Safety

- The PX-900 measures a radio's alignment and operating characteristics - Over-the-Air, in real-time, without user intervention or impact on the system.
- Generates reports pinpointing radios requiring service and validates other ones operating within specification.
- A proactive radio maintenance tool that assures operational readiness



Visit LocusUSA at Booth to learn more
<https://locususa.com/diagnostx/>

You're counting on interoperability... Do you really have it?



WHAT IS NEW

- **Installed System Verification**
- **ISSI/CSSI Interoperability Field Testing**
- **Cyber Security Reviews & Mitigation**

P25 INTEROPERABILITY SOLUTION

- **DHS Accredited Interoperability Testing**
- **“Onsite testing”**
- **“Virtual” remote testing**

BENEFITS TO PUBLIC SAFETY

- **Verify interoperability and compliance after changes occur in your P25 LMR system.**
- **Verify revised hardware, software, firmware.**
- **Test new radios added with old radios.**
- **Validate new manufacturer radios added.**
- **Analyze new routers, cables, servers, etc**
- **Interoperability and P25 compliance could be affected.**



**The Only Independent
DHS Recognized P25 Test lab**
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Chris Lougee
LMR Industry Business Development
Compliance Testing LLC
1724 S. Nevada Way
Mesa, AZ 85204

206-790-0790
chrisl@compliancetesting.com

P25 Enhanced Vocoder Software and Hardware



What is New

- Licensing for variety of processors and OS's
- SIMD Optimized Libraries
- Multi-Channel P25 hardware



P25 Interoperability solution


- Enhanced Dual-Rate Vocoder
- Parametric Rate Converter




Benefits to Public Safety

- Meets latest P25 requirements for voice quality
- Interoperability and assured quality




 P25 Products & Services	www.Project25.org Member Web Address	Fixed Stations & Repeaters	Mobile & Portable Radios	Antennas	Vehicle Repeaters	Consoles	Paging-Siren Fire Alert	Networks	Software	Test Equipment	Systems Integration	Consultant Services
Founding PTIG Members												
L3HARRIS CORP.	https://www.l3harris.com/all-capabilities/p25-and-public-safety-two-way-radios	■	■		■	■		■			■	
MOTOROLA SOLUTIONS	www.motorolasolutions.com/en_us/products/p25-story.html	■	■		■	■		■			■	
AVTEC	www.avtecinc.com					■			■		■	
VIAVI SOLUTIONS	HTTP://www.viavisolutions.com/lmr							■		■		■
ZETRON	www.zetron.com	■			■	■		■			■	
Sustaining PTIG Members												
ADCOM TECHNOLOGIES	http://adcomllc.com	■	■								■	
EF JOHNSON	http://www.efjohnson.com	■	■			■		■	■		■	■
ETHERSTACK	www.etherstack.com	■			■			■	■	■		
ICOM AMERICA	http://www.icomamerica.com/en/landmobile/	■	■									
JVC KENWOOD	www.kenwood.com/usa/com/lmr	■	■					■				
TAIT	www.taitradio.com	■	■			■		■			■	
TECHNISONICS	www.til.ca		■									



 P25 Products & Services	www.Project25.org Member Web Address	Fixed Stations & Repeaters	Mobile & Portable Radios	Antennas	Vehicle Repeaters	Consoles	Paging-Siren Fire Alert	Networks	Software	Test Equipment	Systems Integration	Consultant Services
Corporate PTIG Members												
20dBSolutions Ltd.	mailto:dale@20dbsolutions.com											
ADCOMM Engineering	www.adcomm911.com											
FREEDOM an Astronics Company	www.freedomcte.com											
BK TECHNOLOGIES	www.bktechnologies.com											
BYNE	www.byne.com.br											
CATALYST	https://catcomtec.com/											
CANYON AEROCONNECT	http://www.canyonaeroconnect.com											
COMPLIANCE TESTING	www.compliancetesting.com											
CTA CONSULTANTS	http://www.cta-c.com											
DVSI	www.dvsinc.com											
ESChat	http://www.eschat.com											
FEDERAL ENGINEERING	www.fedeng.com											
FREQUENTIS	https://www.frequentis.com											
GME- (standard comm pty ltd)	www.gme.net.au											
INTER TALK SYSTEMS	www.intertalksystems.com											
LEONARDO	http://www.leonardocompany-us.com											



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Corporate PTIG Members												
LOCUSUSA	www.locususa.com											
MINDSHARE by CSS	http://www.css-mindshare.com											
MISSION CRITICAL PARTNERS	http://www.missioncriticalpartners.com											
OMNITRONICS	http://www.omnitronicsworld.com											
PCTEL	http://www.pctel.com											
PRISM-IPX	https://www.prism-ipx.com/											
POWERTRUNK	www.powertrunk.com											
RFI TECHNOLOGY SOLUTIONS	https://www.rfiamericas.com/											
SIMOCO	http://www.simocowirelessolutions.com											
SKYMIRA	http://WWW.SKYMIRA.COM											
STI-CO ANTENNA SYS	https://sti-co.com/											
TELEVATE	www.televate.com											
TELEX (BOSCH)	www.telex.com											
VALID8	http://www.valid8.com											
42		15	14	1	7	15	1	15	11	8	19	14



P25 New Product Trends



- **P25 LMR Interoperability with LTE Broadband Data**
 - Multi mode P25/LTE Portable radios
 - Mobile P25 radio with Wi-Fi and LTE connectivity
 - New P25 Consoles connect P25 and LTE technologies
- **Multi-Band P25 Portable Radios (VHF/UHF/700/800 MHz)**
New products are P25 Phase 1 and Phase 2 capable
- **Voice recording in radios**
- **Scalable, Configurable P25 Airborne Radios**

P25 New Product Trends



- **Deployable, mixed-mode, P25 repeaters for Emergency Ops**
- **P25 Antenna Site Monitoring**
- **“Over the Air” radio maintenance for P25 Systems**
- **“Cloud based” Asset management for P25 Systems**
- **“Cloud based” Dispatch in the field**
- **New P25 Location Services**
- **P25 enhanced Vocoder Software**



www.project25.org