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**HARRIS RFCD DIR PRODUCT Brochures  
Effective 31 AUG 2021**

**Contract DIR-TSO-4010**





**L3HARRIS™**  
FAST. FORWARD.

## **THE XL FAMILY OF** **PORTABLE RADIOS**

Excellence Runs in the Family





# WE HEARD YOU

**YOU HAVE A CHOICE. TO WALK AWAY FROM TROUBLE  
OR TO RUN TOWARD IT. TO IGNORE A PROBLEM OR  
ROLL UP YOUR SLEEVES TO FIX IT.**

The XL FAMILY of portable radios was designed with you in mind—and with you as part of the process. We listened to First Responders and utilities professionals—like you—who make hard decisions and tackle the most difficult jobs every day. We designed a powerful set of tools to work in the most extreme environments and the most challenging situations.

Whether you choose the multiband XL-200P, the single-band XL-185P or single-band XL-150P—all with built-in LTE option—or the intrinsically safe XL-200*Pi* or XL-185*Pi*, you get the power to stay connected and be heard loud and clear. We understand the choices you make every day and what's most important to you.

# AND WE RESPONDED.

# TRUST WHEN IT MATTERS MOST

**YOU PUSH THE BUTTON ON YOUR RADIO  
AND EXPECT YOU'LL BE HEARD.**

L3Harris has more than 1 million tactical radios in service with military personnel around the world. When soldiers are in harm's way, they trust L3Harris for clear, reliable and secure mission-critical communications.

Our global innovation and expertise are built into every one of our products. Our commitment to open standards and drive for excellence has changed the way the world communicates and continues in our industry-leading converged LTE Land Mobile Radios.



# CONNECTIVITY IS IN OUR DNA

The XL FAMILY merges robust LMR voice with data and voice over nationwide LTE that is AT&T and Verizon Certified, and FirstNet Ready™. By combining crystal-clear audio over your P25 radio system with data sharing capabilities on nationwide broadband networks, Situational Awareness is front and center. With powerful technology at your fingertips, you can go to the point of need and stay connected.

An advanced modem supports a wide range of global carriers, even enabling multiple carriers within a single device through dual-sim capability.

GPS, Bluetooth® and Wi-Fi come standard. In fact, Bluetooth can link firefighters to the leading Self-Contained Breathing Apparatus (SCBA) systems, dramatically improving in-mask audio and ground communication.





# YOUR CONNECTION WHEN THE HEAT IS ON

## Introducing the XL Extreme™ 400P

When operations take you to extremes, you need a radio that can take on the heat while keeping you connected. This radio's rock-solid construction is engineered to withstand anything the environment can throw at it.

- > Built to the industry's toughest standards with heat resistant seals and display to withstand temperatures up to 500°
- > Large emergency button with unique visual zone indication and live stream video
- > Glove-friendly keypad, buttons and knobs
- > AES security for ironclad point-to-point voice and data protection
- > Expanded connectivity through Wi-Fi®, Bluetooth® and LTE over AT&T® and Verizon®

From the team that's all in on your mission.

[L3Harris.com](http://L3Harris.com)

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A snowplow is clearing a snowy road. The plow is orange and white, with its blade lowered. Several orange and white traffic cones are placed along the side of the road. The background is a snowy, overcast day with utility poles and wires visible.

# **RUGGED AND READY** **FOR YOUR NEXT MISSION**

## **THE XL FAMILY OF PORTABLES BOASTS INDUSTRY-LEADING CAPABILITIES, REGARDLESS OF WHICH DEVICE YOU CHOOSE.**

### **RUGGED CONSTRUCTION**

Built to the toughest specs in the industry, the XL radios go into the toughest places.

- > MIL-SPEC standards IP68
- > MIL-STD-810G
- > MIL-STD-504.1 for contamination by fluids
- > MIL-STD-511.5 for flammability

### **SMALL, LIGHTWEIGHT, ERGONOMIC**

We designed the portables to stay out of the way, grab quickly and handle with one hand.

### **LOUD, CLEAR, AUDIO**

The portables feature a powerful 1.5-watt rated/4.0-watt max amplifier with dual speakers and advanced noise cancellation to suppress acoustic feedback and provide clear audio over a wide range of conditions.

### **SECURE DATA AND VOICE ENCRYPTION**

Multiple encryption methods, including standard single-key AES, allow you to communicate with only who you need.

### **EASY TO USE**

A simple user interface makes the portables quick to operate. Color-coded talk groups and voice annunciation support rapid changing between talk groups.

### **EXTENDED-LIFE BATTERY**

A 10-hour, extended-life battery expands your productivity, because shifts don't always end at 8 hours.

### **INTEROPERABLE COMMUNICATION**

The XL FAMILY of portables adheres to P25 standards for interoperability, allowing users to connect and communicate with partners on other networks.

### **ENHANCED SAFETY**

Enhance user safety with Situational Awareness features, including Man Down, which alerts dispatch when the radio detects unusual tilt or inactivity, and P25 standard Tier 2 GPS location services.

### **BE LTE-READY, OUT OF THE BOX**

Get the option of having the SIM card already installed and ready for activation.

# EXPANDED FAMILY

# XL



## MORE WAYS, MORE PLACES TO CONNECT

### **XL-200P WITH LTE**

The XL-200P is a P25 multiband Land Mobile Radio with optional LTE module. Designed for anyone who needs to communicate with multiple agencies or across multiple bands, the XL-200P delivers mission-critical connectivity.

### **XL-200Pi**

The XL-200Pi is a multiband LMR certified to meet UL Class 1, Division 1 (C1D1) standards. It is designed for fire departments, utilities, mining, hazmat teams, and oil and gas workers deployed in potentially explosive and hazardous environments.

### **XL-185P WITH LTE**

The XL-185P is a single-band Land Mobile Radio with optional LTE module. This premium portable delivers a powerful set of XL capabilities—making it the best value in its class.

### **XL-185Pi**

The single-band XL-185Pi is certified to meet UL Class 1, Division 1 (C1D1) standards, giving Public Safety and utility workers an intrinsically safe communications solution for operations in hazardous conditions.

### **XL-150P WITH LTE**

The XL-150P is the first Land Mobile Radio (LMR) in its class with built-in LTE option, Wi-Fi®, Bluetooth® and GPS. This single-band, highly-affordable solution provides First Responders with advanced connectivity in a ruggedized, easy-to-use form factor.



**L3HARRIS™**  
FAST. FORWARD.



# XL CONNECT™ 95P

**Flexible. Affordable. Unstoppable.**

**You spoke, we listened.** We packed the XL Connect 95P with just the right features to meet your need for unstoppable and secure critical communications connections at a value that fits your budget. With Wi-Fi® enabled voice and device management, you can communicate just about anywhere without ever leaving your system.

- > GPS®, instant recall and dual microphone advanced noise cancellation
- > Secure communications through encrypted voice and data
- > Connect seamlessly with P25-compliant organizations
- > Simplify fleet maintenance with device management over Wi-Fi
- > Backed with available 24/7 support



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# END-TO-END INTEROPERABILITY

## WITH AN EMPHASIS ON ABILITY

With options designed to extend communications across boundaries, the XL FAMILY of portables are the foundation for our integrated and secure solutions delivering interoperability between networks, devices and applications.



### VIDA®—CONNECTIVITY AT THE CORE

The L3Harris VIDA Core is an interoperable and flexible software solution designed to scale with changing mission-critical demands. VIDA supports voice, data and applications across LMR and LTE networks with the flexibility to add features and applications as needed.



### BeOn®—THE INDUSTRY'S MOST ADVANCED P25 PUSH-TO-TALK APPLICATION

L3Harris BeOn extends the range of your XL portable beyond regional network coverage and integrates into the VIDA Core for additional connectivity across multiple networks. BeOn provides PTT capabilities anywhere in the world over Wi-Fi and LTE, real-time location status and mapping from a smartphone, tablet, PC or integrated within the XL portable.

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## The XL FAMILY of Portable Radios

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## Non-Export Controlled Information

L3Harris Technologies is an agile global aerospace and defense technology innovator, delivering end-to-end solutions that meet customers' mission-critical needs. The company provides advanced defense and commercial technologies across air, land, sea, space and cyber domains.

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# HARRIS MASTR<sup>®</sup> V DCP SIMULCAST SYSTEM

VHF, UHF, 700, 800, 900 MHz

## COST-EFFECTIVE WIDE-AREA COVERAGE

### KEY BENEFITS

Cost-effective way to increase coverage for systems with limited available frequencies

Continuous overlapping coverage enhances user-mobility

P25 Phase 1 and Phase 2 ready. Software upgradeable to P25 Phase 2

Remote capabilities for timing, setup, status, alignment verification and alarms

The Harris Distributed Control Point (DCP) Simulcast System provides an end-to-end digital solution based on the proven MASTR V hardware platform. It provides unmatched flexibility for those seeking large-scale, multiple-agency connectivity in coverage areas too large for a single, centralized transmitter.

### WIDE-AREA COVERAGE

MASTR V Simulcast Systems provide a reliable solution for wide-area coverage demands in frequency-constrained systems. Where there is a need to extend coverage to multiple agencies in a common territory, the MASTR V DCP Simulcast System from Harris is a flexible and proven solution to deliver increased capacity to enhance a customer's critical-communications needs.

### STANDARDIZED PLATFORM

- VIDA<sup>®</sup> Network Sentry for status and alarming
- Mini-mobility Exchange (MME) data handling
- Redundant GPS time base receivers
- Optional Intrusion Detection System
- Redundant Ethernet switches
- Router connectivity to VIDA network
- MASTR V Control Shelf and Modules
- Power supply units: 115 VAC or -48 VDC
- Linear Mode Transmitters for improved RF system performance

# PROVEN MASTR V PLATFORM

## GENERAL

<b>Size (Base Station)</b>	4 channels per 5 Rack Unit Shelf
<b>Open Rack Dimensions</b>	86.0 H x 20.5 W x 19.295 D in (218 H x 52 W x 49 D cm)
<b>Cabinet Dimensions</b>	86.0 H x 23.0 W x 31.5 D in (218 H x 58 W x 80 D cm)
<b>Power</b>	90-230 VAC or -48 VDC
<b>Ambient Temperature Range</b>	-22° F to +140° F (-30° C to +60° C)
<b>Humidity</b>	90% @ 122° F (+50° C)
<b>Altitude</b>	Operational: Up to 15,000 ft (4,572 m) Shippable: Up to 50,000 ft (15, 240 m)

## TRANSMITTER

	VHF	UHF	700	800	900
<b>Frequency Range (MHz)</b>	150-174	380-400 403-430 450-470 470-494 494-520	764-776	851-870	935-941
<b>Rated Power Output (W)</b>	100	100	100	100	100
<b>RF Output Impedance (ohm)</b>	50	50	50	50	50
<b>Conducted Spurious and Harmonic Emissions (dBc)</b>	<-86	<-86	<-70	<-70	<-70
<b>Frequency Stability (ppm)</b>	<0.1	<0.1	<0.1	<0.1	<0.1
<b>Channel Spacing (kHz)</b>	12.5	12.5	12.5	12.5	12.5
<b>Synthesizer Step Size (kHz)</b>	1.25	1.25	6.25	6.25	6.25

## RECEIVER

	VHF	UHF	700	800	900
<b>Frequency Range (MHz)</b>	150-174	380-400 403-430 450-470 470-494 494-520	799-817	806-824	896-902
<b>Sensitivity, TIA-P25 (dBm)</b>	<-118	<-118	<-119	<-119	<-119
<b>RF Output Impedance (ohm)</b>	50	50	50	50	50
<b>Intermodulation Rejection, TIA-P25 (dB)</b>	>80	>80	>80	>80	>80
<b>Spurious and Image Rejection (dB)</b>	≥90	≥90	≥90	≥90	≥90
<b>Frequency Stability (ppm)</b>	<0.1	<0.1	<0.1	<0.1	<0.1
<b>Channel Spacing (kHz)</b>	12.5	12.5	12.5	12.5	12.5
<b>Synthesizer Step Size (kHz)</b>	1.25	1.25	6.25	6.25	6.25

## OPERATIONAL MODES

Mode	Modulation	Emission Designator
P25 Phase 1	C4FM	8K00F2D/8K00F1E*
P25 Linear Simulcast	WCQPSK	9K70D1W
P25 Phase 2	HDQPSK	9K80D7W

## REGULATORY DATA

Frequency Range (MHz)	Power Output (Adjustable) (W)	FCC Type Acceptance Number	Applicable FCC Rules	Industry Canada Certification Number	Applicable Industry Canada Rules	NTIA Certification Number
150-174	10-100	OWDTR-0065-E	22, 80, 90	3636B-0065	RSS-119	J/F 12/09628
380-400	10-100	NA	NA	NA	NA	J/F 12/09628
406.1-420	10-100	NA	NA	NA	NA	J/F 12/09628
420-430	10-100	OWDTR-0129-E	90	3636B-0129	RSS-119	NA
450-470	10-100	OWDTR-0130-E	22, 80, 90	3636B-0130	RSS-119	NA
470-494	10-100	OWDTR-0100-E	90	NA	NA	NA
494-512	10-100	OWDTR-0101-E	90	NA	NA	NA
764-776	10-100	OWDTR-0057-E	90	3636B-0057	RSS-119	NA
851-869	10-100	OWDTR-0053-E	90	3636B-0053	RSS-119	NA
935-940**	10-100	OWDTR-0156-E	90	3636B-0156	RSS-119	NA

\*VHF, 420-430, 450-470, 935-940

\*\*Pending regulatory approval

### About Harris Corporation

Harris Corporation is a leading technology innovator, solving customers' toughest mission-critical challenges by providing solutions that connect, inform and protect. Harris supports government and commercial customers around the world.

Learn more at [harris.com](http://harris.com).

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**HARRIS**® TECHNOLOGY TO CONNECT,  
INFORM AND PROTECT™



**L3HARRIS™**  
FAST. FORWARD.

## THE XL FAMILY OF MOBILE RADIOS

Go with Confidence. Go with Connectivity.



# YOUR VEHICLE JUST GOT MORE POWERFUL

Your job takes you into challenging locations, sometimes far from your team. With different terrains and demands you face, you'll know the XL FAMILY of Mobile Radios will help keep you connected to the people and information you need to do your job well.

## CONNECT IN MORE PLACES

The single-band XL-185M and multiband XL-200M deliver robust voice and data over nationwide LTE that is AT&T® and Verizon certified and FirstNet Ready™. Built-in LTE connectivity transforms these rugged P25 mobiles into an on-the-go communications hub, providing hot spot capabilities to help keep you connected through an LMR or LTE network where you're needed.

## XL FAMILY FAMILIARITY

The XL FAMILY of Mobile Radios continues our heritage of equipping First Responders to do their work remarkably well. Engineered to have the same powerful features as the XL portable radios including exceptional audio, an intuitive interface, GPS and built-in encryption, the XL mobiles will help you maximize efficiency and performance even in challenging environments.





# READY TO ROLL

With the XL FAMILY of Mobile Radios, you're ready to go with decades of L3Harris experience behind you.

In an emergency or at a remote location, you need to get things done quickly and efficiently. The XL FAMILY of Mobile Radios have an intuitive user interface, high-visibility display and are engineered for the unique demands of Utilities and Public Safety—letting you get behind the wheel with confidence.



## XL FAMILY OF MOBILE RADIOS KEY FEATURES

### AUDIO EXCELLENCE

Includes up to 5 speaker outputs and a tough, ergonomic digital microphone that delivers crystal clear audio and advanced noise cancellation.

### STANDARD WI-FI®, BLUETOOTH® AND GPS

Enhanced connectivity options come standard so you can go more places.

### SECURE, RUGGED AND RELIABLE

Multiple encryption options keep communications protected. Meets MIL-STD-810G standards for tough conditions.

### INTUITIVE USER INTERFACE

High-visibility 3.3-inch color LCD display, 8 programmable buttons and simple menu access.

### MODULAR DESIGN

A standard rail-mount system supports flexible mounting configurations, reducing total cost of ownership.

### NATIONWIDE LTE RIGHT OUT OF THE BOX

Choose the option of having SIM card already installed and ready for activation.



**FAST. FORWARD.**



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## CS7000 CONTROL STATION FOR XG-75M AND M5300

### POWERFUL AND RELIABLE COMMUNICATIONS

The CS7000 is a compact, state-of-the-art control station that provides dual-band half-duplex operation with an XG-75M, single-band half-duplex operation with an M5300, and 700/800 MHz, VHF 50W, UHF-L, and UHF-H frequencies with an XG-75M and 800 and 900 MHz frequencies with an M5300. The unit supports multiple operating modes, including OpenSky® digital operation, Enhanced Digital Access Communication System (EDACS®) or ProVoice™ trunked modes, P25 digital trunked mode, P25 digital conventional mode, and conventional analog mode.

#### FEATURES

Reliable access to the sophisticated data capabilities of Harris' OpenSky trunked wireless voice and data network.

P25 digital conventional or trunked capabilities for interoperability with other critical communications users.

Up to 1,024 different combinations of trunked systems/groups and up to 1,024 conventional channels.

Includes critical communications features Emergency and Dynamic Regroup as standard in the M5300/XG-75M to deliver advanced performance.

Features, profiles, and system updates are software-defined and can be reprogrammed over the air.

#### USER INTERFACES

The CS7000 can be operated locally with the full capabilities of its radio and CH-721 Control Unit. Additionally, the CS7000 can provide a Controller Area Network (CAN) interface that supports up to four SP-721 Desksets, which allow remote users to operate the CS7000 on a first-come, first-served basis. The SP-721 Deskset is a digital Remote Controller based on the CH-721 Control Unit, so it provides the same user interface as the CH-721.

Alternatively, the CS7000 can be operated using one of two Remote Control Systems. One is a Standard Tone Remote Control over a two-wire or four-wire telephone line interface

and the other is a Voice-over-Internet Protocol (VoIP) Remote Control System over an Ethernet network. These Remote Control Systems allow remote selection and operation on up to 16 pre-programmed system/group combinations as well as control unit button functions.

#### SECURE COMMUNICATIONS

Optional password protection and AES are available for maximum security. Harris radios operate the most advanced vocoder on a private wireless Intranet that provides maximum voice channel capacity.

## GENERAL SPECIFICATIONS

### Dimensions (H x W x D):

Desktop (excludes rubber feet)  
3.5 x 17 x 13.1 in.  
(8.9 x 43.2 x 33.3 cm)

### Rack Mount

3.5 x 17 x 13.1 in.  
(8.9 x 43.2 x 33.3 cm)

### Weight:

Without Transceiver: 18 lb (8.2 kg)  
With Transceiver: 24 lb (11 kg)

### System Voltage:

110-120 VAC, 50/60 Hz  
220-240 VAC, 50/60 Hz

### Maximum Current:

4.0 Amps

### Mounting:

19-inch rack mount

### Programming:

- Over-the-Air Programming
- USB Interface to the radio's programming serial port
- Web browser-based CS7000 configuration through an Ethernet interface

### Options and Accessories:

- Remote Interface Module for connectivity to third-party Remote Controllers
- Advanced Encryption Standard (AES)
- DES Encryption
- Over-the-Air Rekeying (OTAR)
- 7 dBd (9dBi) Directional Antenna (N-type Connector)

### About Harris Corporation

Harris Corporation is a leading technology innovator that creates mission-critical solutions that connect, inform and protect the world. The company's advanced technology provides information and insight to customers operating in demanding environments from ocean to orbit and everywhere in between. Harris has approximately \$8 billion in annual revenue and supports customers in 125 countries through four customer-focused business segments: Communication Systems, Space and Intelligence Systems, Electronic Systems, and Critical Networks.

## CONTROLLER SUPPORT

### SP-721 Deskset Controllers

Local Remote CS7000 with an OpenSky radio

Local Remote CS7000 with a P25/EDACS/Analog radio

### VoIP Remote Controllers

Local Remote CS7000 with either mode radio

### Tone Remote Controllers

Local Remote CS7000 with either mode radio

\*A Local Remote CS7000 using a remote mount radio can support up to five SP-721 or CH-721

### Number of Supported Controllers

Up to four SP-721 or CH-721\*

Up to four SP-721 or CH-721 in Parallel Mode\*

Up to 21 Model 24-66 VoIP Remote Controllers

Number of Remote Controllers limited by telephone line loss

## EXTERNAL CONNECTIONS

The CS7000 contains an internal power supply and internal speaker. It requires connections only to an external N-type antenna, AC power, and desk mic. The CS7000 also has a USB interface to the radio's serial port for radio programming. Additionally, the Local/Remote CS7000 includes a CAN interface, a balanced 600-ohm telephone line interface for standard Tone Remote Control, and an Ethernet interface for a VoIP Remote Control and CS7000 configuration.

## ENVIRONMENTAL SPECIFICATIONS

### Operating Temperature:

Local Control Unit @ 50% duty cycle: -22 to +104°F (-30 to +40°C)

Local Control Unit @ 20% duty cycle: -22 to +140°F (-30 to +60°C)

Local Remote Unit @ 50% duty cycle: +32 to +104°F (0 to +40°C)

Local Remote Unit @ 20% duty cycle: +32 to +140°F (0 to +60°C)

Storage Temperature: -40 to 140°F (-40 to +60°C)

## SAFETY APPROVALS

UL 60950-1

CSA 22.2

Please refer to the appropriate XG-75M or M5300 data sheet for additional specifications.

Technical specifications are subject to change without notice. Product sales are subject to applicable U.S. export control laws.

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**HARRIS**® TECHNOLOGY TO CONNECT,  
INFORM AND PROTECT™



**L3HARRIS™**  
FAST. FORWARD.

## **VIDA® NETWORK SOLUTIONS**

End-to-End Unified Connectivity



# VIDA NETWORK SOLUTIONS

L3Harris VIDA (Voice, Interoperability, Data and Access) Network Solutions reduce IT complexities through a single, unified platform supporting P25 voice, data and applications across LMR and LTE networks—providing a simplified path to mission-critical broadband. Engineered to meet diverse Public Safety and Utilities challenges, this scalable solution’s tiered architecture allows organizations to add features and applications as needs change and budgets allow.

## SECURE, INTEROPERABLE AND RESILIENT

- > Mission-critical P25 communications over LMR and broadband networks
- > Open standards-based for greater choice of carriers, terminal devices and applications
- > High Availability (HA) technologies with industry-leading redundancy across 4 servers in multiple locations
- > Cloud-ready, virtualized core supports voice and data access from nearly anywhere
- > End-to-end encryption and comprehensive portfolio of cybersecurity services and updates



## FLEXIBLE BY DESIGN

VIDA Network Solutions are offered in three different configurations, allowing organizations to choose what best fits their current demands and future growth plans.



### Large-Scale Deployments

VIDA Premier is designed for large state or country-wide communications systems in single or multi-regional configurations. This solution employs Virtual Machine (VM) technology, streamlining the addition of Public Safety and Utility applications into its voice, system management and administration services.



### Medium-Sized Deployments

VIDA Unite supports larger city or county-wide agency communications. Engineered to provide value while retaining critical features and system redundancy—Unite offers the same voice, management and administration services as Premier and the same choice of applications.



### Smaller Deployments

VIDA Essentials is a cost-effective offering ideal for smaller county, town or rural utility needs. Essentials features LTE and robust cybersecurity options. Also includes Voice High Availability (HA) for real-time applications and Symphony™/BeOn® only configurations.



### Extend Your Coverage

VIDA Connect interfaces with RF sites, consoles and interoperability gateways to extend service from larger, regional systems to remote locations and dispatch centers. Other VIDA systems and any combination of P25 Trunked, Conventional, Simulcast and OpenSky® RF sites may be added to a Connect region.

	Essentials	Unite	Premier	Connect
Designed for	Entry-level offering/ smaller systems (Rural public safety, Co-op utilities)	Medium-size systems (County-wide or municipal utilities)	Large wide-area systems (State- wide network, Large Investor Owned Utility / Transportation)	Enables distributed scalable networks
Capacity (Sites)	9	16	254	100
Consoles (Max)	12	20	100	60
Simultaneous talk paths	300	800	2400	1600
Cybersecurity support	Essentials Cybersecurity Package	Unite Cybersecurity Package	Premier Cybersecurity Package	Connect Cybersecurity Package
High Availability for management applications	Voice HA	Application HA Location HA	Location HA Location Diversity HA	Location HA (part of Premier Core)
BeOn (Broadband PTT) server	Standard			
Link Layer Authentication	Optional (Must select "Advance IA Required" to obtain routers with security)			
High Velocity Data	Optional			
StatusAware for Location services	Optional			
P25 Inter-agency interoperability via ISSI/CSSI	Optional			
P25 Conventional Interoperability (DFSI)	Optional			
Infrastructure Managed Services	Optional services including regular patch and cybersecurity updates			

# Robust, High Availability and Redundancy

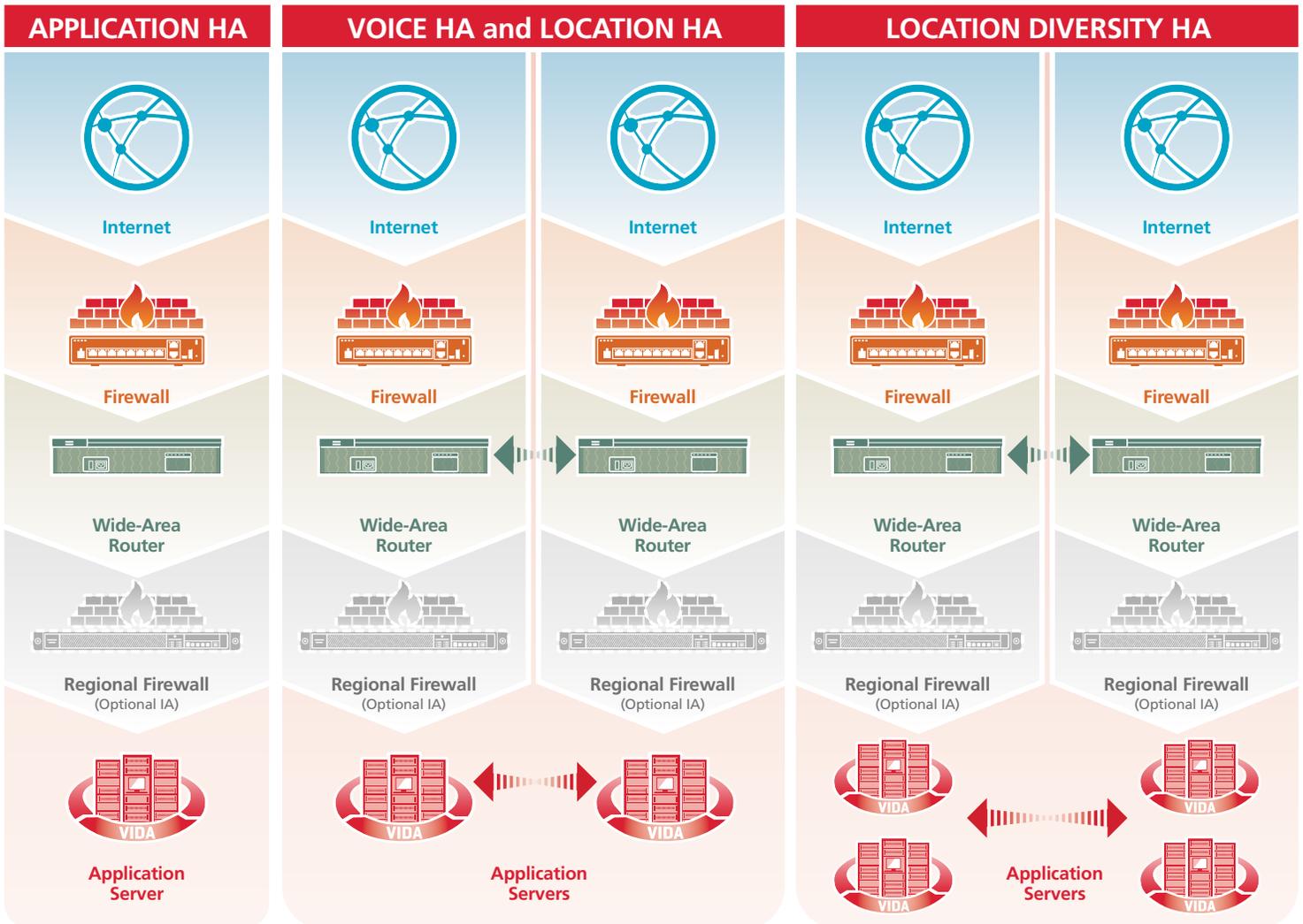
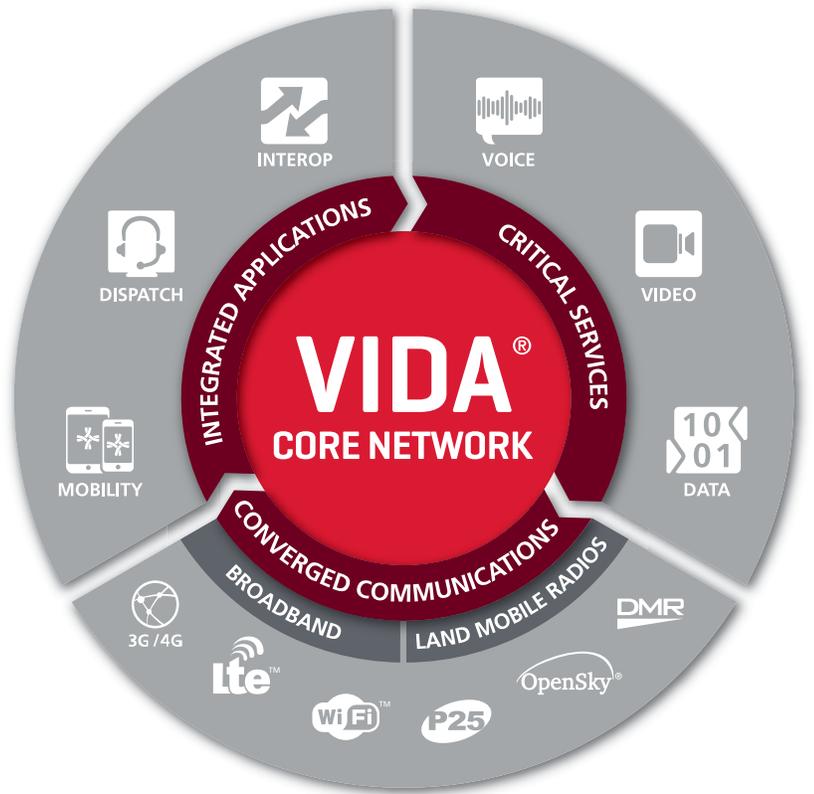
Reliable communications are a lifeline during everyday and emergency operations. VIDA High Availability (HA) technologies reduces downtime by keeping on-scene workers connected to dispatch. Features include surge capacity to restore power quickly and a second set of infrastructure and software to serve as immediate backup for networked communications.

**Voice HA (VIDA Essentials only)** – redundant real-time voice applications on separate primary and secondary servers which can be geographically separated

**Application HA (VIDA Unite and Connect)** – a backup instance on an application on the primary server

**Location HA (VIDA Premier, Unite and Connect)** – separate primary and secondary servers that can be geographically separated

**Location Diversity HA (VIDA Premier only)** – provides hardware and application redundancy in both primary and secondary locations



# High Availability Data Speeds Incident Resolution and Worker Productivity.

## IMPROVE SITUATIONAL AWARENESS

VIDA Network Solution's LTE broadband capabilities, cloud-ready core, status applications and high data throughput give organizations real-time, critical information for more effective asset monitoring, faster incident response and resolution.

- > LTE platform delivers rich, high-speed video, voice and data for best-informed decision making
- > StatusAware app and in-band GPS give an up-to-the-moment status of workers and assets when a radio is keyed
- > High-velocity channel with integrated voice and data and flexible bandwidth support more efficient monitoring of high and low latency assets

## PROTECT AGAINST THREATS

L3Harris addresses evolving and ongoing challenges with a comprehensive portfolio of security products and services for VIDA, including network hardening, threat detection and mitigation, and access controls. These cybersecurity solutions for wireless communication systems are designed to meet U.S. federal and industry standards and best practices. This offering leverages industry-leading engineering expertise and technologies to combat the risks associated with processing, transportation and storing of critical data. L3Harris expertise and commitment to security has allowed us to successfully deploy communications networks for some of the world's most security-conscious agencies

- > Network hardening to minimize security vulnerabilities
- > Threat detection, mitigation and access controls
- > Scheduled updates and patches proven to meet U.S. cybersecurity and network security standards

## IMPROVE DATA MANAGEMENT AND EFFICIENCIES

VIDA Network Solutions consolidate hardware, network footprint and overall IT complexities. This single, unified platform for network and device management drives new operational costs and total cost of ownership.

- > The Unified Administration Server application allows configuration and monitoring of users, user privileges and talk group records, security and capabilities within the VIDA network.
- > The Enterprise Network Manager is an enterprise-wide platform, providing network, application and hardware status through a single web browser interface
- > Over-The-Air-Programming broadcasts new personalities to in-field radios, saving time for large fleets or rebanding efforts
- > Over-The-Air-Rekeying updates encryption keys to radios in-field, eliminating time and effort of manual rekeying



**FAST. FORWARD.**

**VIDA® Network Solutions**

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Refer to your Trade Compliance Lead or Empowered Official for exact disclaimer language.

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**L3HARRIS™**  
FAST. FORWARD.

## **SYMPHONY™**

A dispatch experience  
like no other—because it's yours



# SYMPHONY™

## Conduct Dispatch Your Way

### A DISPATCH EXPERIENCE DESIGNED BY YOU

The Symphony full-screen application allows agencies to optimize the user interface to match their communication workflow. Symphony innovations like the Select Bar ensure critical communications and features are always accessible, prominent and persistent.

### FOCUS ON WHAT IS IMPORTANT TO YOU

Customize your screen with multi-tabbed modules that let you assign audio to the headset and up to eight speakers, replay calls and handle emergency calls. All personalized just for you.

### PLACE THE BATON™ ON ANY SCREEN, ANYWHERE

Symphony's patented Baton technology extends the dispatch user interface to CAD terminals, allowing easy and full integration of LMR communications and CAD on a single monitor, mouse and keyboard.



**POWERFUL. RELIABLE. CUSTOMIZABLE.**



### INNOVATIVE HARDWARE PLATFORM PROVIDES:

- > Silent operation with no moving components
- > Flexible and simple mechanical configuration (mount in a rack, mount under a desk or use as a desktop unit)
- > Vibration-resistant for mobile installations
- > Remote configuration capability
- > End-to-end voice encryption for secure communications
- > Superior lifecycle management
- > Rugged, industry-standard connectors
- > Ability to run a C3 MaestroIP™ application or the Symphony application
- > Embedded web browser for access to VIDA® apps to disable lost or stolen radios and view real-time radio traffic going across the system

### DISPATCHER-DESIGNED USER INTERFACE SUPPORTING:

- > 1,024 modules in 3 sizes
- > AES and DES encryption
- > 14 unique module colors
- > 24-hour instant recall recorder with playback speed controls
- > 32 predefined Simulselect definitions
- > Single button for last call replay
- > Up to 16 active patches per console position
- > Trunking and Conventional radio system capabilities
- > Up to 16 different user setups
- > Integrated paging support
- > 8 speakers
- > SIP telephony support
- > Local and remote AUX I/O controls
- > System Status and Link Monitoring
- > P25 Radio Check and Radio Unit Monitor
- > Supervisory Enable/Disable

GENERAL SPECIFICATIONS	
<b>Processor Type:</b>	Intel® Dual Core™ i7 Ivy Bridge processor
<b>Operating System:</b>	Microsoft Windows®
<b>Typical Dimensions (H x W x D):</b>	<b>Computer:</b> 1.75 x 16.75 x 10.5 in (4.5 x 42.5 x 26.6 cm)  <b>Display:</b> Multi-touchscreen capable
<b>Input Voltage:</b>	110-240 VAC, 50-60Hz, nominal
<b>Operating Temperature:</b>	+32 to +104°F (0 to +40°C)
<b>Storage Temperature:</b>	-22 to +185°F (-30 to +85°C)
<b>MTBF</b>	10 years
<b>RoHS Compliant</b>	Yes

Front



Back



# FAST. FORWARD.

Symphony™

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## V<sup>IP</sup> CONSOLE DISPATCH SOLUTION

Designed as a powerful yet compact network dispatch solution, the V<sup>IP</sup> Console provides a flexible means of tracking radio system communications. The console uses the power of Internet Protocol (IP) to provide end-to-end Voice-over-IP support for P25, OpenSky®, and NetworkFirst® systems, delivering fast, efficient, and secure connections. The V<sup>IP</sup> Console can be connected wherever access to the L3Harris VIDA network is available.



The V<sup>IP</sup> Console provides powerful, yet compact dispatch capabilities for use when the full-featured Symphony™ console is not required. With four communications modules, it is also perfect for administrative monitoring of system communications. Since the console can run on a standard PC desktop workstation or laptop, no extra equipment is required.

The V<sup>IP</sup> Console may be ordered with a L3Harris-supplied computer to guarantee public-safety-grade operation or as a software kit for loading onto a laptop or CPU for onsite incident command vehicles or administrative use.

The V<sup>IP</sup> Console uses digital audio technology to provide end-to-end secure communications that are free from unauthorized access. Digital audio is encoded and decoded within the console application without analog audio being routed through the infrastructure. There is no compromise of security by using an external vocoding device. AMBE, Project 25 IMBE, and ADPCM (conventional) vocoders are supported. Additionally, the V<sup>IP</sup> Console supports the AES encryption standard.



### POWERFUL AND SECURE DISPATCH COMMUNICATIONS

#### KEY BENEFITS

- > Affords easy access to basic and enhanced dispatch on P25, OpenSky, and NetworkFirst radio systems
- > Ideal for smaller dispatch needs or administrative monitoring
- > Operates on a secure, flexible IP network
- > Supports the AMBE®, P25 IMBE™, and ADPCM (conventional) vocoders and AES encryption

## DISPATCH FEATURES

### SYSTEM REQUIREMENTS:

- > PC Workstation or Laptop: Intel i5-class PC with two speakers, microphone, and headset
- > Memory: minimum 4 GB RAM, 128 GB HDD or SSD
- > Operating System: 64-bit Windows 10 or 32-bit Windows 10, 8, and 7
- > Graphics/sound: DirectX 9 or later with WDDM 1.0 driver
- > Network Interface: 100 Mb/s

### ADDITIONAL REQUIREMENTS FOR WORKSTATION POSITIONS:

- > External speaker
- > Footswitch (single)
- > Dispatch-grade desk mic
- > Dispatch-grade operator headset
- > User Interface Adapter. One required per position when any of the optional user interface devices are used

## DISPATCH FEATURES

### THE VIP CONSOLE SUPPORTS THE FOLLOWING DISPATCH FUNCTIONS:

Selected and unselect talkgroup monitoring

Independent volume and mute controls for each monitored talkgroup

Group and selective/individual calling display

Caller alias display

Emergency status

Clear and create Patches and Simulselects

Instantly replay calls in the call history display via the built-in call check recorder

## SYSTEM INTERFACE REQUIREMENTS

The V<sup>IP</sup> Console is compatible with PR9x and SR10.x VIDA system releases. The performance of the V<sup>IP</sup> Console relies on the PC and network on which it operates. For public safety dispatch, L3Harris strongly recommends that the console be used on a dedicated PC meeting the specified requirements and with a dedicated WAN/LAN connection that ensures the grade of service required by the Public Safety user it is serving. Performance cannot be guaranteed when used with other applications, customer-supplied computers, or with an unknown, heavily loaded, or congested network.

### V<sup>IP</sup> Dispatch Console

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# **BeOn® MOBILE** **APPLICATION**

Public Safety's Most Advanced P25  
Push-To-Talk Application



CELL 1:06 PM 100%

Layers

- Streets
- Hybrid
- Satellite
- Physical

Map Items

- Map Contacts
- Map Group
- Unmapped Contacts

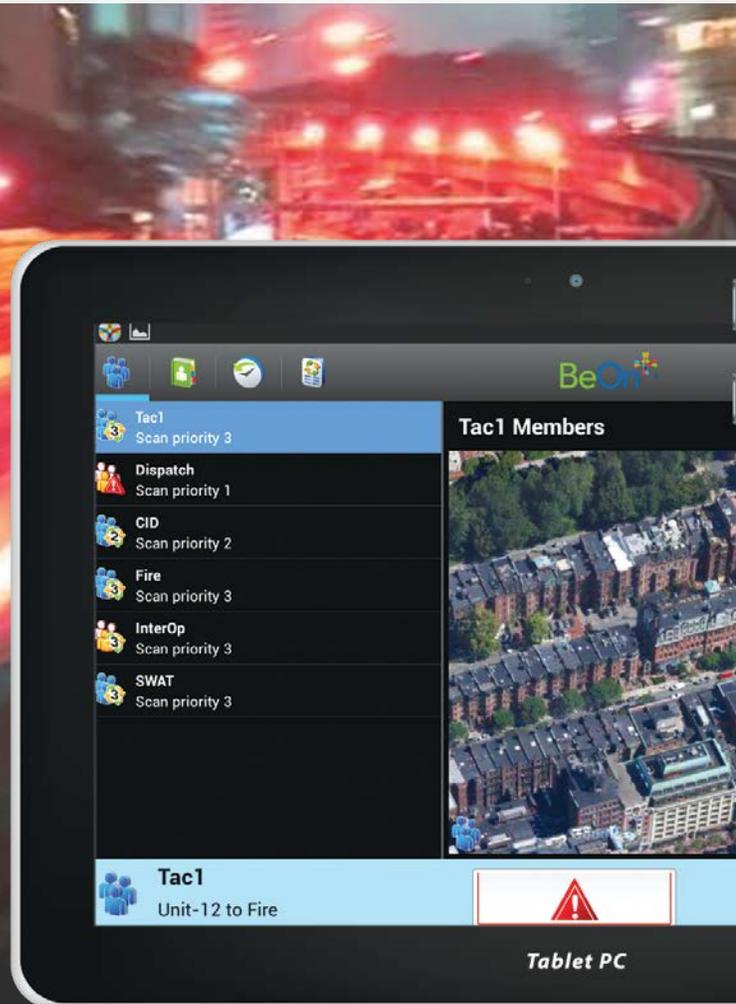
**Tac1**  
K-9Unit2 to Tac1

# CONNECT EASILY AND AFFORDABLY

## Public safety's most advanced P25 Push-To-Talk application

Public safety agencies and utility companies rely on the Land Mobile Radio's Push-To-Talk (PTT) capabilities as a primary means for transmitting voice communications. BeOn is an application that extends the capabilities of your LMR network to smartphones, tablets and PCs—providing PTT communications far beyond the boundaries of regional radio systems, and opening up affordable PTT communications to new user groups.

BeOn keeps you connected to your LMR system anywhere you have a cellular data signal, Wi-Fi® or other data connectivity, and provides a direct connection to the backbone of your LMR system—fully supporting the features of a P25 radio network. This enables BeOn to have the same PTT user experience, fleet management and security experience as the P25 system—simplifying management with only a single system to maintain.





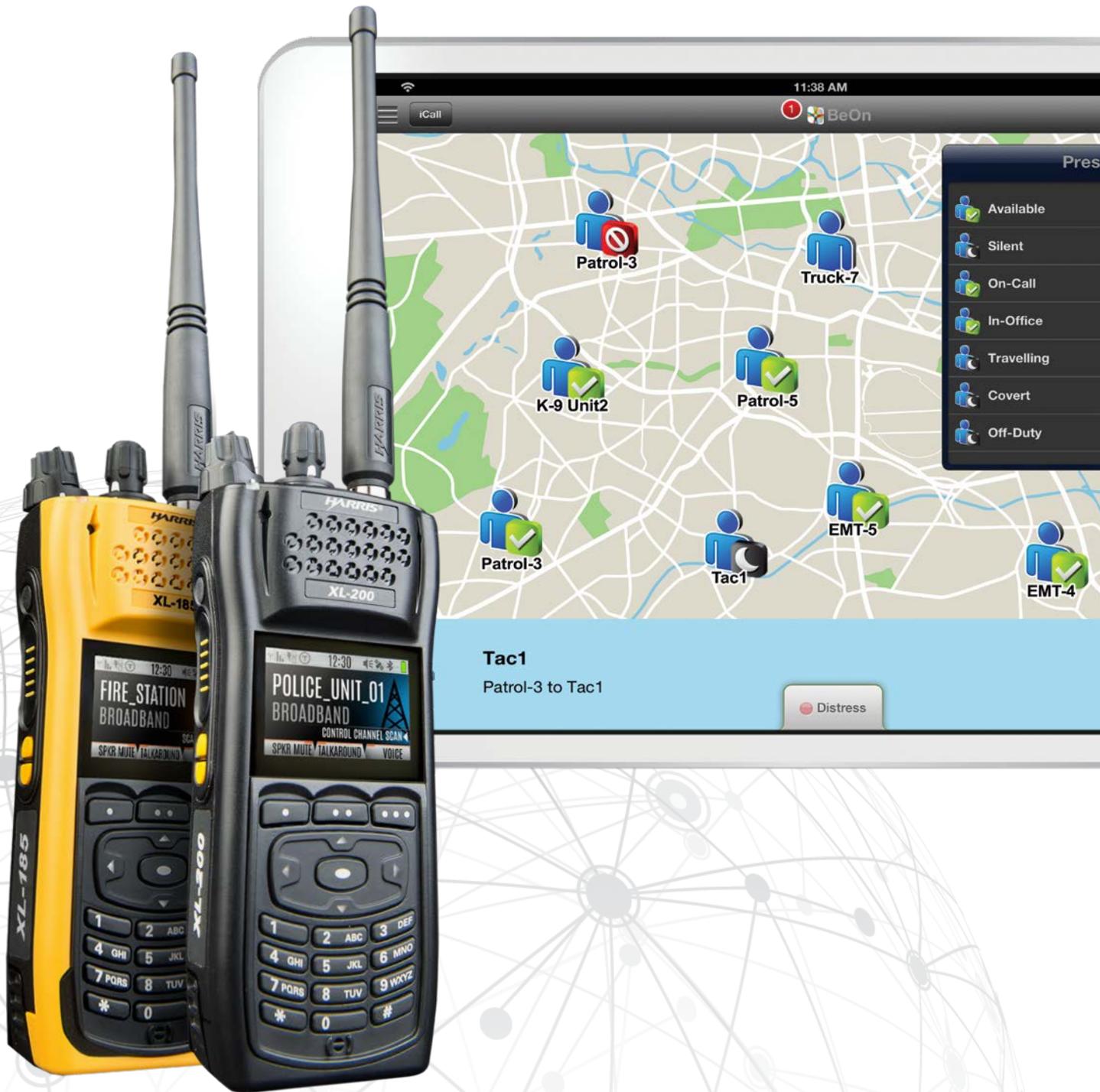
**FAST, INTUITIVE ACCESS  
TO KEY FEATURES**

**MOST ADVANCED FEATURE  
SET ON THE MARKET**

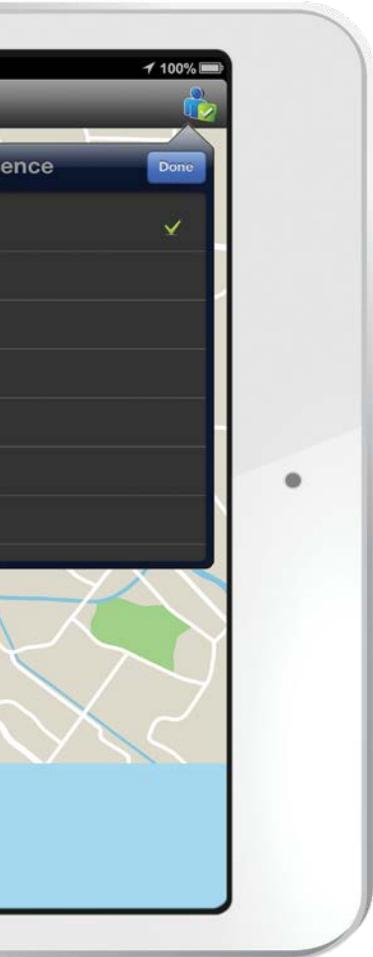
- > Display location of LMR radios
- > Full AES end-to-end encryption
- > Group voice call
- > Individual voice call
- > Distress indication
- > Announcement group calls
- > Instant recall / call logging
- > Console / supervisory override
- > Talkgroup scanning
- > Late call entry
- > P25 confirmed call
- > Priority / preemptive support
- > P25 OTAR key management
- > Console patch / simulselect
- > Group location
- > User presence indication
- > Location privacy
- > BeOn text messaging



# EXTEND LMR COVERAGE BEYOND REGIONAL BOUNDARIES



BeOn offers an economical path to P25 through the use of legacy system gateways.



## The BeOn application can be an essential enhancement to P25 and legacy network systems.

BeOn allows users to maintain a full set of advanced LMR features on an ordinary smartphone, and will work anywhere in the world where Wi-Fi® or cellular data service is available—regardless of the carrier.

This advanced Push-To-Talk application is supported on iOS™, Android™ and Windows®, and is integrated into the L3Harris XL-185P and XL-200P LTE Land Mobile Radios. This extends the range of the XL portables' coverage and allows users to leverage broadband to improve situational awareness.

BeOn can quickly be added to existing L3Harris VIDA® networks as a core service, or deployed on legacy and non-L3Harris LMR networks via gateways.

By utilizing the capacity of broadband networks, BeOn helps divert traffic from narrowband communications, providing an additional level of redundancy for those systems while reducing traffic load on the LMR system.



**PUBLIC SAFETY LTE**



**LEGACY DEVICES AND SYSTEMS**



**BeOn ENABLED DEVICES**



**P25 DEVICES AND SYSTEMS**



## STAY CONNECTED WITHOUT BREAKING THE BANK

Command staff and administrators can stay in touch with LMR network activities using PCs and mobile devices.

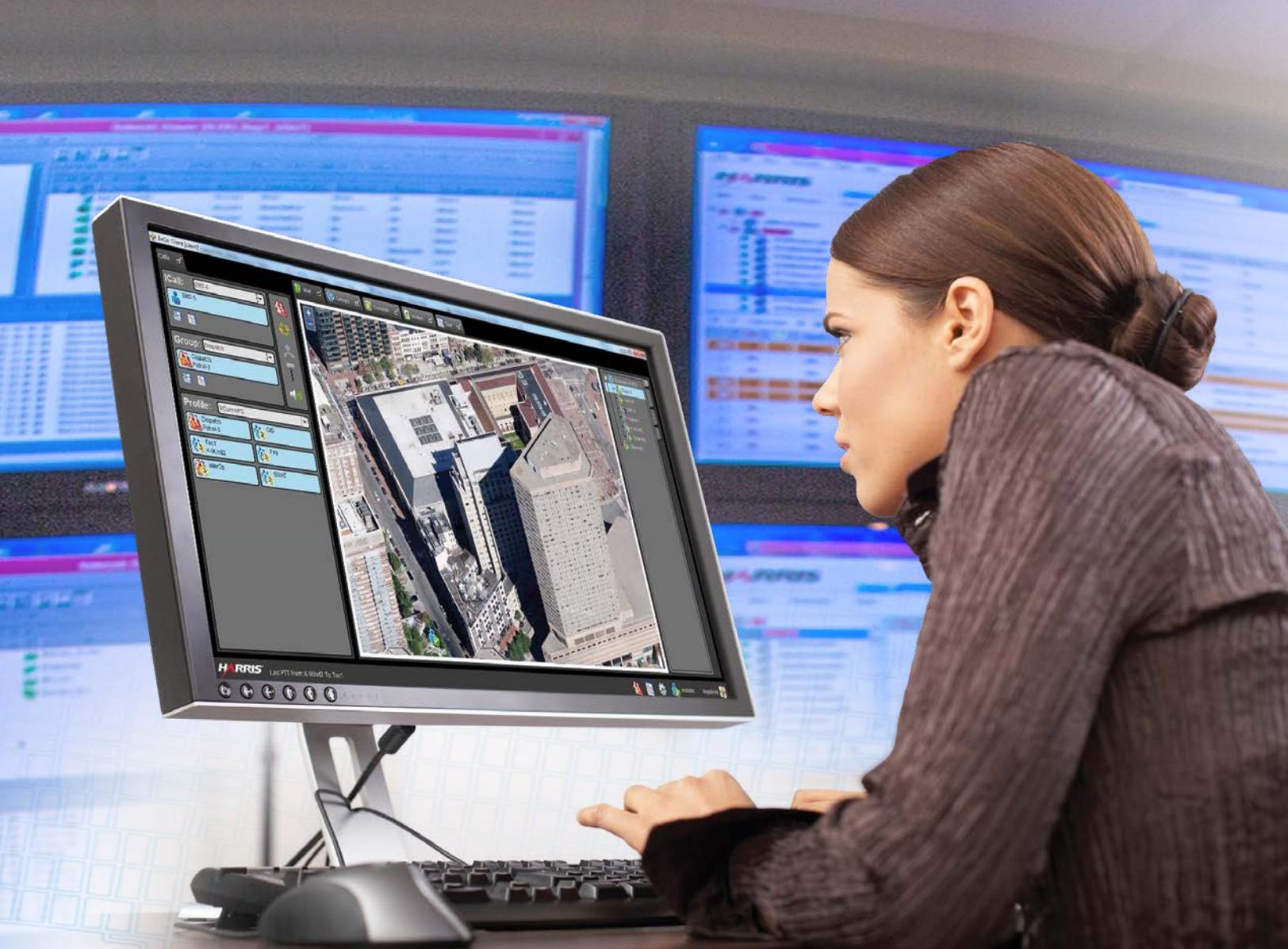
Behind a desk or behind a screen at incident command, BeOn Windows Client allows users to stay in full, direct contact with their LMR system without investing in additional, more-costly equipment. BeOn runs as an application on PCs and smartphones, but it looks like an LMR radio to your system.

This makes BeOn the perfect solution for administrators needing to communicate or track location of team members, without adding the expense of an additional LMR radio.

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BeOn is a broadband PTT tool built from the ground up to support the P25 LMR feature set.

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# TRULY INTEGRATED P25 EXPERIENCE

Most advanced P25 PTT application on the market



**THIS FEATURE-RICH APPLICATION DELIVERS FAR MORE THAN JUST PUSH-TO-TALK CAPABILITY.**

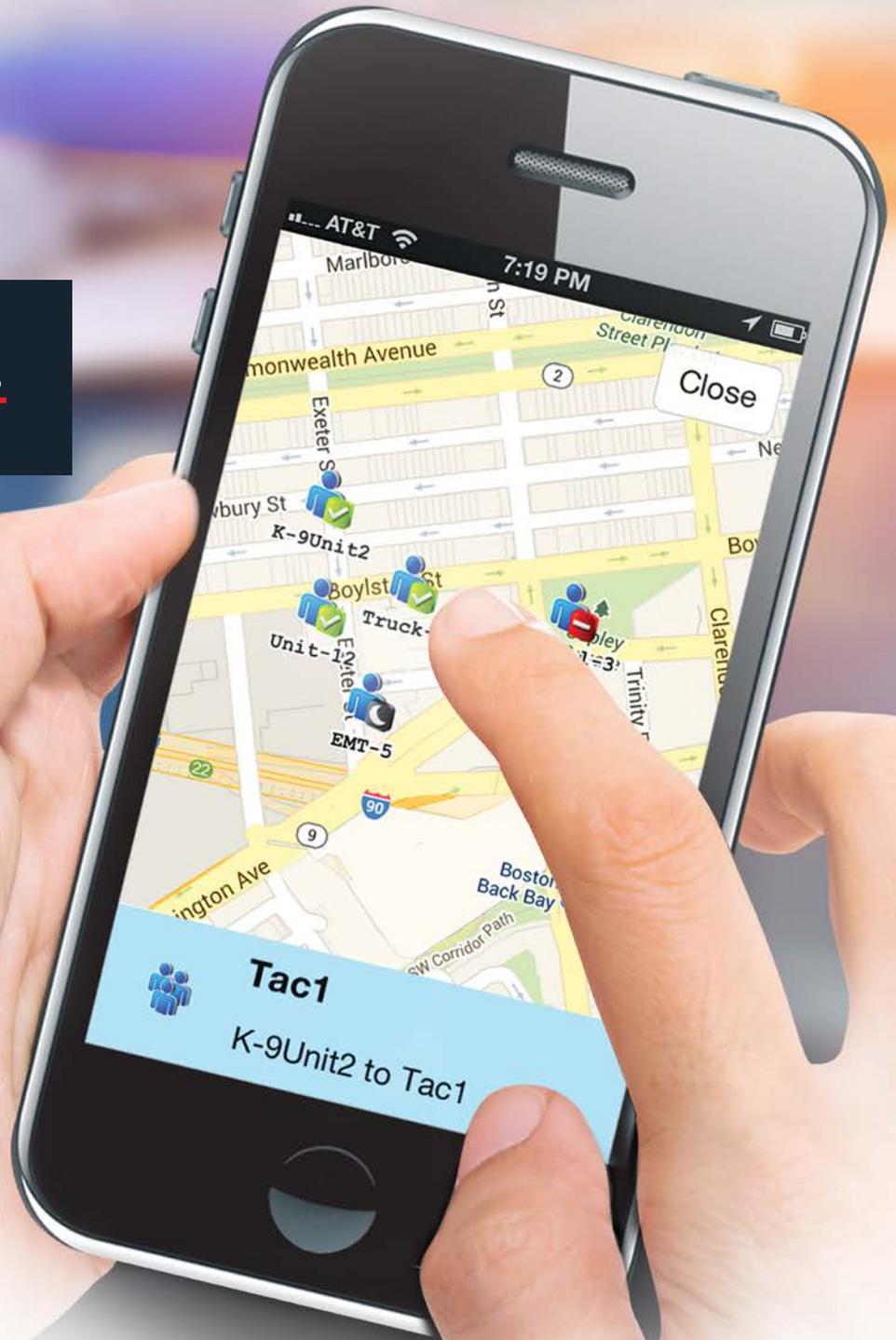
BeOn is an integrated part of the L3Harris solution. BeOn is more secure, using the same encryption keys for radios and smartphones, making it easier to manage and maintain—only one database of users and one console to access both radios and smartphones.

BeOn harnesses converged LMR and LTE technologies to connect group communications between P25 systems and broadband networks.

BeOn users can exchange text messages and pass real-time location and presence information between connected team members. The application also enhances security by sharing same encryption keys between radios and smartphones.

P25 AMBE VOCODER	✓	✓
Group, individual and confirmed calls	✓	✓
Distress calls	✓	✓
Priority and preemption	✓	✓
256-bit AES encryption	✓	✓
Late call entry	✓	✓
Featured dispatch capabilities	✓	✓
Patch and Simulselect	✓	✓

**FAST. FORWARD.**



BeOn® Mobile Application  
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## **VRS7000 SERIES CROSS-BAND VEHICULAR REPEATER**

**700 MHz, 800 MHz**

The P25 Vehicular Repeater is a public safety mobile radio system that embeds either an XG-75M single-band or Unity® XG-100P multi-band mobile, providing P25 digital trunked or conventional communications. In addition to performing all of L3Harris' mobile radio functions, the repeater provides network extension to portable radios that cannot directly connect to the P25 network.



### **EXTENDED COVERAGE**

A portable that has moved out of range of the network can be connected to the Vehicular Repeater and normal call traffic can be established across the repeater to the network via the embedded highpower mobile radio.

In addition to supporting up to 64 users and up to 64 groups, the P25 Vehicular Repeater allows the following P25 functions across the RF links:

- > Portable Unit Identifiers
- > P25 Group Calls
- > P25 Individual Calls
- > P25 Emergency
- > P25 System All Call from the network
- > P25 System Grant and Call Queued Tones
- > Call Grant and Call Queued Tones
- > Request-to-Talk and Emergency Request-to-Talk

### **SCENE OF INCIDENT**

The Scene-of-Incident (SOI) mode enables nearby P25 radios operating on the Vehicular Repeater frequency channel the ability to communicate with each other using the VRS7000 as a base station. Although this mode does not include a connection to the P25 network, the following functions are provided:

- > P25 Group Calls
- > P25 Individual Calls
- > P25 Emergency
- > Call Grant and Call Queued Tones

### **EXTENDED COVERAGE FOR ENHANCED CRITICAL COMMUNICATIONS**

#### **KEY BENEFITS**

- > Extended connectivity for P25 trunked and conventional networks
- > Optional Advanced Encryption Standard (AES) encryption for end-to-end encryption across the repeater. Encryption is maintained from the portable through the repeater to the network, providing secure communications
- > Scene of incident local repeat capability
- > Provides digital interoperability with other P25 users during critical communications situations



GENERAL SPECIFICATIONS	
Dimensions (H x W x D)	Repeater (VRB) only 8 x 8 x 9 in (203 x 203 x 229 mm)
Ambient Temperature Range	-22° to +140°F (-30° to +60°C)
Storage Temperature Range	-40° to +185°F (-40° to +85°C)
Input Voltage	13.8 ± 10% VDC
Input Current	4A Rx mode 15A Tx mode at full power
For full specifications on the mobile radio unit, refer to the Unity XG-100M or XG-75M data sheet	

ENVIRONMENTAL SPECIFICATIONS			
Standard	Parameter	Methods & Procedures	
MIL-STD-810E*	Low Pressure	500.3 PI, PII	
	High Temperature	501.3 PI, PII	
	Low Temperature	502.3 PI, PII	
	Temperature Shock	503.3 PI	
	Solar Radiation	505.3 PII	
	Blowing Rain	506.3 PI	
	Humidity	507.3 PII	
	Salt Fog	509.3 PI	
	Blowing Dust	510.3 PI	
	Min Integrity Vibration	514.4 PI, Cat. 10	
	Functional/Basic Shock	516.4 PI	
	Transit Drop	516.4 PII	
	TIA/EIA-603-A	Vibration Stability	Par 2.3.4 & 4.3.4
		Shock Stability	Par 2.3.5 & 3.3.5
U.S. Forest Service	Vibration Stability	Par 7.15	

\*Also meets equivalent superseded MIL-STD-810C and -D

REGULATORY DATA							
Vehicular Repeater Model Number	Frequency Range (MHz)	RF Output (W)	Frequency Stability (ppm)	FCC Type Acceptance Number	Applicable FCC Rules	Industry Canada Certification Number	Applicable Industry Canada Rules
VRBS7010	764-767 769-771	4	1.5	OWDTR-0058-E	90	3636B-0058 single	RSS-119
VRBS7020	856-869	4	1.5	OWDTR-0058-E	90	3636B-0058 single	RSS-119
VRBS7030	764-776 851-869	4	1.5	OWDTR-0058-E	90	3636B-0058 single	RSS-119

Technical specifications are subject to change without notice. Product sales are subject to applicable U.S. export control laws.

TRANSMITTER			
	VRS7010	VRS7020	VRS7030
Frequency Band (MHz)	700	800	700/800
Tx Frequency Range (MHz)	764-767, 769-771	856-869	764-776, 851-869
Rx Frequency Range (MHz)	794-797, 799-801	811-825	794-825
Rx to Tx Frequency Offset (MHz)	30	45	-20
Channel Spacing (kHz)	12.5	12.5	12.5
Transmit Output Power (Configurable Range) (W)	0.25 to 4	0.25 to 4	0.25 to 4

#### VRS7000 Series Cross-Band Vehicular Repeater

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