XL ONBOARD™ 85 MOBILE

Single-Band Mobile Radio

The L3Harris XL Onboard 85M mobile radio is a feature-rich, cost-effective option for reliable, mission-critical communications. With P25 Trunking, Phase 1 and Phase 2 capabilities, this radio is outstanding for first responders and utility customers who need to manage their migration needs with just one device.

The ride is always smoother with a best-in-class radio by your side. The XL Onboard Series P25 radios bring unflinching critical communications to any vehicle in your fleet. Connect in more ways than ever with Wi-Fi, Bluetooth® and GPS capabilities. Let's go.

RELENTLESSLY RELIABLE

XL Radios run on systems that double down on redundancy, champion open networks and connect seamlessly with P25-compliant organizations.

POINT-TO-POINT SECURE

Our AES-256 encryption provides an end-to-end secure configuration, keeping you safe from threats.

BACKED WITH ALL-IN, 24/7 SUPPORT

Our service packages keep your radios up and running with in-field preventative maintenance and software upgrades.

Key Benefits:

- Interoperability across VHF, UHF and 700/800 MHz bands
- Connects in more places with Wi-Fi, Bluetooth and GPS
- Wi-Fi enabled voice and device management
- Multiple encryption options for secure communications
- Modular design for flexible mounting configurations
- Advanced noise cancellation technology
- Ruggedized to MIL-STD-810H standards for tough conditions
- 2.4-inch color display with six programmable buttons and simple menu access

SPECIFICATIONS FOR: XL ONBOARD 85 MOBILE RADIO

GENERAL	
Dimensions (H x W x D): (Excludes knobs)	Size: 62mm x175mm x 238mm (Excluding protrusions)
Weight (without brackets)	6.5 lbs (2.95 kg)
Channel/Talkgroup Capacity	12,500 (1,250 per mission plan; up to 10 mission plans)
Radio Programming	Firmware, personalities and feature sets through USB or via Wi-Fi
Control Unit	18-bit color LCD 320 pixels x 240 pixels 2.4-inch color LCD with up to 3 lines of text, status bar and menu buttons Three programmable menu/option buttons and three additional programmable buttons Separate volume and channel selector knobs Single DIN sizing One USB Type-C port for microphone
Speakers: **External, 15 W**	 One 15W audio channel on the radio control head and one on the radio body, with less than 3% distortion
Environmental Specifications: **Relative Humidity** **Operating Temperature** **Storage Temperature** **Ambient Temperature Range** **Altitude:** **Operational** **In-Transit**	 90% @ 122°F (+50°C) -22°F to +140°F (-30°C to +60°C) -40°F to +176°F (-40°C to +80°C) -22°F to +140°F (-30°C to 60°C) 15,000 ft (4,572 m) 50,000 ft (15,240 m)
Electrical: **System Voltage** **Standby Current Drain** **Receive Current Drain** **Current Drain @ 35W TX**	 10.88 to 16.32 VDC negative ground 1A 2A 10A nominal
GPS/GNSS:	P25 standard TIER 2 and L3Harris in-band
Channels **GNSS Constellations Supported Tracking Sensitivity** **Acquisition Sensitivity** **Cold Start** **Hot Start** **Feature**	52 2 -165 dBm (GPS), -163 dBm (GLONASS) -146 dBm (GPS) < 35 seconds < 1 second

LMR TRANSMITTER			
Frequency Bands (MHz)	**VHF**	**UHF**	**700/800**
Frequency Range (U.S.)	136-174	378-522	768-776, 798-806, 806-816, 851-861
Frequency Range (Int'l)	136-174	378-522	763-776, 793-806, 806-825, 851-870
Modulation Limiting (kHz)	2.5, 4, or 5 FM		
Audio Response	Meets TIA-603-D Section 3.2.6		
Spurious and Harmonics (dBc)	< -75, FCC Part 90	< -70, FCC Part 90	< -75, FCC Part 90
FM Hum and Noise (dB @ 12.5 kHz)	-45.0		
FM Hum and Noise (dB @ 25 kHz)	-47.0		
Audio Distortion (%)	< 3.0		
P25 Modulation Fidelity (%)	< 3.00		
Frequency Stability (ppm)	±1.5		
P25 Adjacent Power (dB)	> 67	> 67 @ 50 W (378-512 MHz) > 67 @ 25 W (512-52 2MHz)	> 67
Channel Spacing (kHz)	12.5, 25		
Conducted Emissions (dBc)	-75	-70	-75
Radiated Emissions	Meets TIA/EIA-603-D 3.2.12		

SPECIFICATIONS FOR: XL ONBOARD 85 MOBILE RADIO

LMR RECEIVER			
Frequency Bands (MHz)	**VHF**	**UHF**	**700/800**
Frequency Range (U.S.)	136-174	378-522	768-776, 851-861
Frequency Range (Int'l)	136-174	378-522	763-776, 851-870
Channel Spacing (kHz)	12.5, 25		
Sensitivity (12 dB SINAD)	-119 dBm		
P25 Sensitivity (5% BER)	-119 dBm		
Adjacent Channel Rejection @ 25 kHz (dB)	>75	>75	>75
Adjacent Channel Rejection @ 12.5 kHz (dB)	72	70	70
P25 Adjacent Channel Rejection @ 12.5 kHz (dB)	60	60	60
Intermodulation Distortion (dB)	77	78	76
FM Hum and Noise @ 12.5 kHz (dB)	-49	-47	-45
FM Hum and Noise @ 25 kHz (dB)	-50	-50	-47
Rated Audio Output	1 channel of 15W RMS into 4 Ohm		
Audio Distortion	< 3.0% @ rated power		
Stability Rejection (ppm)	+/- 1.5		
Spurious Rejection (dB)	92	90	88
Selectivity (dB)	NA	NA	20 (NPSAC Only)

BROADBAND	
Wi-Fi	802.11 b/g/n/r 2.4 GHz and 5 GHz; supports 24 preconfigured and 8 user configured networks
Bluetooth	Bluetooth 4.0 (128-bit encryption)

ENVIRONMENTAL STANDARD			
Applicable Standard	**Parameter**	**Methods**	**Procedure/Categories**
MIL-STD-810H	Low Pressure	500.6	1, 2
	High Temperature	501.7	1, 2
	Low Temperature	502.7	1 ,2
	Temperature Shock	503.7	1-B
	Contamination by Fluids	504.3	2
	Solar Radiation	505.7	2
	Blowing Rain	506.6	1
	Humidity	507.6	2
	Salt Fog	509.7	1
	Blowing Dust	510.7	1
	Blowing Sand	510.7	2
	Vibration (Basic Transportation)	514.8	1, Category 4
	Vibration (Minimum Integrity)	514.8	1, Category 24
	Functional/Basic Shock	516.8	1
	Shock (Crash Hazard)	516.6	6
	Shock (Bench Handling)	516.6	6
	Transit Drop	516.8	6
TIA-603-D	Vibration Stability (10-60 Hz)	PAR 2.3.4 and 3.3.4	
IEC 60529	Dust-tight and Water Jets	IP65 (Control Unit) IP54 (Radio)	Table 2, Par. 13.4 Table 3, Par. 14.2.5

*Also meets equivalent superseded MIL-STD-810D, E, F, and G

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DIGITAL OPERATION	(Continued from previous page)	
Protocol	**P25**	**ProVoice™**
Vocoding Method	AMBE+2™ Enhanced Full Rate & Enhanced Half Rate	AMBE+2™ Enhanced Full Rate
Signaling Rate (kbps)	9.6	9.6
Modulation	Phase 1 TX: C4FM, RX: C4FM & CQPSK Phase 2 TX: HCPM, RX: HDCQPSK	GFSK
L3Harris Failsoft Operation	Switch to site Trunking Mode (for L3Harris infrastructure) or P25 Conventional Failsoft for Motorola	

ENCRYPTION	
Encryption Algorithms	Voice Encryption: Single-key AES/DES, Multiple-key AES/DES, DES-OFB, Encryption Lite (ARC4), 256-bit AES P25, 64-bit DES Control Channel Encryption: 128-bit AES (LLA)
Encryption Keys Per Radio	Number of Encryption Keys per Keystore capable of storing up to 1,048 Keys
Keying	L3Harris Key Loader, P25 Over-the-Air-Rekeying (OTAR), Motorola KVL 3000+/4000/5000
Standards	FIPS 140-2 Level 1, FIPS 197

REGULATORY DATA

Frequency Range	RF Output (W)	Frequency Stability	FCC Type Acceptance ID	Applicable FCC Rule	Industry Canada ID	Applicable Industry Canada Rule
136-174	50.0	1.5 PPM	OWDTR-0161-E	90	3636B-0161	RSS-119
378-522	50.0	1.5 PPM	OWDTR-0161-E	90	3636B-0161	RSS-119
763-776, 793-806	30.0	1.5 PPM	OWDTR-0170-E	90	3636B-0170	RSS-119
806-825, 851-870	35.0	1.5 PPM	OWDTR-0170-E	90	3636B-0170	RSS-119
Emissions Designators	16K0F3E, 16K0F1D, 16K0F1E, 14K0F3E, 14K0F1D, 14K0F1E, 11K0F3E, 11K7F1D, 11K7F1E, 8K40F1D, 8K40F1E, 8K10DXW, 18K5F1W, 12K9F1W					

ACCESSORIES

Microphone: Tough, ergonomic digital microphone enabling noise cancellation.

Keypad Mobile Microphone: Rugged microphone equipped with a 12-button keypad and 5-way controller for radio control and noise cancellation in the palm of the user's hand.

XL-RHHC: The XL-Mobile Ruggedized Handheld Controller has the same functions as the XL Onboard control head, with a full-color LCD screen, mobile microphone and alphanumeric keypad in a compact unit.

Desktop Cabinet: Supports desktop deployment of the XL mobile radio in front-mount, remote mount and control head-only configurations.

External Speaker: Compact and carefully tuned for the human voice, the XL-85M external speakers deliver loud and clear mission-critical audio in an easy-to-mount enclosure.

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

XL Onboard 85M, Single-Band Mobile Radio

L3Harris Technologies is the Trusted Disruptor in the defense industry. With customers' mission-critical needs always in mind, our employees deliver end-to-end technology solutions connecting the space, air, land, sea and cyber domains in the interest of national security. Visit L3Harris.com for more information.

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