XL-185P PORTABLE

CONVERGED LTE LAND MOBILE RADIO

The Harris XL-185P is the industry's first and only single-band LTE LMR radio. Capable of operating on VHF, UHF, 700/800 or 900 MHz frequencies, this converged P25 portable merges robust LMR communications with voice and data over cellular, LTE and Wi-Fi®. The XL-185P is open standards-based, Verizon Certified and Band 14 ready, giving organizations a flexible upgrade path to emerging capabilities and networks as needs change.

ADVANCED CONNECTIVITY IN EXTREME ENVIRONMENTS

KEY FEATURES

- Optional cell modem for voice and data wherever cellular/LTE is available
- Extends PTT coverage worldwide via Wi-Fi through Harris BeOn® application
- Compact and lightweight, ruggedized to withstand extreme conditions
- Built-in GPS, Bluetooth®, Active Noise Cancellation, and 4-position A-B-C-D switching is standard

Engineered for top performance in severe conditions, the XL-185P is an ideal, economical choice for public safety and utility workers. The portable features a ruggedized aluminum I-beam frame and meets MIL-STD-810G for durability, including Method 511.5 for explosive atmospheres and Method 504.1 for contamination by fluids, so it can be scrubbed with cleansers and biological sanitizers.

The XL-185P delivers industry-leading, loud audio powered by a 1.5 watt/ 4 watt max amplifier with woofer and tweeter speakers—and advanced noise cancellation technologies suppressing audio feedback to provide clear communications through a wide range of conditions.

Compact and lightweight, the XL-185P fits naturally into users' hands, with controls shaped for fast, easy, gloved-hand operation. The color-coded display and easy-access A-B-C-D switching allows fast identification and selection of priority talk groups. First responders also avoid missing critical calls through the portable's ability to instantly recall and replay received audio.

SPECIFICATIONS FOR: **XL-185P PORTABLE RADIO**

GENERAL

Radio Models:		
Full Keypad	TFT LCD w/DTMF keypad, navigation cluster, soft keys	
Partial Keypad	TFT LCD w/partial keypad, navigation cluster, soft keys	
Dimensions w/Battery (H x W x D)	5.8 x 2.3 x 1.4 in (148.0 x 60.0 x 36.0 mm)	
Weight	**w/Battery and Antenna** 16.2 oz (464 g)	**w/o Battery and Antenna** 10.4 oz (296 g)
Housing Colors	Midnight black, high-visibility yellow	
Interfaces:		
Front Display	320 x 178 pixels, 1.8 inch transflective LCD, 16-bit color with backlight	
Top Display	128 x 32 pixels, OLED 1.1 inch multi-color backlight, sunlight readable	
Keypad	Backlight, 3 soft keys, 5-way navigation key, full DTMF keypad	
Buttons	Large PTT button, on/off knob, volume knob, red emergency button, 16-position top-mounted rotary knob, 2-position concentric switch, 4-position toggle switch, 3 programmable side buttons	
Tx/Rx Indicator	Multi-colored LEDs	
Channel/Talkgroup Capacity	1,250 total conventional channels and 13,824 total talkgroups	
Radio Programming	Firmware, personalities and feature set over Wi-Fi	
Transceiver	**Supported Bands** VHF, UHF, 700/800 MHz, 900 MHz, and LTE	**Channel Capacity** 12,500 (1,250 per mission plan)
Environmental:		
Relative Humidity	5% @ 140°F (+60°C), 95% @ 122°F (+50°C)	
Vibration	USDA LMR Standard, Section 2.15 and MIL-STD-810G, Test Method 514.6	
Drop Shock	1.5 meter drop to concrete (exceeds TIA-603-D)	
Immersion[1]	2 meters for 4 hours in accordance with MIL-STD-810G/IP68	
Operating Temperature[2]	-22°F to +140°F (-30°C to +60°C)	
Storage Temperature[3]	-40°F to +176°F (-40°C to +80°C)	
Altitude	**Operational** 15,000 feet (4,572 meters)	**In Transit** 50,000 feet (15,240 meters)
Electrical Input Voltage	7.5 VDC (nominal)	
GPS/GNSS Specifications:	P25 standard Tier 2 and Harris in-band	
Channels	52	
Tracking Sensitivity (dBm)	-166 (GPS), -163 (GLONASS)	
Acquisition Sensitivity (dBm)	-146 (GPS)	
Cold Start w/-130 dBm input	<35 seconds	
Hot Start w/-130 dBm input	<1 second	
Safety:		
Hazardous Location Options		
RoHS Compliant		

[1] Optional feature
[2] Extreme low temperatures adversely affect battery life and audio power/ distortion
[3] Store batteries at +25°C ± 5°C

LMR TRANSMITTER

Frequency Bands	VHF	UHF	700/800 MHz	900 MHz*
Frequency Ranges (MHz)				
Option 1 (US)	136-174	378-522	768-776, 798-806, 806-816, 851-861	896-902, 935-944
Option 2 (International)	136-174	378-522	763-776, 793-806, 806-825, 851-870	896-902, 935-944
Rated RF Power/Talkaround (W)	1-6	1-5	0.5-3	0.5-3.5
Frequency Stability (-30 to +60°C)	±1.0 ppm	±1.0ppm	±1.0 ppm	±1.0 ppm
Modulation Limiting (kHz)	2.5, 4, 5 (FM)	2.5, 4, 5 (FM)	2.5, 4, 5 (FM)	2.5, 4, 5 (FM)
Audio Response (dB)	+1/-3	+1/-3	+1/-3	+1/-3
Spurious and Harmonics (dBc)	-80 (FCC Part 90)	-80 (FCC Part 90)	-80 (FCC Part 90)	-80 (FCC Part 90)
FM Hum and Noise Companion Receiver (dB):				
@ 25 kHz	70	60	55	55
@ 12.5 kHz	47	47	45	45
Audio Distortion (%)	<1.25	<1.25	<1.25	<1.25
Project 25 Modulation Fidelity (%)	1.0	1.0	1.0	1.0
Project 25 Adjacent Channel Power (dBc)	>71	>71	>71	>70

**Configurations supporting the three (3) 700, 800 and 900 MHz frequency bands do not support 768-776 MHz/763-776 MHz talkaround*

SPECIFICATIONS FOR: **XL-185P PORTABLE RADIO**

REGULATORY DATA

Frequency Range		RF Output	Frequency Stability	FCC Type Acceptance No.	Applicable FCC Rules	Industry Canada Certification No.	Applicable Industry Canada Rules	NTIA Cert. No.
136 - 174 MHz		6 W	±1.0 ppm	OWDTR-0150-E	22, 74, 80, 90	3636B-0150	RSS-119	SPS-217 49/1
378 - 522 MHz		5 W	±1.0 ppm	OWDTR-0149-E	22, 74, 80, 91	3636B-0149	RSS-119	SPS-217 49/1
768 - 776 MHz		3 W	±1.0 ppm	OWDTR-0147-E & OWDTR-0148-E	90	3636B-0147	RSS-119	
798 - 806 MHz		3 W	±1.0 ppm	OWDTR-0147-E & OWDTR-0148-E	90	3636B-0147	RSS-119	
806 - 816 MHz		3 W	±1.0 ppm	OWDTR-0147-E	90	3636B-0147	RSS-119	
806 - 825 MHz		3 W	±1.0 ppm	OWDTR-0148-E	90	3636B-0148	RSS-119	
851 - 861 MHz		3 W	±1.0 ppm	OWDTR-0147-E	90	3636B-0147	RSS-119	
851 - 869 MHz		3 W	±1.0 ppm	OWDTR-0148-E	90	3636B-0148	RSS-119	
896 - 901 MHz		3w	±1.0 ppm	OWDTR-0143-E	90, 24D, 101	3636B-0143	RSS-119	
901 - 902 MHz		3w	±1.0 ppm	OWDTR-0143-E	90, 24D, 101	3636B-0143	RSS-119	
940 - 941 MHz		3w	±1.0 ppm	OWDTR-0143-E	90, 24D, 101	3636B-0143	RSS-119	
935 - 940 MHz		3w	±1.0 ppm	OWDTR-0143-E	90, 24D, 101	3636B-0143	RSS-119	
941 - 944 MHz		3w	±1.0 ppm	OWDTR-0143-E	90, 24D, 101	3636B-0143	RSS-119	
2402 - 2460 MHz	VHF single band	0.2 W	N/A	OWDTR-0150-E	15	3636B-0150	RSS-119	
	UHF single band	0.2 W	N/A	OWDTR-0149-E	15	3636B-0149	RSS-119	
	RB single band	0.2 W	N/A	OWDTR-0147-E	15	3636B-0147	RSS-119	
	NRB single band	0.2 W	N/A	OWDTR-0148-E	15	3636B-0148	RSS-119	
5180 - 5825 MHz	VHF single band	.01 W	N/A	OWDTR-0150-E	15	3636B-0150	RSS-119	
	UHF single band	.01 W	N/A	OWDTR-0149-E	15	3636B-0149	RSS-119	
	RB single band	.01 W	N/A	OWDTR-0147-E	15	3636B-0147	RSS-119	
	NRB single band	.01 W	N/A	OWDTR-0148-E	15	3636B-0148	RSS-119	

LMR RECEIVER

Frequency Bands	VHF	UHF	700/800 MHz	900 MHz
Frequency Ranges (MHz):				
Option 1 (US)	136-174	378-522	768-776, 851-861	935-944
Option 2 (International)	136-174	378-522	763-776, 851-870	935-944
Channel Spacing (kHz)	25 (wideband), 12.5 (narrowband), 6.25 equiv (TDMA P25 Phase 2)		25 (wideband), 12.5 (narrowband), 6.25 equiv (TDMA P25 Phase 2)	
Frequency Stability (-30 to +60°C)	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm
Sensitivity (dBm): @ 12 dB SINAD	-122	-121	-121 (700 MHz) -120 (800 MHz)	-120 (900 MHz)
Project 25 Reference Sensitivity (dBm): @ 5% BER	-122	-121	-120.5	-120.5
Analog Selectivity (dB):				
@ 25 kHz	77	77	74	74
@ 12.5 kHz	71	70	64	64
Project 25 Adjacent Channel Rejection (dB)	66.2	62.2	62	62
Offset Channel Selectivity (dB): @ NPSPAC	NA	NA	30	30
Intermodulation (dB)	80	81	77	77
Spurious and Image Rejection (dB)	90	87	80	80
FM Hum and Noise (dB):				
@ 25 kHz	-60	-60	-55	-55
@ 12.5 kHz	-55	-53	-50	-50
Audio Output - Rated/Max (mW)	1500/4000	1500/4000	1500/4000	1500/4000
Audio Distortion @ Rated Power (%)	1.1	1.1	1.1	1.1

BROADBAND

LTE Protocol	3GPP Release 9, Power Class 3 UE with Rx diversity
Public Safety Broadband	Band 14, 788-798 MHz Tx, 758-768 MHz Rx, 5 or 10 MHz BW
Commercial Broadband	Band 13, 777-787 MHz Tx, 746-756 MHz Rx, 5 or 10 MHz BW
Commercial Broadband	Band 4, 1710-1755 MHz Tx, 2110-2155 MHz Rx, 5, 10, 15, or 20 MHz BW
Wi-Fi	802.11 b/g/n 2.4 GHz and 5 GHz; supports 24 preconfigured and 8 user configured networks
Bluetooth	Bluetooth 4.0 (128-bit encryption)

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DIGITAL OPERATION

Protocol	ProVoice™	P25
Vocoding Method	AMBE +2™ enhanced full rate	AMBE +2 enhanced full rate and enhanced half rate
Signaling Rate (kbps)	9.6	9.6
Modulation	GFSK	Phase 1 Tx: C4FM, Rx: C4FM and WCQPSK
Harris Failsoft operation	Switch to site trunking mode (for Harris infrastructure) or P25 conventional	

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	Capable of storing 128 keys (128 AES, 64 DES)
Keying	Harris Key Loader, Over-the-Air Rekeying (OTAR), Motorola KVL 3000+/4000
Standards	FIPS 140-2, FIPS 197

BATTERIES

Type	Dimensions (H x W x D)	Weight	Capacity (mAh)
Li-Ion	3.0 x 2.3 x 0.9 in	4.8 oz (136 g)	3100

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

ACCESSORIES

Headsets

The XL-185P can be used with a wide variety of headsets and covert audio accessories to provide a complete user-gear solution for the industrial, public safety, utility and transportation markets. Heavy-duty and lightweight headsets are available with in-ear or over-the-ear hearing protection, flexible boom microphones with noise-reduction technology, and standard or remote PTTs. In addition, the XL-185P can be used with Bone Conducting Skull Headsets and Throat Microphone/Headset Kits. Covert audio kits are available in black or beige, 2-wire or 3-wire configurations with ear-piece, microphone and PTT.

3-Wire Mini-Lapel Microphone

Tactical Headset

Carrying Cases

Harris offers a versatile line of carrying cases for the XL-185P single-band radio. Options include a standard belt clip and premium belt loop, providing the user a low-profile, integrated carrying option. In addition, a premium leather holster is available for attaching to a belt or wearing with the premium leather shoulder strap.

Belt Clip

Leather Carrying Case

Chargers

Harris offers a variety of chargers for the XL-185P including Single-Bay, Multi-Bay and a Vehicular Charger for in-car charging. The chargers are designed to quickly and safely charge battery packs in approximately 1 to 4 hours.

Single-Bay Charger

*Multi-Bay Charger**

*Vehicular Charger**

Additional Accessories Available

Bluetooth speaker microphones, Bluetooth covert earpieces, standard speaker microphones, Lithium Ion battery, PC programming software and cables, other subminiature surveillance accessories, and antennas.

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*Accessories unavailable in Brazil

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.

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