



# XG-75P PORTABLE

## VHF, UHF-L, 700/800 MHz

### RELIABLE OPERATION UNDER HARSH CONDITIONS

Delivering high reliability, clear audio quality, and secure communications, the XG-75P portable radio provides a fully trusted communications device for those who defend, protect, and serve communities in day-to-day operations as well as emergency situations. The XG-75P is the next generation ruggedized P25 Phase 2 capable radio designed for mission-critical communications in extreme conditions.

### FEATURES

Instant recall of received audio replays the last transmission received to avoid repetition.

Single-key DES encryption and Encryption Lite are standard. Single-key DES interoperates across the industry. Encryption Lite allows communication with commonly available encrypted radios using a 40-bit key.

A 2-position A-B switch allows access to 32 talkgroups/channels directly from the top of the radio.

Optional features are available for IP68 immersion, UL certification for C1D1 HAZLOC use, and FIPS for enhanced security using federally approved 256-bit AES for encrypted communications.

### MULTIMODE AND MULTI-PROTOCOL SUPPORT

Designed for users on P25 platforms as well as Harris legacy platforms, the XG-75P supports P25, EDACS®, ProVoice™, and OpenSky® users who want one radio to manage their migration needs.

### BEST-IN-CLASS AUDIO

The XG-75P delivers the clear and exceptional audio that users have grown to expect from Harris. The enlarged speaker chamber provides extremely powerful audio. Combining a dual microphone, active noise cancellation algorithm, and AMBE+2™ vocoder, this radio provides a best-in-class audio experience in extreme noise and harsh environments. The vocoder also controls distortion that may occur from shouting into the microphone.

### FUTURE READY

The XG-75P is a safe investment that agencies can rely on as transitions occur to P25 technology. The portable radio supports wideband and narrowband channels (per applicable regulatory standards), and its software-defined architecture allows field upgrading to operating modes such as P25 Phase 2 trunking.

### ERGONOMIC PACKAGE

From the keypad buttons to the battery, each aspect of the XG-75P has been developed to provide a better user experience. The knobs and buttons of the radio are designed to be strong enough to protect against impact and are shaped to avoid incidental change while being managed by users wearing gloves.

## GENERAL SPECIFICATIONS

### Radio Models

**Full Keypad:** Dot matrix LCD and DTMF keypad  
**Partial Keypad:** Dot matrix LCD and limited keypad

### Dimensions (Without Antenna, Battery, and Knobs)

	Inches	Millimeters
<b>Height:</b>	5.89	149.6
<b>Width:</b>	2.44	62.0
<b>Depth:</b>	1.86	47.2

### Weight (Without Antenna and Battery)

	Ounces	Grams
<b>Portable:</b>	10.4	294.5

### Housing Colors

Midnight Black, Black-Gray, Black-Yellow, and Tactical Green

### Environmental Specifications

<b>Relative Humidity:</b>	95% @ 140°F (+60°C)
<b>Vibration:</b>	9.2G (per US Forest Service)
<b>Drop Shock:</b>	1.5 meter drop to concrete (exceeds TIA-603-C)
<b>Immersion*:</b>	2 meters for 4 hours in accordance with MIL-STD-810G/IP68 (per IEC60529)

\*Optional feature

### Environmental Specifications (Cont'd)

	°F	°C
<b>Operating Temperature *:</b>	-22 to +140	--30 to +60

\*Extremely low temperatures adversely affect battery life

	°F	°C
<b>Storage Temperature*:</b>	-40 to +176	-40 to +80

\*Store batteries at the following temperatures:

Li-Ion:	-40 to +176	-40 to +80
Li-Polymer:	-22 to +176	-30 to +80
NiMH:	-40 to +176	-40 to +80

	Feet	Meters
<b>Altitude Operational:</b>	15,000	4,572
<b>In Transit:</b>	50,000	15,240

### Electrical

**Input Voltage:** 7.5 VDC (nominal)

### Safety

#### HAZLOC Options:

UL certified to ANSI/TIA-4950, ANSI/ISA 12.12.01, CAN/CSA-C22.2 No. 157-92, CAN/CSA-C22.2 No. 213-15 standards as suitable for use in Class I, Division 1, Groups C and D; Class II, Division 1, Groups E, F, and G; Class III, Division 1 hazardous locations; Class I, Division 2, Groups A, B, C, and D or non-hazardous (unclassified) locations only

#### RoHS compliant

## TRANSMITTER

Typical Performance Specifications	VHF	UHF-L	700/800
Frequency Range (MHz):	136-174	378-470	764-776, 794-805, 806-825, 851-870
Rated RF Power (W):	6	5	3 (Trnk & Talkaround)
Frequency Stability (-30 to +60°C, +25°C Ref) (ppm):	±1.5	±1.5	±1.5
Frequency Separation (MHz):	Full Bandwidth	Full Bandwidth	NA
Modulation Deviation (kHz):	5.0 (wideband*) 2.5 (narrowband)	5.0 (wideband*) 2.5 (narrowband)	2.5, 4, or 5 FM
FM Hum and Noise Companion Receiver (dB):	-52 (wideband*) -50 (narrowband)	-50 (wideband*) -45 (narrowband)	44 (700 MHz) 47 (800 MHz NPSPAC) 48 (800 MHz non-NPSPAC)
Spurious and Harmonics (dBm/dBc):	-36/-75	-36/-75	-55/90
Audio Response (dB):	+1/-3	+1/-3	Meets TIA-603-C Section 3.2.6
Audio Distortion (1 kHz tone):			
@ 3 kHz deviation:	1% (wideband)	1% (wideband)	1% (800 MHz non-NPSPAC)
@ 2.4 kHz deviation:	NA	NA	1% (800 MHz NPSPAC)
@ 1.5 kHz deviation:	1% (narrowband)	1% (narrowband)	1% (700 MHz)
Project 25 Modulation Fidelity (%):	<5	<5	1
Project 25 Adjacent Channel Power (dBc):	>67	>67	73

\*VHF and UHF product is compliant with applicable FCC narrowbanding mandate below 512 MHz.

## REGULATORY DATA

Frequency Range (MHz)	RF Output (W)	Frequency Stability (ppm)	FCC Type Acceptance Number	Applicable FCC Rules	Industry Canada Certification Number	Applicable Industry Canada Rules	NTIA Certification Number
136-174	6	±1.5	OWDTR-0059-E	22, 80, 90	3636B-0059	RSS-119	J/F 12/9974
378-470	5	±1.5	OWDTR-0070-E	90	3636B-0070	RSS-119	J/F 12/9974
764-776, 794-806, 806-824, 851-869, 854-869	3	0.2	OWDTR-0074-E	90	3636B-0074	RSS-119	NA

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



For UHF-L frequencies

## RECEIVER

Typical Performance Specifications	VHF	UHF-L	700/800
Frequency Range (MHz):	136-174*	378-470	764-776, 851-870
Frequency Separation (MHz):	Full Bandwidth	Full Bandwidth	NA
Channel Spacing (kHz):	25/30 (wideband**) 12.5/15 (narrowband)	25 (wideband**) 12.5 (narrowband)	12.5, 25, PLL Steps
Frequency Stability (-30 to +60°C, +25°C Ref) (ppm):	±1.5	±1.5	±1.5
Sensitivity (12 dB SINAD) (µV/dBm):	0.20/-121	0.25/-119.0	0.25/-119.0
Adjacent Channel Selectivity @ 25 kHz (dB):	79 (wideband**)	>73	75 (800 MHz non-NPSPAC)
@12.5 kHz (dB):	66 (narrowband)	>60	67 (700 MHz)
Intermodulation (dB):	77	75	75
Spurious and Image Rejection (dB):	80	80	>80
FM Hum and Noise (dB):	>50 (wideband**) >45 (narrowband)	>50 (wideband**) >45 (narrowband)	>40 (700 MHz) >43 (851-854 MHz NPSPAC) >45 (854-870 MHz wideband**) >60 squelched
Audio Output (mW):	500 rated (3800 max)	500 rated (3800 max)	500 rated
Audio Distortion @ Rated Power (%):	1.5	1.5	1.5
Project 25 Reference Sensitivity @ 5% BER (µV/dBm):	0.22/-121	0.25/-119	0.22/-120
Project 25 Adjacent Channel Rejection (dB):	>60	>60	64

\*The following self-quieting frequencies cannot be programmed as receive frequencies: 144.000, 153.600, 163.200, and 172.800 MHz.

\*\*VHF and UHF product is compliant with applicable FCC narrowbanding mandate below 512 MHz.

## ENVIRONMENTAL STANDARDS

Standard	Parameter	Methods	Procedures/Categories
MIL-STD-810G*	Low Pressure	500.5	1,2
	High Temperature	501.5	1,2
	Low Temperature	502.5	1,2
	Temperature Shock	503.5	1-B
	Solar Radiation	505.5	2
	Blowing Rain	506.5	1
	Humidity	507.5	2
	Salt Fog	509.5	1
	Blowing Dust	510.5	1
	Immersion**	512.5	1
	Vibration (Minimum Integrity)	514.6	1, Category 24
	Vibration (Basic Transportation)	514.6	1, Category 4
	Shock (Functional/Basic)	516.6	1
	Shock (Transit Drop)	516.6	4
IEC 60529	Dust-tight, Continuous Immersion	IP68	
U.S. Forest Service	Vibration (10-60 Hz)	USDA LMR Standard Section 2.15	
TIA-603-C***	Shock (1-meter drop)	Paragraph 3.3.5.3	

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

\*\*XG-75 immersion model only. Available option that must be ordered. Additional certification for water intrusion with water depth of 2 meters for 4 hours.

\*\*\*Environmental test certification of 1.5-meter drop shock to concrete using parameters of TIA-603-C 1.0-meter drop shock with additional height.

## DIGITAL OPERATION

Protocol	OpenSky® (700/800 MHz)	ProVoice™	P25
Vocoding Method:	AMBE + 2™ Half Rate & Enhanced Half Rate	AMBE + 2 Enhanced Full Rate	AMBE + 2 Enhanced Full Rate & Enhanced Half Rate
Signaling Rate (kbps):	19.2 & 9.6	9.6	9.6
Modulation:	4-Level GFSK & M4FM	GFSK	Phase1 TX: C4FM, RX: C4FM & WCQPSK Phase 2 TX: HCPM, RX: WCQPSK

## ENCRYPTION

Encryption Algorithms: AES (FIPS-140-2 certified), DES, Encryption Lite (40-bit)\*

Encryption Keys per Radio: Capable of storing 128 keys (64 AES, 64 DES)

\*Option included as standard with the radio. Interoperates with commonly available ARC4 encryption algorithms.

## BATTERIES

Type	Dimensions (L x W x D)	Weight	Life (@5% Tx, 5% Rx, and 90% standby)	Capacity (mAh)
Li-Ion	4.42 x 2.44 x 0.83 in.	5.1 oz (145g)	10 hours	2400
Li-Polymer	4.42 x 2.44 x 0.83 in.	6.6 oz (187g)	16 hours	3600
NiMH	4.42 x 2.44 x 0.83 in.	9.5 oz (270g)	10 hours	2400

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## ACCESSORIES

The XG-75P offers a full complement of accessories that operate under the extreme conditions experienced by first responders. Several are shown below.

### Audio Accessories

The XG-75P can be used with a wide variety of audio accessories including speaker microphones, 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 XG-75P can be used with Bone Conducting Skull Headsets and Throat Microphone/Headset Kits. Covert audio kits are available in black or beige, and in 2-wire or 3-wire configurations with earpiece, microphone, and PTT.



Speaker Microphone



Fire Speaker Microphone



Tactical Headset



3-Wire Mini-Lapel Microphone

### Carrying Cases

Harris offers a versatile line of carrying cases for the XG-75P radio. Options include a standard belt clip and premium belt loop, both of which afford the radio 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.



Nylon Carrying Case



Belt Clip



Leather Carrying Case

### Chargers

Harris offers a variety of chargers for the XG-75P radio: 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

Antennas, Bluetooth® speaker microphones, Bluetooth covert earpieces, public safety speaker microphones, Lithium batteries, PC programming software, and cables are available.

### 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.

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