



XG-75
Portable
VHF, UHF-L,
700/800 MHz

RELIABLE PERFORMANCE UNDER HARSH CONDITIONS

XG-75: The Most Robust Solution for Mission-Critical Communications

The XG-75 meets the requirements for a rugged radio that performs under the most adverse conditions. Delivering high reliability, multi-mode operation, clear voice quality, secure communications, and assured interoperability, the portable provides the tools first responders need to communicate with each other and their command centers in day-to-day service and emergencies to defend and protect lives.

Standard features found on the XG-75 include:

- > Extremely Rugged for Field Use – meets MIL-STD-810G for durability and certified for more stringent tests of 1.5-meter drop to concrete
- > Active Noise Cancellation – with dual microphones for users in noisy environments
- > AMBE+2™ Vocoder – provides noise cancellation capability and enhances audio quality
- > Single-Key DES Encryption – affords secure communications
- > Instant Recall – allows user to replay last transmission received
- > Lightweight Design – does not weigh down a user with its total weight of 15.8 ounces (including Lithium Ion battery)

Optional features available for the XG-75 include:

- > Immersion (IP68) – additional certification for immersion of 2 meters for 4 hours
- > Factory Mutual Intrinsically Safe – permits operation in hazardous conditions when paired with an Intrinsically Safe battery and other accessories

Available in both System and Scan models in black and gray, tactical green, midnight black, or high-visibility yellow, the XG-75 offers a full complement of accessories that operate under the special conditions experienced by first responders.



SCAN SYSTEM

HARRIS
assuredcommunications

FUTURE READY

The XG-75 is an investment that agencies can rely on as transitions occur to P25 technology. The portable supports wideband and narrowband channels and its software-defined architecture allows field upgrading to operating modes such as P25 Phase 2.

SUPERIOR AUDIO EXPERIENCE

The XG-75 delivers the exceptional audio that users have grown to expect from Harris. The enlarged speaker chamber provides extremely powerful audio, up to 3.8 Watts. Dual microphones, Harris' active noise-cancelling algorithm, and the AMBE+2 vocoder optimize the quality of communications. The vocoder also controls distortion that may occur from shouting into the microphone. Through high-quality voice coding and robust audio components, the XG-75 provides the loud and clear audio that critical communication users require.

EQUIPPED FOR EXTREME CONDITIONS

The XG-75 meets the highest immersion and drop specifications of any Harris radio. The portable was certified to MIL-STD-810G transit drop shock testing of 26 drops from a 48-inch height to wood and then the same radio unit was certified to MIL-STD-810G immersion testing in 1 meter for 4 hours. In addition, the portable is certified for a 1.5-meter drop to concrete, immersion of 2 meters for 4 hours, and IP68 dust-tight and continuous immersion. The XG-75 is Intrinsically Safe and approved by Factory Mutual for use under hazardous conditions. The XG-75 meets the stringent requirements for operation in extreme environments.

LIGHTWEIGHT AND ERGONOMIC DESIGN

The XG-75 is one of the lightest radios in the Harris portfolio, weighing 15.8 ounces with the Lithium Ion battery. From the keypad buttons to the battery, each aspect of the radio has been developed to provide a better user experience. The knobs and buttons of the XG-75 are designed to be strong enough to protect against impact and are shaped to avoid incidental changes while still being easily managed by users wearing heavy gloves. The XG-75 is simple to operate so users may focus attention on the situation rather than on radio operation.

ACCESSORIES



The XG-75 is available with a wide range of Harris accessories. Several are shown below.

The VC4000 Charger may be mounted in a vehicle or used as a desk charger to charge NiMH and Li-Ion batteries in about 1.5 hours. The unit provides microprocessor-controlled charging for long battery life and maximum battery performance and protective circuitry to prevent damage to batteries resulting from charging when outside the required temperature or voltage range. The VC4000 can charge batteries with or without the radio attached, and can accommodate a portable with the speaker mic still attached.

The heavy-duty over-the-head headset provides clear two-way radio communications in high noise environments. It has a certified noise reduction rating of 24 dB and includes a flexible noise-canceling boom microphone that fully rotates for left- or right-side positioning, cloth-covered ear seals, and in-line PTT. Cables are durable and flexible for demanding environments.

The 3600 mAH Lithium Polymer battery is the highest capacity Harris battery for single-band radios. Offering the ultimate in performance and ease of use, the battery has an average 16-hour shift life, 400 charge cycles, and maintenance-free Lithium battery technology. With its IP67 rating for immersion and dust/dirt particle intrusion, the battery is ideal for public safety, commercial and industrial, and utility applications.

GENERAL SPECIFICATIONS

XG-75 Portables are available in 2 models:

System: With dot matrix LCD and DTMF keypad

Scan: With dot matrix LCD and limited keypad

Dimensions (H x W x D):

(Without Knobs and Antenna)

With battery:

5.89 x 2.44 x 1.94 in.

(149.6 x 62.0 x 48.5 mm)

Approximate Weight (with Battery):

Li-Ion: 15.8 oz (448g)

Li-Polymer: 15.9 oz (451g)

NiMH: 20.6 oz (583g)

Input Voltage:

7.5 VDC (nominal)

Vibration:

9.2 G (per U.S. Forest Service)

Drop Shock:

1.5 meter drop to concrete (exceeds TIA-603-C)

Immersion*:

1 meter for 4 hours with 49°F (27°C) differential (MIL-STD-810G)

*XG-75 immersion model only

Battery Life (at 5% Tx, 5% Rx, and 90% standby):

Li-Ion: 8 hours (2000 mAh)

Li-Polymer 16 hours (3600 mAh)

NiMH: 10 hours (2400 mAh)

Operating Temperature Range:

Li-Ion: +14 to +140°F (-10 to +60°C)

Li-Polymer: -4 to +140°F (-20 to +60°C)

NiMH: -4 to +140°F (-20 to +60°C)

Relative Humidity:

90% @ 122°F (+50°C)

Altitude:

Operational: 15,000 ft (4,572 m)

In Transit: 50,000 ft (15,240 m)

Color (case):

Black & Gray, Tactical Green, Midnight Black, and High-Visibility Yellow

Options and Accessories

Headset, earpiece, speaker micro-phones, PC programming software and cables, subminiature surveillance accessories, antennas, cases, straps, belt loops and swivel mounts, desk chargers, and wall chargers.

Intrinsically Safe Options

Factory Mutual Intrinsically Safe for Class I, II, and III, Division 1, Groups C, D, E, F, and G, Temp T3C, TA=+60°C; Nonincendive for Class I, Division 2, Groups A, B, C, and D, Temp T4, TA=+60°C.

RoHS compliant



For UHF-L frequencies

MEETS STRINGENT REQUIREMENTS FOR CRITICAL COMMUNICATIONS

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-NSPAC)
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.

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 Step
Frequency Stability (-30 to +60°C; +25°C Ref) (ppm):	±1.5	±1.5	NA
Sensitivity (12 dB SINAD) (µV/dBm):	0.20/-121	0.25/-119.0	NA
Adjacent Channel Selectivity @ 25 kHz (dB):	79 (wideband**), 66 (narrowband)	>73	75 (800 MHz non-NPSPAC), 67 (700 MHz)
@ 12.5 kHz (dB):	77	>60	75
Intermodulation (dB):	77	75	75
Spurious and Image Rejection (dB):	80	80	>80
Audio Output (mW):	500 rated (3800 max)	500 rated (3800 max)	500 rated
Audio Distortion @ Rated Power (%):	1.5	<3	1.5
Project 25 Reference Sensitivity @ 5% BER (µV/dBm):	0.22/-121	0.25/-119	0.22/-120.0
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 SPECIFICATIONS

STANDARD	PARAMETER	METHODS & PROCEDURES
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
	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	WCQPSK & C4FM
Encryption Algorithms:	AES	AES (FIPS-140-2 certified) & DES	AES (FIPS-140-2 certified) & DES

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, 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.



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