

XG-75 Portable UHF-L

The XG-75 portable is a digital two-way radio that provides

- Multi-Mode functionality
- Digital voice and IP data
- Robust mechanical package



System Scan

The XG-75 portable provides versatile and reliable communications to meet a range of user requirements.

Multiple Applications with One Radio

The XG-75 uses a high-speed digital signal processor and the latest RF components to support multiple applications in one package:

- Project 25 Digital Trunking – Phase 1 FDMA now. Phase 2 TDMA trunking via software upgrade in the future.
- P25 Digital Conventional
- ProVoice™ Digital Trunking
- Enhanced Digital Access Communications System (EDACS®) Trunking
- Complete Analog Conventional features

Maximum RF Performance

The radio operates in the UHF band and combines digital and analog operation in one radio. Such versatility maximizes interoperability. The portable complies with TIA-603 and TIA-102 standards to provide the highest RF performance.

Advanced Digital Trunking Features

The XG-75 supports a wide range of digital trunking features, including voice group calls, priority scanning, pre-emptive emergency calls, late call entry, and dynamic reconfigura-

tion. It performs autonomous roaming for wide area applications. High-quality voice coding and robust audio components assure speech clarity even in noisy environments.

Encrypted Communications

The optional Advanced Encryption Standard (AES) and Data Encryption Standard (DES) are available for maximum security.

Loud and Clear Audio

The XG-75 comes equipped with two microphones and Harris' active noise canceling algorithm, improving the clarity of both analog and digital calls in a high-noise environment. Additionally, the XG-75 was designed to deliver loud audio with its enlarged speaker chamber and 3.8W maximum audio output.

High Performance in a Rugged Package

The sturdy mechanical package of the XG-75 provides high performance and reliable service.

- MIL-STD-810G durable – including 1.5-meter drop to concrete, exceeding TIA-603-C requirement
- Optional immersion – 1 meter for 4 hours per MIL-STD-810G
- Programmable dual-position switch for flexible operation
- Tx/Rx LED and enhanced clarity dot matrix LCD for more

visible signaling (including features such as a battery-level gauge)

- At 15.8 ounces with Lithium-Ion battery, one of the lightest weight portables offered by Harris
- Illuminated channel indicator for easy channel identification
- Intrinsically safe certification (optional)

Software-Based Design for Customization

With its software-based design, the XG-75 portable is readily configurable and easily expandable with software upgrades to meet customized needs.

- Stores up to 1,024 trunked group combinations and up to 1,024 conventional channels
- Stores 255 individual call numbers and 255 telephone numbers in memory
- ProFile™ offers easy over-the-air programming for efficient updates
- ProScan™ provides smooth, automatic roaming between sites
- Full conventional feature set
- Personality Lock prevents unauthorized users from programming radios or accessing the system

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.
(149.5 x 62.0 x 48.5 mm)

Approximate Weight (with Battery):

Li-Ion: 15.8 oz (448g)
NiMH: 20.6 oz (583g)

Input Voltage:

7.5 VDC (nominal)

Vibration:

5 G (per U.S. Forest Service)

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: 9 hours (2000 mAh)
NiMH: 11 hours (2400 mAh)

Operating Temperature Range:

Li-Ion: +14 to +122°F
(-10 to +50°C)
NiMH: -4 to +122°F
(-20 to +50°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):

Standard: Black & Gray

Optional High Visibility:

Black & Yellow

Options and Accessories

Headset, earpiece, speaker microphones, 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.

Transmitter

	UHF-L Typical Performance Specifications
Frequency Range (MHz):	378-470
Rated RF Power (W):	5
Frequency Stability (-30 to +60°C; +25°C Ref) (ppm):	±1.5
Frequency Separation (MHz):	Full Bandwidth
Modulation Deviation (kHz):	5.0 (wideband), 2.5 (narrowband)
FM Hum and Noise (Companion Receiver) (dB):	-50 (wideband), -45 (narrowband)
Spurious and Harmonics (dBm/dBc):	-36/-75
Audio Response (dB):	+1/-3
Audio Distortion (1 kHz tone):	<1% (3 kHz deviation (wideband)) <1% (1.5 kHz deviation (narrowband))
Project 25 Modulation Fidelity (%):	<5
Project 25 ACP (dBc):	>67

Receiver

	UHF-L Typical Performance Specifications
Frequency Range (MHz):	378-470
Frequency Separation (MHz):	Full Bandwidth
Channel Spacing (kHz):	25 (wideband), 12.5 (narrowband)
Frequency Stability (-30 to +60°C; +25°C Ref) (ppm):	±1.5
Sensitivity (12 dB SINAD) (µV/dBm):	0.25/-119
Adjacent Channel Selectivity @ 25 kHz (dB):	>73
@ 12.5 kHz (dB):	>60
Intermodulation (dB):	75
Spurious and Image Rejection (dB):	80
Audio Output (mW):	500 rated (3800 maximum)
Audio Distortion:	<3% @ rated power
Project 25 Reference Sensitivity (µV/dBm):	0.25/-119
Project 25 Adjacent Channel Rejection (dB):	>60

*The following self-quieting frequencies cannot be programmed as receive frequencies: TBD.

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	506.6/1
	Humidity	507.4
	Salt Fog	509.5
	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
U.S. Forest Service	Vibration (10-60 Hz)	USDA LMR Standard, Section 2.15
TIA-603C***	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.
***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

	ProVoice	P25
Vocoding Method:	AMBE+2™ Enhanced Full Rate	AMBE+2 Enhanced Full Rate & Enhanced Half Rate
Data Rate (kbps):	9.6	9.6
Modulation:	GFSK	WCQPSK & C4FM

Regulatory Data

Frequency Range (MHz)	RF Output (W)	FCC Type Acceptance Number	Applicable FCC Rules	Industry Canada Certification Number	Applicable Industry Canada Rules
406-470	5	OWDTR-0070-E	Part 90	3636B-0070	RSS-119

