

XG-75 Portable 700/800 MHz

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

- Dual-band TDMA-capable operation
- Multi-Mode functionality
- Digital voice and IP data



The 700/800 MHz dual-band 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 new 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
- OpenSky® Digital TDMA Trunking
- ProVoice™ Digital Trunking
- Enhanced Digital Access Communications System (EDACS®) Trunking
- Complete Analog Conventional features

Maximum RF Performance

The radio operates in the 700/800 MHz 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 reconfiguration. It performs autonomous roaming for wide area applications. High-quality voice coding and robust audio components assure speech clarity even in noisy environments.

Mobile Data Capability

The optional data feature allows the XG-75 portable to be used in high-performance wireless data systems in all operating modes listed. For mobile data applications, the XG-75 serves as an IP network node, providing end-to-end IP connectivity for an external portable computer connected to the radio's data port.

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.

Radio TextLink Text Messages

With this option, users may receive, display, and respond to text messages sent from authorized users on the network. This feature improves real-time communications among first responders while also providing the capability to leave messages with users that are actively engaged in other critical activities.

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)
Li-Polymer: 15.9 oz (451g)
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)
Li-Polymer: 16 hours (3600mAh)
NiMH: 11 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):

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

700/800 Typical Performance Specifications	
Frequency Range (MHz):	764-776, 794-805, 806-825, 851-870
Rated RF Power Trunked (W):	3
Rated RF Power Talkaround (W):	3
Frequency Stability (-30 to +60°C) (ppm):	±1.5
Modulation Deviation (kHz):	2.5, 4, or 5 FM
FM Hum & Noise (Companion Receiver) (dB):	44 (700 MHz), 47 (800 MHz NPSPAC), 48 (800 MHz non-NPSPAC)
Audio Response (dB):	Meets TIA-603-C Section 3.2.6
Spurious and Harmonics (dBm/dBc):	-55/90
Audio Distortion:	1% (1 kHz tone @ 1.5 kHz deviation (700 MHz)) 1% (1 kHz tone @ 2.4 kHz deviation (800 MHz NPSPAC)) 1% (1 kHz tone @ 3 kHz deviation (800 MHz non-NPSPAC))
P25 Modulation Fidelity (%):	1
P25 Adjacent Channel Power (dBc):	73

Receiver

700/800 Typical Performance Specifications	
Frequency Range (MHz):	764-776, 851-870
Channel Spacing (kHz):	12.5, 25, PLL Step
Sensitivity (12 dB SINAD) (µV/dBm):	0.21/-120.5 (700 MHz), 0.18/-122.0 (800 MHz NPSPAC) 0.19/-121.5 ((800 MHz non-NPSPAC)
P25 Reference Sensitivity (5% BER) (µV/dBm):	0.22/-120
Adjacent Channel Rejection: @ 12.5 kHz (dB): @ 25 kHz (dB):	67 (700 MHz) 75 (800 MHz non-NPSPAC)
P25 Adjacent Channel Rejection @ 12.5 kHz (dB):	64
Offset Channel Selectivity @ NPSPAC (dB):	33
Intermodulation (dB):	75
Spurious and Image Rejection (dB):	>80
FM Hum and Noise (dB):	50 (700 MHz), 53 (800 MHz NPSPAC), 54 (800 MHz non-NPSPAC)
Rated Audio Output (mW):	500
Audio Distortion:	1.5% @ rated audio output power
Measurements per TIA/EIA-603-C except where noted; *P25" parameters are per TIA-102.CAAB-B	

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

	OpenSky	ProVoice	P25
Vocoding Method:	AMBE+2™ Half Rate & Enhanced Half Rate	AMBE+2 Enhanced Full Rate	AMBE+2 Enhanced Full Rate & Enhanced Half Rate
Data Rate (kbps):	19.2 & 9.6	9.6	9.6
Modulation:	4-Level GFSK & M4FM	GFSK	WCQPSK & C4FM

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
764-776, 794-806, 806-824, 851-869, 854-869	3	0.2	OWDTR-0074-E	90	3636B-0074	RSS-119



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