



XG-75M MOBILE RADIO

VHF, UHF, 700/800 MHz

**BEST-IN-CLASS AUDIO
AND DURABILITY IN
EXTREME CONDITIONS**

KEY FEATURES

Rugged construction and advanced audio components for top performance in demanding environments

Multimode operation for seamless P25 migration from legacy platforms

Familiar and durable controls for easy operation

GPS, OTAP, system, scan, and hand-held control unit options available

Designed for mission-critical communications in challenging environments, the Harris XG-75M delivers tough, reliable performance and exceptionally clear audio quality.

Providing secure voice and data through end-to-end digital encryption, this mobile radio supports wideband and narrowband communications. It is P25 Phase 2 capable, with a software-defined architecture allowing field updates to new capabilities.

The XG-75M combines robust components and an AMBE +2™ vocoder to control distortion and provide best-in-class audio in extremely noisy, harsh environments. The XG-75M can also be customized for unique needs with options for GPS position tracking,

Over-the-Air Programming and FIPS for enhanced, 256-bit AES encryption.

The multimode XG-75M is ideal for organizations requiring one radio to manage their migration needs. Designed for P25 platforms as well as legacy Harris platforms, this mobile supports P25, EDACS®, ProVoice™ and OpenSky®.

The XG-75M is a member of the family of field-proven, reliable and rugged Harris mobiles, with durable construction to withstand demanding environments.

SPECIFICATIONS FOR: XG-75M MOBILE RADIO-VHF, UHF, 700/800 MHZ

GENERAL			
Frequency Bands	VHF (110 W)	VHF (50 W)	UHF & 700/800 MHz (30 W)
Dimensions (H x W x D):	2.4 x 6.9 x 11.0 in (61 x 175 x 279 mm)	2.0 x 6.9 x 9.2 in (50 x 175 x 233 mm)	2.0 x 6.9 x 9.2 in (50 x 175 x 233 mm)
Radio (only)			
Radio and Control Unit (with knobs)	2.4 x 6.9 x 12.3 in (60 x 175 x 311 mm)		
Control Unit (remote)	2.4 x 7.0 x 4.0 in (60 x 175 x 100 mm)		
Weight:			
Remote Mount	7.55 lb (3.42 kg)	—	—
Front Mount	5.9 lb (2.68 kg)	—	5.9 lb (2.68 kg)
Remote Mount (transceiver only)	5.25 lb (2.38 kg)	—	5.25 lb (2.38 kg)
Control Head (CH-721)	1.25 lb (0.57 kg)	—	1.25 lb (0.57 kg)
Construction:			
Control Unit (only)	High impact plastic		
Transceiver (only)	Cast metal		
Speaker	Weather-resistant external, 15W		
Mounting	Front or remote mount available		
Environmental:			
Relative Humidity	90% @ 122°F (+50°C)		
Ambient Temperature Range	-22 to +140°F (-30 to +60°C)		
Altitude	15,000 feet (4,572 meters)		
Electrical System Voltage	10.8 to 16.3* VDC negative ground		
DC Supply Current:			
Transmit (110W)	25 amps max, 23 amps typical		
Transmit	15 amps max, 11 amps typical		
Receive (includes CH-721)	4 amps max (with 15W speaker output)		
Standby	1.1 amps typical		
Duty Cycle	TIA/EIA-603		
Operation	12 VDC negative ground		
Safety	RoHS compliant		
Programming	Field PC programmable		

*Not to exceed 14.3V above +50°C for motorcycle applications.

TRANSMITTER			
Frequency Bands	VHF	UHF	700/800 MHz
Frequency Ranges (MHz)	136-174	378-430, 440-512	764-776, 794-806, 806-825, 851-869
Rated Power Output (W)	8-50, 50-110	8-50	30 (35 EDACS/P25 800 MHz)
RF Output Impedance (ohm)	50	50	50
Frequency Stability (ppm)	±2.0	±1.5	±1.5
Modulation Deviation (kHz)	±5.0 (wideband*) ±2.5 (narrowband)	±5.0 (wideband*) ±2.5 (narrowband)	±5.0 (wideband) ±2.5 (narrowband) ±4.0 (NIPSPAC)
FM Hum and Noise Companion Receiver (dB)	52 (wideband*) 46 (narrowband)	52 (wideband*) 46 (narrowband)	47 (wideband) 41 (narrowband)
Spurious and Harmonics (dBm)	<-20		
Audio Response (dB)	+1/-3, 300-2500 Hz	+1/-3, 300-2500 Hz	+1/-3, 300-2500 Hz
Audio Distortion (1 kHz tone):			
@ 2.5 kHz deviation	<5.0%	<5.0%	<5.0%
@ 1.0 kHz deviation	<2.0%	<2.0%	<2.0%
Adjacent Channel Power (dBc):			
C4FM @ 6 kHz (bw)	>67 >70 (wideband*) >60 (narrowband)	>67 >70 (wideband*) >60 (narrowband)	>67 >70 (wideband) >60 (narrowband)

*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 No.	Applicable FCC Rules	Industry Canada Certification No.	Applicable Industry Canada Rules	NTIA Certification Number
136-174	50	2.0	OWDTR-0055-E	22, 80, 90	3636B-0055	RSS-119	J/F 12/9968
136-174	110	2.0	OWDTR-0056-E	90	3636B-0056	RSS-119	NA
406-470	50	1.5	OWDTR-0061-E	90	3636B-0061	RSS-119	J/F 12/9968
764-806	30	1.5	OWDTR-0132-E	90	3636B-0132	RSS-119	NA
806-870	35	1.5	OWDTR-0132-E	90	3636B-0132	RSS-119	NA

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

SPECIFICATIONS FOR: XG-75M MOBILE RADIO-VHF, UHF, 700/800 MHz

RECEIVER			
Frequency Bands	VHF	UHF	700/800 MHz
Frequency Ranges (MHz)	136-174	378-430, 440-512	764-776, 851-870
RF Input Impedance (ohm)	50	50	50
Channel Spacing (kHz)	12.5/25	12.5/25	12.5/25
Frequency Stability (ppm)	±2.0	±1.5	±1.5
Sensitivity (12 dB SINAD) (µV/dBm)	0.25/-119.0	0.25/-119.0	0.25/-119.0
5% BER (typical)	>0.35/-118	>0.35/-118	>0.35/-118
Adjacent Channel Selectivity: @ 25 kHz (dB)	>85	>80	>80
@12.5 kHz (dB)	>70	>70	>70
Intermodulation (dB)	>80	>80	>80 (typical)
Spurious Image Rejection (dB)	>90 (except 2nd image)	>90 (except 2nd image)	>90 (except 2nd image)
FM Hum and Noise (dB)	>50 (wideband*) >46 (narrowband)	>50 (wideband*) >46 (narrowband)	>47 (wideband) >40 (narrowband)
Audio Response (dB)	+1/-3, 300-2500 Hz	+1/-3, 300-2500 Hz	+1/-3, 300-2500 Hz
Audio Distortion @ 15W	<2% distortion	<2% distortion	<2% distortion
Adjacent Channel Interference Power Ratio (dB) C4FM	>60	>60	>60

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

ENVIRONMENTAL STANDARD			
Applicable MIL-STD	Parameter	Methods	Procedure/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
	Vibration (minimum integrity)	514.6	1, Category 4
	Vibration (basic transportation)	514.6	1, Category 24
	Shock (functional/basic)	516.6	1
	Shock (transit drop)	516.6	4
TIA-603-C	Vibration stability	Paragraph 2.3.4 and 3.3.4	
US Forest Service	Vibration (10-60 Hz)	Paragraph 2.15	
IEC 60529	Dust-tight and water jets	IP65**	

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

**CH-100 and CH-721 control units meet IP65/MIL-STD-810, XG-75M radio unit meets IP55.

DIGITAL OPERATION				
Protocol	P25 Phase 1/Phase 2	OpenSky® (700/800 MHz)	ProVoice™	TIA/EIA-603
Vocoding Method	AMBE +2™ enhanced full rate, enhanced half rate	AMBE +2™ half rate, enhanced half rate	AMBE +2™ enhanced full rate	NA
Signaling Rate (kbps)	9.6 and 12	19.2 and 9.6	9.6	Analog
Modulation	Phase1 TX: C4FM, RX: C4FM and WCQPSK Phase 2 TX: HCPM, RX: WCQPSK	4-level GFSK and M4FM	GFSK	FM
Data Communication Mode	Half duplex	Half duplex	Half duplex	Half duplex

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 Techniques	Non-linear product/block transformation

*Interoperates with commonly available ARC4 encryption algorithms.

ADVANCED COMMUNICATION FEATURES

Over-the-Air Programming

Allows quick reprogramming of radio features and user profiles, and simplifies changes and additions to communication protocols.

GPS

Provides dispatchers with fast, accurate unit location information via P25 or OpenSky networks.

OpenSky Trunking

A secure, integrated voice and data communications system which leverages the power of Internet Protocol and packet technology to deliver powerful Open Data applications to users.

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

ACCESSORIES

XG-75M accessories are designed for top performance in extreme conditions.

Control Units

Harris offers multiple Control Units to meet special requirements. All are available in front or remote mount configurations.

The CH721 Control Unit has a 3-line, 8-character alphanumeric display, with models available in Scan, which has a limited keyboard, and System, which has a full keyboard allowing advanced operations without a DTMF microphone. Both Control Unit models support P25, 800 MHz EDACS, ProVoice and OpenSky trunking operation.

The HHC-731 Hand-Held Controller provides the advanced features of the CH-721 System Control Unit, including siren and light bar control. This solution is ruggedized to meet a full range of environmental specifications, and supports P25, 800 MHz EDACS, ProVoice and OpenSky trunking operations. The HHC-731's 3-line, 8-character alphanumeric display is backlit for use in low-light areas. It's compact design makes it ideal for covert operations and space-constrained environments.



CH-721 Scan



CH-721 System



HHC-731

Microphones

Harris offers a versatile line of microphones for the XG-75M radio. Engineered with robust components, they deliver the high-quality audio first responders need for mission-critical operations. Options include a standard mic with an angled or a straight connector, noise-canceling mic, desktop microphone and dual control unit microphones



Noise Cancelling Mic



DTMF Microphone



Desktop Microphone

Additional Accessories

A number of other antennas, remote mounting kits, desktop control station, motorcycle kits (30 and 50W only), PC programming software and cables are also available.

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.

Learn more at harris.com.

FLORIDA | NEW YORK | VIRGINIA | BRAZIL | UNITED KINGDOM | UAE | SINGAPORE

Non-Export Controlled Information

Harris is a registered trademark of Harris Corporation. Trademarks and trade names are the property of their respective companies.

© 2017 Harris Corporation 10/17 CS-PSPC DS1703 (formerly ECR-8070F)

HARRIS® TECHNOLOGY TO CONNECT,
INFORM AND PROTECT™