Unity® XG-100P Portable
Full-Spectrum Multiband

The Unity XG-100P is the only portable radio that provides

- Full-Spectrum multiband frequency coverage
- Harris' proprietary noise suppression capability
- Built-in GPS and Bluetooth® wireless technology
- Next-generation user interface

The Unity XG-100P Full-Spectrum Multiband Radio's user-centric design delivers unprecedented interoperability, ease of use, and advanced capabilities in a radio that users can depend on for years to come.

Unprecedented Interoperability
The XG-100P covers all portable land mobile radio frequency bands in a *single* radio:

- VHF band (136-174 MHz)
- UHF bands (380-520 MHz)
- 700/800 MHz bands (762-870 MHz)

The XG-100P is a truly interoperable solution, capable of supporting:

- APCO P25 Trunking
- P25 Conventional
- Analog FM Wideband and Narrowband Modes
- MDC-1200 Analog ID
- Conventional Voted Scanning

The XG-100P can scan continuously across all bands and encryption types. Additionally the radio can scan Conventional and P25 Conventional channels while on a P25 Trunked system. The Unity XG-100P puts unprecedented connectivity in the hands of its user.

Operation in High-Noise Environments
The XG-100P features Harris' proprietary noise suppression capability to provide clear and crisp voice quality in high-noise environments for use in any mode, including both analog and digital communications. The radio is designed with dual microphones and advanced signal processing technology for built-in noise suppression. Additionally, the radio supports accessories such as remote speaker microphones for use with this capability.

GPS-Enabled Situational Awareness
The XG-100P incorporates a Global Positioning System (GPS), enabling user position to be sent securely over the air for personnel position tracking and rapid response for emergencies. This positional information can also be received by other Unity radios and displayed directly on screen for tactical situational awareness of all radio users.

Next-Generation User Interface
The user-centric design of the XG-100P offers significant capability and flexibility beyond push-to-talk:

- Large, full-color display features next-generation graphical user interface (GUI)
- Intuitive use of the radio's features, including GPS, customized scanning, and front panel programming
- Ergonomic design with easy-to-use buttons for hand-held operation
- Large knobs and a configurable top display provide instantaneous radio control when operating in a holster

Bluetooth Wireless Technology
Wireless audio and data accessories for the XG-100P are supported by built-in Bluetooth technology. Additionally, the wireless data interface can be used to connect a computer for programming and configuring radios, with no cable connections required. For security purposes, all connections are initiated and managed from the radio interface and can be secured using AES encryption. Additionally, the Bluetooth transceiver can be disabled, if desired.

Extended Channel Capacity
The XG-100P is designed to maximize interoperability by providing the channel capacity necessary to operate on many systems across all frequency bands:

- Able to store 1,250 channels and 512 system profiles per mission plan
- Able to store up to 10 mission plans for a total of 12,500 channels
- Can be completely reconfigured from the front panel by loading different mission plans for different situations

Software-Defined Radio Architecture
Harris has a long history of fielding mission-critical software-defined radios that support evolving customer requirements through software-only upgrades. The XG-100P builds upon this experience and expertise, featuring a true software-defined radio architecture that allows flexibility for future growth, including a software-only upgrade to the APCO P25 Phase 2 standards when available.

The XG-100P also meets the applicable standards of the Department of Homeland Security's P25 Compliance Assessment Program (CAP).

Future-Proof Investment
Every XG-100P is built to exceed the MIL-STD-810F military standards for ruggedness and immersion. With a 3-year standard radio warranty, the XG-100P Full-Spectrum Multiband Radio is a future-proof investment.

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

General Specifications

Dimensions (H x W x D):
(Without Knobs and Antenna)
With battery:
6.50 x 2.43 x 1.83 in.
(167.6 x 61.7 x 46.5 mm)

Approximate Weight (with Battery):
22.5 oz (638g)

Input Voltage:
7.5 VDC (nominal)

Immersion:
1 meter for 30 minutes in accordance with MIL-STD-810F

Battery Life (at 5% Tx, 5% Rx, and 90% standby):
Li-Polymer: >12 hours (3600 mAH)

Operating Temperature Range:
-4 to +140°F (-20 to +60°C)

Relative Humidity:
Per MIL-STD-810F

Altitude:
Operational: 15,000 ft (4,572 m)
In Transit: 40,000 ft (12,192 m)

Front Display:
176 pixels x 200 pixels, 2.2 in. transflective LCD, 16-bit color with white LED backlight

Top Display:
128 pixels x 32 pixels, 0.91 in. Organic Light-Emitting Diode (OLED)

Keypad:
Backlight, 2 soft keys, 5-way navigation key, 4x3 keypad, home button

Buttons/Switches:
Large PTT button, on/off knob, volume knob, red emergency button, 16-position top-mounted rotary knob, 2-position concentric switch, 3-position toggle switch, 3 programmable side buttons

TX/RX Indicator:
Multi-color LED

Channel Capacity:
12,500 (1,250 per mission plan)

Options and Accessories

Speaker microphones, programming software and cables, surveillance accessories, antennas, cases, straps, belt loops and swivel mounts, and desk chargers

Intrinsically Safe Options

Intrinsically Safe for Class I, II, III Division 1, Groups D, F, and G hazardous (classified) locations and suitable for Class I, Division 2, Groups A, B, C and D hazardous (classified) locations.

N24862

Transmitter

Typical Performance	Full-Spectrum Multiband
Frequency Range (MHz):	136-174 (VHF), 380-520 (UHF), 762-870 (700/800)
Rated RF Power Trunked (W):	VHF: 1-6, UHF: 1-5, 700/800: 0.5-3
Rated RF Power Talkaround (W):	VHF: 1-6, UHF: 1-5, 700/800: 0.5-3
Frequency Stability (-30 to +60°C) (ppm):	±0.5
Modulation Limiting (kHz):	2.5, 4, 5 (FM)
Audio Response (dB):	+1/-3
Spurious and Harmonics (dBc):	-70, FCC Part 90
FM Hum and Noise @ 25 kHz (dB):	VHF: -51, UHF: -54, 700/800: -50
FM Hum and Noise @ 12.5 kHz (dB):	VHF: -45, UHF: -47, 700/800: -44
Audio Distortion (%):	<1.25
P25 Modulation Fidelity (%):	<1.00
P25 Adjacent Channel Power (dBc):	>67
Emission Designators:	16K0F3E, 11K0F3E, 8K4F1E, 8K4F1D, 12K00G1E, 12K00G1D, 14K0F3E

Receiver

Typical Performance	Full-Spectrum Multiband
Frequency Range (MHz):	136-174 (VHF), 380-520 (UHF), 762-870 (700/800)
Channel Spacing (kHz):	12.5, 25
Sensitivity (12 dB SINAD) (dBm):	VHF: -121.1, UHF: -123.0, 700/800: -121.4
P25 Reference Sensitivity (5% BER) (dBm):	VHF: -121.0, UHF: -122.9, 700/800: -121.4
Adjacent Channel Rejection @ 25 kHz (dB):	VHF: 77.8, UHF: 73.7, 700/800: 72.7
P25 Adjacent Channel Rejection @ 12.5 kHz (dB):	VHF: 66.2, UHF: 62.2, 700/800: 62.0
Intermodulation (dB):	VHF: 74.3, UHF: 78.8, 700/800: 78.5
Spurious and Image Rejection (dB):	VHF: 70, UHF: 75, 700/800: 70
FM Hum and Noise @ 25 kHz (dB):	VHF: -54.8, UHF: -49.1, 700/800: -48.2
FM Hum and Noise @ 12.5 kHz (dB):	VHF: -53.8, UHF: -43.7, 700/800: -42.8
Rated/Max. Audio Output (mW):	500/1200
Audio Distortion:	1.1% @ rated power

Environmental Specifications

Standard	Parameter	Methods & Procedures
MIL-STD-810F*	Low Pressure	500.4/1,2
	High Temperature	501.4/1,2
	Low Temperature	502.4/1,2
	Temperature Shock	503.4/1
	Solar Radiation	505.4/1
	Blowing Rain	506.4/1
	Humidity	507.4
	Salt Fog	509.4
	Blowing Dust & Sand	510.4/1,2
	Immersion	512.4/1
	Vibration (Minimum Integrity)	514.5/1, Category 24
	Vibration (Basic Transportation)	514.5/1, Category 4
	Shock (Functional/Basic)	516.5/1
	Shock (Transit Drop)	516.5/4
	Shock (Bench Handling)	516.5/6

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

Digital Operation

	APCO P25
Vocoding Method:	AMBE+2™ Enhanced Full Rate & Enhanced Half Rate
Data Rate (kbps):	9.6
Modulation:	C4FM
Encryption algorithms:	AES, DES-OFB, DES-CFB
Encryption keys:	128 keys (64 AES, 64 DES)
Encryption keying:	Harris Keyloader, P25 Conventional and Trunked OTAR, KVL-3000+

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
136-174	6	0.5	AQZ-XG-100P00	80, 90	122D-XG100P00	RSS-119
380-520	5	0.5	AQZ-XG-100P00	90	122D-XG100P00	RSS-119
763-775, 793-805	2.5	0.5	AQZ-XG-100P00	90	122D-XG100P00	RSS-119
806-824, 851-869	3	0.5	AQZ-XG-100P00	90	122D-XG100P00	RSS-119

Bluetooth®

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