



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<sup>®</sup> 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 ability to scan continuously across all bands, voice modes, and encryption types puts unprecedented connectivity in the hands of the 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 50 system profiles per mission plan
- Able to store up to 10 mission plans for a total of 12,500 channels and 500 system profiles
- 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.

\* Feature available in R1.1 radio firmware.

### 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. transreflective 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

To be provided upon receipt of Factory Mutual and CSA certifications.

### 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                          |

