APX™ 7000 MULTIBAND PORTABLE RADIO

On surveillance, on border patrol or on a multi-agency response, you want a radio that keeps you connected, no matter how loud the background noise, harsh the weather or long the hours. You depend on a ruggedly reliable portable with crystal-clear communication so every word is heard. You need a multiband radio so interoperable, multiple federal, state and local agencies can communicate and collaborate seamlessly together – without having to carry two radios.

Working with public safety and federal personnel around the world, we developed the smallest multiband portable on the market: the APX™ 7000. We engineered our radio with their requests in mind – from easy-to-use design and seamless interoperability to best-in-class audio. The result is an interoperable multiband radio that is 50% louder than comparable radios in its class.*

INTEROPERATE IN AN INSTANT
Rushing to a fire or reporting from a covert operation, you don’t want to carry two radios in order to communicate. That’s why the APX 7000 is so valuable. It performs across multiple digital and analog networks and operates in any of two bands (700/800 MHz, VHF and UHF R1, UHF R2) for instant interoperability. Now you can efficiently manage mission critical voice and data in any environment – and significantly improve your safety and response time.

HEAR EVERY WORD
The frenzy of city streets. The blare of sirens. The whine of equipment. Background noise can block communications. But with a dual-sided two-microphone design for exceptional noise-canceling, dual speakers for the loudest, clearest audio available and the latest AMBE digital voice vocoder, the APX 7000 cuts through the clamor – so every word is heard and every message is understood, everywhere you go.

FUTURE-READY WHEN YOU ARE
How can you protect your radio investment and make sure your new purchases are easily updated as technology evolves? Every APX 7000 radio is backward and forward compatible, meets current P25 standards and is future-ready to support new technology and data applications. So you can achieve your interoperability objectives—whether upgrading an existing system or designing a new one—at your own pace.

*Based on results of controlled engineering tests
APX 7000 PROJECT 25 MULTIBAND PORTABLE RADIO

FEATURES AND BENEFITS:
Available in 700-800 MHz, VHF, UHF Range 1, and UHF Range 2 bands
Optional multiband operation
Trunking standards supported:
- Clear or digital encrypted ASTRO®25 Trunked Operation
- Capable of SmartZone®, SmartZone Omnilink, SmartNet®
Analog MDC-1200 and Digital APCO P25 Conventional System Configurations
Narrow and wide bandwidth digital receiver* (6.25 kHz equivalent / 12.5 kHz / 30 kHz / 25 kHz)
Embedded digital signaling (ASTRO & ASTRO 25)
Seamless wideband scan
Integrated Voice & Data
Integrated GPS/GLONASS for outdoor location tracking
Intelligent Priority Scan
Software Key
Intelligent Lighting
Radio Profiles
Unified Call List (Dual Display model only)
Expansion Slot
Micro SD removable memory card
User programmable voice announcement
Instant Recall
Meets Applicable MIL-STD-810C, D, E, F, and G IP67 standard****

CUSTOM RECESSED LABEL AREAS

SUMERIOR AUDIO FEATURES:
- 1W high audio speaker
- Dual speakers (Dual Display model only)
- Dual microphones
- 2-mic noise canceling technology
Utilities Windows XP, Vista, Windows 7 and 8
Customer Programming Software (CPS)**
- Supports USB communications
- Built in FLASHport™ support
Full portfolio of accessories including IMPRES batteries, chargers and audio devices
Mission Critical Wireless Bluetooth**

OPTIONAL FEATURES:
Enhanced Encryption capability
Programming Over Project 25
Over the Air Rekey
Text Messaging
Man Down
Submersible to 2 meters for 2 hours (with Rugged Option)
Public Safety Yellow and High Impact Green housing options

* Per the FCC Narrowbanding rules, new products (APX7000 UHFR1 with UHFR2 combination) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25KHz for United States - State & Local Markets only.
** Compatible with BT 2.1 HSP, PAN, DUN and SSP BT Profiles
*** CPS version R12.00.00 and greater ordered after June 2014 will only support Windows 7 and 8
****Radios meet industry standards (IPx7) for submersion.

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Frequency Range/Bandsplits</th>
<th>700 MHz</th>
<th>800 MHz</th>
<th>VHF</th>
<th>UHF Range 1</th>
<th>UHF Range 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range/Bandsplits</td>
<td>763-776 MHz</td>
<td>806-824 MHz</td>
<td>136-174 MHz</td>
<td>388-470 MHz</td>
<td>450-520 MHz</td>
</tr>
<tr>
<td>Channel Spacing</td>
<td>25 kHz</td>
<td>25 kHz</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Maximum Frequency Separation</td>
<td>Full Bandsplit</td>
<td>Full Bandsplit</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated RF Output Power Adj</td>
<td>1-2.5 Watts</td>
<td>1-3 Watts</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency Stability*</td>
<td>±0.8 ppm</td>
<td>±0.8 ppm</td>
<td>±0.8 ppm</td>
<td>±0.8 ppm</td>
<td>±0.8 ppm</td>
</tr>
<tr>
<td>Modulation Limiting</td>
<td>±5 kHz / ±4 kHz / ±2.5 kHz</td>
<td>±5 kHz / ±4 kHz / ±2.5 kHz</td>
<td>±5 kHz / ±4 kHz / ±2.5 kHz</td>
<td>±5 kHz / ±4 kHz / ±2.5 kHz</td>
<td>±5 kHz / ±4 kHz / ±2.5 kHz</td>
</tr>
<tr>
<td>Emissions</td>
<td>–75 dB</td>
<td>–75 dB</td>
<td>–75 dB</td>
<td>–75 dB</td>
<td>–75 dB</td>
</tr>
<tr>
<td>Audio Response</td>
<td>+1, –3 dB</td>
<td>+1, –3 dB</td>
<td>+1, –3 dB</td>
<td>+1, –3 dB</td>
<td>+1, –3 dB</td>
</tr>
<tr>
<td>Audio Distortion</td>
<td>0.60 %</td>
<td>1 %</td>
<td>0.50 %</td>
<td>0.50 %</td>
<td>0.50 %</td>
</tr>
</tbody>
</table>

BATTERIES FOR APX 7000

<table>
<thead>
<tr>
<th>Battery Capacity / Type</th>
<th>Dimensions (HxWxD)</th>
<th>Weight</th>
<th>Battery Part Number</th>
<th>Battery Capacity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Li-ion IMPRES 2, 2300 mAh, TIA 4850-A, IP68*</td>
<td>3.4” x 2.3” x 1.1”</td>
<td>6.5 oz</td>
<td>NNTN8930</td>
<td>2300 mAh</td>
</tr>
<tr>
<td>Li-ion IMPRES 2, 3400 mAh*</td>
<td>3.4” x 2.3” x 1.1”</td>
<td>8.5 oz</td>
<td>PMNN4486</td>
<td>3400 mAh</td>
</tr>
<tr>
<td>Li-ion IMPRES 2, 4500 mAh, TIA 4850-A, IP68†</td>
<td>5.0” x 2.3” x 1.0”</td>
<td>11.3 oz</td>
<td>NNTN8921</td>
<td>4500 mAh</td>
</tr>
<tr>
<td>Li-ion IMPRES 2, 4850 mAh</td>
<td>5.0” x 2.3” x 1.1”</td>
<td>11.0 oz</td>
<td>PMNN4487</td>
<td>4850 mAh</td>
</tr>
<tr>
<td>Li-ion IMPRES 2, 5100 mAh</td>
<td>5.0” x 2.3” x 1.1”</td>
<td>11.0 oz</td>
<td>PMNN4494</td>
<td>5100 mAh</td>
</tr>
<tr>
<td>Li-ion IMPRES 2, 3100 mAh, TIA 4850-A, IP68</td>
<td>3.4” x 2.3” x 1.1”</td>
<td>7.1 oz</td>
<td>PMNN4547</td>
<td>3100 mAh</td>
</tr>
</tbody>
</table>

* Standard shipping battery
† HazLoc approval only available on 7/800 MHz and VHF band combinations

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## RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS

<table>
<thead>
<tr>
<th>Frequency Range/Bandspits</th>
<th>700 MHz</th>
<th>800 MHz</th>
<th>VHF</th>
<th>UHF Range 1</th>
<th>UHF Range 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range/Bandspits</td>
<td>763-776 MHz</td>
<td>851-870 MHz</td>
<td>136-174 MHz</td>
<td>380-470 MHz</td>
<td>450-520 MHz</td>
</tr>
<tr>
<td>Channel Spacing</td>
<td>25/12.5 kHz</td>
<td>25/12.5 kHz</td>
<td>30/25/12.5 kHz</td>
<td>25/12.5 kHz</td>
<td>25/12.5 kHz</td>
</tr>
<tr>
<td>Maximum Frequency Separation</td>
<td>Full Bandsplit</td>
<td>Full Bandsplit</td>
<td>Full Bandsplit</td>
<td>Full Bandsplit</td>
<td>Full Bandsplit</td>
</tr>
<tr>
<td>Audio Output Power at Rated¹</td>
<td>1000 mW</td>
<td>1000 mW</td>
<td>1000 mW</td>
<td>1000 mW</td>
<td>1000 mW</td>
</tr>
<tr>
<td>Frequency Stability¹ (-30°C to +60°C; +25°C Ref.)</td>
<td>±0.8 ppm</td>
<td>±0.8 ppm</td>
<td>±0.8 ppm</td>
<td>±0.8 ppm</td>
<td>±0.8 ppm</td>
</tr>
<tr>
<td>Analog Sensitivity¹ 12 dB SINAD</td>
<td>0.250 μV</td>
<td>0.250 μV</td>
<td>0.216 μV</td>
<td>0.234 μV</td>
<td>0.234 μV</td>
</tr>
<tr>
<td>Digital Sensitivity¹</td>
<td>1% BER</td>
<td>1% BER</td>
<td>0.277 μV</td>
<td>0.307 μV</td>
<td>0.307 μV</td>
</tr>
<tr>
<td>Selectivity¹</td>
<td>25 kHz channel</td>
<td>75.7 dB</td>
<td>75.7 dB</td>
<td>79.3 dB</td>
<td>78.3 dB</td>
</tr>
<tr>
<td>Spurious Rejection</td>
<td>76.6 dB</td>
<td>76.6 dB</td>
<td>93.2 dB</td>
<td>80.3 dB</td>
<td>80.3 dB</td>
</tr>
<tr>
<td>Intermodulation</td>
<td>80 dB</td>
<td>80 dB</td>
<td>80.5 dB</td>
<td>80.2 dB</td>
<td>80.2 dB</td>
</tr>
<tr>
<td>Audio Distortion¹</td>
<td>0.9 %</td>
<td>0.9 %</td>
<td>1.20 %</td>
<td>0.91 %</td>
<td>0.91 %</td>
</tr>
</tbody>
</table>

### RADIO MODELS

#### Model 1.5 Top Display

- **Display**: Full bitmap monochromatic LCD display  
  - 1 line text, 8 characters  
  - 1 line of icons  
  - No menu support  
  - Multi-color backlight
- **Keypad**: None
- **Channel Capacity**: 1200
- **FLASHport Memory**: 64 MB
- **VHF (136-174 MHz)**: Model H97TGD9PW1AN, Primary QA00570, Secondary QA00574, Keypad QA00577
- **UHF Range 1 (380-470 MHz)**: Model H97TGD9PW1AN, Primary QA00571, Secondary QA00575, Keypad QA00577
- **UHF Range 2 (450-520 MHz)**: Model H97TGD9PW1AN, Primary QA00572, Secondary QA00576, Keypad QA00577
- **Buttons & Switches**: Large PTT button  
  - Angled On/Off Volume knob  
  - Orange emergency button  
  - 16 position top mounted rotary switch  
  - 2-position concentric switch  
  - 3-position toggle switch  
  - 3 programmable side buttons  
  - Multi-color backlight
- **Embedded GPS**: Yes  
  - Multi-color

#### Model 3.5 Dual Display

- **Display**: Top display plus full bitmap color display  
  - LCD display  
  - 4 lines text, 14 characters  
  - 2 lines of icons  
  - 1 menu line, 3 menus
- **Keypad**: Multi-color backlight  
  - Full Keypad  
  - 3 soft keys  
  - 4-direction navigation key  
  - 4x3 keypad  
  - Home and Data buttons
- **Channel Capacity**: 3000
- **FLASHport Memory**: 64 MB
- **VHF (136-174 MHz)**: Model H97TGD9PW1AN, Primary QA00569, Secondary QA00573, Keypad QA00577
- **UHF Range 1 (380-470 MHz)**: Model H97TGD9PW1AN, Primary QA00570, Secondary QA00574, Keypad QA00577
- **UHF Range 2 (450-520 MHz)**: Model H97TGD9PW1AN, Primary QA00572, Secondary QA00576, Keypad QA00577
- **Buttons & Switches**: Large PTT button  
  - Angled On/Off Volume knob  
  - Orange emergency button  
  - 18 position top mounted rotary switch  
  - 2-position concentric switch  
  - 3-position toggle switch  
  - 3 programmable side buttons  
  - Multi-color backlight
- **Embedded GPS**: Yes  
  - Multi-color

### Transmitter Certification

- **VHF – 700/800 MHz**: AZ489FT7036 (136-174 MHz and 764-869 MHz)
- **UHF R1 – 700/800 MHz**: AZ489FT7040 (380-470 MHz and 764-869 MHz)
- **UHF R1 – VHF**: AZ489FT4886 (380-470 MHz and 136-174 MHz)
- **UHF R2 – 700/800 MHz**: AZ489FT7042 (450-520 MHz and 764-869 MHz)
- **UHF R2 – VHF**: AZ489FT4893 (450-520 MHz and 136-174 MHz)
- **Bluetooth**: AZ489FT6000
- **BT Freq Range**: 2402-2480 MHz

### FCC Emission Designators

- **FCC Emission Designators**: 11K0F3E, 16K0F3E, B810F1D, B810F1E, B810F1W, 20K0F1E*

### Power Supply

- **Power Supply**: One rechargeable 2900 mAh Li-Ion Battery standard (PMN14496), with alternate battery options available.

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* Per the FCC Narrowbanding rules, new products (APX7000 UHF R1 with UHF R2 combination) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25KHz for United States - State & Local Markets only.
### GPS Specifications

<table>
<thead>
<tr>
<th>Channels</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tracking Sensitivity</td>
<td>~151 dBm</td>
</tr>
<tr>
<td>Accuracy</td>
<td>&lt;10 meters (95%)</td>
</tr>
<tr>
<td>Hot Start</td>
<td>&lt;10 seconds (95%)</td>
</tr>
<tr>
<td>Mode of Operation</td>
<td>Autonomous (Non-Assisted) GPS</td>
</tr>
</tbody>
</table>

### Dimensions of the Radios Without Battery

<table>
<thead>
<tr>
<th></th>
<th>Inches</th>
<th>Millimeters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>6.29</td>
<td>159.7</td>
</tr>
<tr>
<td>Width Push-To-Talk button</td>
<td>2.31</td>
<td>58.6</td>
</tr>
<tr>
<td>Depth Push-To-Talk button</td>
<td>1.34</td>
<td>34.0</td>
</tr>
<tr>
<td>Width Top</td>
<td>2.98</td>
<td>75.6</td>
</tr>
<tr>
<td>Depth Top</td>
<td>1.6</td>
<td>40.5</td>
</tr>
<tr>
<td>Depth Bottom of Battery</td>
<td>1.65</td>
<td>41.7</td>
</tr>
<tr>
<td>Weight of the radios without battery</td>
<td>12.2 oz</td>
<td>346 g</td>
</tr>
</tbody>
</table>

### EnCRYPTION

- **Supported Encryption Algorithms:** ADP, AES, DES, DES-XL, DES-OFB, DVP-XL
- **Encryption Algorithm Capacity:** 8
- **Encryption Keys per Radio:** Module capable of storing 1024 keys. Programmable for 128 Common Key Reference (CKR) or 16 Physical Identifier (PID)
- **Encryption Frame Re-sync Interval:** P25 CAI 300 mSec
- **Encryption Keying Key Loader:** Key Loader
- **Synchronization:** XL – Counter Addressing
- **Vector Generator:** National Institute of Standards and Technology (NIST) approved random number generator
- **Encryption Type:** Digital
- **Key Storage:** Tamper protected volatile or non-volatile memory
- **Key Erasure:** Keyboard command and tamper detection
- **Standards:** FIPS 140-2 Level 3, FIPS 197

### PORTABLE MILITARY STANDARDS 810 C, D, E, F & G

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Pressure</td>
<td>500.1 I</td>
<td>500.2 II</td>
<td>500.3 II</td>
<td>500.4 II</td>
</tr>
<tr>
<td>High Temperature</td>
<td>501.1 I, II</td>
<td>501.2 I/A1, II/A1</td>
<td>501.3 I/A1, II/A1</td>
<td>501.4 I/A1, II/A1</td>
</tr>
<tr>
<td>Low Temperature</td>
<td>502.1 I</td>
<td>502.2 I/C3, II/C1</td>
<td>502.3 I/C3, II/C1</td>
<td>502.4 I/C3, II/C1</td>
</tr>
<tr>
<td>Temperature Shock</td>
<td>503.1 I Proc</td>
<td>503.2 I/A1C3</td>
<td>503.3 I/A1C3</td>
<td>503.4 I</td>
</tr>
<tr>
<td>Solar Radiation</td>
<td>505.1 I Proc</td>
<td>505.2 I</td>
<td>505.3 I</td>
<td>505.4 I</td>
</tr>
<tr>
<td>Rain</td>
<td>506.1 I, II</td>
<td>506.2 I, II</td>
<td>506.3 I, II</td>
<td>506.4 I, III</td>
</tr>
<tr>
<td>Humidity</td>
<td>507.1 I, II</td>
<td>507.2 I</td>
<td>507.3 I</td>
<td>507.4 I Proc</td>
</tr>
<tr>
<td>Salt Fog</td>
<td>509.1 I Proc</td>
<td>509.2 I</td>
<td>509.3 I</td>
<td>509.4 I Proc</td>
</tr>
<tr>
<td>Blowing Dust</td>
<td>510.1 I</td>
<td>510.2 I</td>
<td>510.3 I</td>
<td>510.4 I</td>
</tr>
<tr>
<td>Blowing Sand</td>
<td>1 Proc</td>
<td>510.2 I</td>
<td>510.3 I</td>
<td>510.4 I</td>
</tr>
<tr>
<td>Submersion</td>
<td>512.1 I</td>
<td>512.2 I</td>
<td>512.3 I</td>
<td>512.4 I</td>
</tr>
<tr>
<td>Vibration</td>
<td>514.2 VIII, Curve-W</td>
<td>514.3 I</td>
<td>514.4 I, II/3</td>
<td>514.5 I, II/3</td>
</tr>
<tr>
<td>Shock</td>
<td>516.2 I, III, V, VI</td>
<td>516.3 I, VI</td>
<td>516.4 I, V, VI</td>
<td>516.5 I, VI</td>
</tr>
</tbody>
</table>

### ENVIRONMENTAL SPECIFICATIONS

- **Operating Temperature:** -30°C / +60°C
- **Storage Temperature:** -40°C / +85°C
- **Humidity:** Per MIL-STD
- **ESD:** IEC 801-2 KV
- **Water and Dust Intrusion:** Mil Std 512.X, Delta - T
- **Hazardous Location / Intrinsic Safety (IS):** Class I, Division 1, Group D; Class II, Division 1, Group E, F, G

Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements.

1 Measured in the analog mode per TIA / EIA 603 single-tone method under nominal conditions
2 When used with an HazLoc approved radio.
3 Measured conductively in analog mode per TIA / EIA 603 under nominal conditions
4 Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions
5 Accuracy specs are for long-term tracking (95th percentile values >5 satellites visible at a nominal –130 dBm signal strength)
6 For rugged models only
7 Temperatures listed are for radio specifications. Battery storage is recommended at 25°C, ±5°C to ensure best performance
8 Only when ordered with HazLoc approved battery. Only available on 7/800 MHz & VHF band combinations.