APX™ 6000 PROJECT 25 PORTABLE RADIO

Delivering outstanding performance in a compact form factor without sacrificing the features you need most. The APX™ 6000 is the next generation of ruggedly-reliable performers that gives you the advanced features such as Mission Critical Wireless and GPS location tracking in a small, P25 Phase 2 capable radio. Whether you’re on patrol or racing to a fire, the APX 6000 puts you in greater control of your safety, response time and technology investment.

Focus on the task not the technology, with the real-world ready radio that turns mission critical into mission complete.

CUTTING-EDGE FEATURES IN A COMPACT SIZE

- Innovative T-grip design gives you a secure grip and better control
- High-contrast color display is easy to read in different lighting conditions
- Top display is quick to read while looking down, at a glance or from an angle
- Universal push-to-talk button with enhanced grooves is easy to find by “touch”

EXCELLENT AUDIO YOU CAN HEAR LOUD AND CLEAR

- Excellent audio ensures voice communications are intelligible, even in high noise environments
- Dual sided 2 microphone noise canceling technology
- Equipped with the latest AMBE digital voice vocoder

FUTURE-READY TECHNOLOGY TO RELY ON TODAY

- Small P25 Phase 2 capable radio that provides twice the voice capacity
- Backwards and forwards compatible with all Motorola mission critical radio systems
- Supports applications like Mission Critical Wireless and GPS location tracking for greater safety
**PRODUCT DATA SHEET**

**APX™ 6000**

**FEATURES AND BENEFITS:**
Available in 700/800 MHz, VHF, UHF R1, and UHF R2 bands
- 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/25/20/12.5 KHz)
- Embedded digital signaling (ASTRO & ASTRO 25)
- Available in 3 models
- ASTRO 25 Integrated Voice & Data
- Software Key
- Intelligent Lighting
- Radio Profiles
- Unified Call List (Models 2.5 and 3.5 only)
- User programmable voice announcement
- Meets Applicable MIL-STD-810C, D, E, F and G
- IP67 standard
  (submersible 1 meter, 30 minutes)**
- Yellow and green colored housing options
- Custom recess label areas

**SUPERIOR AUDIO FEATURES:**
- 0.5 W high audio speaker
- Dual microphones
- 2-mic noise canceling technology
- Utilizes Windows XP, Vista and 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
- GPS Outdoor Location Tracking
- Programming Over Project 25
- Over the Air Rekey
- Text Messaging
- Man Down
- Rugged submersible housing** (2 meters, 2 hours)

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**TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Frequency Range/Bandsplits</th>
<th>700/800</th>
<th>VHF</th>
<th>UHF Range 1</th>
<th>UHF Range 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>700 MHz 800 MHz</td>
<td>763-776, 733-806 MHz</td>
<td>763-776, 733-806 MHz</td>
<td>136-174 MHz</td>
<td>380-470 MHz</td>
</tr>
<tr>
<td>25/20/12.5 kHz</td>
<td>25/20/12.5 kHz</td>
<td>25/20/12.5 kHz</td>
<td>25/20/12.5 kHz</td>
<td>25/20/12.5 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>
</tr>
<tr>
<td>Rated RF Output Power Adj</td>
<td>1-3 Watts Max</td>
<td>1-6 Watts Max</td>
<td>1-5 Watts Max</td>
<td>1-5 Watts</td>
</tr>
<tr>
<td>Frequency Stability</td>
<td>±0.00010 %</td>
<td>±0.00010 %</td>
<td>±0.00010 %</td>
<td>±0.00010 %</td>
</tr>
<tr>
<td>Modulation Limiting</td>
<td>±5 kHz / ±4 kHz / ±2.5 kHz</td>
<td>±5 kHz / ±2.5 kHz</td>
<td>±5 kHz / ±2.5 kHz</td>
<td>±5 kHz / ±4 kHz / ±2.5 kHz</td>
</tr>
<tr>
<td>Emissions (Conducted and Radiated)</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>
</tr>
<tr>
<td>Audio Distortion</td>
<td>0.60 %</td>
<td>0.50 %</td>
<td>0.50 %</td>
<td>0.50 %</td>
</tr>
</tbody>
</table>

**BATTERIES FOR APX 6000**

<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 2150 mAh IP67***</td>
<td>3.39” x 2.34” x 1.46”</td>
<td>5 oz</td>
<td>PMNN4403</td>
<td>2150 mAh</td>
</tr>
<tr>
<td>Li-Ion IMPRES 2900 mAh IP67</td>
<td>3.07” x 2.34” x 1.65”</td>
<td>6.53 oz</td>
<td>NNTN7038</td>
<td>2900 mAh</td>
</tr>
<tr>
<td>Li-Ion IMPRES 4200 mAh IP67</td>
<td>5.07” x 2.34” x 1.65”</td>
<td>11.29 oz</td>
<td>NNTN7034</td>
<td>4200 mAh</td>
</tr>
<tr>
<td>Li-Ion IMPRES 4100 mAh FM² IP67</td>
<td>5.07” x 2.34” x 1.65”</td>
<td>11.29 oz</td>
<td>NNTN7033</td>
<td>4100 mAh</td>
</tr>
<tr>
<td>NiMH IMPRES 2100 mAh IP67</td>
<td>5.12” x 2.34” x 1.57”</td>
<td>11.82 oz</td>
<td>NNTN7037</td>
<td>2100 mAh</td>
</tr>
<tr>
<td>NiMH IMPRES 2000 mAh FM² IP67</td>
<td>5.12” x 2.34” x 1.57”</td>
<td>11.82 oz</td>
<td>NNTN7036</td>
<td>2000 mAh</td>
</tr>
<tr>
<td>NiMH IMPRES 2000 mAh FM² Rugged</td>
<td>5.12” x 2.34” x 1.57”</td>
<td>11.82 oz</td>
<td>NNTN7035</td>
<td>2000 mAh</td>
</tr>
<tr>
<td>NiMH IMPRES 2100 mAh Rugged</td>
<td>5.12” x 2.34” x 1.57”</td>
<td>11.82 oz</td>
<td>NNTN7573</td>
<td>2100 mAh</td>
</tr>
<tr>
<td>Li-Ion IMPRES 2300 mAh FM² Rugged</td>
<td>3.39” x 2.34” x 1.65”</td>
<td>6.53 oz</td>
<td>NNTN8092</td>
<td>2300 mAh</td>
</tr>
</tbody>
</table>

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**NOTE:**
- Per the FCC Narrowbanding rules, new products (APX6000 UHFR1, UHFR2) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25KHz for United States - State & Local Markets only.
** Radios meet industry standards (IPx7) for immersion.
*** Compatible with BT 2.1 HSP, PAN, DUN and SPP BT Profiles
**** CPS version R12.00.00 and greater ordered after June 2014 will only support Windows 7 and 8

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* Standard shipping battery.
## RADIO MODELS

<table>
<thead>
<tr>
<th>MODEL 1.5</th>
<th>MODEL 2.5</th>
<th>MODEL 3.5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Display</strong></td>
<td>Full bitmap monochromatic LCD top display 1 line text x 8 characters 1 line of icons No menu support Multi-color backlight</td>
<td>Top display plus: Full bitmap color LCD display 4 lines of text x 14 characters 2 lines of icons 1 menu line x 3 menus White backlight</td>
</tr>
<tr>
<td><strong>Keypad</strong></td>
<td>none</td>
<td>Backlight keypad 3 soft keys 4 direction Navigation key Home and Data buttons</td>
</tr>
<tr>
<td><strong>Channel Capacity</strong></td>
<td>96</td>
<td>1000</td>
</tr>
<tr>
<td><strong>FLASHport Memory</strong></td>
<td>64 MB</td>
<td>64 MB</td>
</tr>
<tr>
<td><strong>TRANSMITTER CERTIFICATION</strong></td>
<td>700/800 (763-870 MHz) H98UC9PW5AN Q360NM H98UC9PW6AN Q360NN H98UCh9PW7AN Q380EF</td>
<td>VHF (136-174 MHz) H98GDF9PW5AN Q360NP H98GDF9PW6AN Q360NR H98GDF9PW7AN Q360NG</td>
</tr>
<tr>
<td><strong>Buttons &amp; Switches</strong></td>
<td>Large PTT button Angled On/Off volume control Orange emergency button 16 position top-mounted rotary switch 2-position concentric switch Multi-color backlight 3-position toggle switch 3 programmable side buttons</td>
<td></td>
</tr>
<tr>
<td><strong>POWER SUPPLY</strong></td>
<td>Power Supply One rechargeable 2150 mAh Li-Ion Battery Standard (PMNN4403), with alternate battery options available.</td>
<td></td>
</tr>
</tbody>
</table>

**RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS**

<table>
<thead>
<tr>
<th>700/800</th>
<th>VHF</th>
<th>UHF Range 1</th>
<th>UHF Range 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frequency Range/Bandsplits</strong></td>
<td>700 MHz 800 MHz</td>
<td>763-776 MHz 851-870 MHz</td>
<td>380-470 MHz 450-520 MHz</td>
</tr>
<tr>
<td><strong>Channel Spacing</strong></td>
<td>25/20/12.5 kHz</td>
<td>25/20/12.5 kHz</td>
<td>25/20/12.5 kHz</td>
</tr>
<tr>
<td><strong>Maximum Frequency Separation</strong></td>
<td>Full Bandsplit</td>
<td>Full Bandsplit</td>
<td>Full Bandsplit</td>
</tr>
<tr>
<td><strong>Audio Output Power at Rated</strong></td>
<td>500mW</td>
<td>500mW</td>
<td>1000 mW</td>
</tr>
<tr>
<td><strong>Frequency Stability</strong></td>
<td>±0.00010 %</td>
<td>±0.00010 %</td>
<td>±0.00010 %</td>
</tr>
<tr>
<td><strong>Analog Sensitivity</strong></td>
<td>12 dB SINAD</td>
<td>0.25 μV</td>
<td>0.22 μV</td>
</tr>
<tr>
<td><strong>Digital Sensitivity</strong></td>
<td>1% BER (800 MHz) 5% BER</td>
<td>0.35 μV (0.33 μV) 0.25 μV</td>
<td>0.28 μV 0.19 μV</td>
</tr>
<tr>
<td><strong>Selectivity</strong></td>
<td>25 kHz channel 12.5 kHz channel</td>
<td>75.7 dB 67.5 dB</td>
<td>79.3 dB 70 dB</td>
</tr>
<tr>
<td><strong>Intermodulation</strong></td>
<td>80 dB</td>
<td>80.5 dB</td>
<td>80.2 dB</td>
</tr>
<tr>
<td><strong>Spurious Rejection</strong></td>
<td>76.6 dB</td>
<td>93.2 dB</td>
<td>80.3 dB</td>
</tr>
<tr>
<td><strong>FM Hum and Noise</strong></td>
<td>25 kHz 12.5 kHz</td>
<td>-54 dB -48 dB</td>
<td>-53.8 dB -48 dB</td>
</tr>
<tr>
<td><strong>Audio Distortion</strong></td>
<td>.9 %</td>
<td>1.20 %</td>
<td>0.91 %</td>
</tr>
</tbody>
</table>
PORTABLE MILITARY STANDARDS 810 C, D, E, F & G

**MIL-STD 810C** | **MIL-STD 810D** | **MIL-STD 810E** | **MIL-STD 810F** | **MIL-STD 810G**
--- | --- | --- | --- | ---
Low Pressure | 500.1 | I | 500.2 | II | 500.3 | II | 500.4 | II | 500.5 | II
High Temperature | 501.1 | I, II | 501.2 | I/A1, II/A1 | 501.3 | I/A1, II/A1 | 501.4 | I/Hot, II/Basic Hot | 501.5 | I/A1, II/A2
Low Temperature | 502.1 | I | 502.2 | I/C3, II/C1 | 502.3 | I/C3, II/C1 | 502.4 | I/C3, II/C1 | 502.5 | I/C3, II/C1
Temperature Shock | 503.1 | I | 503.2 | I/A1C3 | 503.3 | I/A1C3 | 503.4 | I | 503.5 | I/C
Solar Radiation | 505.1 | II | 505.2 | I | 505.3 | I | 505.4 | I | 505.5 | I/A1
Rain | 506.1 | I, II | 506.2 | I, II | 506.3 | I, II | 506.4 | I, III | 506.5 | I, III
Humidity | 507.1 | II | 507.2 | II | 507.3 | II | 507.4 | 1 Proc | 507.5 | II/Aggravated
Salt Fog | 509.1 | I | 509.2 | I | 509.3 | I | 509.4 | 1 Proc | 509.5 | 1 Proc
Blowing Dust | 510.1 | I | 510.2 | I | 510.3 | I | 510.4 | I | 510.5 | I
Blowing Sand | 1 Proc | 1 Proc | 510.2 | II | 510.3 | II | 510.4 | II | 510.5 | II
Immersion | 512.1 | I | 512.2 | I | 512.3 | I | 512.4 | I | 512.5 | I
Vibration | 514.2 | VIII/F, Curve-W | 514.3 | I/10, II/3 | 514.4 | I/10, II/3 | 514.5 | I/24 | 514.6 | I/24
Shock | 516.2 | I, III, V | 516.3 | I, V, VI | 516.4 | I, V, VI | 516.5 | I, V, VI | 516.6 | I, V, VI
Shock (Drop) | 516.2 | II | 516.2 | IV | 516.4 | IV

**DIMENSIONS OF THE RADIOS WITHOUT BATTERY**

<table>
<thead>
<tr>
<th>Inches</th>
<th>Millimeters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>5.47</td>
</tr>
<tr>
<td>Width Push-To-Talk button</td>
<td>2.39</td>
</tr>
<tr>
<td>Depth Push-To-Talk button</td>
<td>1.40</td>
</tr>
<tr>
<td>Width Top</td>
<td>2.98</td>
</tr>
<tr>
<td>Depth Top</td>
<td>1.58</td>
</tr>
<tr>
<td>Depth Bottom of Battery</td>
<td>1.24</td>
</tr>
<tr>
<td>Weight of the radios without battery</td>
<td>10.9 oz</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 64 Common Key Reference (CKR) or 16 Physical Identifier (PID)
- **Encryption Frame Re-sync Interval**: P25 CAI 300 mSec
- **Encryption Keying**: Key Loader
- **Synchronization**: XL – Counter Addressing OFB – Output Feedback
- **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

**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**: IP67, MIL-STD
- **Immersion**: MIL-STD 512.X/I

**GPS SPECIFICATIONS**

- **Channels**: 12
- **Tracking Sensitivity**: -159 dBm
- **Accuracy**: <10 meters (95%)
- **Cold Start**: <60 seconds (95%)
- **Hot Start**: <10 seconds (95%)
- **Mode of Operation**: Autonomous (Non-Assisted) GPS

**RUGGED OPTION SPECIFICATIONS**

* Hazardous Location/Intrinsic Safety (IS)
  - Division 1 - Class I, Groups C, D
  - Class II groups E, F, G
  - Class III Div 2, Class I A, B, C, D
- **Leakage (immersion)**: MIL-STD-810 C, D, E, F and G Method 512.X Procedure I
- **Housing Availability**: Black (Standard), Public Safety Yellow and High Impact Green

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

**Supported Standards**

- MIL-STD 810C
- MIL-STD 810D
- MIL-STD 810E
- MIL-STD 810F
- MIL-STD 810G

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motorolasolutions.com

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