



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

- Universal Push-to-Talk
- T-Grip
- Dual Battery Latch
- Orange emergency button
- 16 position rotary switch
- 2 position concentric switch
- 3 position toggle switch
- 3 programmable side buttons
- Transmit LED indicator
- Backlit Keypad:
 - Home and Data buttons
 - 3 soft keys
 - 4 direction navigation key
 - 4 x 3 keypad
- Full Bitmap Display:
 - 2 lines of icons
 - 4 lines x 14 characters of text
 - Status icons

PRODUCT SPEC 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 / 12.5 kHz / 30 kHz / 25 kHz)
 Embedded digital signaling (ASTRO & ASTRO 25)
 Available in 3 models
 Integrated GPS capable
 Man Down
 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 Customer Programming Software (CPS)
- Supports USB communications
 - Built in FLASHport™ support

Full portfolio of accessories including IMPRES batteries, chargers and audio devices

OPTIONAL FEATURES:

- Mission Critical Wireless
- Enhanced Encryption capability
- Programming Over Project 25
- Over the Air Rekey
- Text Messaging
- Rugged submersible housing** (2 meters, 2 hours)

*Per the FCC Narrowbanding rules, new products (APX6000 UHF R1, UHF R2) 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.

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

| | 700/800 | VHF | UHF Range 1 | UHF Range 2 |
|--|--------------------|--|-------------------|----------------------------|
| Frequency Range/Bandsplits | 700 MHz 800 MHz | 763-776, 793-806 MHz 806-824, 851-870 MHz | 136-174 MHz | 380-470 MHz 450-520 MHz |
| Channel Spacing | | 25/12.5 kHz | 30/25/12.5 kHz | 25/12.5 kHz |
| Maximum Frequency Separation | | Full Bandsplit | Full Bandsplit | Full Bandsplit |
| Rated RF Output Power Adj ¹ | | 1-3 Watts Max | 1-6 Watts Max | 1-5 Watts Max |
| Frequency Stability ¹ (-30°C to +60°C; +25°C Ref.) | | ±0.00010 % | ±0.00010 % | ±0.00010 % |
| Modulation Limiting ¹ | | ±5 kHz / ±4 kHz / ±2.5 kHz | ±5 kHz / ±2.5 kHz | ±5 kHz / ±4 kHz / ±2.5 kHz |
| Emissions (Conducted and Radiated) ¹ | | -75 dB | -75 dB | -75 dB |
| Audio Response ¹ | | +1, -3 dB | +1, -3 dB | +1, -3 dB |
| FM Hum & Noise | 700 MHz 800 MHz | -48 dB/-47 dB -46 dB/-45 dB | -47 dB -45 dB | -47 dB -45 dB |
| Audio Distortion ¹ | 700 MHz 800 MHz | 0.60 % 1 % | 0.50 % | 0.50 % |

BATTERIES FOR APX 6000

| Battery Capacity / Type | Dimensions (HxWxD) | Weight | Battery Part Number | Battery Capacity |
|---|-----------------------|----------|---------------------|------------------|
| Li-Ion IMPRES 2150 mAh IP67*** | 3.39" x 2.34" x 1.46" | 5 oz | PMNN4403 | 2150 mAh |
| Li-Ion IMPRES 2900 mAh IP67 | 3.07" x 2.34" x 1.65" | 6.53 oz | NNTN7038 | 2900 mAh |
| Li-Ion IMPRES 4200 mAh IP67 | 5.07" x 2.34" x 1.65" | 11.29 oz | NNTN7034 | 4200 mAh |
| Li-Ion IMPRES 4100 mAh FM ² IP67 | 5.07" x 2.34" x 1.65" | 11.29 oz | NNTN7033 | 4100 mAh |
| NiMH IMPRES 2100 mAh IP67 | 5.12" x 2.34" x 1.57" | 11.82 oz | NNTN7037 | 2100 mAh |
| NiMH IMPRES 2000 mAh FM ² IP67 | 5.12" x 2.34" x 1.57" | 11.82 oz | NNTN7036 | 2000 mAh |
| NiMH IMPRES 2000 mAh FM ² Rugged | 5.12" x 2.34" x 1.57" | 11.82 oz | NNTN7035 | 2000 mAh |
| NiMH IMPRES 2100 mAh Rugged | 5.12" x 2.34" x 1.57" | 11.82 oz | NNTN7573 | 2100 mAh |
| Li-Ion IMPRES 2300 mAh FM ² Rugged | 3.39" x 2.34" x 1.65" | 6.53 oz | NNTN8092 | 2300 mAh |

***Standard shipping battery





| | MODEL 1.5 | MODEL 2.5 | MODEL 3.5 |
|---------------------------|--|---|---|
| Display | Full bitmap monochromatic LCD top display 1 line text x 8 characters 1 line of icons No menu support Multi-color backlight | 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 | 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 |
| Keypad | none | Backlight keypad 3 soft keys 4 direction Navigation key Home and Data buttons | Backlight keypad 3 soft keys 4 direction navigation key 4x3 keypad Home and Data buttons |
| Channel Capacity* | 96 | 870 | 870 |
| FLASHport Memory | 64 MB | 64 MB | 64 MB |
| 700/800 MHz (763-870 MHz) | H98UCD9PW5AN Q360EF | H98UCF9PW6AN Q360EF | H98UCH9PW7AN Q360EF |
| VHF (136-174 MHz) | H98KGD9PW5AN Q360EG | H98KGF9PW6AN Q360EG | H98KGH9PW7AN Q360EG |
| UHF Range 1 (380-470 MHz) | H98QDD9PW5AN Q360EH | H98QDF9PW6AN Q360EH | H98QDH9PW7AN Q360EH |
| UHF Range 2 (450-520 MHz) | H98SDD9PW5AN Q360FC | H98SDF9PW6AN Q360FC | H98SDH9PW7AN Q360FC |

Buttons & Switches 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

| Transmitter Certification | |
|----------------------------------|-------------|
| 700/800 (764-869 MHz) | AZ489FT5863 |
| VHF (136-174 MHz) | AZ489FT3829 |
| UHF Range 1 (380-470 MHz) | AZ489FT4892 |
| UHF Range2 (450-520 MHz) | AZ489FT4903 |

| FCC Emissions Designators | |
|----------------------------------|--|
| FCC Emissions Designators | 11K0F3E, 16K0F3E, 8K10F1D, 8K10F1E, 8K10F1W, 20K0F1E** |

| Power Supply | |
|---------------------|---|
| Power Supply | One rechargeable 2150 mAh Li-Ion Battery Standard (PMNN4403), with alternate battery options available. |

**Per the FCC Narrowbanding rules, new products (APX6000 UHF R1, UHF R2) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25KHz for United States - State & Local Markets only. *Enhancement package available

RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS

| | | 700/800 | VHF | UHF Range 1 | UHF Range 2 |
|--|------------------------------------|---------------------------------|----------------------|----------------------|----------------------|
| Frequency Range/Bandsplits | 700 MHz 800 MHz | 763-776 MHz 851-870 MHz | 136-174 MHz | 380-470 MHz | 450-520 MHz |
| Channel Spacing | | 25/12.5 kHz | 30/25/12.5 kHz | 25/12.5 kHz | 25/12.5 kHz |
| Maximum Frequency Separation | | Full Bandsplit | Full Bandsplit | Full Bandsplit | Full Bandsplit |
| Audio Output Power at Rated ¹ | | 500mW | 500mW | 500mW | 1000 mW |
| Frequency Stability ¹ (-30°C to +60°C; +25°C Ref.) | | ±0.00010 % | ±0.00010 % | ±0.00010 % | ±0.00010 % |
| Analog Sensitivity ³ | 12 dB SINAD | 0.250 µV | 0.216 µV | 0.234 µV | 0.234 µV |
| Digital Sensitivity ⁴ | 1% BER (800 MHz) 5% BER | 0.347 µV (0.333 µV) 0.251 µV | 0.277 µV 0.188 µV | 0.307 µV 0.207 µV | 0.307 µV 0.207 µV |
| Selectivity ¹ | 25 kHz channel 12.5 kHz channel | 75.7 dB 67.5 dB | 79.3 dB 70 dB | 78.3 dB 68.1 dB | 78.3 dB 67.5 dB |
| Intermodulation | | 80 dB | 80.5 dB | 80.2 dB | 80.2 dB |
| Spurious Rejection | | 76.6 dB | 93.2 dB | 80.3 dB | 80.3 dB |
| FM Hum and Noise | 25 kHz 12.5 kHz | -54 dB -48 dB | -53.8 dB -48 dB | -53.5 dB -47.4 dB | -53.5 dB -47.4 dB |
| Audio Distortion ¹ | | .9 % | 1.20 % | 0.91 % | 0.91 % |

PRODUCT SPEC SHEET
APX™ 6000

| PORTABLE MILITARY STANDARDS 810 C, D, E, F & G | | | | | | | | | | |
|---|---------------------|-----------------|---------------------|-------------|---------------------|-------------|---------------------|---------------------|---------------------|---------------|
| | MIL-STD 810C | | MIL-STD 810D | | MIL-STD 810E | | MIL-STD 810F | | MIL-STD 810G | |
| | Method | Proc./Cat. | Method | Proc./Cat. | Method | Proc./Cat. | Method | Proc./Cat. | Method | Proc./Cat. |
| 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 | 516.5 | IV | 516.6 | IV |

| DIMENSIONS OF THE RADIOS WITHOUT BATTERY | | |
|---|---------------|--------------------|
| | Inches | Millimeters |
| Length | 5.47 | 139 |
| Width Push-To-Talk button | 2.39 | 60.7 |
| Depth Push-To-Talk button | 1.40 | 35.6 |
| Width Top | 2.98 | 75.7 |
| Depth Top | 1.58 | 40.1 |
| Depth Bottom of Battery | 1.24 | 31.5 |
| Weight of the radios without battery | 10.9 oz | 309 g |

| 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 FIPS 197 |

| GPS SPECIFICATIONS | |
|---------------------------|-------------------------------|
| Channels | 12 |
| Tracking Sensitivity | -159 dBm |
| Accuracy ⁵ | <10 meters (95%) |
| Cold Start | <60 seconds (95%) |
| Hot Start | <10 seconds (95%) |
| Mode of Operation | Autonomous (Non-Assisted) GPS |

| RUGGED OPTION SPECIFICATIONS | |
|-------------------------------------|--|
| 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 |

| ENVIRONMENTAL SPECIFICATIONS | |
|-------------------------------------|-----------------|
| Operating Temperature ⁶ | -30°C / +60°C |
| Storage Temperature ⁶ | -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 |

¹ Measured in the analog mode per TIA / EIA 603 under nominal conditions
² When used with an FM approved intrinsically safe 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 Temperatures listed are for radio specifications. Battery storage is recommended at 25°C, ±5°C to ensure best performance.

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

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