



THE LIGHTWEIGHT HEAVYWEIGHT

APX™ 6000XE PROJECT 25 PORTABLE RADIO

In the heat of a wildfire or the smoke of a structure fire, you can't afford to struggle with controls or strain to hear commands. You need a radio so reliable and responder-focused, it's second nature to use. Working with first responders around the world, we developed APX™ radios to be safer and tougher than others – and to deliver innovative technology in an ultra-rugged, glove-friendly form.

Our APX 6000XE is the “lightweight heavyweight” – a small, single band radio with extreme ergonomics and excellent audio that takes on the tough tasks of fire service and EMS. It's the two-way radio that can strengthen safety precisely because it is engineered for extreme conditions.

REAL-WORLD RUGGEDNESS

Everything about the APX 6000XE is designed with first responders in mind – starting with a large top display with intelligent lighting so you can see information at a glance. Then oversized controls that are easy to operate when you're wearing bulky gloves –including the volume and channel selector and X-large emergency button. With its rugged MIL specs, FM certification and optional color housings, it's the portable performer you can rely on in the harshest environments.

LOUD, CLEAR AND NOISE-CANCELLING

Racing to a medical emergency or reporting from a rural fire, you need crystal-clear audio—and the APX 6000XE delivers. Its dual microphone design locates the talker while it cancels out ambient noise. Not only is the APX 6000XE equipped with the latest AMBE digital voice vocoder, its extreme audio profile reduces background noise and improves voice clarity. Plus, a unique speaker grill design improves water runoff to keep communications going strong.

SMALL SIZE, BIG TECHNOLOGY

- Three lightweight, mission extreme models
- Easy-to-use keypad for front panel programming and text messaging
- P25 Phase 2 capable for twice the voice capacity
- Backwards and forwards compatible with all Motorola mission critical radio systems
- Mission Critical Wireless accessories and GPS location tracking application help improve safety



APX™ 6000XE SPECIFICATIONS

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 (6.25KHz equivalent/12.5KHz/30KHz/25KHz)*
 Embedded digital signaling (ASTRO & ASTRO 25)
 Available in 3 models
 Man Down
 Intelligent Lighting
 Radio Profiles
 Unified Call List (Models 2 and 3 only)
 User programmable voice announcement
 Meets Applicable MIL-STD-810C, D, E, F and G
 Ships standard Intrinsically Safe and Rugged**
 Yellow and green colored housing options
 Custom recess label areas

Superior Audio Features:

- 0.5 W high audio speaker
- Dual microphones
- Extreme audio profile

Utilizes Windows XP, Vista and Windows 7 Customer Programming Software (CPS)
 - Supports USB communications
 - Built in FLASHport™ support

Full portfolio of accessories including the XE Remote Speaker Microphone specifically designed for performance in extreme environments

OPTIONAL FEATURES:

GPS Location Tracking
 Mission Critical Wireless
 Enhanced Encryption capability
 Programming Over Project 25
 Over the Air Rekey
 Text Messaging

* Per the FCC Narrowbanding rules, new products (APX6000XE 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.

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

| | | 700/800 | VHF | UHF Range 1 | UHF Range 2 |
|--|--------------------|--|----------------------------|----------------------------|----------------------------|
| Frequency Range/Bandsplits | 700 MHz 800 MHz | 763-775MHz; 793-805MHz 806-824MHz; 851-869MHz | 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 |
| Rated RF Output Power Adj ¹ | 700 MHz 800 MHz | 1-2.5 Watts 1-3 Watts | 1-6 Watts | 1-5 Watts | 1-5 Watts |
| Frequency Stability ¹ (-30°C to +60°C; +25°C Ref.) | | ±0.00010 % | ±0.00010 % | ±0.00010 % | ±0.00010 % |
| Modulation Limiting ¹ | | ±5 kHz / ±4 kHz / ±2.5 kHz | ±5 kHz / ±4 kHz / ±2.5 kHz | ±5 kHz / ±4 kHz / ±2.5 kHz | ±5 kHz / ±4 kHz / ±2.5 kHz |
| Emissions (Conducted and Radiated) ¹ | | -75 dB | -75 dB | -75 dB | -75 dB |
| Audio Response ¹ | | +1, -3 dB | +1, -3 dB | +1, -3 dB | +1, -3 dB |
| FM Hum & Noise | 700 MHz 800 MHz | -48 dB -47 dB | -47 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 % | 0.50 % |

BATTERIES FOR APX 6000XE

| Battery Capacity / Type | Dimensions (HxWxD) | Weight | Battery Part Number | Battery Capacity |
|--|-----------------------|----------|---------------------|------------------|
| Li-Ion IMPRES 2300 mAh FM ² Rugged*** | 3.39" x 2.34" x 1.46" | 6.53 oz | NNTN8092 | 2300 mAh |
| 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 |

** Rugged batteries exceed industry standards (IPx7) for submersibility and provide a higher level of water protection - MIL-STD-810E, Method 512.3 Immersion. These batteries meet the incremental requirement of submersion in 1 meter of fresh water that is 27°C colder than the product.

***Standard shipping battery

PRODUCT SPEC SHEET
APX 6000XE



RADIO MODELS

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 Q360FE | H98UCF9PW6AN Q360FE | H98UCH9PW7AN Q360FE |
| VHF (136-174 MHz) | H98KGD9PW5AN Q360FF | H98KGF9PW6AN Q360FF | H98KGH9PW7AN Q360FF |
| UHF Range1 (380-470 MHz) | H98QDD9PW5AN Q360FH | H98QDF9PW6AN Q360FH | H98QDH9PW7AN Q360FH |
| UHF Range2 (450-520 MHz) | H98SDD9PW5AN Q360FK | H98SDF9PW6AN Q360FK | H98SDH9PW7AN Q360FK |
| Buttons & Switches | Large PTT button • Angled On/Off volume control • Orange emergency button • 16 position top-mounted rotary switch 2-position concentric switch • 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 Range 2 (450-520 MHz) | AZ489FT703 |

FCC Emission Designators

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

Power Supply

| | |
|--------------|---|
| Power Supply | One rechargeable 2300 mAh FM/Rugged Li-Ion Battery Standard (NNTN8092), with alternate battery options available. |
|--------------|---|

* Enhancement package available

** Per the FCC Narrowbanding rules, new products (APX6000XE UHF1, UHF2) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25KHz for United States - State & Local Markets only.

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 | | 0.9 % | 1.20 % | 0.91 % | 0.91 % |

PRODUCT SPEC SHEET
APX 6000XE

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 | 6.15 | 156.2 |
| Width Push-To-Talk button | 2.39 | 60.7 |
| Depth Push-To-Talk button | 1.40 | 35.5 |
| Width Top | 3.32 | 84.3 |
| Depth Top | 2.13 | 54.1 |
| Depth Bottom of Battery | 1.24 | 31.5 |
| Weight of the radios without battery | 13.9 oz | 394.1 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 and MIL-STD's noted above |
| 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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