



THE FIRST CHOICE OF FIRST RESPONDERS

APX™ 7000 MULTIBAND PORTABLE RADIO

When you are on surveillance, patrolling traffic or part of an inter-agency emergency response, you want a radio that keeps you connected – no matter how loud the background noise. The APX™ 7000 is that radio. It is portable, ruggedly reliable and ensures crystal-clear communication during interventions. It's a multiband radio that's interoperable, allowing agencies to communicate and collaborate more efficiently – without the need to carry two radios.

Working with national, regional and local public safety agencies around the world, we developed the APX™ 7000 to be the smallest multiband portable on the market. We engineered our radio with their requests in mind – from its easy-to-use design and seamless interoperability to its 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 to communicate. That's why the APX 7000 is so valuable. It performs across multiple digital and analog networks and operates in either of two bands (700/800 MHz, VHF and UHF R1, UHF R2) for instant interoperability. It's an efficiency-enhancing tool that lets you manage mission-critical voice and data in any environment – and significantly improve safety and emergency response times.

HEAR EVERY WORD

The frenzy of city streets and blare of sirens can block communications. With a dual-sided 2-microphone design for exceptional noise-cancelling, dual speakers for the loudest, clearest audio available and the latest AMBE digital voice vocoder, the APX 7000 cuts through the clamour. So every word is heard and every message is received, even in worst-case conditions.

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 public safety and 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

Operational 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 signalling (ASTRO & ASTRO 25)

Integrated GPS capable

Seamless wideband scan

Intelligent lighting

Radio profiles

Unified call list (Dual Display model only)

Expansion slot

Micro SD removable memory card

User programmable voice announcement

Meets Applicable MIL-STD-810C, D, E, F, and G

IP67 standard (submersible 1 metre, 30 minutes)**

Custom recessed label areas

Superior audio features:

- 1W high audio speaker
- Dual speakers (Dual Display model only)
- Dual microphones
- 2-mic noise cancelling technology

Utilises Windows XP, Windows 7, and Vista Customer Programming Software (CPS)

- Supports USB communications
- Built in FLASHport™ support

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

OPTIONAL FEATURES:

Enhanced encryption capability

Programming Over Project 25 (POP25)

Over the Air Rekeying (OTAR)

Text messaging

Mission Critical Wireless***

Man Down

Submersible to 2 metres for 2 hours (with Rugged Option)

Public Safety Yellow and High Impact Green housing options

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

| | 700 MHz | 800 MHz | VHF | UHF Range 1 | UHF Range 2 |
|--|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Frequency Range/Bandsplits | 763-776 MHz 793-806 MHz | 806-824 MHz 851-870 MHz | 136-174 MHz | 380-470 MHz | 450-520 MHz |
| Channel Spacing | 25/12.5 kHz | 25/12.5 kHz | 30/25/12.5 kHz | 25/20/12.5 kHz | 25/12.5 kHz |
| Maximum Frequency Separation | Full Bandsplit | Full Bandsplit | Full Bandsplit | Full Bandsplit | Full Bandsplit |
| Rated RF Output Power Adj ¹ | 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.) | ±0.8 ppm | ±0.8 ppm | ±0.8 ppm | ±0.8 ppm | ±0.8 ppm |
| 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 | ±5 kHz / ±4 kHz / ±2.5 kHz |
| Emissions (Conducted and Radiated) ¹ | -75 dB | -75 dB | -75 dB | -75 dB | -75 dB |
| Audio Response ¹ | +1, -3 dB | +1, -3 dB | +1, -3 dB | +1, -3 dB | +1, -3 dB |
| FM Hum & Noise | 25 kHz 12.5 kHz | -48 dB -46 dB | -47 dB -45 dB | -47 dB -45 dB | -47 dB -45 dB |
| Audio Distortion ¹ | 0.60 % | 1 % | 0.50 % | 0.50 % | 0.50 % |

BATTERIES FOR APX 7000

| Battery Capacity / Type | Dimensions (HxWxD) | Weight | Battery Part Number | Battery Capacity |
|---|-----------------------|----------|---------------------|------------------|
| Li-Ion IMPRES 2900 mAh (Rugged)** | 3.07" x 2.34" x 1.65" | 6.53 oz | NNTN7038 | 2900 mAh |
| Li-Ion IMPRES 4200 mAh (IP67) | 5.12" x 2.34" x 1.65" | 11.29 oz | NNTN7034 | 4200 mAh |
| Li-Ion IMPRES 4100 FM ² (IP67) | 5.12" x 2.34" x 1.65" | 11.29 oz | NNTN7033 | 4100 mAh |
| NiMH IMPRES 2000 mAh FM ² (IP67) | 5.07" x 2.34" x 1.57" | 11.82 oz | NNTN7036 | 2000 mAh |
| NiMH IMPRES 2000 mAh FM ² (Rugged) | 5.07" x 2.34" x 1.57" | 11.82 oz | NNTN7035 | 2000 mAh |
| NiMH IMPRES 2100 mAh (IP67) | 5.07" x 2.34" x 1.57" | 11.82 oz | NNTN7037 | 2100 mAh |
| NiMH IMPRES 2100 mAh (Rugged) | 5.07" x 2.34" x 1.57" | 11.82 oz | NNTN7573 | 2100 mAh |
| Li-Ion IMPRES 2150 mAh IP67 | 3.39" x 2.34" x 1.45" | 5.0 oz | PMNN4403 | 2150 mAh |
| Li-Ion IMPRES 2300 mAh FM ² Rugged | 3.39" x 2.34" x 1.65" | 6.53 oz | NNTN8092 | 2300 mAh |

* 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.

** Radios meet industry standards (IPx7) for immersion

*** Compatible with BT 2.0 and HSP and PAN BT Profiles

PRODUCT SPEC SHEET
APX™ 7000

RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS

| | | 700 MHz | 800 MHz | VHF | UHF Range 1 | UHF Range 2 |
|--|------------------|----------------|----------------|----------------|--------------------|--------------------|
| Frequency Range/Bandsplits | | 763-776 MHz | 851-870 MHz | 136-174 MHz | 380-470 MHz | 450-520 MHz |
| Channel Spacing | | 25/12.5 kHz | 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 | Full Bandsplit |
| Audio Output Power at Rated ¹ | | 1000 mW | 1000 mW | 1000 mW | 1000 mW | 1000 mW |
| Frequency Stability ¹ (-30°C to +60°C; +25°C Ref.) | | ±0.8 ppm | ±0.8 ppm | ±0.8 ppm | ±0.8 ppm | ±0.8 ppm |
| Analog Sensitivity ³ | 12 dB SINAD | 0.250 µV | 0.250 µV | 0.216 µV | 0.234 µV | 0.234 µV |
| Digital Sensitivity ⁴ | 1% BER | 0.347 µV | 0.333 µV | 0.277 µV | 0.307 µV | 0.307 µV |
| | 5% BER | 0.251 µV | 0.251 µV | 0.188 µV | 0.207 µV | 0.207 µV |
| Selectivity ¹ | 25 kHz channel | 75.7 dB | 75.7 dB | 79.3 dB | 78.3 dB | 78.3 dB |
| | 12.5 kHz channel | 67.5 dB | 67.5 dB | 70 dB | 68.1 dB | 67.5 dB |
| Intermodulation | | 80 dB | 80 dB | 80.5 dB | 80.2 dB | 80.2 dB |
| Spurious Rejection | | 76.6 dB | 76.6 dB | 93.2 dB | 80.3 dB | 80.3 dB |
| FM Hum & Noise | 25 kHz | -54 dB | -54 dB | -53.8 dB | -53.5 dB | -53.5 dB |
| | 12.5 kHz | -48 dB | -48 dB | -48 dB | -47.4 dB | -47.4 dB |
| Audio Distortion ¹ | | 0.9 % | 0.9 % | 1.20 % | 0.91 % | 0.91 % |

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 | | |
| 700/800 MHz (763-870 MHz) | Primary QA00569 | Secondary QA00573 | Keypad QA00577 |
| VHF (136-174 MHz) | Primary QA00570 | Secondary QA00574 | Keypad QA00577 |
| UHF Range 1 (380-470 MHz) | Primary QA00571 | Secondary QA00575 | Keypad QA00577 |
| UHF Range 2 (450-520 MHz) | 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 LED | 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 | | |
| 700/800 MHz (764-870 MHz) | Primary QA00569 | Secondary QA00573 | Keypad QA00577 |
| VHF (136-174 MHz) | Primary QA00570 | Secondary QA00574 | Keypad QA00577 |
| UHF Range 1 (380-470 MHz) | Primary QA00570 | Secondary QA00574 | Keypad QA00577 |
| UHF Range 2 (450-520 MHz) | 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 LED | 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, 8K10F1D, 8K10F1E, 8K10F1W, 20K0F1E* |
|--------------------------|---|

Power Supply

| | |
|--------------|---|
| Power Supply | One rechargeable 2900 mAh Li-Ion Battery Standard (NNTN7038), with alternate battery options available. |
|--------------|---|

* 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.

PRODUCT SPEC SHEET
APX™ 7000

GPS SPECIFICATIONS

| | |
|-----------------------|-------------------------------|
| Channels | 12 |
| Tracking Sensitivity | -151 dBm |
| Accuracy ⁵ | <10 meters (95%) |
| Cold Start | <60 seconds (95%) |
| Hot Start | <10 seconds (95%) |
| Mode of Operation | Autonomous (Non-Assisted) GPS |

DIMENSIONS OF THE RADIOS WITHOUT BATTERY

| | Inches | Millimeters |
|--------------------------------------|---------|-------------|
| Length | 6.29 | 159.7 |
| Width Push-To-Talk button | 2.31 | 58.6 |
| Depth Push-To-Talk button | 1.34 | 34.0 |
| Width Top | 2.98 | 75.6 |
| Depth Top | 1.6 | 40.5 |
| Depth Bottom of Battery | 1.65 | 41.7 |
| Weight of the radios without battery | 12.2 oz | 346 g |

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 | 1 Proc | 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 | 1 Proc | 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 | 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 |

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 |
| 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 |

ENVIRONMENTAL SPECIFICATIONS

| | |
|----------------------------------|-----------------|
| Operating Temperature | -30°C / +60°C |
| Storage Temperature ⁷ | -40°C / +85°C |
| Humidity | Per MIL-STD |
| ESD | IEC 801-2 KV |
| Water and Dust Intrusion | IP67 MIL-STD |
| Immersion (Delta-T) | MIL-STD 512.X/1 |

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 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 For rugged models only
- 7 Temperatures listed are for radio specifications. Battery storage is recommended at 25°C, ±5°C to ensure best performance

PRODUCT SPEC SHEET
APX™ 7000

REGULATORY COMPLIANCE

| | |
|---|--|
| Radio (R&TTE Article 3.2) | Directive 1999/5/EC RTTE EN 300 086-2 v1.3.1 |
| | EN 300 113-2 v1.5.1 |
| | EN 300 328 v1.7.1 |
| EMC (R&TTE Article 3.1.b) | EN 301 489-1 V1.9.2 |
| | EN 301 489-5 V1.3.1 |
| | EN 301 489-17 V2.1.1 |
| Electrical Safety (R&TTE Article 3.1.a) | EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + AC:2011 |
| | ICNIRP(1998) Occupational Controlled Environment |
| Environmental | Directive 2002/96/EC WEEE |
| | Directive 2011/65/EU RoHS-2 |
| Year of first application of CE Mark | 2011 (136-174MHz) ; 2011 (380-470MHz) |
| Type Designator | PMA302D, P (136-174MHz) ; PMA502D, P (380-470MHz); |
| | PMA902D35, P35 ; PMF902D35, P35 (Dual Band) |

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