

APX™ 8000H

ALL-BAND P25 HAZLOC PORTABLE RADIO

APX 8000 SERIES

360 DEGREES OF PROTECTION

YOUR OFFICERS WILL STOP AT NOTHING TO KEEP THE COMMUNITY SAFE. GIVE THEM THAT SAME PROTECTION WITH THE APX 8000H, OUR MOST ADVANCED RADIO EVER.

We know the job puts your officers in harm's way every day. The last thing they need to worry about is safe communication. Certified to the stringent Div1 HazLoc standards, the APX 8000H is designed for use in areas where there are routinely dangerous concentrations of flammable gases, vapors, liquids or combustible dust. No heat. No sparks. No worries.

Of course, communication matters too. Your officers can't afford not to hear—or be heard. The APX 8000H has an adaptive audio engine that provides the loudest, clearest audio at any volume, in any environment. We also know that they need to connect with outside agencies, often without a moment to spare. The APX 8000H transmits and receives on all commonly used frequencies, so they can communicate with different agencies using the same radio. With its intuitive design and comfortable feel, the APX 8000H is made for the way your officers work.

-  RESPOND WITH CONFIDENCE
-  ALL BANDS, NO BOUNDARIES
-  SOUND MATTERS
-  CONQUER CHAOS
-  MADE FOR THE MISSION
-  ALL THE SUPPORT YOU NEED





RESPOND WITH CONFIDENCE

Certified to Div1 HazLoc standards, the APX 8000H is safe to use in areas where there are concentrations of flammable gasses, vapors, liquids, or combustible dust.



SOUND MATTERS

Your officers can't afford not to hear—or be heard. The APX 8000H adaptive audio engine gives you the loudest, clearest audio in any environment.



MADE FOR THE MISSION

With its intuitive design and comfortable feel, the APX 8000H is made specifically for the way your officers work and communicate.



ALL BANDS, NO BOUNDARIES

The APX 8000H transmits and receives on all commonly-used frequencies, so your officers can communicate with different agencies using the same radio.



CONQUER CHAOS

With a water-tight seal, drop-resistant dual battery latch, pressure-tested tempered glass display and a shock-absorbing aluminum alloy endoskeleton, the APX 8000H is built to survive everything from drops to drownings.



ALL THE SUPPORT YOU NEED

Motorola Solutions offers three levels of service plans—Premier, Advanced, and Essential—so you can manage in the way that suits you best.

T-Grip shape for secure carry

Ergonomic emergency button

Multi-microphone noise cancellation

Full color front display

Available with full or limited keypad

Accessory connector with water / dust seal

Recess for custom labeling

HazLoc battery

Standard all-band antenna

Top display for on-belt status updates

Angled volume knob for ease of access

Waterproof speaker with 5 W of audio power

Non-slip PTT button

3x side programmable buttons



FEATURES

OPERATION MODES

Digital Trunking: 9600 Baud APCO P25 Phase 1 FDMA and Phase 2 TDMA

Analog Trunking: 3600 Baud SmartNet®, SmartZone®, Omnilink

Digital Conventional: APCO 25

Analog Trunking: MDC 1200, Quik Call II

ASTRO 25 Integrated Voice and Data

MODELS AVAILABLE

All-band: VHF, UHF (ranges 1 and 2), 700 and 800 MHz

CONNECTIVITY

Mission-Critical Bluetooth (version 4.0)

Wi-Fi (802.11b/g/n)¹

Data Modem Collaboration over Wi-Fi¹

AUDIO FEATURES

3 W Speaker with Adaptive Equalization

Adaptive Dual-sided Operation

Adaptive Noise Suppression Intensity

Adaptive Gain Control

Adaptive Windporting

Compatible with IMPRES 2 Audio Accessories²

MANAGEMENT

Customer Programming Software (CPS), version R12.00.00 or later

Radio Management

Over-the-air Programming (OTAP)¹

SAFETY

Location-Tracking (GPS and GLONASS)

Mission-critical Geofence¹

Man Down¹

HAZLOC (UL/CSA)

Class I, Div 1, Groups C³, D

Class I, Div 2, Groups A, B, C, D

Class II, Div 1, Group E, F, G

Class III; T3C.³

¹Groups C only applies to UL

SECURITY

Single-key ADP Encryption

Software Key

P25 Authentication¹

Multikey for 128 keys and multi-algorithm¹

Over-the-air Rekeying (OTAR)¹

INGRESS PROTECTION

IP68 submersion (2 m, 2 hr)

MIL-STD Delta-T, IP68 (2 m, 4 hr)¹

OTHER FEATURES

Text Messaging

Voice Announcements

Radio Profiles

Dynamic Zone

Intelligent Lighting

IMPRES 2 Battery

RFID Volume Knob¹

Digital Tone Signaling¹

Instant Recall

Intelligent Priority Scan

SRX PACKAGE FEATURES**

Coyote Brown Color

NVG Compatibility

Light Discipline Lens

Blacked-out Logo

MIL-STD Delta-T, IP68 (2 m, 4 hr)

** For critical communications in military applications, such as installation security and force protection, we offer an optional SRX package.

DIMENSIONS

RADIO WITHOUT BATTERY

| | | |
|---------------------|---------|--------|
| Height (radio body) | 6.1 in | 154 mm |
| Width | 3.0 in | 76 mm |
| Depth | 1.6 in | 41 mm |
| Weight | 12.9 oz | 367 g |

RADIO WITH STANDARD BATTERY

| | | |
|---------------------|---------|--------|
| Height (radio body) | 6.3 in | 160 mm |
| Width | 3.0 in | 76 mm |
| Depth | 1.9 in | 49 mm |
| Weight | 20.0 oz | 568 g |



¹ Optional.

² Review accessory catalog and UL manual for more details.

³ Per Underwriters' Laboratory TIA4950. Review UL manual for more details.



RADIO MODELS

| | MODEL 3.5 | MODEL 2.5 |
|----------------------|--|--|
| Display | Full bitmap color LCD front display <ul style="list-style-type: none"> • 2 lines of status icons • 4 lines of text x 14 characters • 1 line of menu x 3 keys • White backlight | Full bitmap color LCD front display <ul style="list-style-type: none"> • 2 lines of status icons • 4 lines of text x 14 characters • 1 line of menu x 3 keys • White backlight |
| | Full bitmap mono LCD top display <ul style="list-style-type: none"> • 1 line of text x 8 characters • 1 line of status icons • Multi-color backlight | Full bitmap mono LCD top display <ul style="list-style-type: none"> • 1 line of text x 8 characters • 1 line of status icons • Multi-color backlight |
| Keypad | 4x3 keypad | - |
| | 3 soft keys | 3 soft keys |
| | 4-way navigation pad | 4-way navigation pad |
| | Home key | Home key |
| | Data key | Data key |
| Channel Capacity | 3000 | 3000 |
| FLASHport Memory | 2 GB | 2 GB |
| Part Number | H91TGD9PW9AN | H91TGD9PW8AN |
| Buttons and Switches | Non-slip PTT button | Non-slip PTT button |
| | Emergency button (orange) | Emergency button (orange) |
| | Power / volume knob (angled) | Power / volume knob (angled) |
| | Rotary selector, 16-position | Rotary selector, 16-position |
| | Concentric switch, 2-position | Concentric switch, 2-position |
| | A/B/C switch, 3-position | A/B/C switch, 3-position |
| | 3 programmable side buttons | 3 programmable side buttons |





TRANSMITTER

| | VHF | UHF 1 | UHF 2 | 700MHz | 800MHz |
|--|--------------------|--------------------|--------------------|----------------------|----------------------|
| Frequency Range / Bandsplits | 136-174 MHz | 380-470 MHz | 450-520 MHz | 762-776, 794-806 MHz | 806-825, 851-870 MHz |
| Channel Spacing ¹ | 12.5 / 20 / 25 kHz | 12.5 / 20 / 25 kHz | 12.5 / 20 / 25 kHz | 12.5 / 20 / 25 kHz | 12.5 / 20 / 25 kHz |
| Maximum Frequency Separation | Full Bandsplit | Full Bandsplit | Full Bandsplit | Full Bandsplit | Full Bandsplit |
| Rated RF Output Power (Adjustable) ² | 1-6 W | 1-5 W | 1-5 W | 1-2.5 W | 1-3 W |
| Frequency Stability (-30 °C to +60 °C; +25 °C Ref.) ² | ±1.0 ppm | ±1.0 ppm | ± 1.0 ppm | ± 1.0 ppm | ± 1.0 ppm |
| Modulation Limiting (12.5 / 20 / 25 kHz channel) ² | ±2.5 / ±4 / ±5 kHz | ±2.5 / ±4 / ±5 kHz | ±2.5 / ±4 / ±5 kHz | ±2.5 / ±4 / ±5 kHz | ±2.5 / ±4 / ±5 kHz |
| Emissions (conducted and radiated) ² | -75 dBc | -75 dBc | -75 dBc | -75 dBc | -75 dBc |
| Audio Response ² | +1, -3 dB | +1, -3 dB | +1, -3 dB | +1, -3 dB | +1, -3 dB |
| FM Hum and Noise (12.5 / 25 kHz channel) ² | -51 / -51 dB | -51 / -51 dB | -47 / -51 dB | -47 / -49 dB | -46 / -49 dB |
| Audio Distortion (12.5 / 25 kHz channel) ² | 0.90% / 0.50% | 0.90% / 0.50% | 0.90% / 0.60% | 0.90% / 0.90% | 0.90% / 0.60% |

RECEIVER

| | VHF | UHF 1 | UHF 2 | 700MHz | 800MHz |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Frequency Range / Bandsplits | 136-174 MHz | 380-470 MHz | 450-520 MHz | 762-776MHz | 851-870 MHz |
| Channel Spacing ¹ | 12.5 / 20 / 25 kHz | 12.5 / 20 / 25 kHz | 12.5 / 20 / 25 kHz | 12.5 / 20 / 25 kHz | 12.5 / 20 / 25 kHz |
| Maximum Frequency Separation | Full Bandsplit | Full Bandsplit | Full Bandsplit | Full Bandsplit | Full Bandsplit |
| Audio Output at Rated ² | 3 W | 3 W | 3 W | 3 W | 3 W |
| Audio Output at Max ² | 5 W | 5 W | 5 W | 5 W | 5 W |
| Frequency Stability (-30 °C to +60 °C; +25 °C Ref.) ² | ±1.0 ppm | ±1.0 ppm | ±1.0 ppm | ±1.0 ppm | ±1.0 ppm |
| Analog Sensitivity (12 dB SINAD) Standard ² | 0.168 µV (-122.5 dBm) | 0.199 µV (-121.0 dBm) | 0.199 µV (-121.0 dBm) | 0.224 µV (-120.0 dBm) | 0.224 µV (-120.0 dBm) |
| Digital Sensitivity (1% BER) ³ | 0.251 µV (-119.0 dBm) | 0.282 µV (-118.0 dBm) | 0.282 µV (-118.0 dBm) | 0.316 µV (-117.0 dBm) | 0.316 µV (-117.0 dBm) |
| Digital Sensitivity (5% BER) ³ | 0.149 µV (-123.5 dBm) | 0.158 µV (-123.0 dBm) | 0.158 µV (-123.0 dBm) | 0.211 µV (-120.5 dBm) | 0.211 µV (-120.5 dBm) |
| Selectivity (12.5 / 25 kHz channel) ² | -77 / -82 dB | -74 / -80 dB | -74 / -80 dB | -72 / -79 dB | -72 / -78 dB |
| Intermodulation (12.5 / 25 kHz channel) Standard ² | -82 dB | -80 dB | -80 dB | -81 dB | -80 dB |
| Spurious Rejection ² | -92 dB | -98 dB | -98 dB | -98 dB | -98 dB |
| FM Hum and Noise (12.5 / 25 kHz channel) ² | -55 / -57 dB | -54 / -56 dB | -54 / -56 dB | -53 / -55 dB | -52 / -54 dB |
| Audio Distortion ² | 0.90% | 0.90% | 0.90% | 0.90% | 0.90% |

BATTERIES

| Part No | Type | Capacity | HazLoc | Dimensions | Weight | Availability |
|----------|-----------------|----------|--------|--------------------------------------|----------------|--------------|
| PMNN4547 | Li-Ion IMPRES 2 | 3100 mAh | Y | 3.4 x 2.3 x 1.8 in (86 x 59 x 45 mm) | 7.1 oz (201 g) | Standard |



ENCRYPTION

| | |
|-----------------------------------|--|
| Supported Encryption Algorithms | ADP, AES, DES, DES-XL, DES-OFB, DVP-XL, Localized Algorithm |
| Encryption Algorithm Capacity | 8 |
| Encryption Keys per Radio | 1024 keys Programmable for 128 Common Key References (CKR) or 16 Physical Identifiers (PID) |
| Encryption Frame Re-sync Interval | 360 ms (P25 CAI) |
| Encryption Keying | Local Key Loader and Over the Air Rekeying (OTAR) |
| Synchronization | XL – Counter Addressing OFB – Output Feedback |
| Vector Generator | National Institute of Standards and Technology (NIST) approved random number generator |
| Encryption Type | Digital and SecureNet |
| 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

| | |
|-------------------------|---------------------------|
| Constellations | GPS and GLONASS |
| Tracking Sensitivity | -164 dBm |
| Accuracy ¹ | <5 meters (95%) |
| Cold Start ¹ | <60 seconds (95%) |
| Hot Start ¹ | <5 seconds (95%) |
| Mode of Operation | Autonomous (Non-Assisted) |

WIRELESS

| |
|---|
| Bluetooth® |
| Frequency Range: 2402 - 2480 MHz |
| Mission Critical Wireless Bluetooth 4.0 uses 96 bit encryption for pairing and 128 bit encryption for voice, signaling and data. The radio supports up to 6 data connections and 1 audio connection |
| Bluetooth Low Energy uses 128-bit AES-CCM encryption |
| WLAN |
| Wi-Fi® 802.11 b/g/n |
| Frequency Range: 2400 - 2483.5 MHz |
| Supports WPA-2, WPA, WEP security protocols |
| Radio can be pre-provisioned with up to 20 SSIDs |

AUDIO

| | |
|-----------------------------------|---|
| Audio Output at Rated | 3 W |
| Audio Output at Max | 5 W |
| Audio Response (EIA) | +1, -3 dB |
| Speech Loudness at 12 in (300 mm) | 105 phon |
| Audio Features | Adaptive Equalization Adaptive Dual-sided Operation Adaptive Noise Suppression Intensity Adaptive Gain Control Adaptive Windporting IMPRES 2 Audio |

OTHER OPTIONS

| | |
|-----------------------|--|
| Housing Color Options | Standard: Black SRX Package: Coyote Brown |
|-----------------------|--|



REGULATORY INFORMATION

| | | |
|----------------------|--------------|--|
| FCC ID | All-Band | AZ489FT7111 |
| IC ID | All-Band | 109U-89FT7111 |
| Emission Designators | LMR | 8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E, 20K0F1E |
| | Bluetooth | 852KF1D, 1M17F1D, 1M19F1D |
| | WLAN (Wi-Fi) | 13M7G1D, 17MOD1D, 18M1D1D |

ENVIRONMENTAL

| | |
|----------------------------------|---|
| Operating Temperature | -20 to +60 °C (-20 to +140 °F) |
| Storage Temperature ¹ | -40 to +85 °C (-40 to +185 °F) |
| Humidity | Per MIL-STD 810 |
| ESD | IEC 801 - 2 kV |
| Dust Resistance | IP6X |
| Water Resistance | (Submersion) IPX8 (2 meters, 2 hours); Optional Mil Std (Delta-T) and IPX8 (2 meters, 4 hours) |
| Leakage (Immersion) | MIL-STD-810 C, D, E, F and G |

MIL-STD

| | 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/Hot | 501.5 | I/A1, II/A1 |
| 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/A1/C3 | 503.3 | I/A1/C3 | 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 |
| Explosive Atmosphere | - | - | 511.2 | I | 511.3 | I | 511.4 | I | 511.5/6 | I |
| Blowing Sand | 1 Proc | 1 Proc | 510.2 | II | 510.3 | II | 510.4 | II | 510.5 | II |
| Submersion ² | 512.1 | I | 512.2 | I | 512.3 | I | 512.4 | I | 512.5 | I |
| Submersion (Salt Water) ² | 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, III/3 | 514.5 | I/24, II/5 | 514.6 | I/24, II/5 |
| Shock | 516.2 | I, V | 516.3 | I, VI | 516.4 | I, VI | 516.5 | I, VI | 516.6 | I, VI |
| Shock (Drop) | 516.2 | II | 516.2 | IV | 516.4 | IV | 516.5 | IV | 516.6 | IV |



ACHIEVE MISSION CRITICAL PERFORMANCE WITH MANAGED AND SUPPORT SERVICES

RISK & RESPONSIBILITY



ENSURE CONTINUITY • ENHANCE PRODUCTIVITY • REDUCE RISK.

ESSENTIAL

Only Support When You Need It

When the unpredictable happens to your network, Essential Services provide you access to Motorola's Technical Support teams and resources for troubleshooting and maintenance.

ADVANCED

Improve Response and Continuity

Motorola's expert service teams help mitigate downtime and ensure network continuity. Get fast response to network issues by our qualified technicians who analyze and diagnose your network as well as deliver routine maintenance.

PREMIER

Maximize Performance and Reduce Risk

Motorola's Managed Services team helps operate and optimize your mission critical system. With Premier Services, you fully transfer the risk to Motorola and ensure your system operates at maximum performance levels, allowing your team to keep focus on its primary responsibilities.

For more information, please visit: www.motorolasolutions.com/apx



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