



APX™ 8000HXE

ALL-BAND P25 HAZLOC PORTABLE RADIO

360 Degrees of Safety.

AS FIREFIGHTERS, YOU ROUTINELY PUT YOURSELVES IN HARM'S WAY. YOU SHOULDN'T NEED TO WORRY THAT THE EQUIPMENT YOU CARRY IS UP TO THE TASK.

APX 8000HXE is certified to Div 1 HazLoc standards, you can be confident entering areas where unknown chemicals and gases add to an already dangerous situation. Breaking communication barriers, all-band technology connects you with other agencies and departments, no matter which frequency they're on. And when you need to relay a message in a cacophony of alarms and sirens, the Adaptive Audio Engine dynamically adjusts the radio's audio response for optimal intelligibility, every time.

We collaborated closely with fire and rescue workers to develop the APX 8000HXE, and that's why it's ready for anything - submersion in deep water, impacts that would destroy a typical radio. With exaggerated controls for gloved-hand use, a pressure-tested tempered glass display and a shock-absorbing aluminum alloy endoskeleton, the APX 8000HXE delivers instant communication with total reliability.

Because every second matters when you're saving lives.





Respond with Confidence

Certified to Div1 HazLoc standards, the APX 8000HXE is safe to use in areas where there are high concentrations of flammable gas, vapor, liquid, or dust.



Sound Matters

Make sure you can hear — and be heard. The APX 8000HXE adaptive audio engine gives you the loudest, most intelligible audio in any environment, even at maximum volume.



Purpose-Built. Mission-Ready.

Communicate instantly when lives are on the line. With an intuitive design and exaggerated controls, the APX 8000HXE is purpose-built for fire and rescue workers.



All Bands, No Boundaries

The APX 8000HXE transmits and receives on all commonly used frequencies, so your fire and rescue workers can communicate with different agencies using the same radio.



Conquer Chaos

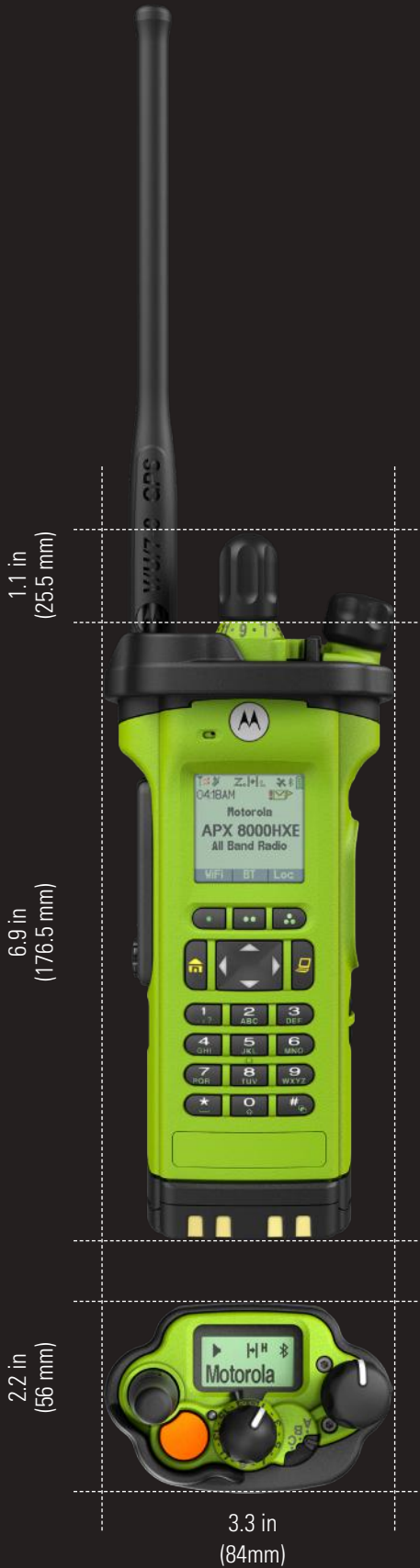
With a water-tight seal, drop-resistant dual battery latch, pressure-tested tempered glass display and a shock-absorbing aluminum alloy endoskeleton, the APX 8000HXE is built to survive everything from falls to floods.



All the Support You Need

We offer various managed services so you can manage in the way that suits you best.





Weight with standard battery
22.7 oz (643 g)



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 & Data (optional)

MODELS AVAILABLE

All-band: VHF, UHF (ranges 1 and 2), 700 and 800 MHz, Model 1.5, 2.5, and 3.5

CONNECTIVITY

Mission-Critical Bluetooth (version 4.0)

Wi-Fi (802.11b/g/n)¹

Data Modem Collaboration over Wi-Fi¹

SmartConnect via WiFi¹

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 Down / Fall Alert¹

HAZLOC (UL/CSA)

Class I, Div 1, Groups C*, D;
Class I, Div 2, Groups A, B, C, D;
Class II, Div 1, Group E, F, G;
Class III; T3C.³

SECURITY

Single-key ADP Encryption

Software Key

P25 Authentication¹

Multikey for 128 keys and multi-algorithm¹

Over-the-air Rekeying (OTAR)¹

INGRESS PROTECTION

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

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

DIMENSIONS

RADIO WITHOUT BATTERY

Height (radio body) 6.7 in (169.7 mm)

Width 3.3 in (84 mm)

Depth 2.2 in (56 mm)

Weight (Model 3.5 & 2.5) 15.9 oz (450 g)

Weight (Model 1.5) 16.3 oz (462 g)

RADIO WITH STANDARD BATTERY

Height (radio body) 6.9 in (176.5 mm)

Width 3.3 in (84 mm)

Depth 2.2 in (56 mm)

Weight (Model 3.5 & 2.5) 22.9 oz (650 g)

Weight (Model 1.5) 23.4 oz (662 g)

¹ Optional.

² Review accessory catalog and UL manual for more details.

³ Review UL manual for more details.

*Groups C only applies to UL.

Check with your Motorola Solutions representative for SmartConnect availability in your area.



RADIO MODELS

| | MODEL 3.5 | MODEL 2.5 | MODEL 1.5 |
|----------------------|--|--|--|
| 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 | N/A |
| | 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 | 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 4-way navigation pad Home key Data key | - 3 soft keys 4-way navigation pad Home key Data key | N/A |
| Channel Capacity | 3000 | 3000 | 3000 |
| FLASHport Memory | 2 GB | 2 GB | 2 GB |
| Part Number | H91TGD9PW9AN | H91TGD9PW8AN | H91TGD9PW4AN |
| Buttons and Switches | Non-slip PTT button Emergency button (orange) Power / volume knob (angled) Rotary selector, 16-position Concentric switch, 2-position A/B/C switch, 3-position 3 programmable side buttons | Non-slip PTT button Emergency button (orange) Power / volume knob (angled) Rotary selector, 16-position Concentric switch, 2-position A/B/C switch, 3-position 3 programmable side buttons | Non-slip PTT button Emergency button (orange) Power / volume knob (angled) Rotary selector, 16-position Concentric switch, 2-position A/B/C switch, 3-position 3 programmable side buttons |

TRANSMITTER

| | VHF | UHF 1 | UHF 2 | 700MHz | 800MHz |
|--|--------------------|--------------------|--------------------|--------------------|----------------------|
| Frequency Range / Bandsplits | 136-174 MHz | 380-470 MHz | 450-520 MHz | 792-806 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 | 0.50% / 0.90% | 0.50% / 0.90% | 0.60% / 0.90% | 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 | 762-776 MHz | 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 |

¹Please refer to local regulations for available channel bandwidths.

²Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.

³Measured conductively in digital mode per TIA / EIA IS 102.

ENCRYPTION

| | |
|-----------------------------------|--|
| Supported Encryption Algorithms | ADP, 256-bit 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 140-3 Level 3 FIPS 197 |

GPS

| | |
|-------------------------|---------------------------|
| Constellations | GPS and GLONASS |
| Tracking Sensitivity | -164 dBm |
| Accuracy ⁴ | <5 meters (95%) |
| Cold Start ⁴ | <60 seconds (95%) |
| Hot Start ⁴ | <5 seconds (95%) |
| Mode of Operation | Autonomous (Non-Assisted) |

REGULATORY INFORMATION

| | | |
|----------------------|--------------|--|
| FCC ID | All-Band | FCC ID: AZ489FT7111 |
| IC ID | All-Band | IC ID: 109U-89FT7111 |
| Emission Designators | LMR | 8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E, 20K0F1E |
| | Bluetooth | 852KF1D, 1M17F1D, 1M19F1D |
| | WLAN (Wi-Fi) | 13M7G1D, 17M0D1D, 18M1D1D |

WIRELESS

BLUETOOTH®

Frequency Range: 2402 - 2480 MHz

Mission Critical Wireless Bluetooth 2.1 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

HOUSING COLOR

Housing Color High Impact Green only

ENVIRONMENTAL

Operating Temperature³ -30 to +60 °C (-22 to +140 °F)

Storage Temperature¹ -40 to +85 °C (-40 to +185 °F)

Humidity Per MIL-STD 810

ESD IEC 61000-4-2

Dust Resistance IP6X

Water Resistance MIL-STD (Delta-T) and IPX8 (2 meters, 4 hours)

Leakage (Immersion) MIL-STD-810 C, D, E, F and G

¹ Radio only. To ensure best performance, batteries should be stored at 25 °C, ±5 °C.

² Submersion tests conducted using more stringent, preheated (Delta-T) method.

³ HazLoc certification requires an operating temperature of -20C to +60C.

⁴ Measured conductively with >6 satellites visible at a nominal -130 dBm signal strength. Specs provided are 95th percentile values.



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 |

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



Motorola Solutions, Inc. 500 West Monroe Street, Chicago, IL 60661 U.S.A. motorolasolutions.com

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