



# APX™ 8000H

## ALL-BAND P25 HAZLOC PORTABLE RADIO

### 360 Degrees of Protection

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

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 loud and clear 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

We offer varying levels of services so you can manage your fleet in the way that suits you best.







**Weight with standard battery**  
20 oz (568 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

## 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)<sup>1</sup>

Data Modem Collaboration over Wi-Fi<sup>1</sup>

SmartConnect via WiFi<sup>1</sup>

## 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 Accessories<sup>2</sup>

## MANAGEMENT

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

Radio Management

Over-the-air Programming (OTAP)<sup>1</sup>

## SAFETY

Location-Tracking (GPS and GLONASS)

Mission-critical Geofence<sup>1</sup>

Man Down / Fall Alert<sup>1</sup>

## 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.<sup>3</sup>

<sup>1</sup> Optional.

<sup>2</sup> Review accessory catalog and UL manual for more details.

<sup>3</sup> Review UL manual for more details.

\*Groups C only applies to UL

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

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

## SECURITY

Single-key ADP Encryption

Software Key

P25 Authentication<sup>1</sup>

Multikey for 128 keys and multi-algorithm<sup>1</sup>

Over-the-air Rekeying (OTAR)<sup>1</sup>

## INGRESS PROTECTION

IP68 submersion (2m, 2hr)

MIL-STD Delta-T, IP86 (2m, 4hr)<sup>1</sup>

## OTHER FEATURES

Text Messaging

Voice Announcements

Radio Profiles

Dynamic Zone

Intelligent Lighting

IMPRES 2 Battery

RFID Volume Knob<sup>1</sup>

Digital Tone Signaling<sup>1</sup>

Instant Recall

Intelligent Priority Scan

## SRX PACKAGE FEATURES\*\*

Coyote Brown Color

NVG Compability

Light Discipline Lens

Blacked-out Logo

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

## 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) 2.2 in (56 mm)

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)



Standard



SRX Package



Standard



SRX Package

## RADIO MODELS

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

## 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 <sup>1</sup>	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) <sup>2</sup>	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.) <sup>2</sup>	±1.0 ppm	±1.0 ppm	± 1.0 ppm	± 1.0 ppm	± 1.0 ppm
Modulation Limiting (12.5 / 20 / 25 kHz channel) <sup>2</sup>	±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) <sup>2</sup>	-75 dBc	-75 dBc	-75 dBc	-75 dBc	-75 dBc
Audio Response <sup>2</sup>	+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB
FM Hum and Noise (12.5 / 25 kHz channel) <sup>2</sup>	-51 / -51 dB	-51 / -51 dB	-47 / -51 dB	-47 / -49 dB	-46 / -49 dB
Audio Distortion (12.5 / 25 kHz channel) <sup>2</sup>	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 <sup>1</sup>	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 <sup>2</sup>	3 W	3 W	3 W	3 W	3 W
Audio Output at Max <sup>2</sup>	5 W	5 W	5 W	5 W	5 W
Frequency Stability (-30 °C to +60 °C; +25 °C Ref.) <sup>2</sup>	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm
Analog Sensitivity (12 dB SINAD) Standard <sup>2</sup>	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) <sup>3</sup>	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) <sup>3</sup>	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) <sup>2</sup>	-77 / -82 dB	-74 / -80 dB	-74 / -80 dB	-72 / -79 dB	-72 / -78 dB
Intermodulation (12.5 / 25 kHz channel) Standard <sup>2</sup>	-82 dB	-80 dB	-80 dB	-81 dB	-80 dB
Spurious Rejection <sup>2</sup>	-92 dB	-98 dB	-98 dB	-98 dB	-98 dB
FM Hum and Noise (12.5 / 25 kHz channel) <sup>2</sup>	-55 / -57 dB	-54 / -56 dB	-54 / -56 dB	-53 / -55 dB	-52 / -54 dB
Audio Distortion <sup>2</sup>	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

<sup>1</sup>Please refer to local regulations for available channel bandwidths.

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

<sup>3</sup>Measured 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 <sup>1</sup>	<5 meters (95%)
Cold Start <sup>1</sup>	<60 seconds (95%)
Hot Start <sup>1</sup>	<5 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted)

## 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 phn
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
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## 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, 17M0D1D, 18M1D1D

## ENVIRONMENTAL

Operating Temperature	-20 to +60 °C (-20 to +140 °F)
Storage Temperature <sup>1</sup>	-40 to +85 °C (-40 to +185 °F)
Humidity	Per MIL-STD 810
ESD	IEC 61000-4-2
Dust Resistance	IP6X
Water Resistance	(Submersion) IPX8 (2 meters, 2 hours); Option MIL STD (Delta-T) and IPX8 (2 meters, 4 hours)
Leakage (Immersion)	MIL-STD-810 C, D, E, F and G

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

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





## 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 <sup>2</sup>	512.1	I	512.2	I	512.3	I	512.4	I	512.5	I
Submersion (Salt Water) <sup>2</sup>	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, 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](http://www.motorolasolutions.com/apx)



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