APX™ 8000 ALL-BAND P25 PORTABLE RADIO

UNLIMITED MOBILITY. UNCOMPROMISING PERFORMANCE.

Take command with a 4-in-1 radio that offers limitless interoperability, the clearest, loudest audio and seamless Wi-Fi® connectivity. The compact, rugged and secure APX 8000 redefines mission critical communications.

ALL BANDS, NO BOUNDARIES

With four RF bands and multi-mode system access, the APX 8000 knows no limits when it comes to interoperability. Communicate across borders using a single device. Use analog MDC 1200 or digital P25 mode, conventional or trunked operation, SmartNet or SmartZone legacy systems, clear or secure - all across 7/800MHz, VHF and UHF Range 1 & 2 bands.

HEAR AND BE HEARD MORE CLEARLY

Whether it's loud or windy, whether you whisper or yell, the APX 8000 adaptive audio engine and ultra-loud speaker brings clarity into every conversation. The radio dynamically changes the level of noise suppression, microphone gain, windporting and speaker equalization on the fly to consistently produce the loudest, clearest audio in any environment.

VOICE AND DATA, ALL AT ONCE

With Wi-Fi access, the APX 8000 can quickly receive new codeplugs, firmware and software features in order to redeploy the radio fleet with ease as users keep talking without interruption. Mission Critical Wireless Bluetooth® connects quickly and securely with remote speaker microphones, surveillance kits and the LEX L10 Mission Critical LTE Handheld for radio remote control.

FIT FOR THE MISSION

Intuitively designed with a familiar look and feel, the compact APX 8000 is always comfortable to use, from your holster to your grip. It contains 4 radio bands packaged into the award-winning design of the APX 6000. The all-band antenna is flexible so it doesn't get in the way.

RUGGED, ROBUST & RELIABLE

With a water-tight seal, drop-resistant dual battery latch, pressure-tested tempered glass display and a shock-absorbing aluminum alloy endoskeleton, the APX 8000 is ready for unpredictable environments. It can survive 2 meter water submersion for 2 hours, MIL-STD 810 C, D, E, F, G procedures and Motorola's renowned Accelerated Life Test.

DESIGNED TO SECURE & PROTECT

The APX 8000's voice and data is secured by multiple hardware encryption algorithms (AES, DES, ADP), up to 128 keys and the ability to re-key over the air so that sensitive information stays protected from scanners and eavesdroppers. P25 Radio Authentication ensures only valid users can access the system while two-factor authentication allows users to securely log in to databases.

RF BANDS:
700/800 MHz, VHF, UHF Range 1 & 2

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

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

Digital APCO 25, Conventional, Analog MDC 1200, Quick Call II System Configurations

Narrow and wide bandwidth digital receiver

(6.25 kHz equivalent/25/20/12.5 KHz)

STANDARD FEATURES:
Mission Critical Wireless Bluetooth*

Radio Packet Data (Integrated Voice & Data)

Text-Messaging

Voice Announcements

ISSI 8000 Roaming

Radio Profiles, Dynamic Zone

Intelligent Lighting

Single-key ADP Encryption

IP67 1 meter, 30 minute submersion

IMPRES Battery

ADAPTIVE AUDIO ENGINE:
1 Watt Speaker with Adaptive Equalization

Adaptive Dual-sided Operation

Adaptive Noise Suppression Intensity

Adaptive Gain Control

Adaptive Windporting

PROGRAMMING:
Utilizes Windows 7 & 8

Customer Programming Software (CPS) with Radio Management

OPTIONAL FEATURES:
WiFi 802.11 b/g/n

GPS for Outdoor Location Tracking

RFID Volume Knob

Multi-key for 128 keys and multi-algorithm

Programming Over Project 25 (OTAP)

Over the Air Rekey (OTAR)

Digital Tone Signaling

LEX L10 Collaboration

P25 Authentication

Man Down Sensor

Delta-T submersible housing (2 meters, 2 hours)

* Compatible with BT 2.1, HSP and PAN Profiles found in off-the-shelf BT accessories

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

	700/800	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits	764-776, 794-806 MHz 806-825, 851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz
Channel Spacing	25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power Adj[1]	700 MHz: 1-2.5 Watts 800 MHz: 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 dBc	-75 dBc	-75 dBc	-75 dBc
Audio Response[1]	+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB
FM Hum & Noise (25kHz / 12.5kHz)[1] — 700 MHz / 800 MHz	-48 dB/-47 dB -46 dB/-45 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 8000

Battery Capacity / Type	Dimensions (HxWxD)	Weight	Battery Part Number	Battery Capacity
Li-Ion IMPRES 2150 mAh IP67	3.39" x 2.34" x 1.45"	5.07 oz	PMNN4403	2150 mAh
Li-Ion IMPRES 2900 mAh IP67**	3.39" x 2.34" x 1.65"	6.61 oz	NNTN7038	2900 mAh
Li-Ion IMPRES 4200 mAh IP67	5.12" x 2.34" x 1.65"	11.43 oz	NNTN7034	4200 mAh

KEY AUDIO ACCESSORIES

Name	Type	Part Number	Features
Extreme Policing (XP) RSM	Wired	NMN6271	Dual-Mic Noise Suppression, Emergency, Volume Control, Prog Button, IP68
Mission Critical Wireless (MCW) RSM	Bluetooth	RLN6554	Windporting, Audio Jack, Emergency, Volume Control, Task Light, IP55, 12 hour 5/35/60 Duty Cycle

**Standard shipping battery

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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	Backlit keypad 3 soft keys 4 direction Navigation key Home and Data buttons	Backlit keypad 3 soft keys 4 direction navigation key 4x3 keypad Home and Data buttons
Channel Capacity	1200	3000	3000
FLASHport Memory	2 GB	2 GB	2 GB
700/800 MHz (764-870 MHz) VHF (136-174 MHz) UHF Range 1 (380-470 MHz) UHF Range 2 (450-520 MHz)	H91TGD9PW5AN	H91TGD9PW6AN	H91TGD9PW7AN
Buttons & Switches	Large PTT button ▪ Angled On/Off volume control ▪ Orange emergency button ▪ 16 position top-mounted rotary switch ▪ 2-position concentric switch ▪ Multi-color backlight ▪ 3-position toggle switch ▪ 3 programmable side buttons		

Regulatory Information

FCC ID	AZ489FT7061
Industry Canada ID	109U-89FT7061
FCC Emission Designators	8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E**, 20K0F1E**

Power Supply

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

** Per the FCC Narrow banding rules (part 90), 25kHz channel spacing is not allowed for operation in the United States - State & Local Markets only.

RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS

		700	**800**	**VHF**	**UHF**
Frequency Range/Bandsplits		764-776 MHz	851-870 MHz	136-174 MHz	380-520 MHz
Channel Spacing		25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz	25/20/12.5 kHz
Maximum Frequency Separation		Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Audio Output Power at Rated[1]		1 Watt	1 Watt	1 Watt	1 Watt
Frequency Stability[1] (−30°C to +60°C; +25°C Ref.)		+/-0.00010%	+/-0.00010%	+/-0.00010%	+/-0.00010%
Analog Sensitivity[1] Digital Sensitivity[2]	12 dB SINAD 1% BER 5% BER	0.236 μV 0.211 μV 0.178 μV	0.236 μV 0.211 μV 0.178 μV	0.200 μV 0.149 μV 0.141 μV	0.224 μV 0.188 μV 0.159 μV
Selectivity (25 kHz / 12.5 kHz)[1]		80 dB / 74 dB	79 dB / 73 dB	83 dB / 77 dB	81 dB / 75 dB
Intermodulation Rejection[1]		82 dB	81 dB	84 dB	81 dB
Spurious Rejection[1]		98 dB	98 dB	92 dB	98 dB
FM Hum and Noise (25 kHz / 12.5 kHz)[1]		-54 dB / -51 dB	-54 dB / -51 dB	-54 dB / -51 dB	-54 dB / -51 dB
Audio Distortion[1]		0.9 %	0.9 %	0.9 %	0.9 %

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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	5.47	139
Width Push-To-Talk button	2.39	60.7
Depth Push-To-Talk button	1.40	35.6
Width Top	2.98	75.7
Depth Top	1.58	40.1
Depth Bottom of Battery	1.24	31.5
Weight of the radios without battery	11.25 oz	319 g

ENCRYPTION

Supported Encryption Algorithms	ADP, AES, DES, DES-XL, DES-OFB, DVP-XL, Localized Algorithm
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 360 mSec
Encryption Keying	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/GNSS SPECIFICATIONS

Constellations	GPS & GLONASS
Tracking Sensitivity	–164 dBm
Accuracy[3]	<5 meters (95%)
Cold Start[3]	<60 seconds (95%)
Hot Start[3]	<5 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted)

RUGGED OPTION SPECIFICATIONS

Leakage (immersion)	MIL-STD-810 C, D, E, F and G Method 512.X Procedure I
Housing Color	Black (Standard), Public Safety Yellow and High Impact Green

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature[4]	-30ºC / +60ºC
Storage Temperature[4]	-40ºC / +85ºC
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP67, MIL-STD
Immersion	MIL-STD 512.X/I

[1] Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.
[2] Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.
[3] Measured conductively with >6 satellites visible at a nominal –130 dBm signal strength. Specs provided are 95th percentile values.
[4] 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.

WIRELESS CONNECTIVITY & SECURITY

WiFi 802.11 b/g/n supports WPA-2, WPA, WEP security protocols; radio can be pre-provisioned with up to 20 SSIDs

Mission Critical Wireless Bluetooth 2.1 uses 96 bit encryption for pairing & 128 bit encryption for voice, signaling and data. The radio BT supports up to 6 data connections and 1 audio connection.

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