



MISSION EXTREME WHEN YOU NEED IT THE MOST

APX™ 4000XE PROJECT 25 PORTABLE RADIO

Public safety first responders have to continuously be aware and alert of high intensity situations at all times. Quickly responding to a call, preventing an assault, chasing an assailant on foot, or preparing to run into a burning building, public safety users need a radio that they can trust. Durable and compact, APX 4000XE is designed and built to withstand even the toughest environments.

The APX 4000XE delivers all the benefits of TDMA technology in the one of the most compact P25 capable portables in the industry. Easy to use, tough as nails, a hard value to beat, it seamlessly connects public safety agencies, corrections officers, and fire agencies for fast, interoperable communications.

EXTREME RUGGEDNESS YOU CAN AFFORD

With its enhanced ergonomics, large control knobs and emergency button, the APX 4000XE is ideal for those everyday tough environment jobs. Rugged MIL specs, Intrinsic Safety certification and optional color housings, it's the portable performer you can rely on in some of the harshest environments.

The smallest P25 Phase 2 capable portable, the APX 4000XE gets the job done without getting in the way. Simplified controls and enlarged knobs are easy to turn on or off, to set volume and switch talk groups. And its Delta T and MIL-STD certified to withstand dust, heat, shock, drops and water immersion, so you can count on it wherever you arrive on scene.

P25 PERFORMANCE AT ITS PEAK

Loaded with key P25 features to increase safety, the APX 4000XE features Mission Critical Wireless, a unique Bluetooth® solution that provides an encrypted link to a high performance earpiece, GPS for quickly locating personnel outdoors, AES encryption for improved security, and over-the-air programming to program radios in the field without interrupting voice operation.

An easy-to-use interface, color display, intelligent lighting, enhanced LED lighting, and radio profiles, you get all the power of APX in a compact, rugged radio. Plus, you can extend the performance of your radio with a complete portfolio of industry-leading IMPRES smart energy and audio accessories.

POWER UP WITH APX 4000XE ACCESSORIES

- Designed, tested and certified for optimum performance with your radio
- Complete portfolio of remote speaker microphones, headsets and Mission Critical Wireless Bluetooth® accessories
- High-powered IMPRES™ batteries that have a slim design to fit the compact radio size

APX 4000XE PROJECT 25 PORTABLE RADIO

FEATURES AND BENEFITS

- Available in 700/800 MHz, VHF, UHF R1, UHF R2 bands
- Trunking standards supported:
 - Clear or digital 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)¹
- Embedded digital signaling (ASTRO and ASTRO 25)
- Available in 2 models
- Integrated GPS capable
- Lightbar with Intelligent Lighting
- Radio Profiles
- Unified Call List
- User programmable Voice Announcement
- Meets Applicable MIL-STD-810C, D, E, F and G
- Ships standard Intrinsically Safe and Rugged²

- Superior Audio Features:
 - 0.5 W high audio speaker
 - 2-mic noise canceling technology
- Utilizes Windows 7 Customer Programming Software (CPS)
 - Supports USB communications
 - Built in FLASHport™ support
- Full portfolio of accessories including IMPRES batteries, chargers and audio devices³

OPTIONAL FEATURES

- GPS Location Tracking
- Mission Critical Wireless⁴
- Programming Over Project 25
- Text Messaging
- AES Encryption Capability
- Man Down
- Site Selectable Alert Tones
- Enhanced Data
- P25 Over the Air Re-keying



TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

		700/800	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits	700 MHz 800 MHz	763-776, 793-806 MHz 806-824, 851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz
Channel Spacing		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
Rated RF Output Power Adj ⁵		1-3 Watts Max	1-5 Watts Max	1-5 Watts Max	1-5 Watts Max
Frequency Stability ⁵ (-30°C to +60°C; +25°C Ref.)		±0.00010 %	±0.00010 %	±0.00010 %	±0.00010 %
Modulation Limiting ⁵		±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) ⁵		-75 dB	-75 dB	-75 dB	-75 dB
Audio Response ⁵		+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB
FM Hum and Noise	25 kHz 12.5 kHz	-47 dB -45 dB	-47 dB -45 dB	-47 dB -45 dB	-47 dB -45 dB
Audio Distortion ⁵	25 kHz 12.5 kHz	1.00%	1.00%	1.00%	1.00%

BATTERIES FOR APX 4000XE

BATTERY CAPACITY / TYPE	DIMENSIONS (H X W X D)	WEIGHT	BATTERY PART NUMBER	BATTERY CAPACITY
Li-Ion IMPRES 1900 mAh IP67	114.5 x 55.04 x 17.85	150 grams	NNTN8128A	1900 mAh
Li-Ion IMPRES 2300 mAh IP67 Non-HazLoc	114.5 x 55.04 x 23.15	160 grams	PMNN4424AR	2300 mAh
Li-Ion IMPRES 2300 mAh IP67 HazLoc ⁶	114.5 x 55.04 x 23.15	210 grams	NNTN8560A	2300 mAh
Li-Ion IMPRES 2700 mAh IP54 Non-HazLoc	114.5 x 55.04 x 23.15	160 grams	PMNN4448AR	2700 mAh

¹ Per the FCC Narrowbanding rules, new products (APX 4000XE VHF, UHF R1, UHF R2) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25 KHz for United States – State and Local Markets only.

² Rugged batteries exceed industry standards (IPx7) for submersibility and provide a higher level of water protection – MIL-STD-810E, Method 512.3 Immersion. These batteries meet the incremental requirement of submersion in 1 meter of fresh water that is 27°C colder than the product.

³ Chargers and batteries for the APX 4000XE radios do not interoperate with other APX 7000/6000 series radios.

⁴ Compatible with BT 2.0 and HSP and PAN BT Profiles.

⁵ Measured in the analog mode per TIA / EIA 603 under nominal conditions.

⁶ When used with a Hazardous Location tested radio.

PRODUCT SPEC SHEET

APX™ 4000XE PROJECT 25 PORTABLE RADIO



RADIO MODELS

	MODEL 2	MODEL 3
Display	Full bitmap color LCD display, 3 lines of text x 14 characters, 1 line of icons, 1 menu line x 3 menus, White backlight	
Keypad	Backlight keypad, 3 soft keys, 4 direction Navigation key, Home and Data buttons	Backlight keypad, 3 soft keys, 4 direction Navigation key, 4x3 keypad, Home and Data buttons
Channel Capacity	512	
FLASHport Memory	64 MB	
700/800 MHz (763-870 MHz)	H51UCF9PW6AN Q360GK	H51UCH9PW7AN Q360GK
VHF (136-174 MHz)	H51KDF9PW6AN Q360GX	H51KDH9PW7AN Q360GX
UHF Range 1 (380-470 MHz)	H51QDF9PW6AN Q360GL	H51QDH9PW7AN Q360GL
UHF Range 2 (450-520 MHz)	H51SDF9PW6AN Q360HA	H51SDH9PW7AN Q360HA
Buttons and Switches	Large PTT button, Angled On/Off volume control, Orange emergency button, 3 programmable side buttons, large channel select knob	

TRANSMITTER CERTIFICATION

700/800 (764-869 MHz)	AZ489FT7049
VHF (136-174 MHz)	AZ489FT3828
UHF Range 1 (380-470 MHz)	AZ489FT4905
UHF Range 2 (450-520 MHz)	AZ489FT4910

FCC EMISSION DESIGNATORS

FCC Emissions Designators	11K0F3E, 16K0F3E, 8K10F1D, 8K10F1E, 8K10F1W, 20K0F1E ¹
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POWER SUPPLY

Power Supply	One rechargeable Li-Ion 1900 mAh battery standard, or 2300 and 2700 mAh high cap Li-Ion.
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RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS

		700/800	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits	700 MHz 800 MHz	763-776 MHz 851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz
Channel Spacing		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
Audio Output Power at Rated ⁴		500mW	500mW	500mW	500mW
Frequency Stability ⁴ (-30°C to +60°C; +25°C Ref.)		±0.00010 %	±0.00010 %	±0.00010 %	±0.00010 %
Analog Sensitivity ⁶	12 dB SINAD	0.266µV	0.216µV	0.234µV	0.234µV
Digital Sensitivity ⁷	1% BER (800 MHz) 5% BER	0.400µV 0.266µV	0.277µV 0.188µV	0.307µV 0.207µV	0.307µV 0.207µV
Selectivity ⁴	25 kHz channel 12.5 kHz channel	-76 dB -67 dB	-76 dB -70 dB	-76 dB -67 dB	-76 dB -67 dB
Intermodulation		-75 dB	-76 dB	-77 dB	-77 dB
Spurious Rejection		-76.6 dB	-85 dB	-80.3 dB	-90 dB
FM Hum and Noise	25 kHz 12.5 kHz	-53 dB -47 dB	-51 dB -45 dB	-50 dB -45 dB	-50 dB -45 dB
Audio Distortion ⁴		1.00%	1.00%	1.00%	1.00%

¹ Per the FCC Narrowbanding rules, new products (APX 4000XE VHF, UHF1, UHF2) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25 KHz for United States – State and Local Markets only.

⁴ Measured in the analog mode per TIA / EIA 603 under nominal conditions.

⁶ Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.

⁷ Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.

PRODUCT SPEC SHEET
APX™ 4000XE PROJECT 25 PORTABLE RADIO

PORTABLE MILITARY STANDARDS 810 C, D, E, F AND 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
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	5.42	137.7
Width Push-To-Talk button	2.42	61.4
Depth Push-To-Talk button	1.41	35.75
Width Top	2.62	66.55
Depth Top	1.84	46.7
Weight of the Radios Without Battery	10.05 oz	285 g

GPS SPECIFICATIONS

Channels	12
Tracking Sensitivity	-159 dBm
Accuracy ^a	<10 meters (95%)
Cold Start	<60 seconds (95%)
Hot Start	<10 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GPS

ENCRYPTION

Supported Encryption Algorithms	ADP, AES, DES, DES-XL, DES-OFB, DVP-XL
Encryption Algorithm Capacity	Multi-Algorithm
Encryption Keys per Radio	Module capable of storing 1024 keys. Programmable for 64 Common Key Reference (CKR) or 16 Physical Identifier (PID)
Encryption Frame Re-sync Interval	P25 CA1 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 ^a	-30°C / +60°C
Storage Temperature ^a	-40°C / +85°C
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	Delta T

RUGGED OPTION SPECIFICATIONS

Leakage (immersion)	MIL-STD-810 C,D,E,F and G Method 512.X Procedure I
Housing Availability	Black (Standard), Construction Yellow

^a Accuracy specs are for long-term tracking (95th percentile values >5 satellites visible at a nominal -130 dBm signal strength).
^a 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.

To learn more about the APX 4000XE P25 portable radio contact your Motorola representative or visit motorolasolutions.com/apx4000xe.

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