THE LIGHTWEIGHT HEAVYWEIGHT

APX™ 6000XE PROJECT 25 PORTABLE RADIO

In the heat of a wildfire or the smoke of a structure fire, you can't afford to struggle with controls or strain to hear commands. You need a radio so reliable and responder-focused, it's second nature to use. Working with first responders around the world, we developed APX™ radios to be safer and tougher than others – and to deliver innovative technology in an ultra-rugged, glove-friendly form.

Our APX 6000XE is the "lightweight heavyweight" – a small, single band radio with extreme ergonomics and excellent audio that takes on the tough tasks of fire service and EMS. It's the two-way radio that can strengthen safety precisely because it is engineered for extreme conditions.

REAL-WORLD RUGGEDNESS

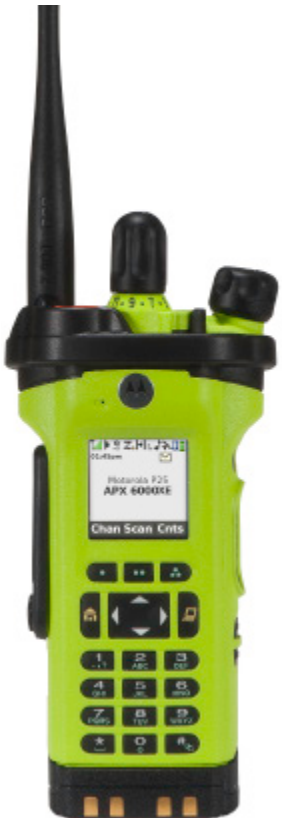
Everything about the APX 6000XE is designed with first responders in mind – starting with a large top display with intelligent lighting so you can see information at a glance. Then oversized controls that are easy to operate when you're wearing bulky gloves –including the volume and channel selector and X-large emergency button. With its rugged MIL specs, FM certification and optional color housings, it's the portable performer you can rely on in the harshest environments.

LOUD, CLEAR AND NOISE-CANCELLING

Racing to a medical emergency or reporting from a rural fire, you need crystal-clear audio— and the APX 6000XE delivers. Its dual microphone design locates the talker while it cancels out ambient noise. Not only is the APX 6000XE equipped with the latest AMBE digital voice vocoder, its extreme audio profile reduces background noise and improves voice clarity. Plus, a unique speaker grill design improves water runoff to keep communications going strong.

SMALL SIZE, BIG TECHNOLOGY

- Three lightweight, mission extreme models
- Easy-to-use keypad for front panel programming and text messaging
- P25 Phase 2 capable for twice the voice capacity
- Backwards and forwards compatible with all Motorola mission critical radio systems
- Mission Critical Wireless accessories and GPS location tracking application help improve safety



APX™ 6000XE SPECIFICATIONS

FEATURES AND BENEFITS:

Available in 700/800 MHz, VHF, UHF R1 and UHF R2 bands

Trunking standards supported:
- Clear or digital encrypted 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 (6.25KHz equivalent/12.5KHz/30KHz/25KHz)*

Embedded digital signaling (ASTRO & ASTRO 25)

Available in 3 models

Intelligent Lighting

Radio Profiles

Unified Call List (Models 2 and 3 only)

User programmable voice announcement

Meets Applicable MIL-STD-810C, D, E, F and G

Ships standard Intrinsically Safe and Rugged**

Yellow and green colored housing options

Custom recess label areas

Superior Audio Features:
- 0.5 W high audio speaker
- Dual microphones
- Extreme audio profile

Utilizes Windows XP, Vista and Windows 7 Customer Programming Software (CPS)
- Supports USB communications
- Built in FLASHport™ support

Full portfolio of accessories including the XE Remote Speaker Microphone specifically designed for performance in extreme environments

OPTIONAL FEATURES:

GPS Location Tracking

Mission Critical Wireless**

Enhanced Encryption capability

Programming Over Project 25

Over the Air Rekey

Text Messaging

Man Down

* Per the FCC Narrowbanding rules, new products (APX6000XE UHFR1, UHFR2) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25KHz for United States - State & Local Markets only.

** Compatible with BT 2.0 and HSP and PAN BT Profiles

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

		700/800	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits	700 MHz 800 MHz	763-775MHz; 793-805MHz 806-824MHz; 851-869MHz	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 800 MHz	1-2.5 Watts 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 dB	–75 dB	–75 dB	–75 dB
Audio Response[1]		+1, –3 dB	+1, –3 dB	+1, –3 dB	+1, –3 dB
FM Hum & Noise	700 MHz 800 MHz	–48 dB –47 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 6000XE

Battery Capacity / Type	Dimensions (HxWxD)	Weight	Battery Part Number	Battery Capacity
Li-Ion IMPRES 2300 mAh FM² Rugged***	3.39" x 2.34" x 1.46"	6.53 oz	NNTN8092	2300 mAh
Li-Ion IMPRES 2150 mAh IP67	3.39" x 2.34" x 1.46"	5 oz	PMNN4403	2150 mAh
Li-Ion IMPRES 2900 mAh IP67	3.07" x 2.34" x 1.65"	6.53 oz	NNTN7038	2900 mAh
Li-Ion IMPRES 4200 mAh IP67	5.07" x 2.34" x 1.65"	11.29 oz	NNTN7034	4200 mAh
Li-Ion IMPRES 4100 mAh FM² IP67	5.07" x 2.34" x 1.65"	11.29 oz	NNTN7033	4100 mAh
NiMH IMPRES 2100 mAh IP67	5.12" x 2.34" x 1.57"	11.82 oz	NNTN7037	2100 mAh
NIMH IMPRES 2000 mAh FM² IP67	5.12" x 2.34" x 1.57"	11.82 oz	NNTN7036	2000 mAh
NiMH IMPRES 2000 mAh FM² Rugged	5.12" x 2.34" x 1.57"	11.82 oz	NNTN7035	2000 mAh
NiMH IMPRES 2100 mAh Rugged	5.12" x 2.34" x 1.57"	11.82 oz	NNTN7573	2100 mAh

** 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 27C colder than the product.

***Standard shipping battery

PRODUCT SPEC SHEET
APX 6000XE



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	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*	96	1000	1000
FLASHport Memory	64 MB	64 MB	64 MB
700/800 MHz (763-870 MHz)	H98UCD9PW5AN Q360NW	H98UCF9PW6AN Q360NX	H98UCH9PW7AN Q360FE
VHF (136-174 MHz)	H98KGD9PW5AN Q360NY	H98KGF9PW6AN Q360NZ	H98KGH9PW7AN Q360FF
UHF Range1 (380-470 MHz)	H98QDD9PW5AN Q360PA	H98QDF9PW6AN Q360PB	H98QDH9PW7AN Q360FH
UHF Range2 (450-520 MHz)	H98SDD9PW5AN Q360PC	H98SDF9PW6AN Q360PD	H98SDH9PW7AN Q360FK
Buttons & Switches	Large PTT button • Angled On/Off volume control • Orange emergency button • 16 position top-mounted rotary switch 2-position concentric switch • 3-position toggle switch • 3 programmable side buttons		
Transmitter Certification			
700/800 (764-869 MHz)	AZ489FT5863		
VHF (136-174 MHz)	AZ489FT3829		
UHF Range 1 (380-470 MHz)	AZ489FT4892		
UHF Range 2 (450-520 MHz)	AZ489FT703		
FCC Emission Designators			
FCC Emission Designators	11K0F3E, 16K0F3E, 8K10F1D, 8K10F1E, 8K10F1W, 20K0F1E**		
Power Supply			
Power Supply	One rechargeable 2300 mAh FM/Rugged Li-Ion Battery Standard (NNTN8092), with alternate battery options available.		

* Enhancement package available

** Per the FCC Narrowbanding rules, new products (APX6000XE UHFR1, UHFR2) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25KHz for United States - State & Local Markets only.

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		25/20/12.5 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]		500mW	500mW	500mW	1000 mW
Frequency Stability[1] (–30°C to +60°C; +25°C Ref.)		±0.00010 %	±0.00010 %	±0.00010 %	±0.00010 %
Analog Sensitivity[3] Digital Sensitivity[4]	12 dB SINAD 1% BER (800 MHz) 5% BER	0.250 µV 0.347 µV (0.333 µV) 0.251 µV	0.216 µV 0.277 µV 0.188 µV	0.234 µV 0.307 µV 0.207 µV	0.234 µV 0.307 µV 0.207 µV
Selectivity[1]	25 kHz channel 12.5 kHz channel	75.7 dB 67.5 dB	79.3 dB 70 dB	78.3 dB 68.1 dB	78.3 dB 67.5 dB
Intermodulation		80 dB	80.5 dB	80.2 dB	80.2 dB
Spurious Rejection		76.6 dB	93.2 dB	80.3 dB	80.3 dB
FM Hum and Noise	25 kHz 12.5 kHz	-54 dB -48 dB	-53.8 dB -48 dB	-53.5 dB -47.4 dB	–53.5 dB –47.4 dB
Audio Distortion[1]		0.9 %	1.20 %	0.91 %	0.91 %

PRODUCT SPEC SHEET
APX 6000XE

PORTABLE MILITARY STANDARDS 810 C, D, E , F & G

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G	
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	6.15	156.2
Width Push-To-Talk button	2.39	60.7
Depth Push-To-Talk button	1.40	35.5
Width Top	3.32	84.3
Depth Top	2.13	54.1
Depth Bottom of Battery	1.24	31.5
Weight of the radios without battery	13.9 oz	394.1 g

ENCRYPTION

Supported Encryption Algorithms	ADP, AES, DES, DES-XL, DES-OFB, DVP-XL
Encryption Algorithm Capacity	8
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 CAI 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

GPS SPECIFICATIONS

Channels	12
Tracking Sensitivity	–159 dBm
Accuracy[5]	<10 meters (95%)
Cold Start	<60 seconds (95%)
Hot Start	<10 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GPS

RUGGED OPTION SPECIFICATIONS

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

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature[6]	-30ºC / +60ºC
Storage Temperature[6]	-40ºC / +85ºC
Humidity	PER MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP67 and MIL-STD's noted above
Immersion	MIL-STD 512.X/I

[1] Measured in the analog mode per TIA / EIA 603 under nominal conditions
[2] When used with an FM approved intrinsically safe radio
[3] Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.
[4] Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.
[5] Accuracy specs are for long-term tracking (95th percentile values >5 satellites visible at a nominal –130 dBm signal strength).
[6] 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.

motorolasolutions.com

R3-4-2041G

MOTOROLA