APX™ 7000XE PROJECT 25 MULTI-BAND PORTABLE RADIO

We take the safety of first responders personally, which is why we designed the APX™ 7000XE – the most advanced, ultra-rugged radio with innovative features designed by first responders for first responders working in extreme environments.

Together we have created an ergonomically-superior radio that is easy to operate, with glove-friendly controls and a large top display. Significantly louder and clearer so that every word is heard when you're battling noise in almost any environment. A mission critical multiband, multi-protocol radio so seamless, you can be confident your communications are truly interoperable.

Focus on the task, not the technology, with the high-performing portable that stands up and stands out in the toughest conditions.

ADVANCED ERGONOMICS FOR EXTREME CONDITIONS

- Easy to grip, hold and control in harsh conditions
- Glove-friendly controls are big, recognizable and easy to distinguish
- Well-spaced knobs eliminate accidental activation
- Enlarged top display is easy to read, in dark or low light
- Shielded push-to-talk button is easy to use with a gloved hand Largest emergency button in the

EXCEPTIONAL AUDIO MEANS EVERY WORD IS HEARD

- 50% louder and clearer without distorting transmissions
- Dual microphone locates the talker, cancels out ambient noise
- Extreme Audio Profile reduces background noise and improves voice clarity
- Equipped with the latest AMBE digital voice vocoder
- New speaker grill design for improved water runoff

NEXT GENERATION TECHNOLOGY TO RELY ON NOW

- Project 25 Phase 2 technology provides twice the voice capacity
- Multiband operation ensures seamless interoperability
- Backwards and forwards compatible with all Motorola mission critical radio systems
- Future-ready for applications like Mission Critical Wireless and GPS location tracking

- Channel Capacity
  - 1250 standard
- Universal Push-to-Talk
- T-Grip
- Dual Battery Latch
- Orange emergency button
- 16 position rotary switch
- 2 position concentric switch
- 3 position toggle switch
- 3 programmable side buttons
- Transmit LED indicator
- Full Bitmap Top Display
  - 1 line of icons
  - 1 line x 8 characters of text
- Standard Rugged
- FM (Intrinsically Safe)

FEATURES AND BENEFITS:

Available in 700/800 MHz, VHF, UHF Range 1 and 2 bands

Optional multiband operation

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
6.25 kHz equivalent / 12.5 kHz / 20 kHz / 25 kHz

Embedded digital signaling (ASTRO & ASTRO 25)

Integrated GPS capable

Seamless wideband scan

Intelligent Lighting

Radio Profiles

Expansion Slot

Micro SD removable memory card

User programmable voice announcement

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

Ship standard Intrinsically Safe and Rugged*

Yellow and green colored housing options

Superior Audio Features:
- Extreme Audio Profile
- 1W high audio speaker
- Dual sided 2 microphone noise canceling technology

Utilizes Windows XP, Windows 7 and Vista 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:

Mission Critical Wireless

Enhanced Encryption capability

Programming Over Project 25

Over the Air Rekey

Text Messaging

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

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 806-825, 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 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	25kHz 12.5kHz	-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 7000XE

Battery Capacity / Type	Dimensions (HxWxD)	Weight	Battery Part Number	Battery Capacity
Li-Ion IMPRES 2300 mAh FM[2] Rugged**	3.39" x 2.34" x 1.65"	6.53 oz	NNTN8092	2300 mAh
Li-Ion IMPRES 2150 mAh IP67	3.39" x 2.34" x 1.45"	5.0 oz	PMNN4403	2150 mAh
Li-Ion IMPRES 2900 mAh IP67	3.39" 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 FM[2] 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 FM[2] IP67	5.12" x 2.34" x 1.57"	11.82 oz	NNTN7036	2000 mAh
NiMH IMPRES 2000 mAh FM[2] 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

**Standard shipping battery

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]		1000mW	1000mW	1000mW	1000mW
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 %

RADIO MODELS

Top Display	
Display	Full bitmap monochromatic LCD display ■ 1 line text, 8 characters ■ 1 line of icons ■ No menu support ■ Multi-color backlight
Keypad	None
Channel Capacity	1250 channels standard
FLASHport Memory	64 MB
700/800 MHz (763-870 MHz)	H49TGD9PW1AN QA00569
VHF (136-174 MHz)	H49TGD9PW1AN QA00570
UHF Range 1 (380-470 MHz)	H49TGD9PW1AN QA00571
UHF Range 2 (450-520 MHz)	H49TGD9PW1AN QA00572
Buttons & Switches	Large PTT button ■ Angled on/off volume control ■ X-large emergency button ■ 16 position top mounted rotary switch ■ 2-position concentric switch ■ 3-position toggle switch ■ 3 programmable side buttons
Embedded GPS LED	Yes Multi-color
Transmitter Certification	
VHF – 700/800 MHz	AZ489FT7036 (136-174 MHz and 764-869 MHz)
UHF R1 – 700/800 MHz	AZ489FT7040 (380-470 MHz and 764-869 MHz)
UHF R1 – VHF	AZ489FT4886 (380-470 MHz and 136-174 MHz)
UHF R2 – 700/800 MHz	AZ489FT7042 (450-520 MHz and 764-869 MHz)
UHF R2 – VHF	AZ489FT4893 (450-520 MHz and 136-174 MHz)
Bluetooth Option Board	AZ489FT6000
BT Freq Range	2402-2480 MHz
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

DIMENSIONS OF THE RADIOS WITHOUT BATTERY

	Inches	Millimeters
Length	6.94	176.3
Width Push-To-Talk button	2.39	60.8
Depth Push-To-Talk button	1.47	37.2
Width Top	3.32	84.3
Depth Top	2.13	54.1
Depth Bottom of Battery	1.64	41.7
Weight of the radios without battery	15.4 oz	438 g

GPS SPECIFICATIONS

Channels	12
Tracking Sensitivity	–151 dBm
Accuracy[5]	<10 meters (95%)
Cold Start	<60 seconds (95%)
Hot Start	<10 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GPS

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	Only 1 Proc	507.5	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	Only 1 Proc	509.5	Only 1 Proc
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I
Blowing Sand	Only 1 Proc	Only 1 Proc	510.2	II	510.3	II	510.4	II	510.5	II
Immersion (Delta-T)	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

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 128 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

RUGGED OPTION SPECIFICATIONS

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

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30ºC / +60ºC
Storage Temperature	-40ºC / +85ºC
Humidity	MIL-STD 507.x PROC. II
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP67 and MIL-STD's noted above
Immersion (Delta-T)	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.

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