THE FIRST CHOICE OF FIRST RESPONDERS

APX™ 7000 MULTIBAND PORTABLE RADIO

On surveillance, on border patrol or on a multi-agency response, you want a radio that keeps you connected, no matter how loud the background noise, harsh the weather or long the hours. You depend on a ruggedly reliable portable with crystal-clear communication so every word is heard. You need a multiband radio so interoperable, multiple federal, state and local agencies can communicate and collaborate seamlessly together – without having to carry two radios.

Working with public safety and federal personnel around the world, we developed the smallest multiband portable on the market: the APX™ 7000. We engineered our radio with their requests in mind – from easy-to-use design and seamless interoperability to best-in-class audio.
The result is an interoperable multiband radio that is 50% louder than comparable radios in its class.*

INTEROPERATE IN AN INSTANT

Rushing to a fire or reporting from a covert operation, you don't want to carry two radios in order to communicate. That's why the APX 7000 is so valuable. It performs across multiple digital and analog networks and operates in any of two bands (700/800 MHz, VHF and UHF R1, UHF R2) for instant interoperability. Now you can efficiently manage mission critical voice and data in any environment – and significantly improve your safety and response time.

HEAR EVERY WORD

The frenzy of city streets. The blare of sirens.
The whine of equipment. Background noise can block communications. But with a dual-sided two-microphone design for exceptional noise-canceling, dual speakers for the loudest, clearest audio available and the latest AMBE digital voice vocoder, the APX 7000 cuts through the clamor – so every word is heard and every message is understood, everywhere you go.

FUTURE-READY WHEN YOU ARE

How can you protect your radio investment and make sure your new purchases are easily updated as technology evolves? Every APX 7000 radio is backward and forward compatible, meets current P25 standards and is future-ready to support new technology and data applications. So you can achieve your interoperability objectives—whether upgrading an existing system or designing a new one—at your own pace.

*Based on results of controlled engineering tests

APX 7000 PROJECT 25 MULTIBAND PORTABLE RADIO

FEATURES AND BENEFITS:

Available in 700-800 MHz, VHF, UHF Range 1, and UHF Range 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 / 30 kHz / 25 kHz)

Embedded digital signaling (ASTRO & ASTRO 25)

Integrated GPS capable

Seamless wideband scan

Man Down

Intelligent Lighting

Radio Profiles

Unified Call List (Dual Display model only)

Expansion Slot

Micro SD removable memory card

User programmable voice announcement

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

Submersible to 1 meter for 30 minutes (IP67)

Submersible to 2 meters for 2 hours (with Rugged Option)

Public Safety Yellow and High Impact Green housing options

Custom recessed label areas

Superior Audio Features:

- 1W high audio speaker
- Dual speakers (Dual Display model only)
- Dual microphones
- 2-mic 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 IMPRES batteries, chargers and audio devices

OPTIONAL FEATURES:

Enhanced Encryption capability

Programming Over Project 25

Over the Air Rekey

Text Messaging

Mission Critical Wireless

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

	700 MHz	800 MHz	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits	763-776 MHz 793-806 MHz	806-824 MHz 851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz
Channel Spacing	25/12.5 kHz	25/12.5 kHz	30/25/12.5 kHz	25/20/12.5 kHz	25/12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power Adj[1]	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.)	±0.8 ppm	±0.8 ppm	±0.8 ppm	±0.8 ppm	±0.8 ppm
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	±5 kHz / ±4 kHz / ±2.5 kHz
Emissions (Conducted and Radiated)[1]	–75 dB	–75 dB	–75 dB	–75 dB	–75 dB
Audio Response[1]	+1, –3 dB	+1, –3 dB	+1, –3 dB	+1, –3 dB	+1, –3 dB
FM Hum & Noise 25 kHz 12.5 kHz	–48 dB –46 dB	–47 dB –45 dB	–47 dB –45 dB	–47 dB –45 dB	–47 dB –45 dB
Audio Distortion[1]	0.60 %	1 %	0.50 %	0.50 %	0.50 %

BATTERIES FOR APX 7000

Battery Capacity / Type	Dimensions (HxWxD)	Weight	Battery Part Number	Battery Capacity
Li-Ion IMPRES 2900 mAh (Rugged)**	78mm x 59mm x 42mm (3.07" x 2.34" x 1.65")	185g (6.53oz)	NNTN7038	2900 mAh
Li-Ion IMPRES 4200 mAh (IP67)	130mm x 59mm x 42mm (5.12" x 2.34" x 1.65")	320g (11.29oz)	NNTN7034	4200 mAh
Li-Ion IMPRES 4100 FM² (IP67)	130mm x 59mm x 42mm (5.12" x 2.34" x 1.65")	320g (11.29oz)	NNTN7033	4100 mAh
NIMH IMPRES 2000 mAh FM² (IP67)	130mm x 59mm x 40mm (5.12" x 2.34" x 1.57")	335g (11.82oz)	NNTN7036	2000 mAh
NiMH IMPRES 2000 mAh FM² (Rugged)	130mm x 59mm x 40mm (5.12" x 2.34" x 1.57")	335g (11.82oz)	NNTN7035	2000 mAh
NiMH IMPRES 2100 mAh (IP67)	130mm x 59mm x 40mm (5.12" x 2.34" x 1.57")	335g (11.82oz)	NNTN7037	2100 mAh
NiMH IMPRES 2100 mAh (Rugged)	130mm x 59mm x 40mm (5.12" x 2.34" x 1.57")	335g (11.82oz)	NNTN7573	2100 mAh
Li-Ion IMPRES 2150 mAh IP67	86mm x 59mm x 37mm(3.39" x 2.34" x 1.45")	142oz (5.0oz)	PMNN4403	2150 mAh
Li-Ion IMPRES 2300 mAh FM² Rugged	86mm x 59mm x 42mm(3.39" x 2.34" x 1.65")	185g (6.53oz)	NNTN8092	2300 mAh

* Per the FCC Narrowbanding rules, new products (APX7000 UHFR1 with UHFR2 combination) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25KHz for United States - State & Local Markets only.

**Standard shipping battery

RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS

		700 MHz	800 MHz	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits		763-776 MHz	851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz
Channel Spacing		25/12.5 kHz	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	Full Bandsplit
Audio Output Power at Rated[1]		1000 mW	1000 mW	1000 mW	1000 mW	1000 mW
Frequency Stability[1] (–30°C to +60°C; +25°C Ref.)		±0.8 ppm	±0.8 ppm	±0.8 ppm	±0.8 ppm	±0.8 ppm
Analog Sensitivity[3]	12 dB SINAD	0.250 µV	0.250 µV	0.216 µV	0.234 µV	0.234 µV
Digital Sensitivity[4]	1% BER	0.347 µV	0.333 µV	0.277 µV	0.307 µV	0.307 µV
	5% BER	0.251 µV	0.251 µV	0.188 µV	0.207 µV	0.207 µV
Sensitivity[1]	25 kHz channel	75.7 dB	75.7 dB	79.3 dB	78.3 dB	78.3 dB
	12.5 kHz channel	67.5 dB	67.5 dB	70 dB	68.1 dB	67.5 dB
Intermodulation		80 dB	80 dB	80.5 dB	80.2 dB	80.2 dB
Spurious Rejection		76.6 dB	76.6 dB	93.2 dB	80.3 dB	80.3 dB
FM Hum & Noise	25 kHz	–54 dB	–54 dB	–53.8 dB	–53.5 dB	–53.5 dB
	12.5 kHz	–48 dB	–48 dB	–48 dB	–47.4 dB	–47.4 dB
Audio Distortion[1]		0.9 %	0.9 %	1.20 %	0.91 %	0.91 %

RADIO MODELS

Model 1.5 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		1200
FLASHport Memory		64 MB
700/800 MHz (763-870 MHz)		Primary QA00569 Secondary QA00573 Keypad QA00577
VHF (136-174 MHz)		Primary QA00570 Secondary QA00574 Keypad QA00577
UHF Range 1 (380-470 MHz)		Primary QA00571 Secondary QA00575 Keypad QA00577
UHF Range 2 (450-520 MHz)		Primary QA00572 Secondary QA00576 Keypad QA00577
Buttons & Switches		Large PTT button ■ Angled On/Off Volume knob ■ Orange emergency button ■ 16 position top mounted rotary switch ■ 2-position concentric switch ■ 3-position toggle switch ■ 3 programmable side buttons ■ Multi-color backlight
Embedded	GPS	Yes
	LED	Multi-color
Model 3.5 Dual Display		
Display		Top display plus full bitmap color display ■ LCD display ■ 4 lines text, 14 characters ■ 2 lines of icons ■ 1 menu line, 3 menus
Keypad		Multi-color backlight ■ Full Keypad ■ 3 soft keys ■ 4-direction navigation key ■ 4x3 keypad ■ Home and Data buttons
Channel Capacity		2000
FLASHport Memory		64 MB
700/800 MHz (764-870 MHz)		Primary QA00569 Secondary QA00573 Keypad QA00577
VHF (136-174 MHz)		Primary QA00570 Secondary QA00574 Keypad QA00577
UHF Range 1 (380-470 MHz)		Primary QA00570 Secondary QA00574 Keypad QA00577
UHF Range 2 (450-520 MHz)		Primary QA00572 Secondary QA00576 Keypad QA00577
Buttons & Switches		Large PTT button ■ Angled On/Off Volume knob ■ Orange emergency button ■ 16 position top mounted rotary switch ■ 2-position concentric switch ■ 3-position toggle switch ■ 3 programmable side buttons ■ Multi-color backlight
Embedded	GPS	Yes
	LED	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		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 2900 mAh Li-Ion Battery Standard (NNTN7038), with alternate battery options available.

* Per the FCC Narrowbanding rules, new products (APX7000 UHFR1 with UHFR2 combination) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25KHz for United States - State & Local Markets only.

PRODUCT SPEC SHEET
APX 7000

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

DIMENSIONS OF THE RADIOS WITHOUT BATTERY

	Millimeters	Inches
Length	159.7	6.29
Width Push-To-Talk button	58.6	2.31
Depth Push-To-Talk button	34.0	1.34
Width Top	75.6	2.98
Depth Top	40.5	1.6
Depth Bottom of Battery	41.7	1.65
Weight of the radios without battery	346 g	12.2 oz

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	1 Proc	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	1 Proc	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	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

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

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30°C / +60°C
Storage Temperature[7]	-40°C / +85°C
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP67 MIL-STD
Immersion (Delta-T)	MIL-STD 512.X/1

Specifications subject to change without notice. All specifications shown are typical. Radio meets applicable regulatory requirements.

1 Measured in the analog mode per TIA / EIA 603 single-tone method 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 For rugged models only

7 Temperatures listed are for radio specifications. Battery storage is recommended at 25°C, ±5°C to ensure best performance

For more information, please visit
www.motorolasolutions.com/caribbean/astro

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