THE ELITE CHOICE FOR FEDERAL AGENCIES

APX™ 7000L MULTIBAND RADIO WITH LTE

UPHOLD THE OATH.
ADVANCE THE MISSION.

Imagine you are responding to a natural disaster threat. The noise and debris are chaotic and you need to be able to obtain the information you need in an instant. When mission success is on the line, you need solutions that you can trust, and federal agents need a radio to provide data operation that is fast and efficient so you always have the most updated information. With dual band capability to interoperate with other agencies, noise suppression technology, and a rugged and durable form factor, the APX 7000L Multiband Radio with LTE is the solution you need in the moments that matter most on a mission.

While securing the mission you are in, the APX 7000L portable allows federal agents to achieve optimal data operations, such as updating radio software and rekeying of radios. LTE network technology allows agents to receive this information faster than LMR networks while simultaneously using voice operation. Data is no longer delayed. Radio communications have never been easier and provide secure, efficient, and innovative operations to ensure the mission is never compromised.

INFORMATION EFFICIENCY
AT ITS PEAK

When calls come in, federal agents need to be able to access and obtain information in an instant. With the APX 7000L, you will be able to respond and obtain information more efficiently. The APX 7000L provides faster Over-the-Air-Programming and Over-the-Air-Rekeying. With the APX 7000L, this information is transferred faster than with standard LMR technology to ensure that your radios information efficiency is always at its peak performance.

EXPERIENCE VOICE AND DATA SIMULTANEOUSLY

While data transmission is becoming more important to field agents, voice communications can never be compromised. With the APX 7000L data is transmitted/received via LTE simultaneously with voice operation to ensure your voice channel is never interrupted. The APX 7000L also provides field agents with the ability to automatically transition between LTE and LMR data networks in order to maintain a continuous data link.

FUTURE-READY WHEN YOU ARE

How can you protect your radio investment and make sure your new radios are easily updated as technology evolves? Every APX 7000L radio is backward and forward compatible 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.

KEY BENEFITS

- Provides simultaneous voice and data operation
- Support for 4G LTE network providing access to nationwide wireless data coverage
- Supports FirstNet LTE Public Safety network
- Fallback to LMR Data Network when LTE coverage is unavailable
- CPS Configurable to support LTE and LMR system preferences

Please consult your system engineer to guarantee system capability with LTE.

APX 7000L LTE MULTIBAND PORTABLE RADIO

FEATURES AND BENEFITS

- Available in 700/800 MHz-VHF only[1]
- 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
- TDMA Capability
- Narrow and wide bandwidth digital receiver[1] (6.25 kHz equivalent / 12.5 kHz / 30 kHz / 25 kHz)
- Embedded digital signaling (ASTRO & ASTRO 25)
- Integrated GPS capable
- Seamless wideband scan
- Intelligent Lighting
- Radio Profiles
- Unified Call List (Dual Display model only)
- 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)
- 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 7 Customer Programming Software (CPS)
  - Supports USB communications
  - Built in FLASHport™ support
- Full portfolio of accessories including IMPRES batteries, chargers and audio devices

OPTIONAL FEATURES

- Encryption capability
- Programming over Project 25
- Over the Air Reykeying
- Text Messaging
- Mission Critical Wireless
- GPS
- Man Down

TRANSMITTER – TYPICAL PERFORMANCE SPECIFICATIONS

	700 MHz[1]	800 MHz	VHF
Frequency Range/Bandsplits	763-776 MHz / 793-806 MHz	806-824 MHz / 851-870 MHz	136-174 MHz
Channel Spacing	25/12.5 kHz	25/12.5 kHz	30/25/12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power Adj[2]	1-2.5 Watts	1-3 Watts	1-6 Watts
Frequency Stability[2] (-30°C to +60°C; +25°C Ref.)	±0.8 ppm	±0.8 ppm	±0.8 ppm
Modulation Limiting[2]	±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)[2]	−75 dB	−75 dB	−75 dB
Audio Response[2]	+1, −3 dB	+1, −3 dB	+1, −3 dB
FM Hum and Noise - 25 kHz / 12.5 kHz	−48 dB / −46 dB	−47 dB / −45 dB	−47 dB / −45 dB
Audio Distortion[2]	0.60%	1%	0.50%

BATTERIES FOR APX 7000L

BATTERY CAPACITY / TYPE	DIMENSIONS (H X W X D)	WEIGHT	BATTERY PART NUMBER	BATTERY CAPACITY
Li-Ion IMPRES 2900 mAh (Rugged)[3]	3.07 x 2.34 x 1.65 in	6.53 oz	NNTN7038	2900 mAH
Li-Ion IMPRES 4200 mAh (IP67)	5.12 x 2.34 x 1.65 in	11.29 oz	NNTN7034	4200 mAH
NiMH IMPRES 2100 mAh (IP67)[4]	5.07 x 2.34 x 1.57 in	11.82 oz	NNTN7037	2100 mAH
NiMH IMPRES 2100 mAh (Rugged)[4]	5.07 x 2.34 x 1.57 in	11.82 oz	NNTN7573	2100 mAH
Li-Ion IMPRES 2150 mAh (IP67)[4]	3.39 x 2.34 x 1.45 in	5.0 oz	PMNN4403	2150 mAH

[1] LTE will be disabled through software when switched to a 700 MHz frequency. LMR voice and data will be available on a 700 MHz frequency.
[2] Measured in the analog mode per TIA / EIA 603 single-tone method under nominal conditions.
[3] Standard shipping battery.
[4] Batteries less than 2900 mAH may experience diminished battery-life less than 8 hours.

PRODUCT SPEC SHEET
APX™ 7000L MULTIBAND RADIO WITH LTE

RECEIVER – TYPICAL PERFORMANCE SPECIFICATIONS

	700 MHz	800 MHz	VHF
Frequency Range/Bandsplits	763-776 MHz	851-870 MHz	136-174 MHz
Channel Spacing	25/12.5 kHz	25/12.5 kHz	30/25/12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit
Audio Output Power at Rated[2]	1000 mW	1000 mW	1000 mW
Frequency Stability[2] (-30°C to +60°C; +25°C Ref.)	±0.8 ppm	±0.8 ppm	±0.8 ppm
Analog Sensitivity[5] 12 dB SINAD Digital Sensitivity[6] 1% BER / 5% BER	0.250 µV 0.347 µV / 0.251 µV	0.250 µV 0.333 µV / 0.251 µV	0.216 µV 0.277 µV / 0.188 µV
Sensitivity[2] 25 kHz channel / 12.5 kHz channel	75.7 dB / 67.5 dB	75.7 dB / 67.5 dB	79.3 dB / 70 dB
Intermodulation	80 dB	80 dB	80.5 dB
Spurious Rejection	76.6 dB	76.6 dB	93.2 dB
FM Hum and Noise - 25 kHz / 12.5 kHz	−54 dB / −48 dB	−54 dB / −48 dB	−53.8 dB / −48 dB
Audio Distortion[2]	0.9 %	0.9 %	1.20 %

RADIO MODELS

	MODEL 1.5 TOP DISPLAY	MODEL 3.5 DUAL DISPLAY
Display	Full bitmap monochromatic LCD display, 1 line text/8 characters, 1 line of icons, No menu support, Multi-color backlight	Top display plus full bitmap color display, LCD display, 4 lines text/14 characters, 2 lines of icons, 1 menu line/3 menus
Keypad	None	Multi-color backlight, Full Keypad, 3 soft keys, 4-direction navigation key, 4x3 keypad, Home and Data buttons
Channel Capacity	1200	3000
FLASHport Memory	64 MB	
Model 1.5 - 700/800 MHz (763-870 MHz) Model 3.5 - 800 MHz (764-870 MHz)	Primary QA00569 Secondary QA00573 Keypad QA00577	
VHF (136-174 MHz)	Primary QA00570 / Secondary QA00574 / Keypad QA00577	
Buttons and 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	136-174 MHz and 764-869 MHz
LTE Freq Range	746-798 MHz
BT Freq Range	2402-2480 MHz

FCC EMISSION DESIGNATORS

FCC Emission Designators	11K0F3E, 16K0F3E, 8K10F1D, 8K10F1E, 8K10F1W, 20K0F1E[7]
FCC ID	AZ489FT7059 (7)

POWER SUPPLY

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

GPS SPECIFICATIONS

Channels	12
Tracking Sensitivity	-151 dBm
Accuracy[8]	<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

Length	6.29 in (159.7 mm)
Width Push-To-Talk Button	2.31 in (58.6 mm)
Depth Push-To-Talk Button	1.34 in (34.0 mm)
Width Top	2.98 in (75.6 mm)
Depth Top	1.83 in (46.5 mm)
Depth Bottom	1.65 in (41.7 mm)
Weight of the Radios Without Battery	13.5 oz (383 g)

[2] Measured in the analog mode per TIA / EIA 603 single-tone method under nominal conditions.
[5] Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.
[6] Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.
[7] FCC is not yet approved
[8] Accuracy specs are for long-term tracking (95th percentile values >5 satellites visible at a nominal −130 dBm signal strength).

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	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 360 mSec
Encryption Keying	KVL 4000
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	Keypad command and tamper detection
Standards	LMR Voice and Data (FIPS 140-2 Level 3/FIPS 197) and LTE Data (FIPS 140-2 Level 1/FIPS 197)

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30ºC / +60ºC
Storage Temperature[9]	-40ºC / +85ºC
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP67 MIL-STD
Immersion (Delta-T)	MIL-STD 512.X/1

LTE SPECIFICATIONS

Release	3GPP Release 8
Output Power	18 dBm Effective Radiated Power (ERP)
Receive Sensitivity	-88 dBm Total Isotropic Sensitivity (TIS)
Bandwidth	5 MHz, 10 MHz
Antenna Configuration	1x2 MIMO, LTE Receive Diversity

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

MOTOROLA