MOTOROLA SOLUTIONS

APX™ 8000 ALL-BAND P25 PORTABLE RADIO

UNLIMITED MOBILITY. UNCOMPROMISING PERFORMANCE.

Take command with a 4-in-1 radio that offers limitless interoperability, the clearest, loudest audio and seamless Wi-Fi® connectivity. The compact, rugged and secure APX 8000 redefines mission critical communications.

ALL BANDS, NO BOUNDARIES

With four RF bands and multi-mode system access, the APX 8000 knows no limits when it comes to interoperability. Communicate across borders using a single device. Use analog MDC 1200 or digital P25 mode, conventional or trunked operation, SmartNet or SmartZone legacy systems, clear or secure - all across 7/800MHz, VHF and UHF Range 1 & 2 bands.

HEAR AND BE HEARD MORE CLEARLY

Whether it's loud or windy, whether you whisper or yell, the APX 8000 adaptive audio engine and ultra-loud speaker brings clarity into every conversation. The radio dynamically changes the level of noise suppression, microphone gain, windporting and speaker equalization on the fly to consistently produce the loudest, clearest audio in any environment.

VOICE AND DATA, ALL AT ONCE

With Wi-Fi® access, the APX 8000 can quickly receive new codeplugs, firmware and software features in order to redeploy the radio fleet with ease as users keep talking without interruption. Mission Critical Wireless Bluetooth® connects quickly and securely with remote speaker microphones, surveillance kits and the LEX L10 Mission Critical LTE Handheld for radio remote control.

FIT FOR THE MISSION

Intuitively designed with a familiar look and feel, the compact APX 8000 is always comfortable to use, from your holster to your grip. It contains 4 radio bands packaged into the award-winning design of the APX 6000. The all-band antenna is flexible so it doesn't get in the way.

RUGGED, ROBUST & RELIABLE

With a water-tight seal, drop-resistant dual battery latch, pressure-tested tempered glass display and a shock-absorbing aluminum alloy endoskeleton, the APX 8000 is ready for unpredictable environments. It can survive 2 meter water submersion for 2 hours (IP68) and Motorola's renowned Accelerated Life Test.

DESIGNED TO SECURE & PROTECT

The APX 8000's voice and data is secured by multiple hardware encryption algorithms (256-bit AES, DES, ADP), up to 128 keys and the ability to re-key over the air so that sensitive information stays protected from scanners and eavesdroppers. P25 Radio Authentication ensures only valid users can access the system while two-factor authentication allows users to securely log in to databases.

RF BANDS:
700/800 MHz, VHF, UHF Range 1 & 2

OPERATION MODES:
9600 Baud Digital APCO P25 Phase 1 FDMA and Phase 2 TDMA Trunking

3600 Baud SmartNet®, SmartZone®, SmartZone, Omnilink Trunking

Digital APCO 25, Conventional, Analog MDC 1200, Quick Call II System Configurations

Narrow and wide bandwidth digital receiver

(6.25 kHz equivalent/25/20/12.5 KHz)

STANDARD FEATURES:
Mission Critical Wireless Bluetooth*

ASTRO 25 Integrated Voice & Data

Integrated GPS/GLONASS for outdoor location tracking

Software Key

Text-Messaging

Voice Announcements

ISSI 8000 Roaming

Radio Profiles, Dynamic Zone

Intelligent Lighting

Single-key ADP Encryption

IP68 submersion (2 meters, 2 hours)

IMPRES Battery

ADAPTIVE AUDIO ENGINE:
3 Watt Speaker with Adaptive Equalization

Adaptive Dual-sided Operation

Adaptive Noise Suppression Intensity

Adaptive Gain Control

Adaptive Windporting

PROGRAMMING:
Utilizes Windows 7 & 8 Customer Programming Software (CPS) with Radio Management

OPTIONAL FEATURES:
Wi-Fi® 802.11 b/g/n

RFID Volume Knob

Multi-key for 128 keys and multi-algorithm

Programming Over Project 25 (OTAP)

Over the Air Rekey (OTAR)

Digital Tone Signaling

LEX L10 Collaboration

P25 Authentication

Man Down Sensor

IP68 (2m/4hr), Mil Std 512.X Delta - T

* Compatible with BT 2.1, HSP, PAN, DUN and SPP Profiles found in off-the-shelf BT accessories and BT 4.x

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

		700/800	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits		764-776, 794-806 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: 1-2.5 Watts 800 MHz: 1-3 Watts	1-6 Watts	1-5 Watts	1-5 Watts
Frequency Stability[1] (–30°C to +60°C; +25°C Ref.)		+/- 1.0 ppm	+/- 1.0 ppm	+/- 1.0 ppm	+/- 1.0 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
Emissions (Conducted and Radiated)[1]		-75 dBc	-75 dBc	-75 dBc	-75 dBc
Audio Response[1]		+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB
FM Hum & Noise (25kHz / 12.5kHz)[1]	700 MHz 800 MHz	-49 dB/-47 dB -49 dB/-46 dB	-51 dB/-51 dB	-51 dB/-51 dB	-51 dB/-47 dB
Audio Distortion (25kHz / 12.5kHz)[1]	700 MHz 800 MHz	0.90 % / 0.90 % 0.60 % / 0.90 %	0.50 % / 0.90 %	0.50 % / 0.90 %	0.60 % / 0.90 %

BATTERIES FOR APX 8000

Battery Capacity / Type	Dimensions (HxWxD)	Weight	Battery Part Number	Battery Capacity
Li-Ion IMPRES 2, 3400 mAh**	3.4" x 2.3" x 1.7"	6.5 oz	PMNN4486	3400 mAh
Li-Ion IMPRES 2, 4850 mAh	5.0" x 2.3" x 1.7"	11.0 oz	PMNN4487	4850 mAh
Li-Ion IMPRES 2, 5100 mAh	5.0" x 2.3" x 1.7"	11 oz	PMNN4494	5100 mAh

KEY AUDIO ACCESSORIES

Name	Type	Part Number	Features
Extreme Policing (XP) RSM	Wired	NMN6271	Dual-Mic Noise Suppression, Emergency, Volume Control, Prog Button, IP68
Mission Critical Wireless (MCW) RSM	Bluetooth	RLN6554	Windporting, Audio Jack, Emergency, Volume Control, Task Light, IP55, 12 hour 5/35/60 Duty Cycle

**Ships standard with radio

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	Backlit keypad 3 soft keys 4 direction Navigation key Home and Data buttons	Backlit keypad 3 soft keys 4 direction navigation key 4x3 keypad Home and Data buttons
Channel Capacity	1200	3000	3000
FLASHport Memory	2 GB	2 GB	2 GB
700/800 MHz (764-870 MHz) VHF (136-174 MHz) UHF Range 1 (380-470 MHz) UHF Range 2 (450-520 MHz)	H91TGD9PW5AN	H91TGD9PW6AN	H91TGD9PW7AN
Buttons & Switches	Large PTT button ▪ Angled On/Off volume control ▪ Orange emergency button ▪ 16 position top-mounted rotary switch ▪ 2-position concentric switch ▪ Multi-color backlight ▪ 3-position toggle switch ▪ 3 programmable side buttons		
Regulatory Information			
FCC ID	AZ489FT7061		
Industry Canada	109U-89FT7061		
Emission Designators	LMR: 8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E***, 20K0F1E*** Bluetooth: 852KF1D, 1M17F1D, 1M19F1D WLAN (Wi-Fi®): 13M7G1D, 17M0D1D, 18M1D1D		

*** In accordance with FCC mandate, the APX 8000 all band radio is restricted to 12.5kHz operation only and does NOT support 25kHz in the VHF and UHF Bands (excluding T-Band). This applies to customers under Rule Part 90.

RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS

		700	800	VHF	UHF
Frequency Range/Bandsplits		764-776 MHz	851-870 MHz	136-174 MHz	380-520 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]		1 Watt	1 Watt	1 Watt	1 Watt
Frequency Stability[1] (–30°C to +60°C; +25°C Ref.)		+/- 1.0 ppm	+/- 1.0 ppm	+/- 1.0 ppm	+/- 1.0 ppm
Analog Sensitivity[1] Digital Sensitivity[2]	12 dB SINAD 1% BER 5% BER 5% BER Faded	0.224 uV 0.316 uV 0.211 uV 0.562uV	0.224 uV 0.316 uV 0.211 uV 0.562 uV	0.168 uV 0.251 uV 0.149 uV 0.562 uV	0.199 uV 0.282 uV 0.158 uV 0.530 uV
Selectivity (25 kHz / 12.5 kHz)[1, 5]		79 dB / 72 dB	78 dB / 72 dB	82 dB / 77 dB	80 dB / 74 dB
Intermodulation Rejection[1]		81 dB	80 dB	82 dB	80 dB
Spurious Rejection[1]		98 dB	98 dB	92 dB	98 dB
FM Hum and Noise (25 kHz / 12.5 kHz)[1]		-55 dB / -53 dB	-54 dB / -52 dB	-57 dB / -55 dB	-56 dB / -54 dB
Audio Distortion[1]		0.9 %	0.9 %	0.9 %	0.9 %

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/Hot	501.5	I/A1, II/A1
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
Submersion[6]	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	5.47	139
Width Push-To-Talk button	2.39	60.7
Depth Push-To-Talk button	1.40	35.6
Width Top	2.98	75.7
Depth Top	1.58	40.1
Depth Bottom of Battery	1.24	31.5
Weight of the radios without battery	11.25 oz	319 g

ENCRYPTION

Supported Encryption Algorithms	ADP, 256-bit AES, DES, DES-XL, DES-OFB, DVP-XL, Localized Algorithm
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	Key Loader and Over the Air Rekeying (OTAR)
Synchronization	XL – Counter Addressing OFB – Output Feedback
Vector Generator	National Institute of Standards and Technology (NIST) approved random number generator
Encryption Type	Digital and SecureNet
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/GNSS SPECIFICATIONS

Constellations	GPS & GLONASS
Tracking Sensitivity	–164 dBm
Accuracy[3]	<5 meters (95%)
Cold Start[3]	<60 seconds (95%)
Hot Start[3]	<5 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted)

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature[4]	-30ºC / +60ºC
Storage Temperature[4]	-40ºC / +85ºC
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP68 (2 meters, 2 hours)

RUGGED OPTION SPECIFICATIONS

Leakage (submersion)[6]	MIL-STD-810 C, D, E, F and G Method 512.X Procedure I, IP68 (2 meters, 4 hours)

HOUSING COLOR

Black (Standard), Public Safety Yellow, and High Impact Green

[1] Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.
[2] Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.
[3] Measured conductively with >6 satellites visible at a nominal –130 dBm signal strength. Specs provided are 95th percentile values.
[4] Temperatures listed are for radio specifications. Battery storage is recommended at 25°C, ±5°C to ensure best performance.
[5] Measured using the TIA-603 single-tone method.
[6] Rugged option only. Specifications subject to change without notice.

All specifications shown are typical.
Radio meets applicable regulatory requirements.

WIRELESS CONNECTIVITY & SECURITY

Frequency Range/Bandsplits:
Bluetooth: 2402 - 2480 MHz, WLAN (Wi-Fi®): 2400 - 2483.5 MHz

WLAN (Wi-Fi®) 802.11 b/g/n supports WPA-2, WPA, WEP security protocols; radio can be pre-provisioned with up to 20 SSIDs

Mission Critical Wireless Bluetooth 2.1 uses 96 bit encryption for pairing & 128 bit encryption for voice, signaling and data. The radio BT supports up to 6 data connections and 1 audio connection.

Bluetooth Low Energy uses 128-bit AES-CCM encryption

Motorola Solutions, Inc. 1301 East Algonquin Road Schaumburg, Illinois 60196, U.S.A. 800-367-2346 **www.motorolasolutions.com/APX8000**

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MOTOROLA SOLUTIONS

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APX™ 6000 SINGLE-BAND PORTABLE RADIO

From day one, the single-band APX 6000 P25 portable radio has delivered legendary APX ruggedness and reliability, without compromising on the form factor or features required for routine activities and extreme emergencies. Now, as the ever-increasing needs of public safety personnel grow, we are evolving the APX 6000 to support newer technologies like Wi-Fi®, Adaptive Audio Engine, and Bluetooth® 4.0 wireless technology. These advances help improve the operational efficiency and response time of public safety agencies while enhancing the safety of personnel and communities.

VOICE AND DATA, ALL AT ONCE

Update your radio fleet without interrupting voice communications with secure Wi-Fi. This dramatically improves the speed of configuring new codeplugs, firmware and software features over-the-air via Radio Management*. Agencies can pre-provision up to 20 secure Wi-Fi hotspots so personnel can easily access updates at the facility or in the field.

HEAR AND BE HEARD

The APX 6000 is equipped with a 3-watt speaker, 3 integrated microphones and the Adaptive Audio Engine. This changes the level of noise suppression, microphone gain, windporting and speaker equalization to produce clear and loud audio in any environment.

SEAMLESS ON-SCENE COMMUNICATION

Ensure fast and seamless communication and collaboration across all responders arriving on a scene. Mission Critical Geofence automatically changes a radio's active talkgroup based on its GPS location and an agency-defined virtual barrier. For example, an incident commander can create a geofence around the 3-block radius of a burning building so that all arriving personnel are automatically placed in the same talkgroup.

EMERGENCY FIND ME

Bluetooth 4.0 places a wide range of wireless accessories at your disposal and provides personnel with an added level of security by improving response time in emergencies. With Emergency Find Me, a Bluetooth-enabled beacon signal guides other Bluetooth-enabled APX radios within range to assist the user in distress.

*Radio Management application simplifies APX radio configuration and management by programming up to 16 radios at one time and tracking which radios have been successfully programmed, providing a clear view of the entire radio fleet and a codeplug history for each radio.

SPECIFICATIONS

RF BANDS

- 700/800 MHz, VHF, UHF Range 1 & UHF Range 2
- 9600 Baud Digital APCO P25 Phase 1 FDMA and Phase 2 TDMA Trunking
- 3600 Baud SmartNet®, SmartZone®, SmartZone, Omnilink Trunking
- Digital APCO 25, Conventional, Analog MDC 1200, Quick Call II System Configurations Narrow and Wide Bandwidth Digital Receiver (6.25 kHz Equivalent/25/20/12.5 kHz)[1]

STANDARD FEATURES

- Mission Critical Wireless Bluetooth® 4.0 (LE)[2]
- Emergency Find Me[2]
- ASTRO® 25 Integrated Voice & Data
- Integrated GPS/GLONASS for Outdoor Location Tracking
- Voice Announcements
- ISSI 8000 Roaming
- Radio Profiles
- Dynamic Zone
- Intelligent Lighting
- Single-Key ADP Encryption
- IP68 submersion (2 meters, 2 hours)
- IMPRES 2 Battery (PMNN4485)
- Text Message
- Software Key

PROGRAMMING

- Utilizes Windows 7 & 8 Customer Programming Software (CPS) with Radio Management[3]

ADAPTIVE AUDIO ENGINE (OPTIONAL)

- 3-W Speaker with Adaptive Equalization
- Adaptive Dual-Sided Operation
- Adaptive Noise Suppression Intensity
- Adaptive Gain Control
- Adaptive Windporting

OPTIONAL FEATURES

- Wi-Fi 802.11 b/g/n
- LEX L10 Collaboration
- RFID Volume Knob
- Multi-key for 128 keys and Multi-Algorithm
- Programming Over Project 25 (OTAP)
- Over the Air Rekey (OTAR)
- Digital Tone Signaling
- Mission Critical Geofence
- P25 Authentication
- Man Down Capability
- High Impact Green and Public Safety Yellow Colored Housing Options
- Rugged Option: IP68 (2m/4hr), Mil Std 512.X Delta - T[4]
- Listed by UL to the standards ANSI/TIA 4950-A and CAN/CSA C22.2 NO. 157-92 Classification Rating: Class I, Division 1, Groups C, D; Class II, Division 1, Group E, F, G; Class III, Hazardous (Classified) Locations. ANSI/ISA 12.12.01-2015 and CAN/CSA C22.2 No. 213-15; Class I, Division 2, Groups A, B, C, D; T3C. Tamb = -25° C to +60° C. when used with Motorola Battery: NNTN8921A NNTN8930A 7.4V

1 Per the FCC Narrowbanding rules, new products (APX6000 UHFR1, UHFR2) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25 KHz for United States - State & Local Markets only.

2 Compatible with BT 2.1, HSP, PAN, DUN and SPP Profiles found in off-the-shelf Bluetooth accessories and Bluetooth 4.x

3 CPS version R12.00.00 and greater ordered after June 2014 will only support Windows 7 and 8

4 Radios meet industry standards (IPx7) for submersion.

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		25/20/12.5 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]		1-3 Watts Max	1-6 Watts Max	1-5 Watts Max	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	25k 25.5k	-52 dB -47 dB	-55 dB -50 dB	-52 dB -47 dB	-52 dB -46 dB
Audio Distortion[1]	700 MHz 800 MHz	1.00 %	1.00 %	1.00 %	1.00 %

BATTERIES FOR APX 6000

Battery Capacity / Type	Dimensions (HxWxD)	Weight	Battery Part Number	Battery Capacity
Li-Ion IMPRES 2 2550mAh[1]	3.4″ x 2.3″ x 1.5″	5.0 oz	PMNN4485	2550 mAh
Li-Ion IMPRES 2 3400mAh	3.4″ x 2.3″ x 1.7″	6.5 oz	PMNN4486	3400 mAh
Li-Ion IMPRES 2 4850mAh	5″ x 2.3″ x 1.7″	11.0 oz	PMNN4487	4850 mAh
Li-Ion IMPRES 2 5100mAh	5″ x 2.3″ x 1.7″	11.0 oz	PMNN4494	5100 mAh
Li-Ion IMPRES 2 2650 mAh[2]	3.4″ x 2.3″ x 1.7″	5.7 oz	NNTN8930	2650 mAh
Li-Ion IMPRES 2 4500mAh[2]	5″ x 2.3″ x 1.7″	11.0 oz	NNTN8921	4500 mAh

1 The standard shipping battery for the APX6000
2 HAZLOC approved.

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	Backlit keypad 3 soft keys 4 direction Navigation key Home and Data buttons	Backlit keypad 3 soft keys 4 direction Navigation key 4x3 keypad Home and Data buttons
Channel Capacity[1]	96	1000	1000
FLASHport Memory	64 MB	64 MB	64 MB
700/800 MHz (763-870 MHz)	H98UCD9PW5BN	H98UCF9PW6BN	H98UCH9PW7BN
VHF (136-174 MHz)	H98KGD9PW5BN	H98KGF9PW6BN	H98KGH9PW7BN
UHF Range 1 (380-470 MHz)	H98QDD9PW5BN	H98QDF9PW6BN	H98QDH9PW7BN
UHF Range 2 (450-520 MHz)	H98SDD9PW5BN	H98SDF9PW6BN	H98SDH9PW7BN
Buttons & Switches	Large PTT button ▪ Angled On/Off volume control ▪ Orange emergency button ▪ 16 position top-mounted rotary switch ▪ 2-position concentric switch ▪ Multi-color backlight ▪ 3-position toggle switch ▪ 3 programmable side buttons		

Regulatory Information		
	FCC ID	**Industry Canada**
700/800 (764-869 MHz)	AZ489FT7086	109U-89FT7086
VHF (136-174 MHz)	AZ489FT7087	109U-89FT7087
UHF Range 1 (380-470 MHz)	AZ489FT7077	109U-89FT7077
UHF Range 2 (420-520 MHz)	AZ489FT7085	109U-89FT7085
FCC Emissions Designators		
FCC Emissions Designators	11K0F3E, 16K0F3E, 8K10F1D, 8K10F1E, 8K10F1W, 20K0F1E[2]	
Power Supply		
Power Supply	One rechargeable Li-Ion IMPRES 2 2550mAh battery standard (PMNN4485), with alternate battery options available.	

1 Enhancement package available
2 Per the FCC Narrowbanding rules, new products (APX6000 UHFR1, UHFR2) submitted for FCC certification after January 1, 2011 are restricted from being granted certification at 25 kHz 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]		500 mW	500 mW	500 mW	500 mW
Analog Sensitivity[2] Digital Sensitivity[3]	12 dB SINAD 1% BER (800 MHz) 5% BER	0.25 µV 0.375 µV 0.24 µV	0.17 µV 0.243 µV 0.15 µV	0.224 µV 0.298 µV 0.200 µV	0.203 µV 0.296 µV 0.204 µV
Selectivity[1]	25 kHz channel 12.5 kHz channel	-76 dB -70 dB	-78 dB -73 dB	-77 dB -67 dB	-76 dB -67 dB
Intermodulation		-80.1 dB	-80.2 dB	-80.3 dB	-80.2 dB
Spurious Rejection		-75 dB	-78 dB	-80.5 dB	-80.8 dB
FM Hum and Noise	25 kHz 12.5 kHz	-54 dB -79 dB	-54.3 dB -50.1 dB	-53.5 dB -47.5 dB	-52.5 dB -47.3 dB
Audio Distortion at Rated[1]		0.90%	0.90%	0.70%	0.70%

1 Measured in the analog mode per TIA / EIA 603 under nominal conditions
2 Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.
3 Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.

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	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		
Length	5.47 in	139 mm
Width Push-To-Talk button	2.39 in	60.7 mm
Depth Push-To-Talk button	1.40 in	35.6 mm
Width Top	2.98 in	75.7 mm
Depth Top	1.58 in	40.1 mm
Depth Bottom of Battery	1.24 in	31.5 mm
Weight of the radios without battery	10.9 oz	309 g

ENCRYPTION	
Supported Encryption Algorithms	ADP, 256-bit 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/GPS/GNSS SPECIFICATIONS	
Constellations	GPS & GLONASS
Tracking Sensitivity	-164 dBm
Accuracy[2]	<5 meters (95%)
Cold Start	<60 seconds (95%)
Hot Start	<5 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted)

RUGGED SPECIFICATIONS	
Leakage (submersion)	MIL-STD-810 C, D, E, F and G Method 512.X Procedure I, IP68 (2 meters, 4 hours)

HOUSING COLOR
Black (Standard), Public Safety Yellow, and High Impact Green

ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature[1]	-30 °C to +60 °C
Storage Temperature[1]	-50 °C to +85 °C
Humidity Per MIL-STD	ESD IEC 801-2 KV
Water and Dust Intrusion	IP68 (2 meters, 4 hours)

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

2 Measured conductively with >6 satellites visible at a nominal -130 dBm signal strength. Specs provided are 95th percentile values.

EMISSION DESIGNATORS

LMR:	8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E, 20K0F1E
Bluetooth:	852KF1D, 1M17F1D, 1M19F1D, 1M04F1D
WLAN (Wi-Fi):	13M7G1D, 17M0D1D, 18M1D1D

WIRELESS CONNECTIVITY AND SECURITY

Frequency Range/Bandsplits:
Bluetooth: 2402 - 2480 MHz, WLAN (Wi-Fi): 2400 - 2483.5 MHz

WLAN (Wi-Fi) 802.11 b/g/n supports WPA-2, WPA, WEP security protocols; radio can be pre-provisioned with up to 20 SSIDs[1]

Mission Critical Wireless Bluetooth 2.1 uses 96 bit encryption for pairing & 128 bit encryption for voice, signaling and data. The radio BT supports up to 6 data connections and 1 audio connection

Bluetooth 4.0 Low Energy uses 128-bit AES-CCM encryption

1 2400 - 2483.5 MHz for EMEA region and includes guardband.
Channels 1 – 11 used for FCC/IC region.

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MOTOROLA SOLUTIONS

MISSION READY WHEN IT MATTERS MOST

APX™ 4000 PROJECT 25 PORTABLE RADIO

Chemical spill. Catastrophic storm. Power outage. When every minute matters, you must communicate instantly with other agencies and responders. But how do you prepare for a disaster and keep control of operating costs? That's where the APX 4000 P25 portable radio answers the call, expertly and affordably.

The APX 4000 delivers all the benefits of TDMA technology in the smallest P25 capable portable in the industry. Easy to use, tough as nails, a hard value to beat, it seamlessly connects agencies throughout your city for fast, interoperable communications.

TRUSTED APX QUALITY

The APX 4000 leverages the leading attributes of the APX family of P25 TDMA portables. From the 2-microphone design that reduces background noise so you can speak and hear clearly over heavy equipment, diesel engines and sirens to the high-spec RF performance for excellent coverage in challenging environments.

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

COMPACT AND UNCOMPROMISING

A compact P25 Phase 2 capable portable, the APX 4000 gets the job done without getting in the way. With two dedicated knobs for volume and channel control, the APX 4000 provides readiness for any type of work setting. And its standard IP67 and MIL-STD certified to withstand dust, heat, shock, drops and water immersion, so you can count on it wherever you need it – at the factory line, power line or fire line.

P25 PERFORMANCE, INSIDE AND OUT

Loaded with key P25 features to increase safety, the APX 4000 features Mission Critical Wireless. This unique Bluetooth® solution provides an encrypted link to a high performance earpiece, GPS for quickly locating personnel outdoors, 256-bit AES encryption for improved security, and over-the-air programming to program radios in the field without interrupting voice operation.

IMPROVE RESPONSE AND EXPENSES

The APX 4000 is P25 Phase 2 capable for twice the voice capacity so you can add more users without adding more frequencies or infrastructure. And it's backwards and forwards compatible with all Motorola mission critical radio systems, so you can interoperate with confidence while you improve operating expenses.

POWER UP WITH APX 4000 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.

FEATURES AND BENEFITS

Available in 700/800 MHz, VHF, UHF R1, UHF R2 and 900 MHz 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 (6.25 kHz equivalent / 12.5 kHz / 30 kHz / 25 kHz)[1]
- Standard with 2 dedicated control knobs for volume and channel changes
- Embedded digital signaling (ASTRO & ASTRO 25)
- Man Down
- Available in 2 models
- Lightbar with Intelligent Lighting
- Radio Profiles
- Unified Call List
- Software Key
- ASTRO 25 Integrated Voice & Data
- User programmable Voice Announcement
- Meets Applicable MIL-STD-810C, D, E, F and G
- IP67 standard
- Rugged Submersible housing (2 meters for 2 hours)[2]
- Superior Audio Features:
  - 0.5 W high audio speaker
  - 2-mic noise canceling technolog
- GPS Outdoor Location Tracking
- Utilizes Windows XP, Vista and Windows 7 and 8 Customer Programming Software (CPS)
  - Supports USB communications
  - Built in FLASHport™ support
- Full portfolio of accessories including IMPRES batteries, chargers and audio devices[1]
- Mission Critical Wireless Bluetooth[2]

OPTIONAL FEATURES

- 256-bit AES Encryption
- Programming Over Project 25
- Text Messaging
- Man Down
- Site Selectable Alert Tones
- P25 Link Layer Authentication
- Enhanced Data
- Rugged Option: Mil Std 512.X, Delta - T

[1] Chargers and batteries for the APX 4000 radios are not compatible with other APX radios.
[2] Compatible with BT 2.1 HSP, PAN, DUN and SPP BT Profiles.
[3] When used with a Hazardous Location tested radio.

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

		700/800	VHF	UHF Range 1	UHF Range 2	900 MHz[6]
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	896-901, 935-940 MHz
Channel Spacing		25/12.5 kHz	30/25/12.5 kHz	25/12.5 kHz	25/12.5 kHz	12.5 kHz
Maximum Frequency Separation		Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power Adj[1]		1-3 Watts Max	1-5 Watts Max	1-5 Watts Max	1-5 Watts Max	1-2.5 Watts Max
Frequency Stability[1] (-30°C to +60°C; +25°C Ref.)		±0.00010 %	±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	±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	-47 dB -45 dB	-47 dB -47 dB	-47 dB -45 dB	-47 dB -45 dB	-45 dB
Audio Distortion[1]	25 kHz 12.5 kHz	1.00%	1.00%	1.00%	1.00%	1.00%

BATTERIES FOR APX 4000

Battery Capacity / Type	Dimensions (HxWxD)	Weight	Battery Part Number	Battery Capacity
Li-Ion IMPRES 1900 mAh IP67	114.5x55.04x17.85	150 grams	NNTN8128A	1900 mAh
Li-Ion IMPRES 2300 mAh IP67 Non-HazLoc	114.5x55.04x23.15	160 grams	PMNN4424AR	2300 mAh
Li-Ion IMPRES 2300 mAh IP67 HazLoc[3]	114.5x55.04x23.15	210 grams	NNTN8560A	2500 mAh
Li-Ion IMPRES 2700 mAh IP54 Non-HazLoc[3]	114.5 x 55.04 x 23.15	160 grams	PMNN4448AR	2700 mAh

PRODUCT DATA SHEET
APX™ 4000

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	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	512
FLASHport Memory	64 MB	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
900 MHz (896-940 MHz)	H51WCF9PW6AN Q360JF	H51WCH9PW7AN Q360JE
Buttons & Switches	Large PTT button ▪ Angled On/Off Volume Control ▪ 16 position top-mounted rotary switch ▪ Orange emergency button ▪ 3 programmable side buttons	
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	
900 MHz (896-901, 935-940 MHz)	AZ489FT5864	
FCC EMISSIONS DESIGNATORS		
FCC Emissions Designators	11K0F3E, 16K0F3E, 8K10F1D, 8K10F1E, 8K10F1W, 20K0F1E*	
FCC Emissions Designators for 900 MHz	11K0F3E, 8K10F1D, 8K10F1E, 8K10F1W	
POWER SUPPLY		
Power Supply	One rechargeable Li-Ion 1900 mAh battery standard, or 2300 mAh/2700 mAh high cap Li-Ion.	

RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS

		700/800	VHF	UHF Range 1	UHF Range 2	900 MHz
Frequency Range/Bandsplits	700 MHz 800 MHz	763-776 MHz 851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz	935-940 MHz
Channel Spacing		25/12.5 kHz	30/25/12.5 kHz	25/12.5 kHz	25/12.5 kHz	12.5 kHz
Maximum Frequency Separation		Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Audio Output Power at Rated[1]		500mW	500mW	500mW	500mW	500mW
Frequency Stability[1] (-30°C to +60°C; +25°C Ref.)		±0.00010 %	±0.00010 %	±0.00010 %	±0.00010 %	±0.00010 %
Analog Sensitivity[3] Digital Sensitivity[4]	12 dB SINAD 1% BER (800 MHz) 5% BER	0.250µV 0.400µV 0.250µV	0.216µV 0.277µV 0.188µV	0.234µV 0.307µV 0.207µV	0.234µV 0.307µV 0.207µV	0.236µV 0.33µV 0.222µV
Selectivity[1]	25 kHz channel 12.5 kHz channel	-76 dB -67 dB	-76 dB -70 dB	-76 dB -67 dB	-76 dB -67 dB	 -67 dB
Intermodulation		-75 dB	-79 dB	-77 dB	-77 dB	-75 dB
Spurious Rejection		-76.6 dB	-80.5 dB	-80.3 dB	-80.3 dB	-80 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	 -47 dB
Audio Distortion[1]		1.00%	1.00%	1.00%	1.00%	1.00%

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	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[5]	<10 meters (95%)
Cold Start	<60 seconds (95%)
Hot Start	<10 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GPS

ENCRYPTION

Supported Encryption Algorithms	256-bit AES, ADP
Encryption Algorithm Capacity	8
Encryption Keys per Radio	Module capable of storing 1024 keys. Programmable for 48 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[6]	-30°C / +60°C
Storage Temperature[6]	-40°C / +85°C
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP67
Submersion	MIL-STD 512.X

[1] Measured in the analog mode per TIA / EIA 603 under nominal conditions
[2] When used with an UL 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.

Motorola Solutions, Inc. 1301 East Algonquin Road Schaumburg, Illinois 60196, U.S.A. 800-367-2346
motorolasolutions.com

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MOTOROLA SOLUTIONS

APX™ 900

SINGLE-BAND P25 PORTABLE TWO-WAY RADIO

Product shown with optional stubby antenna

FEATURES AND BENEFITS

- Dual-Knob Solution
- Available in VHF, UHF (R1 and R2), 700/800 MHz, and 900 MHz bands
- Modes of Operation:
  - Clear or digital-encrypted ASTRO® 25 Trunked Operation
  - Analog MDC-1200 and Digital P25
  - Conventional System Configurations
- Narrow and wide bandwidth digital receiver (6.25 kHz equivalent / 12.5 kHz / 25 kHz)[1]
- Embedded digital signaling (ASTRO and ASTRO 25)
- Intelligent Priority Scan
- Available in models 2 and 3
- Radio Profiles
- Unified Call List
- User-programmable Voice Announcement
- Instant Recall
- Meets Applicable MIL-STD-810C, D, E, F and G
- Full Portfolio of Accessories, including IMPRES batteries, chargers and audio devices[2]

STANDARD FEATURES

- Operational-Critical Wireless Bluetooth® 4.0 (LE)[3]
- Emergency Find Me
- ASTRO 25 Integrated Voice & Data
- Integrated GPS/GLONASS for Outdoor Location-Tracking
- Single-Key Advanced Digital Privacy (ADP) Encryption
- IP68 submersion (2 meters, 2 hours)
- IMPRES Battery (PMNN4491B)
- Embedded digital signaling (ASTRO and ASTRO 25)
- Text Messaging
- Software key

PROGRAMMING

- Utilizes Windows 7, 8 and 10 Customer Programming Software (CPS) with Radio Management

OPTIONAL FEATURES

- AES 256-bit Software Encryption (AES-256)
- Enhanced Data
- Enhanced Noise Suppressor (Highly Recommended)
- Multi-Key
- Programming Over Project 25 (OTAP)
- RFID Volume Knob (Accessory only)
- Mission Critical Geofence
- P25 Authentication
- Digital Tone Signaling
- UL-certified

MOTOROLA SOLUTIONS

TRANSMITTER- TYPICAL PERFORMANCE SPECIFICATIONS

	VHF	UHF Range 1	UHF Range 2	700/800 MHz	900 MHz
Frequency Range/Bandsplits	136-174 MHz	380-480 MHz	450-520 MHz	764-776 MHz 794-806 MHz 806-824 MHz 851-870 MHz	896-902 MHz 935-941 MHz
Channel Spacing[4]	12.5/20/25 kHz	12.5/20/25 kHz	12.5/20/25 kHz	12.5/20/25 kHz	12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power (Adjustable)[5]	1-5 W	1-5 W	1-5 W	700 MHz: 1-2.5 W 800 MHz: 1-3 W	1-2.5 W
Frequency Stability[5] (-30 °C to +85 °C; +25 °C Ref.)	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm
Modulation Limiting (12.5/20/25 kHz)	± 2.5/4/5 kHz	± 2.5/4/5 kHz	± 2.5/4/5 kHz	± 2.5/4/5 kHz	± 2.5 kHz
Audio Response[5]	+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB
Emissions[5] (conducted and radiated)	-75 dBc	-75 dBc	-75 dBc	-75 dBc	-75 dBc
FM Hum & Noise (12.5/25 kHz)	-45/-47 dB	-45/-47 dB	-45/-47 dB	-45/-47 dB	-45 dB
Audio Distortion[5]	1.00%	1.00%	1.00%	1.00%	1.00%

RECEIVER- TYPICAL PERFORMANCE SPECIFICATIONS

	VHF	UHF Range 1	UHF Range 2	700/800 MHz	900 MHz
Frequency Range/Bandsplits	136-174 MHz	380-480 MHz	450-520 MHz	764-776 MHz 851-870 MHz	935-941 MHz
Channel Spacing[4]	12.5/20/25 kHz	12.5/20/25 kHz	12.5/20/25 kHz	12.5/20/25 kHz	12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Audio Output Power at Rated[5]	500 mW	500 mW	500 mW	500 mW	500 mW
Frequency Stability (-30 °C to +85 °C; +25 °C Ref.)	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm
Analog Sensitivity[7] 12 dB SINAD Digital Sensitivity[8] 1% BER 5% BER	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	0.250 µV 0.400 µV 0.250 µV	0.237 µV 0.330 µV 0.224 µV
Selectivity[5] (12.5/25 kHz)	-70/-76 dB	-67/-76 dB	-67/-76 dB	-67/-76 dB	-67 dB
Intermodulation	79.5 dB	77.0 dB	77.0 dB	75.0 dB	75.0 dB
Spurious Rejection	-79.3 dB	-80.3 dB	-80.3 dB	-76.6 dB	-76.0 dB
FM Hum & Noise (12.5/25 kHz)	-45/-51 dB	-45/-50 dB	-46/-52 dB	-47/-53 dB	-47 dB
Audio Distortion[4]	1.00%	1.00%	1.00%	1.00%	1.00%

FCC EMISSION DESIGNATORS

FCC Emission Designators	11K0F3E, 16K0F3E, 8K10F1D, 8K10F1E, 8K10F1W

REGULATORY INFORMATION

	FCC ID	Industry Canada
VHF	AZ489FT7098	109U-89FT7098
UHF Range 1	AZ489FT7097	109U-89FT7097
UHF Range 2	AZ489FT7099	109U-89FT7099
700/800 MHz	AZ489FT7096	109U-89FT7096
900 MHz	AZ489FT7100	109U-89FT7100

RADIO MODEL		
	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 2 menus, White backlight	
Keypad	Backlit keypad, 2 soft keys, 4-direction navigation key, Home and Back buttons	Backlit keypad, 2 soft keys, 4-direction navigation key, 4x3 keypad, Home and Back buttons
Channel Capacity	512	
FLASHport Memory	2 GB	
VHF	H92KDF9PW6AN	H92KDH9PW7AN
UHF Range 1	H92QDF9PW6AN	H92QDH9PW7AN
UHF Range 2	H92SDF9PW6AN	H92SDH9PW7AN
700/800 MHz	H92UCF9PW6AN	H92UCH9PW7AN
900 MHz	H92WCF9PW6AN	H92WCH9PW7AN
Buttons & Switches	PTT button • Two-knob (volume + channel/talkgroup) • Orange emergency button • 3 programmable side buttons	

POWER SUPPLY
One rechargeable IMPRES Li-Ion 2100 mAh, slim high density battery IP68 (PMNN4491B), with alternate battery options available.

BATTERIES FOR APX 900				
BATTERY CAPACITY / TYPE	**DIMENSIONS (H X W X D)**	**WEIGHT**	**BATTERY PART NUMBER**	**BATTERY CAPACITY**
IMPRES Standard Li-Ion 2100 mAh, slim high density battery (IP68)	113 x 52 x 18 mm	135 g	PMNN4491B	2100 mAh
IMPRES Hi-Cap Li-Ion 3000 mAh battery, low voltage (IP68)	113 x 52 x 23 mm	155 g	PMNN4493A	3000 mAh
IMPRES Hi-Cap Li-Ion 2900 mAh low voltage battery (IP68, UL-rated[6])	113 x 52 x 23 mm	210 g	PMNN4489A	2900 mAh

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	516.3	I, VI	516.4	I, VI	516.5	I, VI	516.6	I, VI
Shock (Drop)	516.2	II	516.2	IV	516.4	IV	516.5	IV	516.6	IV

BLUETOOTH	
Version	Bluetooth 4.0 (LE)
Encryption	SSP Pairing 128-bit AES-CDM Encryption for voice, data and signaling
Connections	Up to 6 data + 1 audio

DIMENSIONS: RADIO WITH BATTERY		
	STD BATTERY	HI-CAP BATTERY
Length	5.1 in (130 mm)	5.1 in (130 mm)
Width	2.2 in (55 mm)	2.2 in (55 mm)
Thickness	1.4 in (36 mm)	1.6 in (41 mm)
Weight	11 oz (315 g)	12 oz (347 g)

GPS/GNSS SPECIFICATIONS	
Constellations	GPS and GLONASS
Tracking Sensitivity	-154 dBm
Accuracy[9]	<10 m (95%)
Cold / Hot Start	<60 / <5 s (95%)
Mode of Operation	Autonomous (non-assisted) GPS

ENCRYPTION	
Supported Encryption Algorithms	Advanced Digital Privacy (ADP) AES 256-bit Software Encryption (AES-256)
Encryption Keys per Radio	48
Encryption Frame Re-sync Interval	P25 CAI 360 ms
Encryption Keying	Key Loader
Vector Generator	National Institute of Standards and Technology (NIST) approved random number generator
Encryption Type	Digital
Key Storage	Non-volatile Memory
Key Erasure	Keyboard Command
Standards	FIP 140-2 Level 1; FIPS 197

ENVIRONMENTAL SPECIFICATIONS	
Operating Temperature	-30 °C to +60 °C
Storage Temperature[10]	-40 °C to +85 °C
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP68 (2 meters, 2 hours)
Housing Color Availability	Black only

1 Per the FCC Narrowbanding rules, new products 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 Chargers and batteries for APX 1000 will interoperate with APX 900
3 Compatible with BT 2.1, HSP, PAN, DUN and SPP Profiles in off-the-shelf Bluetooth accessories and Bluetooth 4.x
4 Check your regional regulatory agency for availability of different channels bandwidths
5 Measured in the analog mode per TIA / EIA 603 under nominal conditions
6 When used with an UL-approved intrinsically safe radio
7 Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.
8 Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.
9 Accuracy specs are for long-term tracking (95th percentile, >5 satellites visible at a nominal -130 dBm signal strength).
10 Temperatures listed are for radio. 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.

For more information, please visit motorolasolutions.com/apx

MOTOROLA SOLUTIONS

Motorola Solutions Inc., 500 West Monroe St, Chicago, IL 60661 U.S.A. **motorolasolutions.com**

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APX NEXT

PROTECT YOUR FOCUS

IN PUBLIC SAFETY, FOCUS IS YOUR GREATEST RESOURCE. MAKE SURE IT'S PROTECTED WITH APX NEXT®.

A MASSIVE ADVANCE IN MISSION-CRITICAL VOICE AND DATA

Your radio is your lifeline. APX NEXT is our next step in advancing it. It's designed to military standards for extreme ruggedness. The touchscreen works with or without gloves—in rain, dirt, and dust. Digital mics and high-power speakers deliver our best audio ever, while SmartConnect keeps you connected even beyond your P25 system. The result is a radio that works when you need it, without pause, distraction or doubt.

EFFORTLESS IS ALWAYS IN REACH

APX NEXT is designed for effortless usability when everything is on the line. Intuitive knobs and buttons are easily distinguished by touch. A mission-critical touchscreen makes it fast and easy to operate your radio. ViQi understands a huge range of natural language voice commands, so you can operate the radio with eyes-up awareness. Every interaction is simple, fast and logical. You stay focused on what matters—your mission and your safety.

BRING NEW INTELLIGENCE TO THE POINT OF ENGAGEMENT

APX NEXT mission-critical apps bring new intelligence to the field. ViQi enables natural language database queries, rapidly giving vital information, and letting dispatchers stay focused on critical situations. And as part of our unique, end-to-end public safety ecosystem, APX NEXT data and operations are secure, and new capabilities can be seamlessly added as your needs evolve.

UPDATE YOUR FLEET IN MINUTES, NOT MONTHS

APX NEXT gives you back time: a cloud-based provisioning system prepares radios before they arrive. Remote updating keeps radios in the field, with zero touch and zero downtime. MyView Portal provides direct access to subscriptions, warranties and licenses, and a range of services helps you manage your operation. With APX NEXT, your ownership experience is streamlined, so your valuable resources stay focused and ready.

MOTOROLA SOLUTIONS

MISSION-CRITICAL DESIGN

New antenna technology improves comfort and wearability

Large color top screen, for glanceable status updates

Intuitive hard controls, protected against accidental activation

Mission-critical touchscreen: rugged, usable with gloves, readable in all lighting conditions

Digital microphones, for outstanding audio capture

Large, distinctive buttons for PTT, emergency and ViQi, and two additional programmable side buttons

Standard 4400 mAh battery, with 5650 mAh high-capacity option

FEATURES

OPERATION MODES

Digital Trunking: 9600 Baud APCO P25 Phase 1 FDMA and Phase 2 TDMA
Digital Conventional: APCO 25
Analog Trunking: 3600 Baud SmartNet®, SmartZone®, Omnilink®
Analog Conventional: MDC 1200
ASTRO® 25 Integrated Voice and Data
SmartConnect Multi-net Connectivity*

FREQUENCY BANDS

All-band: Simultaneous Operation in VHF, UHF Range 1, UHF Range 2, 700 and 800 MHz Bands
Available in Multi-band and Single-band Configurations
Up to 3000 Channels
Up to 125 Zones

ADDITIONAL CONNECTIVITY

Bluetooth (Version 5.0)
WiFi (802.11a/b/g/n/ac), 2.4 and 5 GHz Bands
LTE (FirstNet®, Verizon, & Bell Mobility - certified)
NFC (Near-Field Communications)**

AUDIO FEATURES

3 W Speaker with Adaptive Equalization
2 Internal Digital Microphones
Adaptive Dual-sided Operation
Adaptive Noise Suppression Intensity
Adaptive Gain Control
Adaptive Windporting
IMPRES™ Audio Accessory Compatibility

MANAGEMENT

RadioCentral™
SmartProgramming*
SmartInsight* Preview

LOCATION-TRACKING

Built-in GNSS (GPS and GLONASS)
SmartLocate and Indoor Positioning*
Mission-critical Geofence**
SmartMapping*

SECURITY

256-bit AES*
Single-key ADP Encryption*
Software Key
P25 Authentication*
Multikey for 128 Keys and Multi-algorithm*
Over-The-Air Key Loading***
Over-The-Air Rekeying (OTAR)*

INGRESS PROTECTION

IP6x Dust
IPx8 Submersion (2 m, 4 hr)
MIL-STD Delta-T, 512.X Procedure 1

MESSAGING

Text Messaging
Freeform or Canned Messages
SmartMessaging*

USER INTERFACE

3.6" Mission-critical Touchscreen: 800x480 TFT 24-bit Full Color Transflective Display, 1 mm Toughened Glass Lens
Capacitive Touch Technology: Usable with Gloves Up to 4 mm Thick, Resistant to False Actuation from Fresh or Salt Water, Snow, Ice, Dirt or Grease
High Velocity User Interface: Large Touch Targets, Shallow Menu Hierarchy, Home Screen Information at a Glance, Integrated Applications
1.2" Top Display: 200x112 TFT 18-bit Color Transflective Screen, 1 Line of Icons, 2 Lines of Text, 14 Characters per Line, 2 mm Toughened Glass Lens
PTT Button: 1.32 x 0.54 in (33.5 x 13.8 mm)
16-position Channel Selector
Angled Power/Volume Knob
Large Orange Emergency Button
3 Programmable Side Buttons (1-dot, 2-dot, purple)
Concentric 2-position Switch
ABC Zone Switch
ViQi Button (3-dot)
Display On/Off/Home Button

ViQi VOICE INTERACTION

Customizable Voice Announcements
Voice Control: 13 Actions with Intuitive Commands*
Virtual Partner Service*

ENERGY

Standard 4400 mAh Battery
Optional High Capacity 5650 mAh Battery*
IMPRES 2 Smart Battery Technology

SENSORS

Ambient Light
Accelerometer x2 (Display Orientation, Man Down)
Magnetometer (eCompass)

OTHER FEATURES

Radio Profiles
Enhanced Data*
Multicast Voting Scan*
Man Down*
DVRS PSU*
Digital Tone Signaling*

DIMENSIONS

Radio with Standard Battery, no Antenna
Height: 5.4 in (138 mm)
Width: 2.5 in (63 mm)
Depth: 1.7 in (43 mm)
Weight: 18.5 oz (525 g)

Radio with High Capacity Battery, no Antenna
Height: 7.1 in (180 mm)
Width: 2.5 in (63 mm)
Depth: 1.7 in (43 mm)
Weight: 22.8 oz (647 g)

*Optional Feature **Hardware-ready ***Included with OTAR

PERFORMANCE

TRANSMITTER

	Footnote	VHF	UHF Range 1	UHF Range 2	700 MHz	800 MHz
Frequency Range / Bandsplits	-	136-174 MHz	380-470 MHz	450-520 MHz	762-776, 792-806 MHz	806-825, 851-870 MHz
Channel Spacing	1	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz
Maximum Frequency Separation	-	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power (Adjustable)	2	1-6 W	1-5 W	1-5 W	1-2.5 W	1-3 W
Frequency Stability (-30 °C to +60 °C; +25 °C Ref.)	2	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm
Modulation Limiting (12.5 / 20 / 25 kHz Channel)	2	±2.5 / ±4 / ±5 kHz	±2.5 / ±4 / ±5 kHz	±2.5 / ±4 / ±5 kHz	±2.5 / ±4 / ±5 kHz	±2.5 / ±4 / ±5 kHz
Emissions (Conducted and Radiated)	2	-75 dBc	-75 dBc	-75 dBc	-75 dBc	-75 dBc
Audio Response	2	+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB	+1, -3 dB
FM Hum and Noise (12.5 / 25 kHz Channel)	2	-53 / -55 dB	-52 / -54 dB	-51 / -54 dB	-50 / -55 dB	-49 / -53 dB
Audio Distortion (12.5 / 25 kHz Channel)	2	0.75% / 0.75%	0.75% / 0.75%	0.75% / 0.75%	0.85% / 0.85%	0.85% / 0.85%

RECEIVER

	Footnote	VHF	UHF Range 1	UHF Range 2	700 MHz	800 MHz
Frequency Range / Bandsplits	-	136-174 MHz	380-470 MHz	450-520 MHz	762-776, 799-806 MHz	851-870 MHz
Channel Spacing	1	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz	12.5 / 20 / 25 kHz
Maximum Frequency Separation	-	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Frequency Stability (-30 °C to +60 °C; +25 °C Ref.)	2	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm	±1.0 ppm
Analog Sensitivity (12 dB SINAD)	2	0.178 µV (-122.0 dBm)	0.211 µV (-120.5 dBm)	0.211 µV (-120.5 dBm)	0.224 µV (-120.0 dBm)	0.237 µV (-119.5 dBm)
Digital Sensitivity (1% BER)	3	0.266 µV (-118.5 dBm)	0.298 µV (-117.5 dBm)	0.298 uV (-117.5 dBm)	0.335 µV (-116.5 dBm)	0.335 µV (-116.5 dBm)
Digital Sensitivity (5% BER)	3	0.158 µV (-123.0 dBm)	0.178 µV (-122.0 dBm)	0.178 µV (-122.0 dBm)	0.224 µV (-120.0 dBm)	0.224 µV (-120.0 dBm)
Selectivity (12.5 / 25 kHz Channel)	2	77 / 84 dB	74 / 81 dB	74 / 81 dB	72 / 80 dB	72 / 79 dB
Intermodulation Rejection	2	82 dB	80 dB	80 dB	80 dB	80 dB
Spurious Rejection	2	98 dB	95 dB	95 dB	98 dB	98 dB
FM Hum and Noise (12.5 / 25 kHz Channel)	2	55 / 59 dB	54 / 58 dB	54 / 58 dB	53 / 57 dB	52 / 56 dB
Audio Distortion	2	0.90%	0.90%	0.90%	0.90%	0.90%

IMPRES™ 2 BATTERIES

	Footnote	Part No	Capacity	Availability
Standard	-	NNTN9216	4400 mAh	Included
High Capacity	-	NNTN9089	5650 mAh	Optional
Standard HazLoc	4	NNTN9217	4400 mAh	Optional
High Capacity HazLoc	4	NNTN9090	5650 mAh	Optional

ENCRYPTION

Supported Encryption Algorithms	ADP, AES, DES, DES-XL, DES-OFB, DVP-XL, Localized Algorithm
Encryption Algorithm Capacity	8
Encryption Keys per Radio	1024 Keys, Programmable for 128 Common Key References (CKR) or 16 Physical Identifiers (PID)
Encryption Keying	Local Key Loader and Over-the-Air Rekeying (OTAR)
Synchronization	XL - Counter Addressing OFB - Output Feedback
Vector Generator	NIST-Approved Random Number Generator
Encryption Type	Digital and SecureNet, TLS1.2, SRTP
Key Storage	Tamper-protected Volatile or Non-volatile Memory
Key Erasure	Keyboard Command and Tamper Detection
Standards	FIPS 140-2 Level 1 and Level 3, FIPS 197
Device Certificates	x.509v3 ECC-P384, x.509v3 RSA-2048
Cipher Suites	ECDHE_ECDSA_WITH_AES256_GCM_SHA384 TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384 TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA TLS_RSA_WITH_AES_256_GCM_SHA384 SRTP_AEAD_AES_256_GCM1

COLOR

Standard Color	Black/Gray
Optional Side Panel Colors (Supplied as Retro-fit Kits)	Red, Blue, Orange, Public Safety Yellow, High Impact Green, Coyote Brown

WIRELESS

LTE	
Bands Supported	2, 4, 12, 13, 14
Bands (Hardware Ready)	5, 17
Device Category	4
Certifications	FirstNet®, Verizon, Bell Mobility
WiFi	
Standards Supported	802.11a/b/g/n/ac
Frequency Range	2400-2472, 5180-5825 MHz
Security	Supports WPA-2, WPA, WEP
Capacity	Up to 20 SSIDs
Bluetooth	
Version	5.0
Frequency Range	2402 - 2480 MHz
Security	128-bit AES-CCM Encryption

AUDIO

Audio Output Power at Rated	3 W
Audio Output Power at Max	5 W
Audio Response (EIA)	+1, -3 dB
Speech Loudness at 12 in (300 mm)	105 Phon
Audio Features	Adaptive Equalization Adaptive Dual-sided Operation Adaptive Noise Suppression Intensity Adaptive Gain Control Adaptive Windporting IMPRES Audio

LOCATION-TRACKING

	Footnote	
Constellations	-	GNSS (GPS and GLONASS)
Tracking Sensitivity	-	-159 dBm
Accuracy	5	<5m (95%)
Cold Start	5	<60 Seconds (95%)
Hot Start	5	<5 Seconds (95%)
Mode	-	Autonomous (Assisted only with LTE service)

ENVIRONMENTAL AND REGULATORY

MIL-STD 810

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G/H	
	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/Hot	501.5	I/A1, II/A1
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/A1, C3	503.3	I/A1, C3	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
Submersion	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	516.3	IV	516.4	IV	516.5	IV	516.6	IV

ENVIRONMENTAL

	Footnote	
Operating Temperature	6	-30 to +60 °C (-22 to +140 °F)
Storage Temperature	6	-40 to +85 °C (-40 to +185 °F)
Humidity	-	Per MIL-STD 810
ESD	-	IEC 801 - 2 kV
Dust Resistance	-	IP6X
Water Resistance (Submersion)	-	IPX8 (2 meters, 4 hours) MIL-STD Delta-T, 512.X Procedure 1

REGULATORY

FCC ID	AZ489FT7119
IC ID	109U-89FT7119
LMR	8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E, 20K0F1E
Bluetooth	1M18G1D, 1M1F1D, 2M1F1D
WiFi	12M9G1D, 16M7D1D, 17M9D1D, 36M2D1D, 17M5D1D, 18M4D1D, 36M8D1D, 76M1D1D
LTE	Band 2 (1850.7 - 1900 MHz), Modulation: *G7D, *D7W Band 4 (1710.7 - 1745 MHz), Modulation: *G7D, *D7W Band 12 (699.7 - 711 MHz), Modulation: *G7D, *D7W Band 14 (790.5 - 793 MHz), Modulation: *G7D, *D7W
All-band Model Number	H55TGT9PW8AN
Single-band Model Number	H45TGT9PW8AN

FOOTNOTES:

1. Please refer to local regulations for available channel bandwidths.
2. Measured conductively in analog mode per TIA / EIA 603 under nominal conditions, and at 1 W Rated Audio for Rx. Selectivity measured using the TIA-603 single-tone method.
3. Measured conductively in digital mode per TIA / EIA IS 102.
4. Listed by UL to non-incendive standards: UL 121201 and CAN/CSA C22.2 No. 213-17 as safe for use in Class I, Division 2, Groups A,B,C,D; Class II, Division 2, Groups F,G; Class III Hazardous Locations.
5. Measured conductively with >6 satellites visible at a nominal -130 dBm signal strength. Specs provided are 95th percentile values.
6. LMR only. Front display, LTE, WiFi, Bluetooth and GPS not available when radio internal temperature is below -20 °C (-4 °F). Hi-capacity battery required for operation between -20 °C (-4 °F) and -30 °C (-22 °F). Batteries should be charged at 0 to +45 °C (+32 to +113 °F) and stored at +20 to +25 °C (+68 to +77 °F) . Reference motorolasolutions.com/batterycare

All specifications are subject to change without notice. For full details consult product service manual, document no. MN005643A01.

ACCESSORIES

EXPAND AND CUSTOMIZE YOUR RADIO'S FUNCTIONALITY WITH BEST-IN-CLASS ACCESSORIES.

AUDIO

HEAR AND BE HEARD LIKE NEVER BEFORE

XV Remote Speaker Microphone

PMMN4123

- Loudest, clearest speaker
- Four digital microphones
- Enhanced windporting
- New adaptive noise suppression
- Dedicated ViQi button

ANTENNAS

DESIGNED FOR WEARABILITY

7/800 MHz Stubby Antenna 65 mm (760-870 MHz)

AN000296A01

Whip All-band Antenna 200 mm (V,U,7/800 MHz)

AN000297A01

Colored antenna ID bands are available for easy customization and come in packs of 10.

- 32012144001 Gray
- 32012144002 Yellow
- 32012144003 Green
- 32012144004 Blue
- 32012144005 Purple

CARRY

SECURE, EASY ACCESS

Classic Holster

PMLN7947

Hybrid Leather Carry Case

PMLN7948
Standard Capacity

PMLN7964
High Capacity

ENERGY

MAXIMIZED POWER, LIFE AND MANAGEMENT

IMPRES 2 Multi-Unit Charger

NNTN9115

IMPRES 2 Single-Unit Charger

NNTN9199

IMPRES 2 Standard Capacity Battery

NNTN9126
4400 mAh

NNTN9127
4400 mAh UL Div 2 (see footnote 4)

IMPRES 2 High Capacity Battery

NNTN9089
5650 mAh

NNTN9090
5650 mAh UL Div 2 (see footnote 4)

For a complete list of accessories, please visit **motorolasolutions.com/apxnext**

MANAGED AND SUPPORT SERVICES

ACHIEVE MISSION CRITICAL PERFORMANCE

IN PUBLIC SAFETY, FOCUS IS YOUR GREATEST RESOURCE. APX NEXT PROTECTS YOUR FOCUS WHEN IT MATTERS MOST. YOUR MISSION-CRITICAL COMMUNICATIONS DEPEND ON THE CONSISTENT AVAILABILITY OF YOUR RADIOS.

Essential and Advanced Services provide the tools and expert support needed to efficiently manage your radio fleet. With Premier Services, you transfer your APX NEXT two-way radio operations to our managed services professionals who are focused on maximizing performance.

Rely on us to help you achieve your performance targets with the right service level you need for systems, devices and applications. Each package provides a higher level of support, transferring the risk and responsibility to Motorola Solutions.

SERVICES AT - A - GLANCE

	ESSENTIAL	ADVANCED	PREMIER
Device Preventive Maintenance			✓
Accidental Damage			✓
RadioCentral™ (full-service programming)			✓
RadioCentral(batch configuration and programming)			✓
RadioCentral (single radio programming)			✓
Hardware Repair			✓
Software Maintenance			✓
Device and RadioCentral Technical Support			✓
MyView Portal			✓

Note:
- Accidental damage can be offered as an add-on service with Essential and Advanced packages.
- Device management training can be offered as an add-on service with all three packages.

PROTECT YOUR FOCUS WHEN IT MATTERS MOST

For more information, please visit
motorolasolutions.com/apxnext

MOTOROLA SOLUTIONS

APX NEXT

Motorola Solutions, Inc. 500 West Monroe Street, Chicago, IL 60661 U.S.A. 800-367-2346 **motorolasolutions.com**

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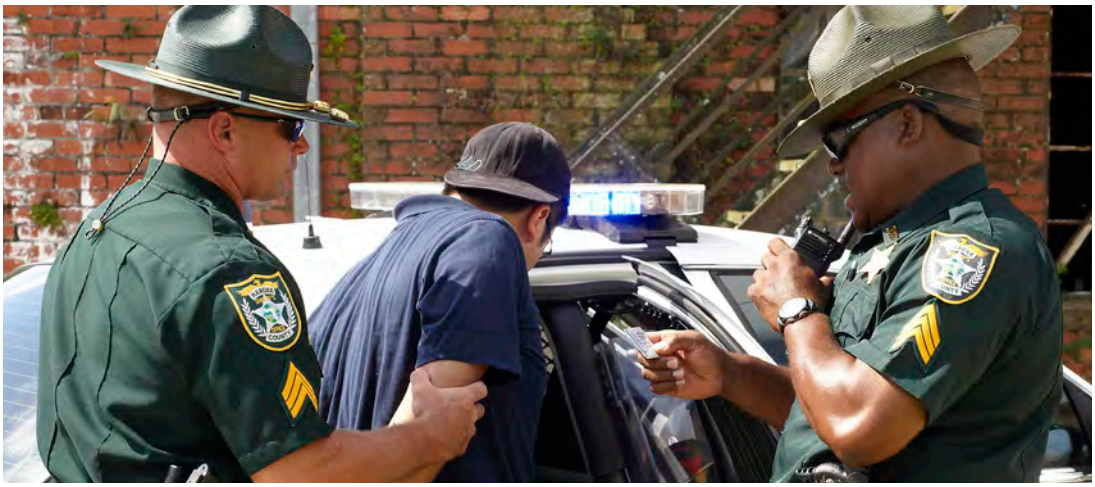


ASTRO® 25 TRUNKED SYSTEMS

PROJECT 25 TDMA WITH DYNAMIC DUAL MODE

Improving spectrum efficiency is a critical issue facing government organizations. Agencies want to do more with the spectrum that they have assigned. And government spectrum bodies are mandating that equipment become more spectrum efficient. Project 25 has addressed this new requirement with the Phase 2 TDMA standard.

ASTRO 25 trunked systems are now available with Project 25 standards-based TDMA. This capability provides organizations with the flexibility required to maximize current frequency allocations with a standards-based solution while maintaining interoperability with other Project 25 systems.

PROJECT 25 TDMA STANDARD

The TIA-102 suite of standards defines Project 25 (P25) TDMA, adding spectrum-efficient TDMA voice service to the existing P25 FDMA trunked voice and packet data services.

P25 TDMA capable systems use the P25 FDMA control channel for all call requests, which allows systems to support FDMA calls as well as TDMA calls.

ENHANCED INTEROPERABILITY

At the cornerstone of all government communications is the need to interoperate with other users to support emergency response. As the new standard was created, interoperability with existing radios was one of the critical requirements. ASTRO 25 systems and APX subscribers support both P25 FDMA and P25 TDMA for interoperability.

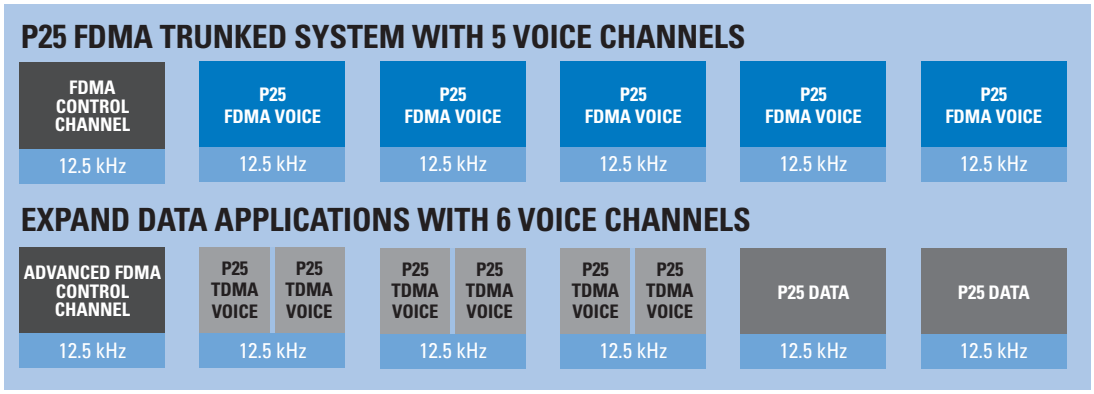
In addition to a manual method for supporting interoperability, which requires the user to manually switch talkgroups on the radio, Motorola delivers seamless interoperability with a software feature called Dynamic Dual Mode that automatically selects what protocol is used based on the resources participating in the call.

SPECTRUM MANDATES

As part of the ongoing efforts to maximize spectrum, governing bodies are mandating that radio systems must move to 6.25e spectrum-efficient methods. For example, by 2017 the FCC will require 6.25 kHz equivalent operations for 700 MHz band plans.

INCREASED VOICE CAPACITY

With P25 TDMA, organizations can double their voice capacity within their fixed allocation of frequencies. For example, they can go from having 5 simultaneous voice calls using P25 FDMA trunked operation to the ability to have up to 10 simultaneous voice calls using P25 TDMA trunked operation. ASTRO 25 TDMA provides the additional advantage of increasing the potential voice path capacity of your system by offering up to 30 voice paths at a site.



ADDITIONAL CAPACITY FOR APPLICATIONS
Use additional channel capacity afforded by P25 TDMA trunked operation to provide data applications such as OTAR, location service, OTAP and text messaging.

ASTRO 25 is a robust solution for government agencies. P25 TDMA functionality can be added to ASTRO 25 systems along with P25 FDMA trunking and conventional, 3600 trunking, analog conventional, and integrated data operation for total flexiblity.

DYNAMIC DUAL MODE

Dynamic Dual Mode, an optional feature, allows users to interoperate between P25 FDMA and P25 TDMA services. It is part of the call processing application and uses an advanced control channel that dynamically switches call assignments between FDMA and TDMA.

Dynamic Dual Mode is seamless to users and requires no intervention from users or network operators. For example, if a user in an active P25 TDMA talkgroup call, roams onto a P25 FDMA-only site, the system automatically initiates P25 FDMA mode at the next push-to-talk (PTT). Or if an active P25 TDMA talkgroup call is underway at a site and a P25 FDMA-only member of the talkgroup joins (or "affiliates") with the call, the system automatically switches the call to P25 FDMA mode at the next PTT. The FDMA-only user is now included in the call, and the call switched without any user intervention or awareness.

As an added benefit in encrypted systems, the call set-up automatically switches between FDMA and TDMA while maintaining end-to-end encryption. This provides a high level of assurance that the system remains secure from dispatcher to radio user.

IMPROVED SYSTEM OPERATION

Dynamic Dual Mode improves ease of use in ASTRO 25 systems with a mixed fleet of P25 FDMA and P25 TDMA radios.

- Radio users have seamless interoperability regardless of the operations mode.
- Dispatch operators can automatically coordinate between P25 TDMA radio users and P25 FDMA radio users with no need to track or patch users together.
- System administrators do not need to preassign base stations as P25 TDMA or P25 FDMA; the system automatically assigns the appropriate station mode based on the needs of the user.

IMPLEMENTATION CONSIDERATIONS

Starting with ASTRO 25 System Release 7.11, P25 TDMA and Dynamic Dual Mode are available in trunked, simulcast and standalone repeater configurations operating in the VHF, UHF, 700 MHz and 800 MHz bands.

On fielded ASTRO 25 systems, key system components including G-series stations, controllers and comparators, the MCC 7500 IP Dispatch Console, and APX™ radios can be software upgraded to P25 TDMA.

The APX series of trunked radios is available with P25 FDMA and P25 TDMA in the same radio. Dynamic Dual Mode automatically switches between the capabilities.

Motorola Solutions, Inc. 1301 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. **motorola.com/ASTRO25**

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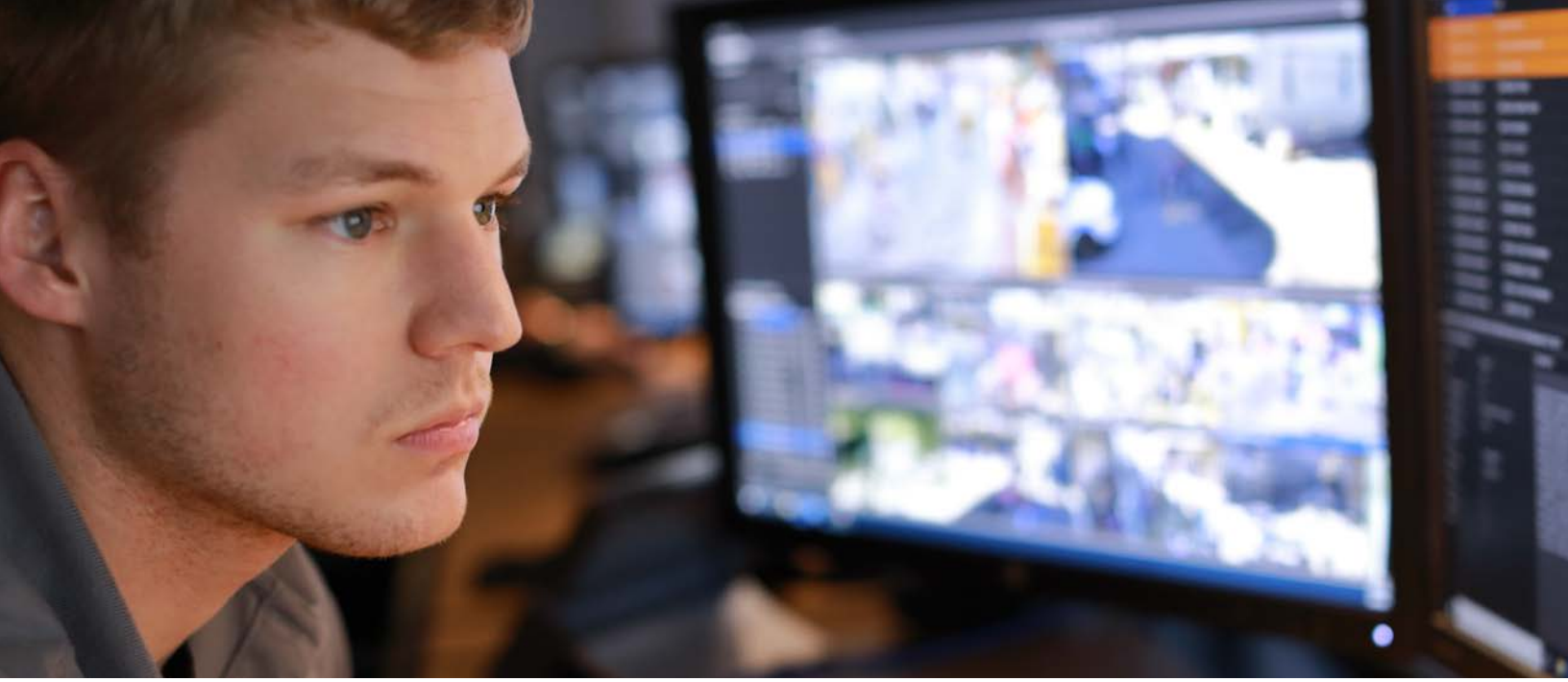
MOTOROLA



APX® ALL-BAND CONSOLETTE

Racing to an emergency or repairing a power outage, every moment matters as you mount a response. The right control station can make all the difference in making sure communications are clear, continuous and coordinated – across multiple users, agencies and miles.

The APX All-Band Consolette is the ideal complement to your dispatch console. It's the low cost, mid-power wireless control station for an ASTRO® 25 system. You can use it as an emergency backup station when infrastructure is off-line, or for wireless access to different system types for increased interoperability between agencies.

MOTOROLA SOLUTIONS

CONNECT WITH CONFIDENCE

Designed around proven APX technology, the Consolette combines forward-thinking technology with time-tested functionality. Project 25 Phase 2 technology delivers twice the voice capacity so you can add more users without adding more frequencies or infrastructure. Talk with confidence to a squad car or desk station, a job site across town or an incident in the next county.

And with Wi-Fi, the Consolette keeps your team in touch and within reach of over-the-air updates. Receive new codeplugs, firmware updates and software features at the speed of Wi-Fi—without interruptions to voice communication.

MIGRATE AT YOUR OWN PACE

The APX All-Band Consolette is backwards and forwards compatible, developed to meet current P25 standards and future-ready to support new technology and data applications. Now you can achieve your interoperability objectives—whether upgrading an existing system or designing a new one—based on your dollars and deadlines.

BUILT FOR THE TOUGHEST TASKS

Innovative design and skillful engineering make the APX All-Band Consolette a tireless performer. The robust metal housing assures extra durability, but allows for easy servicing and programming without removing the lid. An integrated front panel numeric keypad gives you fast access to radio controls. And it meets stringent FCC and UL certifications for exceptional safety.

ROBUST AND MISSION-READY

When you lose power, count on the automatic battery revert feature to keep your people connected. All you need is a DC source, such as a marine battery, and the Consolette will switch over automatically to keep communications strong.

Rich in features, the APX All-Band Consolette gives you the largest number of interface connections to a wide variety of consoles and desk sets, and easy access to contact information with one unified call list. What's more, an ACIM wireless interface provides back-up dispatch if your console's link to the ASTRO 25 trunked system is ever lost.

STANDARD FEATURES

Available in 700/800 MHz, VHF or UHF (R1/R2) bands

Optional multiband operation

2000 Channels

Trunking Standards supported:

- Clear or digitally 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 and ASTRO 25)

Integrated Encryption Hardware

Seamless Wideband Scan

Intelligent Priority Scan

Intelligent Lighting

Interfaces supported:

- Recorder
- Wireline
- Vehicle Interface Port
- Crosspatch
- Headsets (2)**

110/220 VAC operation with battery revert capability

VU Meter and Clock

Expansion Slot Standard

2 configurations available:

- Full featured front panel
- Limited front panel

Radio Profiles

Unified Call List

Tone remote control

Tactical Inhibit

Instant Recall

ACIM/CCGW interface including:

- ID decode
- Call alert encode

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

** Available on full featured models only.

AUXILIARY DISPLAY FEATURES

LCD display

3 soft menu buttons to activate or control the following Consolette features:

- Clock
- Volume Units Meter (VU)
- Crosspatch Linking
- Auxiliary Controls/VIP Activation
- Over-the-air Audible TX Alert Tones

OPTIONAL FEATURES

Enhanced Encryption Software Options

Programming over Project 25 (POP25)

Text Messaging

Over the Air Rekeying (OTAR)

Wi-Fi connectivity

Extended Dispatch Operation including:

- Emergency Alarm ACK Encode
- Radio Inhibit/Uninhibit Encode
- Radio Monitor Encode
- Radio Check Encode
- Status Query Encode
- Status Query Response Decode
- Status Update Decode
- Message Update Decode

E5 CONTROL HEAD FEATURES

Bright color display

- Easy to read 3 line display in various lighting conditions - day or night
- Large tactile knobs and navigation buttons
- 5 programmable menu soft keys and 1 programmable button

SIGNALING (ASTRO MODE)

Signaling Rate	9.6 kbps
Digital ID Capacity	10,000,000 Conventional / 48,000 Trunking
Digital Network Access Codes	4,096 network site addresses
ASTRO Digital User Group Addresses	4,096 network site addresses
Project 25 – CAI Digital User Group Addresses	65,000 Conventional / 4,094 Trunking
Error Correction Techniques	Golay, BCH, Reed-Solomon codes
Data Access Control	Slotted CSMA: Utilizes infrastructure-sourced data status bits embedded in both voice and data transmissions.

DIMENSIONS

W x D x H	Limited Front Panel Configuration 16" x 18" x 4.2" (406 x 457 x 107mm) Full Featured Front Panel Configuration 16" x 18.75" x 4.2" (406 x 476 x 107mm)
Weight	Limited Front Panel Configuration 18.9 lbs (8.6 kg) Full Featured Front Panel Configuration 19.9 lbs (9.0 kg)

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

	700 MHz		800 MHz		VHF		UHF Range 1		UHF Range 2	
Frequency Range/Bandsplits	764-776 MHz, 794-806 MHz		806-825 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		30/25/12.5 kHz		25/20/12.5 kHz		25/20/12.5 kHz	
Maximum Frequency Separation	Full Bandsplit		Full Bandsplit		Full Bandsplit		Full Bandsplit		Full Bandsplit	
Rated RF Output Power[1] (Adjustable)	1-30 Watts		1-35 Watts		1-50 Watts		1-40 Watts (380-470 MHz)		1-45 Watts (450-485 MHz) 1-40 Watts (485-512 MHz) 1-25 Watts (512-520 MHz)	
Frequency Stability[1] (–30°C to +85°C; +25°C Ref.)	±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM	
Modulation Limiting[1]	±5/±2.5 kHz		±5/±4 kHz (NPSPAC) /±2.5 kHz		±5/±2.5 kHz		±5/±2.5 kHz		±5/±2.5 kHz	
Modulation Fidelity (C4FM) 12.5kHz Digital Channel	1.10%		1.10%		1.10%		1.10%		1.10%	
Emissions[1]	Conducted –75/–85 dBc	Radiated –20/–40 dBm	Conducted –75 dBc	Radiated –20 dBm	Conducted –85 dBc	Radiated –20 dBm	Conducted –85 dBc	Radiated –20 dBm	Conducted –85 dBc	Radiated –20 dBm
Audio Response[1]	+1, –3 dB (EIA)		+1, –3 dB (EIA)		+1, –3 dB (EIA)		+1, –3 dB (EIA)		+1, –3 dB (EIA)	
FM Hum & Noise[1] 25 kHz 12.5 kHz	50 dB 48 dB		50 dB 48 dB		53 dB 52 dB		53 dB 50 dB		53 dB 50 dB	
Audio Distortion[1] 20 & 25 kHz 12.5 kHz	0.50 % 0.50 %		0.50 % 0.50 %		0.50 % 0.50 %		0.50 % 0.50 %		0.50 % 0.50 %	

RECEIVER – TYPICAL PERFORMANCE SPECIFICATIONS

	700 MHz		800 MHz	VHF		UHF Range 1		UHF Range 2	
Frequency Range/Bandsplits	764-776 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	30/25/12.5 kHz		25/20/12.5 kHz		25/20/12.5 kHz	
Maximum Frequency Separation	Full Bandsplit		Full Bandsplit	Full Bandsplit		Full Bandsplit		Full Bandsplit	
Audio Output Power (Speaker) at 3% distortion	2.5 W (20 Ω internal) 7.5 W (7.5 Ω) 15 W (2.3 Ω)		2.5 W (20 Ω internal) 7.5 W (7.5 Ω) 15 W (2.3 Ω)	2.5 W (20 Ω internal) 7.5 W (7.5 Ω) 15 W (2.3 Ω)		2.5 W (20 Ω internal) 7.5 W (7.5 Ω) 15 W (2.3 Ω)		2.5 W (20 Ω internal) 7.5 W (7.5 Ω) 15 W (2.3 Ω)	
Frequency Stability[1] (–30°C to +85°C; +25°C Ref.)	±0.8 PPM		±0.8 PPM	±0.8 PPM		±0.8 PPM		±0.8 PPM	
Analog Sensitivity[1] 12 dB SINAD Digital Sensitivity 5% BER	-121 dBm -121.5 dBm	-120 dBm -120 dBm	-121 dBm -121.5 dBm	Pre-Amp -123 dBm -123 dBm	Standard -119 dBm -119 dBm	Pre-Amp -123 dBm -123 dBm	Standard -119 dBm -119 dBm	Pre-Amp -123 dBm -123 dBm	Standard -119 dBm -119 dBm
Intermodulation 25 kHz 12.5 kHz	85 dB 85 dB		85 dB 85 dB	84 dB 85 dB	86 dB 86 dB	82 dB 83 dB	86 dB 86 dB	82 dB 83 dB	86 dB 86 dB
Spurious Rejection	100 dB		100 dB	90 dB		90 dB		90 dB	
Audio Response[1]	+1, –3 dB (EIA)		+1, –3 dB (EIA)	+1, –3 dB (EIA)		+1, –3 dB (EIA)		+1, –3 dB (EIA)	
Audio Distortion at rated[1]	1.20 %		1.20 %	1.20 %		1.20 %		1.20 %	
Selectivity[1] 25 kHz 12.5 kHz 30 kHz	82.5 dB 72 dB —		82.5 dB 72 dB —	87 dB 76 dB 90 dB		82 dB 76 dB —		82 dB 76dB —	

POWER AND BATTERY DRAIN

Model Type	136-174 MHz, 380-470 MHz, 450-520 MHz, 764-870 MHz					
Minimum RF Power Output	1-35W (764-870 MHz), 1-50W (136-174MHz), 1-40W (380-470 MHz), 1-45W (450-485 MHz), 1-40W (485-512 MHz), 1-25 (512-520 MHz)					
AC Operation	110 to 220VAC 50-60Hz					
AC Current	110VAC: 0.85A (Idle/Rx) 1.7A (Tx) 220VAC: 0.42A (Idle/Rx) 0.85A (Tx)					
AC Surge Spec	EN6100-4-5 Level 5					
DC Operation	13.8V DC ±20% Negative Ground					
Standby at 13.8V	1.4A (764-870 MHz), 1.4A (136-174 MHz), 1.4A (380-470 MHz), 1.4A (450-520 MHz)					
Receive Current at Rated Audio at 13.8V	3.2A (764-870 MHz), 3.2A (136-174 MHz), 3.2A (380-470 MHz), 3.2A (450-520 MHz)					
Transmit Current (A) at Rated Power	136-174 MHz (1-50 W) 380-470 MHz (1-40 W) 450-520 MHz (1-45 W)	15A (50W) 15A (40W) 13A (45W)	8A (15W) 8A (15W) 8A (15W)	764-870 MHz (1-35 Watt)	13A (50W)	8A (15W)

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

WIRELESS CONNECTIVITY

WLAN (Wi-Fi®)	802.11 b/g/n supports WPA-2, WPA, WEP security protocols; radio can be pre-provisioned with up to 20 SSIDs

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30°C / +60°C
Storage Temperature	-40°C / +85°C
Humidity	95% relative humidity
ESD	IEC 61000-4-2
Duty Cycle	EIA/TIA Intermittent Duty Cycle

FCC/IC TYPE ACCEPTANCE ID

FCC/IC ID	BAND AND POWER LEVEL
FCC ID: AZ492FT7089	764-776 MHz (10-30 W)
IC ID: 109U-92FT7089	794-806 MHz (10-30 W)
	806-824 MHz (10-35 W)
	851-870 MHz (10-35 W)
	136-174 MHz (10-50 W and 25-110 W)
	380-470 MHz (10-40 W and 25-110 W)
	450-485 MHz (10-45 W)
	485-512 MHz (10-40 W)
	512-520 MHz (10-25 W)

[1] Measured in the analog mode per TIA/EIA 603 under nominal conditions

Specifications subject to change without notice. All specifications shown are typical.

Radio meets applicable regulatory requirements.

The All Band Consolette is J/F 12 11207 and SPS 22237 certified.

For more information, visit motorolasolutions.com/apx

MOTOROLA SOLUTIONS

Motorola Solutions, Inc. 500 West Monroe Street, Chicago, Il 60661 U.S.A. motorolasolutions.com

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APX 8500

ALL-BAND P25 MOBILE RADIO

UNLIMITED MOBILITY. MAXIMUM CONNECTIVITY.

Your next incident doesn't care about frequencies and neither should your first responders. Give them the communication tools to stay connected and stay safe wherever the call takes them. Give them the APX 8500 all-band mobile radio.

The APX 8500 radio enables you to exchange critical voice and data seamlessly with multiple agencies and jurisdictions operating on different radio bands. The available high-power transmitter gives you extraordinary P25 range while the integrated Wi-Fi or tethered in-vehicle broadband modem can extend communication beyond P25 radio service areas. Offload data to a broadband connection and create a data ecosystem in and around your vehicle. Or, use your broadband connection to send and receive P25 voice and data when outside of P25 coverage. And when your vehicle sustains a high impact, the radio can automatically send an alert to dispatch.

Stay connected and stay safe in more ways than ever with the all-band APX 8500 mobile radio.

MOTOROLA SOLUTIONS

ALL-BAND CONNECTIVITY

ALL BANDS. NO BOUNDARIES.
With a 4-in-1 mobile radio and an all-band antenna, you now have the ability to stay connected and expand communications across multiple agencies with one device. Extend your reach further with an available high-power transmitter and communicate with widely dispersed teams across different bands.

BUILT-IN Wi-Fi

VOICE AND DATA, ALL AT ONCE
Packed with all the connections you need, the APX 8500 keeps your team in touch and within reach of over-the-air updates. Receive new codeplugs, firmware updates and software features at the speed of Wi-Fi— without interruptions to voice communications.

SMARTCONNECT

GET CONNECTED AND STAY CONNECTED
When the mission takes you out of range, you risk being left in the dark. The APX 8500, equipped with SmartConnect, can reroute P25 voice and data communication over broadband via built-in Wi-Fi or a tethered LTE/satellite router. Stay connected to your P25 radio system, even when outside of P25 coverage.

ViQi VIRTUAL PARTNER

FAST INFORMATION RETRIEVAL
Running routine database queries doesn't need to slow you down. Simply press a button on the keypad microphone and ask ViQi for the information you need. Keep your eyes on the situation and free up dispatchers to focus on more critical events. Move intelligence faster than ever with ViQi.

DESIGNED TO SECURE AND PROTECT

KEEP VOICE AND DATA PROTECTED
The APX 8500 secures voice and data using multiple hardware encryption algorithms and the ability to rekey over the air, so it's protected from scanners and eavesdroppers. What's more, P25 Radio Authentication ensures only valid users can access the system while the available two-factor authentication secures database logins.

DEVICE MANAGEMENT SERVICES

ALL THE SUPPORT YOU NEED
Motorola Solutions offers three levels of service plans – Essential, Advanced and Premier. From simple support for technical troubleshooting to a complete transfer of optimization and maintenance services to Motorola Solutions, you choose the level of support that suits you best.

O2 CONTROL HEAD

EXTREME USABILITY

The O2 control head provides rugged simplicity for efficient and confident communication. Extreme controls with easy to read color display and a built-in 7.5 watt speaker provides clear visual and audible user experiences. Available in high impact green or black.

O3 HANDHELD CONTROL HEAD

HANDHELD FLEXIBILITY

The O3 corded control head fits all your mobile controls in your hand. With the O3 your radio controls are never out of reach.

APX 8500 CONTROL HEADS*

E5 CONTROL HEAD

UNMATCHED READABILTY. OPTIMIZED USABILITY.

A bright color display and intelligent lighting makes the E5 easy to read under any condition while the optimized tactility and button placement reduces inadvertent actuations.

O7 CONTROL HEAD

INTEGRATED MULTI-FUNCTIONALITY

The O7 is a sophisticated control head with a color display and built-in keypad. It can integrate your radio vehicle control into a single ergonomic interface and supports dual radio installations.

* Compatible O9 and O5 control heads not shown.

FEATURES

OPERATION MODES

Digital Trunking: 9600 Baud APCO P25 Phase 1 FDMA and Phase 2 TDMA
Digital Conventional: APCO 25
Analog Trunking: 3600 Baud SmartNet, SmartZone, Omnilink
Analog Conventional: MDC 1200
ASTRO® 25 Integrated Voice and Data
SmartConnect Multi-net Connectivity*

FREQUENCY BANDS

All-band: Simultaneous Operation in VHF, UHF Range 1, UHF Range 2, 700 and 800 MHz Bands
100 Watt High-Power available in VHF and UHF Range 1 bands (High-Power model only)
Up to 3,000 Channels

ADDITIONAL CONNECTIVITY

Wi-Fi 802.11 b/g/n*
Data Modem Tethering*
SmartConnect*

MANAGEMENT

Radio Management
Customer Programming Software

LOCATION-TRACKING

Integrated GPS/GLONASS for Outdoor Location Tracking
Mission-Critical Geofence*

SECURITY

265-bit AES, ADP, DES, DVP*
FIPS 140-2 Level 3, FIPS 197
P25 Authentication*
Multikey for 128 keys and Multi-algorithm*
Over-The-Air-Rekeying (OTAR)*

USER INTERFACE

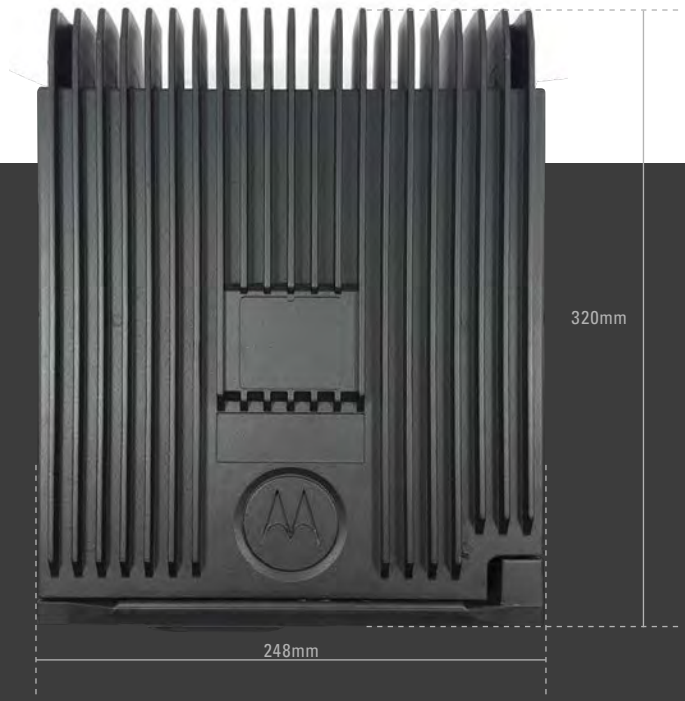
O7 Multi Functional Control Head
E5 Enhanced Control Head
O3 Handheld Control Head
O2 Extreme Usability Control Head
Supports the discontinued O9 Control Head and the O5 Control Head

OTHER FEATURES

Intelligent Priority Scan
Instant Recall
Impact Detection*
Intelligent Lighting
Tactical Inhibit*
Digital Tone Signaling*
12 Character RFID Asset Tracking*
ViQi Virtual Partner*

*Optional Feature

DIMENSIONS AND WEIGHT		
	Dimensions (H x W x D)	Weight
O7 Control Head - Remote Mount	51 x 178 x 81mm (2.0 x 7.0 x 3.2 in)	-
E5 Control Head - Remote Mount	51 x 178 x 79 mm (2.0 x 7.0 x 3.1 in)	-
O5 Control Head - Remote Mount	51 x 178 x 74 mm (2.0 x 7.0 x 2.9 in)	-
O2 Control Head - Remote Mount	68 x 206 x 96 mm (2.7 x 8.1 x 3.8 in)	-
Mid Power Radio Transceiver and O7 Control Head - Dash Mount	51 x 178 x 256 mm (2.0 x 7.0 x 10.1 in)	3.1 kg (6.8 lbs)
Mid Power Radio Transceiver and E5 Control Head - Dash Mount	51 x 178 x 255 mm (2.0 x 7.0 x 10.0 in)	3.1 kg (6.8 lbs)
Mid Power Radio Transceiver and O5 Control Head - Dash Mount	51 x 178 x 250 mm (2.0 x 7.0 x 9.8 in)	3.1 kg (6.8 lbs)
Mid Power Radio Transceiver and O2 Control Head - Dash Mount	68 x 206 x 271 mm (2.7 x 8.1 x 10.7 in)	3.3 kg (7.23 lbs)
Mid Power Radio Transceiver and Remote Mount	51 x 178 x 232 mm (2.0 x 7.0 x 9.1 in)	2.9 kg (6.4 lbs)
High Power Radio Transceiver and Remote Mount	88 x 248 x 320 mm (3.4 x 9.7 x 12.6 in)	8.0 kg (17.6 lbs)



APX 8500 High-Power Model Shown

PERFORMANCE AND REGULATORY

TRANSMITTER- TYPICAL PERFORMANCE SPECIFICATIONS										
	VHF		UHF R1		UHF R2		700 MHz		800 MHz	
Frequency Range Band Splits	136-174 MHz		380-470 MHz		450-520 MHz		764-776, 794-806 MHz 806-825, 851-870 MHz		764-776, 794-806 MHz 806-825, 851-870 MHz	
Channel Spacing	30/25/12.5 kHz		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		Full Bandsplit	
Rated RF Output Power1 (Adjustable)	1-50 W (Mid Power) 1-100 W (High Power)		1-40 W (Mid Power) 1-100 W (High Power)		1-45 W (450-485 MHz) 1-40 W (485-512 MHz) 1-25 W (512-520 MHz)		1-30 W		1-35 W	
Frequency Stability[1] (-30°C to +85°C; +25°C Ref.)	±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM	
Modulation Limiting	±5/±2.5 kHz		±5/±2.5 kHz		±5/±2.5 kHz		±5/±2.5 kHz		±5/±4 (NPSPAC) /±2.5 kHz	
Modulation Fidelity (C4FM) 12.5 kHz Digital Channel	1.10%		1.10%		1.10%		1.10%		1.10%	
Emissions[1]	Conducted -85 dBc	Radiated -20 dBm	Conducted -85 dBc	Radiated -20 dBm	Conducted -85 dBc	Radiated -20 dBm	Conducted -75/-85 dBc	Radiated -20/-40 dBm	Conducted -75 dBc	Radiated -20 dBm
Audio Response[1]	+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)	
FM Hum & Noise[1] (25 kHz / 12.5 kHz)	53 dB/ 52 dB		53 dB/ 50 dB		53 dB/ 50 dB		50 dB/ 48 dB		50 dB/ 48 dB	
Audio Distortion[1] (25 & 20 kHz / 12.5 kHz)	0.50% / 0.50%		0.50% / 0.50%		0.50% / 0.50%		0.50% / 0.50%		0.50% / 0.50%	

RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS									
	VHF		UHF R1		UHF R2		700 MHz		800 MHz
Frequency Range Band Splits	136-174 MHz		380-470 MHz		450-520 MHz		764-776 MHz	799-806 MHz	851-870 MHz
Channel Spacing	30/20/12.5 kHz		25/20/12.5 kHz		25/20/12.5 kHz		25/20/12.5 kHz		25/20/12.5 kHz
Minimum Frequency Separation	Full Bandsplit		Full Bandsplit		Full Bandsplit		Full Bandsplit		Full Bandsplit
Audio Output Power 3% distortion, 8/3.2 Ohm speakers	7.5 W/15 W		7.5 W/15 W		7.5 W/15 W		7.5 W/15 W		7.5 W/15 W
Frequency Stability1 (-30 °C to +85 °C; +25 °C Ref.)	±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM
Analog Sensitivity[1] (12 dB SINAD)	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	-121 dBm (0.199 µV)	-120 dBm (0.224 µV)	-121 dBm (0.199 µV)
Digital Sensitivity (5% BER)	-123 dBm (0.158 µV)	-119 dBm (0.251 µV)	-123 dBm (0.158 µV)	-119 dBm (0.251 µV)	-123 dBm (0.158 µV)	-119 dBm (0.251 µV)	-123 dBm (0.158 µV)	-120 dBm (0.224 µV)	-121.5 dBm (0.188 µV)
Intermodulation Rejection (12.5 kHz / 25 kHz)	Pre-Amp 84 dB / 85 dB	Standard 86 dB / 96 dB	Pre-Amp 82 dB / 83 dB	Standard 86 dB / 86 dB	Pre-Amp 82 dB / 83 dB	Standard 86 dB / 86 dB	85 dB / 85 dB		85 dB / 85 d
Spurious Rejection	90 dB		90 dB		90 dB		100 dB		100 dB
Audio Response[1]	+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)
Audio Distortion at rated[1]	1.20%		1.20%		1.20%		1.20%		1.20%
Selectivity[1] (12.5 kHz / 25 kHz / 30 kHz)	76 dB 87 dB 90 dB		76 dB 82 dB -		76 dB 82 dB -		72 dB 82.5 dB -		72 dB 82.5 dB -

POWER AND BATTERY DRAIN					
	VHF	UHF R1	UHF R2	700 MHz	800 MHz
Frequency Range Band Splits	136-174 MHz	380-470 MHz	450-520 MHz	764-775, 794-806 MHz	806-825, 851-870 MHz
RF Power Output	1-50 W (mid-power) 1-100 W (high-power)	10-40 W (mid-power) 1-100 W (high-power)	1-45 W (450-485 MHz) 1-40 W (485-512 MHz) 1-25 W (512-520 MHz)	1-33 W	1-35 W
Operation	13.8 V DC ±20% Negative Ground	13.8 V DC ±20% Negative Ground	13.8 V DC ±20% Negative Ground	13.8 V DC ±20% Negative Ground	13.8 V DC ±20% Negative Ground
Standby at 13.8 V	1.4 A	1.4 A	1.4 A	1.4 A	1.4 A
Receive Current at Radio Audio at 13.8 V	3.2 A	3.2 A	3.2 A	3.2 A	3.2 A
Transmit Current at Rated Power (mid-power)	8 A @ 15 W 15 A @ 50 W	8 A @ 15 W 15 A @ 40 W	8 A @ 15 W 13 A @ 45 W	8 A @ 15 W 13 A @ 33 W	8 A @ 15 W 13 A @ 33 W
Transmit Current at Rated Power (high-power)	8 A @ 15 W 30 A @ 100 W	8 A @ 15 W 30 A @ 100 W	-	-	-

LOCATION - TRACKING	
Channels	12
Tracking Sensitivity	-164 dBm
Accuracy[2]	<5 meters (95%)
Cold Start	<60 seconds (95%)
Hot Start	<5 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GNSS or SBAS

FCC/IC TYPE ACCEPTANCE	
FCC/IC ID	Band and Power Level
FCC ID: AZ492FT7089 IC ID: 109U-92FT7089	764-776 MHz (10-30 W)
	794-806 MHz (10-30 W)
	806-824 MHz (10-35 W)
	851-870 MHz (10-35 W)
	136-174 MHz (10-50 W)
	380-470 MHz (10-40 W)
	450-485 MHz (10-45 W)
	485-512 MHz (10-40 W)
	512-520 MHz (10-25 W)
FCC ID: AZ492FT7118 IC: N/A	136-174 MHz (1-100 W)
	380-470 MHz (1-100 W)

[1] Measured in the analog mode per TIA / EIA 603 single-tone method under nominal conditions
[2] Measured conductivity with >6 satellites visible at a nominal -130 dBm signal strength.

ENCRYPTION	
Supported Encryption Algorithms	256-bit AES, ADP, 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	-30ºC/+60ºC
Storage Temperature	-40ºC/+85ºC
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water & Dust Intrusion	IP56

MOBILE 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	I/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/Hot	501.5	I/A1, II/A1
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 Proc	503.2	1/A1C3	503.3	1/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	I Proc	507.5	II/Aggravated
Salt Fog	509.1	I Proc	509.2	I Proc	509.3	I Proc	509.4	I Proc	509.5	I Proc
Blowing Dust	510.1	I	510.2	I, II	510.3	I, II	510.4	I, II	510.5	I, 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

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APX 6500

SINGLE-BAND P25 MOBILE RADIO

STAY INFORMED. STAY SAFE.

You may not know what the next call will entail, but you do know that your team needs communication they can count on. Whether on a motorcycle, in a squad car or a fire truck, the rugged and compact design of the evolved APX™ 6500 mobile radio is designed to maximize the real estate in your vehicle and keep your entire agency safely connected. Now with integrated Wi-Fi and SmartConnect, the APX 6500 gives you more ways to manage your radio and stay connected. And when your vehicle sustains a high impact, the radio can automatically alert dispatch.

Security is more important than ever. Criminals are testing you on the streets and over the air. Fight back with multiple levels of protection to encrypt and secure your voice and data communication against eavesdropping.

Stay connected, keep safe and secure your communications with the APX 6500 single-band mobile radio.

MOTOROLA SOLUTIONS

SMARTCONNECT

GET CONNECTED AND STAY CONNECTED

When the mission takes you out of range, you risk being left in the dark. The APX 6500, equipped with SmartConnect, can reroute P25 voice and data communication over broadband via built-in Wi-Fi or a tethered LTE/satellite router. Stay connected to your P25 radio system, even when outside of P25 coverage.

BUILT-IN Wi-Fi

VOICE AND DATA, ALL AT ONCE

Packed with all the connections you need, the APX 6500 keeps your team in touch and within reach of over-the-air updates. Receive new codeplugs, firmware updates and software features at the speed of Wi-Fi— without interruptions to voice communications.

ViQi VIRTUAL PARTNER

FAST INFORMATION RETRIEVAL

Running a routine database queries doesn't need to slow you down. Simply press a button on the keypad microphone and ask ViQi for the information you need. Keep your eyes on the situation and free up dispatchers to focus on more critical events. Move intelligence faster than ever with ViQi.

DESIGNED TO SECURE AND PROTECT

KEEP VOICE AND DATA PROTECTED

The APX 6500 secures voice and data using multiple hardware encryption algorithms and the ability to rekey over the air, so it's protected from scanners and eavesdroppers. What's more, P25 Radio Authentication ensures only valid users can access the system while the available two-factor authentication secures database logins.

LIGHTWEIGHT, COMPACT DESIGN

FLEXIBLE, EASY INSTALLATION

The small and light form-factor of the APX 6500 allows for easy installation across a growing ecosystem of vehicles and installations. Users can choose one of several interchangeable control heads to best fit their need. Dual control head configuration enables radio operation from multiple locations within the same vehicle, such as a large fire truck.

DEVICE MANAGEMENT SERVICES

ALL THE SUPPORT YOU NEED

Motorola Solutions offers three levels of service plans – Essential, Advanced and Premier. From simple support for technical troubleshooting to a complete transfer of optimization and maintenance services to Motorola Solutions, you choose the level of support that suits you best.

O2 CONTROL HEAD

EXTREME USABILITY

The O2 control head provides rugged simplicity for efficient and confident communication. Extreme controls with easy to read color display and a built-in 7.5 watt speaker provides clear visual and audible user experiences. Available in high impact green or black.

O3 HANDHELD CONTROL HEAD

HANDHELD FLEXIBILITY

The O3 corded control head fits all your mobile controls in your hand. With the O3 your radio controls are never out of reach.

APX 6500 COMPATIBLE CONTROL HEADS*

E5 CONTROL HEAD

UNMATCHED READABILTY. OPTIMIZED USABILITY.

A bright color display and intelligent lighting makes the E5 easy to read under any condition while the optimized tactility and button placement reduces inadvertent actuations.

O7 CONTROL HEAD

INTEGRATED MULTI-FUNCTIONALITY

The O7 is a sophisticated control head with a color display and built-in keypad. It can integrate your radio vehicle control into a single ergonomic interface and supports dual radio installations.

* Compatible O5 control head is not shown.

FEATURES

GENERAL FEATURES	
Channel Capacity	1,000 channels standard, expandable to 3,000 channels
Wireless Connectivity	GPS/GLONASS, Wi-Fi
WLAN (Wi-Fi) Protocols	802.11 b/g/n (2.4GHz) 802.11 a/n/ac (5GHz)
Encryption Algorithms	256-bit AES, ADP, DES, DES-XL, DES-OFB, DVP-XL

OPERATING MODES
Digital Trunking: 9600 Baud APCO P25 Phase 1 FDMA and Phase 2 TDMA
Analog Trunking: 3600 Baud SmartNet®, SmartZone®, Omnilink
Digital Conventional: APCO 25
Analog Conventional: Analog MDC 1200, Quik Call II System Configurations
SmartConnect Connectivity

INTEGRATED WI-FI, GPS AND DATA CONNECTIVITY
Wi-Fi 802.11 b/g/n with up to 20 Wi-Fi networks provisioned in the radio[1]
Data Modem Tethering[1]
ASTRO 25 Integrated Voice and Data
Enhanced Data[1]
Integrated GPS/GLONASS for Outdoor Location Tracking
Mission Critical Geofence[1]
Personnel Accountability[1]
SmartConnect[1]
ViQi Virtual Partner[1]

MANAGEMENT
Customer Programming Software (CPS)
Radio Management
Over-the-air Programming (OTAP)[1]

SECURITY
Tactical Inhibit[1]
P25 Authentication[1]
Software Key[1]
Single-key ADP Encryption[1]
Multikey for 128 keys and multi-algorithm[1]
Over-the-air Rekeying (OTAR)[1]

GPS/GNSS SPECIFICATIONS	
Channels	12
Tracking Sensitivity	-164 dBm
Accuracy[2]	<5 meters (95%)
Cold Start[2]	<60 seconds (95%)
Hot Start[2]	<5 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GNSS or SBAS

[1] Optional [2] Measured conductively with >6 satellites visible at a nominal -130 dBm signal strength

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 PhysicalIdentifier (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

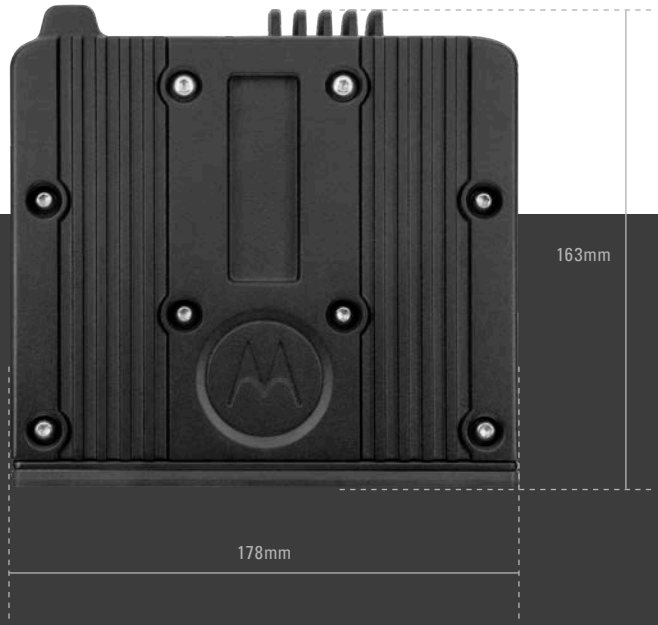
OTHER FEATURES
Text Messaging
Radio Profiles
Dynamic Zone
Intelligent Priority Scan
Unified Call List
Instant Recall
Data Modem Connection (wired or Wi-Fi)[1]
12 Character RFID Asset Tracking[1]
Digital Tone Signaling[1]

INTEGRATED WI-FI, GPS AND DATA CONNECTIVITY		
Frequency Range/Band splits	WLAN (Wi-Fi): 2412 - 2472 MHz; 5180 - 5320 MHz; 5500 - 5825 MHz	
WLAN (WiFi) 802.11 b/g/n (2.4GHz) 802.11 a/n/ac (5GHz)	Security protocols	WPA-2, WPA, WEP
	SSIDs	Up to 20 pre-provisioned
Integrated GPS/GLONASS for outdoor location tracking		
Data Modem Tethering[1]		

SIGNALING (ASTRO 25 MODE)	
Signalling Rate	9.6 kbps
Digital ID Capacity	10,000,000 Conventional / 48,000 Trunking
Digital Network Access Codes	4,096 network site addresses
ASTRO Digital User Group Addresses	4,096 network site addresses
Project 25 – CAI Digital User Group Addresses	65,000 Conventional / 4,094 Trunking
Error Correction Techniques	Golay, BCH, Reed-Solomon codes
Data Access Control	Slotted CSMA: Utilizes infrastructure-sourced data status bits embedded in both voice and data transmissions

[1] Optional

DIMENSIONS AND WEIGHT		
Radio Transceiver	51 x 178 x 163 mm (2.0 x 7.0 x 6.4 in)	2.18 kg (4.80 lbs)
Radio Transceiver and O2 Control Head - Dash Mount	69 x 207 x 223 mm (2.7 x 8.1 x 8.8 in)	2.43 kg (5.36 lbs)
Radio Transceiver and O5 Control Head - Dash Mount	51 x 178 x 202 mm (2 x 7 x 8.0 in)	2.24 kg (4.94 lbs)
Radio Transceiver and E5 Control Head - Dash Mount	51 x 178 x 209 mm (2.0 x 7.0 x 8.2 in)	2.24 kg (4.94 lbs)
Radio Transceiver and O7 Control Head - Dash Mount	51x 178 x 208 mm (2 x 7 x 8.2 in)	2.24 kg (4.94 lbs)
Radio Transceiver and Remote Mount	51 x 178 x 193.6 mm (2 x 7 x 7.6 in)	2.18 kg (4.80 lbs)
O2 Control Head Remote Mount	68 x 206 x 53 mm (2.7 x 8.1 x 2.1 in)	-
O5 Control Head Remote Mount	51 x 180.3 x 64 mm (2.0 x 7.0 x 2.5 in)	-
E5 Control Head Remote Mount	51 x 178.5 x 64 mm (2.0 x 7.0 x 2.5 in)	-
O7 Control Head Remote Mount	51 x 178 x 40 mm (2.0 x 7.0 x 1.5 in)	-



PERFORMANCE AND REGULATORY

TRANSMITTER	VHF		UHF R1		700 MHz		800 MHz	
Frequency Range/Bandsplits	136-174 MHz		380-470 MHz		764-776, 794-806 MHz		806-825, 851-870 MHz	
Rated RF Output Power (Adjustable)	1-50 W		1-40 W		3-30 W		3-35 W	
Frequency Stability (-30°C to +60°C; +25°C Ref.)	± 0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM	
Emissions	Conducted -85 dBc	Radiated -10 dBm	Conducted -85 dBc	Radiated -20 dBm	Conducted -75/-85 dBc	Radiated -20/-40 dBm	Conducted -75 dBc	Radiated -20 dBm
Modulation Limiting (12.5/20/25 kHz)	±5/±2.5 kHz		±5/±2.5kHz		±5/±2.5 kHz		±5/±2.5 kHz	
Modulation Fidelity (C4FM) 12.5 kHz Digital Channel	2.5%		1.50%		1.50%		1.50%	
Audio Response	+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)	
FM Hum & Noise (12.5 kHz/25 kHz)	-52 dB / -53 dB		-50 dB/ -53 dB		-48 dB / -50 dB		-48 dB / -50 dB	
Audio Distortion (12.5 kHz/25 kHz)	0.50%		0.50%		0.50% / 0.50%		0.50% / 0.50%	

RECEIVER	VHF		UHF R1		700 MHz	800 MHz
Frequency Range/Bandsplits	136-174 MHz		380-470 MHz		764-776 MHz	851-870 MHz
Channel Spacing	12.5/25 kHz		12.5/25 kHz		12.5/25 kHz	12.5/25 kHz
Maximum Frequency Separation	Full Bandsplit		Full Bandsplit		Full Bandsplit	Full Bandsplit
Audio Output Power at Rated/Max	7.5 / 15 W		7.5 / 15 W		7.5 / 15 W	7.5 / 15 W
Frequency Stability (-30 °C to +60 °C; +25 °C Ref.)	±0.8 PPM		±0.8 ppm		±0.8 ppm	±0.8 ppm
Analog Sensitivity (12db SINAD)	Pre-Amp -123 dBm (0.158µV)	Standard -119 dBm (0.251µV)	Pre-Amp -123 dBm (0.158µV)	Standard -119 dBm (0.251µV)	-121 dB (0.199 µV)	-121 dB (0.199 µV)
5% BER	Pre-Amp -123 dBm (0.158µV)	Standard -119 dBm (0.251µV)	Pre-Amp -123 dBm (0.158µV)	Standard -119 dBm (0.251µV)	-121.5 dB (0.188 µV)	-121.5 dB (0.188 µV)
Selectivity (12.5 kHz / 25 kHz / 30 kHz)	77 dB / 89 dB / 90 dB		72 dB / 83 dB / -		75 dB / 85 dB / -	75 dB / 85 dB / -
Intermodulation Rejection	Pre-Amp 84dB / 84 dB	Standard 86 dB / 86 dB	Pre-Amp 82 dB / 82dB	Standard 86 dB / 86 dB	82 dB / 82 dB	82 dB / 82 dB
Spurious Rejection	95 dB		93 dB		91 dB	91 dB
FM Hum & Noise (12.5 kHz / 25 kHz)	-50 dB / -59 dB		-50 dB / -55 dB		-50 dB / -59 dB	-50 dB / -59 dB
Audio Distortion (12.5 kHz / 25 kHz)	1.2 %		1.5%		1.2 %	1.2 %

POWER AND BATTERY DRAIN	VHF	UHF R1	700 MHz	800 MHz
Frequency Range / Bandsplits	136-174 MHz	380-470 MHz	764-775, 794-806 MHz	806-825, 851-870 MHz
RF Power Output	1-50 W	1-40 W	3-30 W	3-35 W
Operation	13.8V DC ±20% Negative Ground	13.8V DC ±20% Negative Ground	13.9V DC ±20% Negative Ground	13.9V DC ±20% Negative Ground
Standby at 13.8V	0.85A	0.85A	0.85A	0.85A
Receive Current at Rated Audio at 13.8V	3.2A	3.2A	3.2A	3.2A
Transmit Current (A) at Rated Power	8 A @ 15 W 13 A @ 50 W	11 A @ 40 W 8A @ 15 W	8 A @ 15 W	8 A @ 15 W 12 A @ 35 W

ENVIRONMENTAL	
Operating Temperature	-30ºC/+60ºC
Storage Temperature	-40ºC/+85ºC
Humidity	Per MIL-STD
ESD	IEC 61000-4-2
Water and Dust Intrusion (w/ O2 control head)	IP56, MIL-STD

RADIO MODEL NUMBER	
700/800 MHz	M25URS9PW1BN
VHF	M25KSS9PW1BN
UHF R1	M25QSS9PW1BN

FCC/IC TYPE ACCEPTANCE ID	
FCC/IC ID	**Band and Power Level**
FCC ID: AZ492FT7124 IC ID: 109U-92FT7124	764-776 MHz (3-30 W)
	794-806 MHz (3-30 W)
	806-824 MHz (3-35 W)
	851-870 MHz (3-35 W)
FCC ID: AZ492FT7130 IC ID: 109U-92FT7130	136-174 MHz (1-50 W)
FCC ID: AZ492FT7129 IC ID: 109U-92FT7129	380-470 MHz (1-40 W)

MOBILE MILITARY STANDARDS 810, C, D, E, F, G & H												
	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G		MIL-STD 810H	
	Method	Proc./Cat.	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	I/II	500.6	II	500.6	II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot	501.6	I/A1, II/A1	501.7	I/A1, II/A1
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1	502.6	I/C3, II/C1	502.7	I/C3, II/C1
Temperature Shock	503.1	I	503.2	1/A1C3	503.3	1/A1C3	503.4	I	503.6	I/C	503.7	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.6	I/A1	505.7	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.6	I, III	506.6	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	-	507.6	II/Aggravated	507.6	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	-	509.6	-	509.7	-
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.6	I	510.7	I
Blowing Sand	-	-	510.2	II	510.3	II		II	510.6	II	510.7	II
Vibration	514.2	VIII, F, W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	514.7	I/24	514.8	I/24, II/5
Shock	516.2	I, III, V	516.3	I, V, VI	516.4	I, V, VI	516.5	I, V, VI	516.7	I, V, VI	516.8	I, V, VI

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Motorola Solutions, Inc. 500 West Monroe Street, Chicago, IL 60661 U.S.A. 800-367-2346 motorolasolutions.com

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APX 4500

SINGLE-BAND P25 MOBILE RADIO

UNCOMPROMISING PERFORMANCE. EFFECTIVE RESPONSE.

You need a P25 radio to communicate and collaborate effectively with other P25 radio users. And, you need the performance and reliability of an APX™ radio. That is why we built the APX 4500 single-band mobile radio.

Everyone has something to like with the APX 4500. We've paired it with our rugged O2 Control Head for confident, reliable radio communication that can stand up to everyday use.

The compact form factor simplifies vehicle installation. Integrated hardware encryption protects your mission-critical communication. Impact detection automatically alerts dispatch to keep its users safer and integrated Wi-Fi helps to keep you current with fast and easy software updates.

Improve your operational efficiency with the performance and reliability of the APX 4500 mobile radio.

MOTOROLA SOLUTIONS

RUGGED AND RELIABLE

RESPOND WITH CONFIDENCE
When out in the field, you face all types of conditions. Your radio shouldn't hold you back. Whether it be getting caught in a storm or undergoing extreme temperature shock, you can remain confident in the APX 4500 and know that it won't let you down in the moments that matter.

BUILT-IN Wi-Fi

VOICE AND DATA, ALL AT ONCE
Integrated Wi-Fi helps to keep your radio update to date with over-the-air updates. Receive new codeplugs, firmware updates and software features at the speed of Wi-Fi— without interruptions to voice communications.

LIGHTWEIGHT, COMPACT DESIGN

FLEXIBLE, EASY INSTALLATION
The APX 4500 is ideal for a growing ecosystem of vehicle installations. Its small and lightweight form factor simplifies installation and its IP56 rating provides ample protection from dust and water intrusion.

P25 COLLABORATION

COLLABORATE SEAMLESSLY
Although you are out of the office, you still need to communicate with others to get the job done. As a P25 mobile radio, the APX 4500 allows you to communicate with other P25 radio users. Seamlessly collaborate within your department or with other departments and organizations using the APX 4500 P25 mobile radio.

DEVICE MANAGEMENT SERVICES

ALL THE SUPPORT YOU NEED
Motorola Solutions offers three levels of service plans – Essential, Advanced and Premier. From simple support for technical troubleshooting to a complete transfer of optimization and maintenance services to Motorola Solutions, you choose the level of support that suits you best.

APX 4500 COMPATIBLE CONTROL HEAD

O2 CONTROL HEAD

EXTREME USABILITY

The O2 control head provides rugged simplicity for efficient and confident communication. Oversized controls with an easy to read color display and a built-in 7.5 watt speaker provides clear visual and audible user experiences. Available in high impact green or black.

FEATURES

GENERAL SPECIFICATIONS	
Channel Capacity	512 standard, expandable to 1,000 channels
Wireless Connectivity	GPS/GLONASS, Wi-Fi
WLAN (Wi-Fi) Protocols	802.11 b/g/n (2.4GHz) / 802.11 a/n/ac (5GHz)
Encryption Algorithms	ADP, 256-bit AES

OPERATING MODES
Digital Trunking: 9600 Baud APCO P25 Phase 1 FDMA and Phase 2 TDMA
Analog Trunking: 3600 Baud SmartNet®, SmartZone®, Omnilink
Digital Conventional: APCO 25
Analog Conventional: Analog MDC 1200, Quik Call II System Configurations

INTEGRATED Wi-Fi AND DATA CONNECTIVITY
Wi-Fi (2.4GHz), 802.11 a/n/ac (5GHz) with up to 20 Wi-Fi networks provisioned in the radio[1]
Data Modem Tethering[1]
ASTRO 25 Integrated Voice and Data
Enhanced Data[1]
Integrated GPS/GLONASS for Outdoor Location Tracking
Mission Critical Geofence[1]
Personnel Accountability[1]

MANAGEMENT
Customer Programming Software (CPS)
Radio Management
Over-the-air Programming (OTAP)[1]

SECURITY
P25 Authentication[1]
Software Key
Single-key ADP Encryption[1]
Multikey for 128 keys[1]

GPS/GNSS SPECIFICATIONS	
Channels	12
Tracking Sensitivity	-164 dBm
Accuracy[2]	<5 meters (95%)
Cold Start[2]	<60 seconds (95%)
Hot Start[2]	<5 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GNSS or SBAS

[1] Optional [2] Measured conductively with >6 satellites visible at a nominal -130 dBm signal strength

ENCRYPTION	
Supported Encryption Algorithms	ADP, AES 256
Encryption Algorithm Capacity	8
Encryption Keys per Radio	Module capable of storing 1024 keys. Programmable for 128 Common KeY Reference (CKR) or 16 PhysicalIdentifier (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

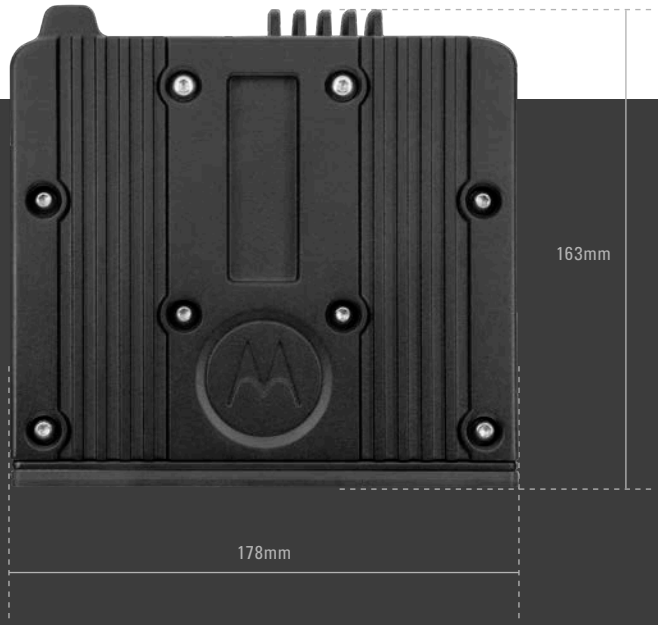
OTHER FEATURES
Text Messaging
Radio Profiles
Dynamic Zone
Intelligent Priority Scan
Unified Call List
Instant Recall
Data Modem Connection (wired or Wi-Fi)[1]
12 Character RFID Asset Tracking[1]
Digital Tone Signaling[1]

INTEGRATED WI-FI, GPS AND DATA CONNECTIVITY		
Frequency Range/Band splits	WLAN (WiFi): 2412 - 2472 MHz; 5180 - 5320 MHz; 5500 - 5825 MHz	
WLAN (WiFi) 802.11 b/g/n	Security protocols	WPA-2, WPA, WEP
	SSIDs	Up to 20 pre-provisioned
Integrated GPS/GLONASS for outdoor location tracking		
Data Modem Tethering[1]		

[1] Optional

SIGNALING (ASTRO 25 MODE)	
Signalling Rate	9.6 kbps
Digital ID Capacity	10,000,000 Conventional / 48,000 Trunking
Digital Network Access Codes	4,096 network site addresses
ASTRO Digital User Group Addresses	4,096 network site addresses
Project 25 – CAI Digital User Group Addresses	65,000 Conventional / 4,094 Trunking
Error Correction Techniques	Golay, BCH, Reed-Solomon codes
Data Access Control	Slotted CSMA: Utilizes infrastructure-sourced data status bits embedded in both voice and data transmissions

DIMENSIONS AND WEIGHT		
Mid Power Radio Transceiver	51 x 178 x 163 mm (2.0 x 7.0 x 6.4 in)	2.18 kg (4.80 lbs)
Radio Transceiver and O2 Control Head - Dash Mount	69 x 207 x 223 mm (2.7 x 8.1 x 8.8 in)	2.43 kg (5.36 lbs)
Mid Power Radio Transceiver and Remote Mount	51 x 178 x 193 mm (2.0 x 7.0 x 7.6 in)	2.18 kg (4.80 lbs)



PERFORMANCE AND REGULATORY

TRANSMITTER								
	VHF		UHF R1		700 MHz		800 MHz	
Frequency Range/Bandsplits	136-174 MHz		380-470 MHz		764-776, 794-806 MHz		806-825, 851-870 MHz	
Rated RF Output Power (Adjustable)	1-50 W		1-40 W		3-30 W		3-35 W	
Frequency Stability (-30°C to +60°C; +25°C Ref.)	±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM	
Emissions	Conducted -85 dBc	Radiated -20 dBm	Conducted -85 dBc	Radiated -20 dBm	Conducted -75/-85 dBc	Radiated -20/-40 dBm	Conducted -75 dBc	Radiated -20 dBm
Modulation Limiting (12.5/20/25 kHz)	±5/±2.5 kHz		±5/±2.5kHz		±5/±2.5 kHz		±5/±2.5 kHz	
Modulation Fidelity (C4FM) 12.5 kHz Digital Channel	2.50%		1.50%		1.50%		1.50%	
Audio Response	+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)	
FM Hum & Noise (12.5 kHz/25 kHz)	-52 dB / -53 dB		-50 dB / -53 dB		-48 dB / -50 dB		-48 dB / -50 dB	
Audio Distortion (12.5 kHz/25 kHz)	0.50%		0.50%		0.50% / 0.50%		0.50% / 0.50%	

RECEIVER						
	VHF		UHF R1		700 MHz	800 MHz
Frequency Range/Bandsplits	136-174 MHz		380-470 MHz		764-776 MHz	851-870 MHz
Channel Spacing	12.5/25 kHz		12.5/25 kHz		12.5/25 kHz	12.5/25 kHz
Maximum Frequency Separation	Full Bandsplit		Full Bandsplit		Full Bandsplit	Full Bandsplit
Audio Output Power at Rated/Max	7.5 / 15 W		7.5 / 15 W		7.5 / 15 W	7.5 / 15 W
Frequency Stability (-30 °C to +60 °C; +25 °C Ref.)	±0.8ppm		±0.8ppm		±0.8 ppm	±0.8 ppm
Analog Sensitivity (12 dB SINAD)	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	-121 dB (0.199 µV)	-121 dB (0.199 µV)
5% BER	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	-121.5 dB (0.188 µV)	-121.5 dB (0.188 µV)
Selectivity (12.5 kHz / 25 kHz / 30 kHz)	77 dB / 89 dB / 90 dB		72 dB / 83 dB / -		75 dB / 85 dB / -	75 dB / 85 dB / -
Intermodulation Rejection (12.5 kHz / 25 kHz)	Pre-Amp 84 dB / 84 dB	Standard 86 dB / 86 dB	Pre-Amp 82 dB / 82 dB	Standard 86 dB / 86 dB	82 dB / 82 dB	82 dB / 82 dB
Spurious Rejection	95 dB		93 dB		91 dB	91 dB
FM Hum & Noise (12.5 kHz / 25 kHz)	-50 dB / -59 dB		-50 dB / -55 dB		-50 dB / -59 dB	-50 dB / -59 dB
Audio Distortion (12.5 kHz / 25 kHz)	1.20%		1.50%		1.20%	1.20%

POWER AND BATTERY DRAIN			
	VHF	UHF R1	700/800 MHz
Model Type	136-174 MHz	380-470 MHz	764-870 MHz
Minimum RF Power Output	1-50 W	1-40 W	3-30 W (764-776 MHz) 3-30 W (794-806 MHz) 3-35 W (806-824 MHz) 3-35 W (851-870 MHz)
Operation	13.8V DC ±20% Negative Ground	13.8V DC ±20% Negative Ground	13.9V DC ±20% Negative Ground
Standby at 13.8 V	0.85A	0.85A	0.85A (764-870 MHz)
Receive Current at Rated Audio at 13.8 V	3.2A	3.2A	3.2A (764-870 MHz)
Transmit Current (A) at Rated Power	13A (50 W) 8A (15 W)	11A (40 W) 8A (15 W)	12A (35W) 8A (15 W)

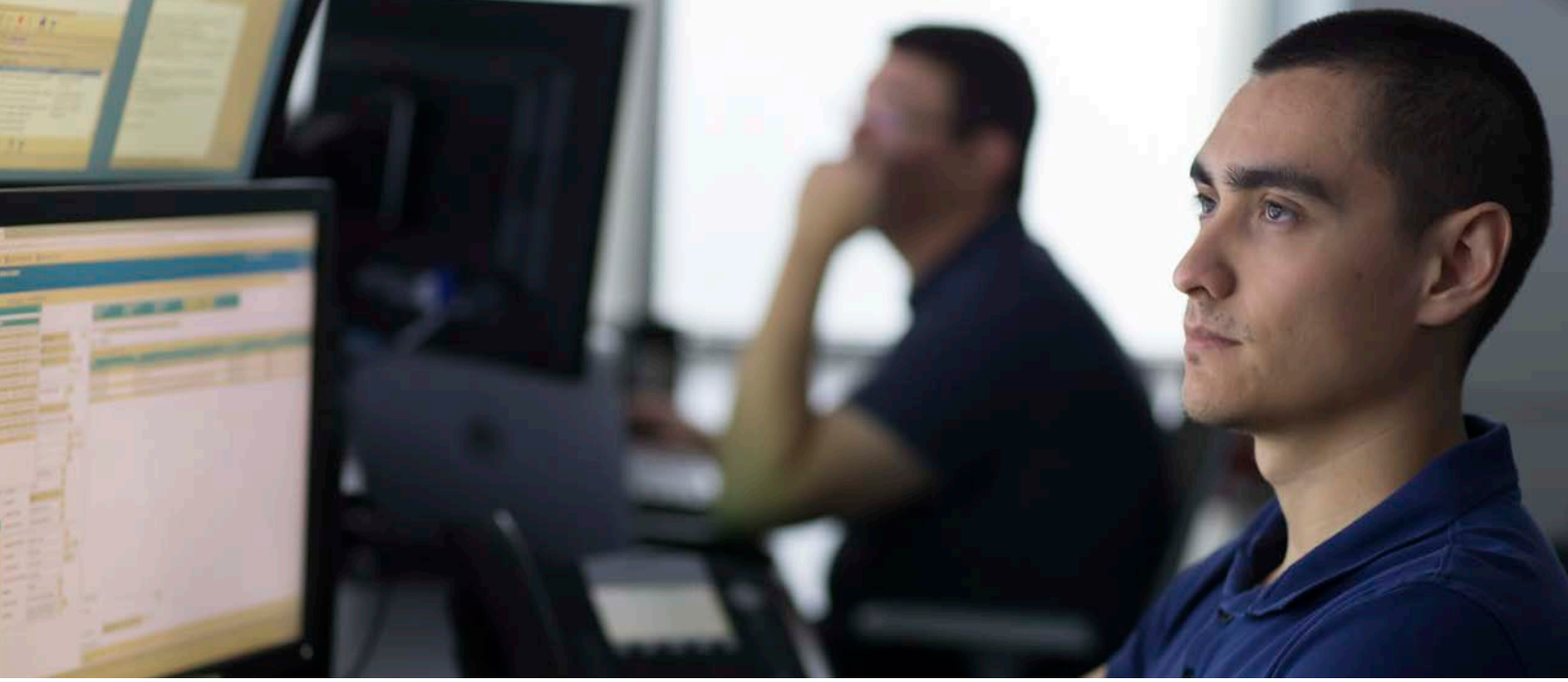
ENVIRONMENTAL	
Operating Temperature	-30ºC/+60ºC
Storage Temperature	-40ºC/+85ºC
Humidity	Per MIL-STD
ESD	IEC 61000-4-2
Water and Dust Intrusion	IP56, MIL-STD

RADIO MODEL NUMBER	
VHF	M22KSS9PW1BN
UHF R1	M22QSS9PW1BN
700/800 MHz	M22URS9PW1BN

FCC/IC TYPE ACCEPTANCE ID	
FCC/IC ID	**Band and Power Level**
FCC ID: AZ492FT7130 IC ID: 109U-92FT7130	136-174 MHz (1-50 W)
FCC ID: AZ492FT7129 IC ID: 109U-92FT7129	380-470 MHz (1-40 W)
FCC ID: AZ492FT7124 IC ID: 109U-92FT7124	764-776 MHz (3-30 W)
	794-806 MHz (3-30 W)
	806-824 MHz (3-35 W)
	851-870 MHz (3-35 W)

MOBILE MILITARY STANDARDS 810, C, D, E, F, G & H

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G		MIL-STD 810H	
	Method	Proc./Cat.	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	I/II	500.6	II	500.6	II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot	501.6	I/A1, II/A1	501.7	I/A1, II/A1
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1	502.6	I/C3, II/C1	502.7	I/C3, II/C1
Temperature Shock	503.1	I	503.2	1/A1C3	503.3	1/A1C3	503.4	I	503.6	I/C	503.7	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.6	I/A1	505.7	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.6	I, III	506.6	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	-	507.6	II/Aggravated	507.6	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	-	509.6	-	509.7	-
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.6	I	510.7	I
Blowing Sand	-	-	510.2	II	510.3	II		II	510.6	II	510.7	II
Vibration	514.2	VIII, F, W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	514.7	I/24	514.8	I/24, II/5
Shock	516.2	I, III, V	516.3	I, V, VI	516.4	I, V, VI	516.5	I, V, VI	516.7	I, V, VI	516.8	I, V, VI



ACHIEVE MISSION CRITICAL PERFORMANCE WITH MANAGED AND SUPPORT SERVICES

ESSENTIAL

Only Support When You Need It

When the unpredictable happens to your network, Essential Services provide you access to Motorola Solutions Technical Support teams and resources for troubleshooting and maintenance.

ADVANCED

Improve Response and Continuity

Motorola Solutions expert service teams help mitigate downtime and ensure network continuity. Get fast response to network issues by our qualified technicians who analyze and diagnose your network as well as deliver routine maintenance.

PREMIER

Maximize Performance and Reduce Risk

Motorola Solutions Managed Services team helps operate and optimize your mission critical system. With Premier Services, you fully transfer the risk to Motorola Soultions and ensure your system operates at maximum performance levels, allowing your team to keep focus on its primary responsibilities.

For more information, please visit
www.motorolasolutions.com/apx

MOTOROLA SOLUTIONS

Motorola Solutions, Inc. 500 West Monroe Street, Chicago, IL 60661 U.S.A. 800-367-2346 motorolasolutions.com

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APX 1500

SINGLE-BAND P25 MOBILE RADIO

P25 CONNECTIVITY. EXCEPTIONAL PRICE.

Your city infrastructure represents a large investment and its users depend on that investment every day. Why not protect it by giving your team the tools they need to operate and maintain it efficiently? Equip them with the affordable APX™ 1500 P25 mobile radio so they can get work done.

The APX 1500 mobile is designed to provide reliable P25 radio communication at an affordable price while standing up to the riggers of every day work. The rugged simplicity of the O2 control head includes an easy to read color display and a built-in 7.5 watt speaker for efficient and confident communication. P25 radio capability enables seamless interoperability with first responders and other P25 radio users.

Communicate with ease and confidence at an affordable price on the APX 1500 mobile radio.

MOTOROLA SOLUTIONS

GREAT VALUE

DO MORE, DON'T PAY MORE
Just because you have a limited budget doesn't mean you have to limit your communication. The APX 1500 gives you dependable voice and data communication, P25 collaboration and all the features you need to connect your team - all at a great price.

RUGGED AND RELIABLE

RESPOND WITH CONFIDENCE
The APX 1500 is purpose-built for those who get things done. Get efficient and confident communication with the rugged simplicity of an oversized knob, easy-to-read color screen and a loud high-density speaker.

P25 COLLABORATION

COLLABORATE SEAMLESSLY
Although you are out of the office, you still need to communicate with others to get the job done. As a P25 mobile radio, the APX 1500 allows you to seamlessly collaborate with other P25 radio uses in other departments and organizations.

DEVICE MANAGEMENT SERVICES

ALL THE SUPPORT YOU NEED
Motorola Solutions offers three levels of service plans – Essential, Advanced and Premier. From simple support for technical troubleshooting to a complete transfer of optimization and maintenance services to Motorola Solutions, you choose the level of support that suits you best.

APX 1500 CONTROL HEAD

O2 CONTROL HEAD

EXTREME USABILITY

The O2 control head provides rugged simplicity for efficient and confident communication. Oversized controls with an easy to read color display and a built-in 7.5 watt speaker provides clear visual and audible user experiences.

FEATURES

GENERAL FEATURES	
Channel Capacity	512 channels
Wireless Connectivity	GPS/GLONASS
Digital Encryption	256-bit AES SW, ADP, Programmable for 8 Common Key Reference

OPERATING MODES
Digital Trunking: 9600 Baud APCO P25 Phase 1 FDMA and Phase 2 TDMA
Digital Conventional: APCO 25

DATA CONNECTIVITY
ASTRO 25 Integrated Voice and Data
Enhanced Data[1]
Integrated GPS/GLONASS for Outdoor Location Tracking
Mission Critical Geofence[1]

MANAGEMENT
Customer Programming Software (CPS)
Radio Management
Over-the-air Programming (OTAP)[1]

SECURITY
P25 Authentication
Software Key
Single-key ADP Encryption[1]
Multikey for 8 keys

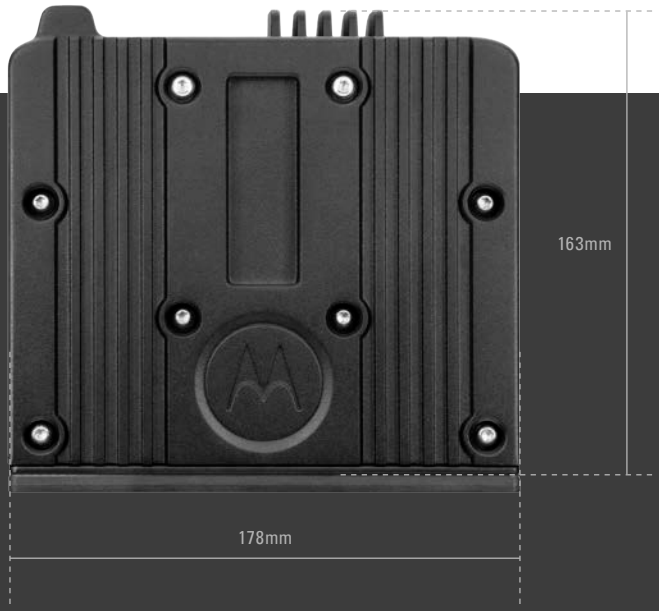
GPS/GNSS SPECIFICATIONS	
Channels	12
Tracking Sensitivity	-164 dBm
Accuracy[2]	<5 meters (95%)
Cold Start[2]	<60 seconds (95%)
Hot Start[2]	<5 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GNSS or SBAS

[1] Optional [2] Measured conductively with >6 satellites visible at a nominal -130 dBm signal strength

OTHER FEATURES
Text Messaging[1]
Radio Profiles
Dynamic Zone
Intelligent Priority Scan
Unified Call List
Instant Recall
12 Character RFID Asset Tracking[1]
Digital Tone Signaling[1]

SIGNALING (ASTRO 25 MODE)	
Signalling Rate	9.6 kbps
Digital ID Capacity	10,000,000 Conventional / 48,000 Trunking
Digital Network Access Codes	4,096 network site addresses
ASTRO Digital User Group Addresses	4,096 network site addresses
Project 25 – CAI Digital User Group Addresses	65,000 Conventional / 4,094 Trunking
Error Correction Techniques	Golay, BCH, Reed-Solomon codes
Data Access Control	Slotted CSMA: Utilizes infrastructure-sourced data status bits embedded in both voice and data transmissions

DIMENSIONS AND WEIGHT		
Radio Transceiver	51 x 178 x 163 mm (2.0 x 7.0 x 6.4 in)	2.18 kg (4.80 lbs)
Radio Transceiver and O2 Control Head - Dash Mount	69 x 207 x 223 mm (2.7 x 8.1 x 8.8 in)	2.43 kg (5.36 lbs)



[1] Optional

PERFORMANCE AND REGULATORY

TRANSMITTER								
	VHF		UHF R1		700 MHz		800 MHz	
Frequency Range/Bandsplits	136-174 MHz		380-470 MHz		764-776, 794-806 MHz		806-825, 851-870 MHz	
Rated RF Output Power (Adjustable)	1-50 W		1-40 W		3-30 W		3-35 W	
Frequency Stability (-30°C to +60°C; +25°C Ref.)	±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM	
Emissions	Conducted -85 dBc	Radiated -20 dBm	Conducted -85 dBc	Radiated -20 dBm	Conducted -75/-85 dBc	Radiated -20/-40 dBm	Conducted -75 dBc	Radiated -20 dBm
Modulation Limiting (12.5 kHz / 20 kHz / 25 kHz)	±5/±2.5 kHz		±5/±2.5kHz		±5/±2.5 kHz		±5/±2.5 kHz	
Modulation Fidelity (C4FM) 12.5 kHz Digital Channel	2.5%		1.50%		1.50%		1.50%	
Audio Response	+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)	
FM Hum & Noise (12.5 kHz / 25 kHz)	-52 dB / -53 dB		-50 dB/ -53 dB		-48 dB / -50 dB		-48 dB / -50 dB	
Audio Distortion (12.5 kHz / 25 kHz)	0.50%		0.50%		0.50% / 0.50%		0.50% / 0.50%	

RECEIVER						
	VHF		UHF R1		700 MHz	800 MHz
Frequency Range/Bandsplits	136-174 MHz		380-470 MHz		764-776 MHz	851-870 MHz
Channel Spacing	12.5/25 kHz		12.5/25 kHz		12.5/25 kHz	12.5/25 kHz
Maximum Frequency Separation	Full Bandsplit		Full Bandsplit		Full Bandsplit	Full Bandsplit
Audio Output Power at Rated/Max	7.5/15 W		7.5/15 W		7.5/15 W	7.5/15 W
Frequency Stability (-30°C to +60°C; +25°C Ref.)	±0.8ppm		±0.8ppm		±0.8 ppm	±0.8 ppm
Analog Sensitivity (12 dB SINAD)	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	-121 dB (0.211 µV)	-121 dB (0.199 µV)
5% BER	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	Pre-Amp -123 dBm (0.158 µV)	Standard -119 dBm (0.251 µV)	-121.5 dB (0.188 µV)	-121.5 dB (0.188 µV)
Selectivity (12.5 kHz / 25 kHz / 30 kHz)	77 dB / 89 dB / 90 dB		72 dB / 83 dB / -		75 dB / 85 dB / -	75 dB / 85 dB / -
Intermodulation Rejection (12.5 kHz / 25 kHz)	Pre-Amp 84 dB / 84 dB	Standard 86 dB / 86 dB	Pre-Amp 82 dB / 82 dB	Standard 86 dB / 86 dB	82 dB / 82 dB	82 dB / 82 dB
Spurious Rejection	95 dB		93 dB		91 dB	91 dB
FM Hum & Noise (12.5 kHz / 25 kHz)	-50 dB / -59 dB		-50 dB / -55 dB		-50 dB / -59 dB	-50 dB / -59 dB
Audio Distortion (12.5 kHz / 25 kHz)	1.20%		1.50%		1.20%	1.20%

POWER AND BATTERY DRAIN			
	VHF	UHF R1	700/800 MHz
Model Type	136-174 MHz	380-470 MHz	764-870 MHz
Minimum RF Power Output	1-50 W	1-40 W	3-30 W (764-776 MHz) 3-30 W (794-806 MHz) 3-35 W (806-824 MHz) 3-35 W (851-870 MHz)
Operation	13.8V DC ±20% Negative Ground	13.8V DC ±20% Negative Ground	13.9V DC ±20% Negative Ground
Standby at 13.8 V	0.85A	0.85A	0.85A (764-870 MHz)
Receive Current at Rated Audio at 13.8 V	3.2A	3.2A	3.2A (764-870 MHz)
Transmit Current (A) at Rated Power	13A (50 W) 8A (15 W)	11A (40 W) 8A (15 W)	12A (35W) 8A (15 W)

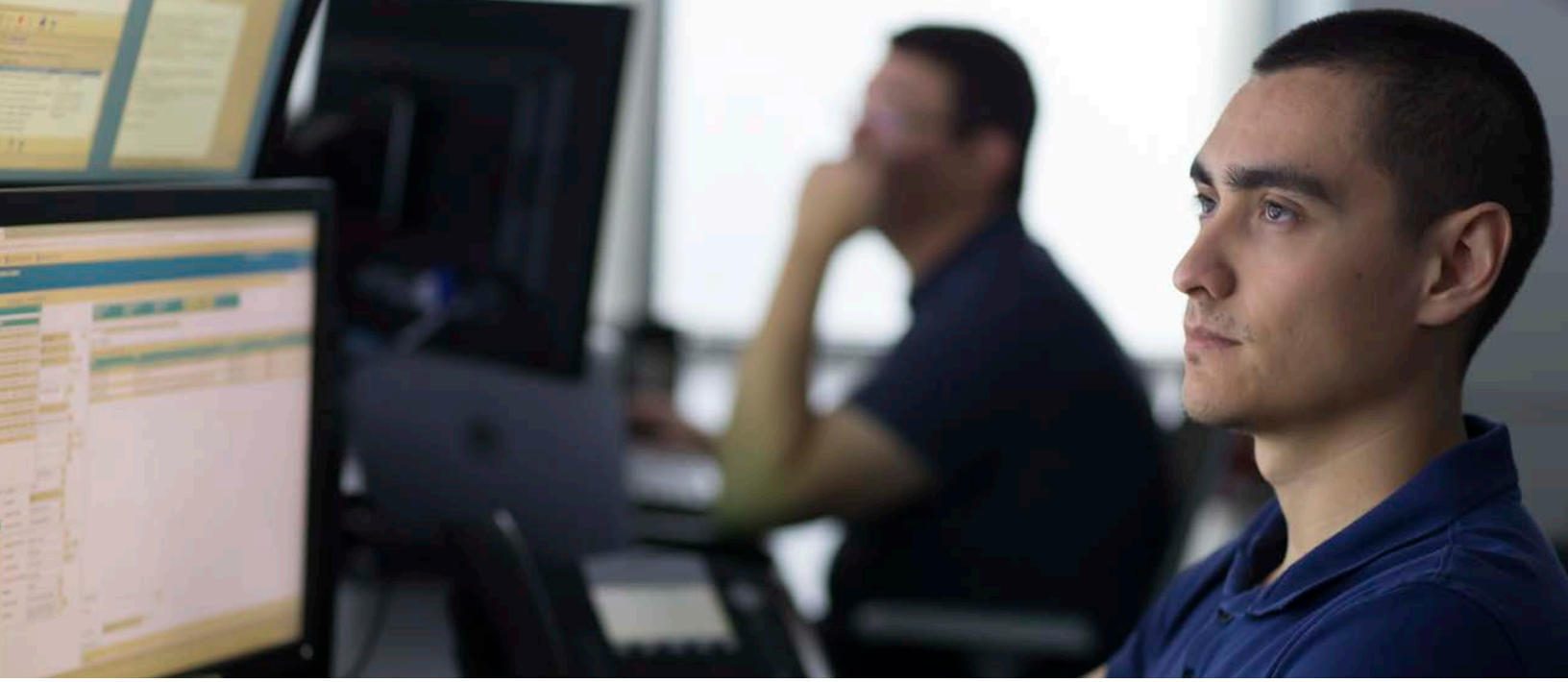
ENVIRONMENTAL	
Operating Temperature	-30°C/+60°C
Storage Temperature	-40°C/+85°C
Humidity	Per MIL-STD
ESD	IEC 61000-4-2
Water and Dust Intrusion	IP56, MIL-STD

RADIO MODEL NUMBER	
VHF	M36KSS9PW1BN
UHF R1	M36QSS9PW1BN
700/800 MHz	M36URS9PW1BN

FCC/IC TYPE ACCEPTANCE ID	
FCC/IC ID	**Band and Power Level**
FCC ID: AZ492FT7130 IC ID: 109U-92FT7130	136-174 MHz (1-50 W)
FCC ID: AZ492FT7129 IC ID: 109U-92FT7129	380-470 MHz (1-40 W)
FCC ID: AZ492FT7124 IC ID: 109U-92FT7124	764-776 MHz (3-30 W)
	794-806 MHz (3-30 W)
	806-824 MHz (3-35 W)
	851-870 MHz (3-35 W)

MOBILE MILITARY STANDARDS 810, C, D, E, F, G & H

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G		MIL-STD 810H	
	Method	Proc./Cat.	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	I/II	500.6	II	500.6	II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot	501.6	I/A1, II/A1	501.7	I/A1, II/A1
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1	502.6	I/C3, II/C1	502.7	I/C3, II/C1
Temperature Shock	503.1	I	503.2	1/A1C3	503.3	1/A1C3	503.4	I	503.6	I/C	503.7	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.6	I/A1	505.7	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.6	I, III	506.6	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	-	507.6	II/Aggravated	507.6	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	-	509.6	-	509.7	-
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.6	I	510.7	I
Blowing Sand	-	-	510.2	II	510.3	II		II	510.6	II	510.7	II
Vibration	514.2	VIII, F, W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	514.7	I/24	514.8	I/24, II/5
Shock	516.2	I, III, V	516.3	I, V, VI	516.4	I, V, VI	516.5	I, V, VI	516.7	I, V, VI	516.8	I, V, VI



ACHIEVE MISSION CRITICAL PERFORMANCE WITH MANAGED AND SUPPORT SERVICES

ESSENTIAL

Only Support When You Need It

When the unpredictable happens to your network, Essential Services provide you access to Motorola Solutions Technical Support teams and resources for troubleshooting and maintenance.

ADVANCED

Improve Response and Continuity

Motorola Solutions expert service teams help mitigate downtime and ensure network continuity. Get fast response to network issues by our qualified technicians who analyze and diagnose your network as well as deliver routine maintenance.

PREMIER

Maximize Performance and Reduce Risk

Motorola Solutions Managed Services team helps operate and optimize your mission critical system. With Premier Services, you fully transfer the risk to Motorola Soultions and ensure your system operates at maximum performance levels, allowing your team to keep focus on its primary responsibilities.

For more information, please visit
www.motorolasolutions.com/apx

MOTOROLA SOLUTIONS

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MANAGED AND SUPPORT SERVICES FOR APX TWO-WAY RADIOS

For public safety agencies tasked with mission-critical communications, assuring peak radio performance is critical. Efficient and cost-effective management of an ever-evolving radio technology ecosystem is complex, requiring the right set of expertise and tool sets.

YOUR NEEDS

Maintaining and supporting a large inventory of two-way radios can be complex, expensive and time-consuming. Today radio managers need the right set of people expertise, processes and tools to manage increasing programming complexities, fleet performance issues, budget and IT skill constraints.

As technology evolves, hardware repair and technical support capabilities are some of the critical service capabilities that are needed for your mission-critical communication systems to work optimally. Maintaining and programming radios is vital to keep your radio fleet current and secure. Without streamlined processes and tools you can spend countless hours managing radio configuration files, making firmware updates and going through distributed radio fleet databases.

Having a well-defined approach to tracking, managing and updating all the connected radios, together with applying the latest functionality and security features can help optimize fleet performance.

INCREASING COMPLEXITY

59%

Of radio managers cite increased programming complexities as a major challenge.[1]

PERFORMANCE ISSUES

70%

Of radio managers wait until something breaks to perform maintenance.[2]

CHALLENGED RESOURCES

55%

Of public-safety organizations cite maintaining in-house talent as a challenge for radio management.[3]

MOTOROLA SOLUTIONS

THE SOLUTION: SERVICE CAPABILITIES

You can rely on us to help you maximize the value of your radio investments with the right level of services designed specifically for your needs. We bring a range of service capabilities that you can choose through our Essential, Advanced and Premier service packages.

KEY SERVICE FEATURES

TECHNICAL SUPPORT

Our experienced technologists are available to help isolate and resolve any issues you may have with your radios. With an extensive knowledge base, trained and certified technical engineers and leading standards for escalation procedures, this team can troubleshoot and provide prompt resolution to your technical device issues. Motorola Solutions understands the importance of maintaining the radio fleet to its optimal performance. That's why we apply leading industry standards to record, monitor, escalate and report technical service calls from our customers.

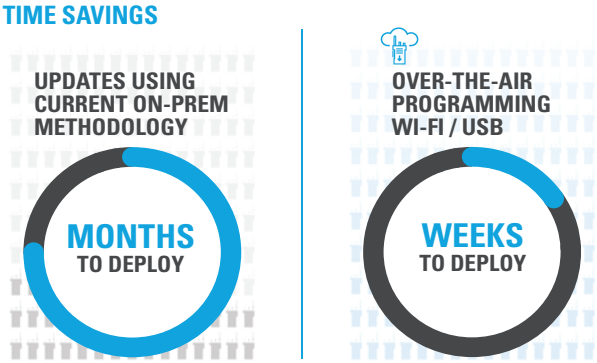
HARDWARE REPAIR

With state-of-the-art diagnostic equipment, repair tools and replacement parts, your radio fleet components are protected in the event of an unexpected failure and are back in operation as soon as possible. When serviced, all device components are returned to you with original factory specifications and updated with the latest firmware. Plus, our service centers are certified to comply with ISO 9001, ensuring the highest quality repairs.

BATCH PROGRAMMING WITH DATABASE HOSTING

Radio management allows you to manage and program multiple radios at a time. Database hosting enables radio codeplugs to be stored in a central database server allowing for remote configuration of data and remote programming of radios. Centralized database allows efficient organization of codeplugs and makes it a one-stop shop for edits or changes to specific devices. A single codeplug can be used as a template, which can then be shared across multiple radios. Template edits may then be easily applied to all affected radios. Changes to a template or to an individual radio's parameters can be scheduled as a programming job. With batch programming, programming jobs may be scheduled through an Over-The-Air-Programming (OTAP) connection, or USB or via Wi-Fi connection.Batch programming allows for simultaneous programming and software upgrading of up to 16 radios.

TIME SAVINGS



FULL SERVICE PROGRAMMING

With end-to-end device programming and provisioning services, we ensure all your two-way radio communication needs are met. These services include programming and provisioning, on-site set up and training, database hosting and access to a management portal that helps you maintain visibility into your devices. Device programming allows us to push specific information and features from the customer codeplug template to the radio itself. Provisioning is a way to add unique device identifiers to the devices, so the network is aware of the device and its feature set. This service is designed to reduce risks, optimize costs and provide end users a better experience with up-to-date and fully operational devices.

ACCIDENTAL DAMAGE

While our two-way radios are built for superior performance, accidents happen. If required, we offer extended accidental damage coverage and support that includes repair and restoration of the device back to original factory specifications and a quick turnaround of the device back to you.

PREVENTIVE MAINTENANCE

With preventive maintenance on your radio components we can help extend the life of your devices. From physical inspection and cleaning of radios to component alignment, we ensure that the device components remain in top condition with the latest firmware and updates. Our certified technicians conduct annual maintenance checks to help extend the useful life of your radios, reducing repair and replacement costs.

ON-SITE SETUP AND DEVICE MANAGEMENT TRAINING

With on-site setup and device management training, our technical teams can help your organization set-up provisioning and programming processes to make you more effective in managing your fleet of devices. We will train your staff on the radio management and radio commissioning in the management database, enabling your team to configure radio channels, set up talkgroups, provide site access and establish user IDs.

MYVIEW PORTAL

MyView is a web-based platform that gives you a transparent, single source view of fleet status and service delivery information to help make smarter, faster and more proactive decisions. With MyView portal you can view your radio data, service case history, firmware and software status information to ensure smooth running of your radios.

CHOOSE THE RIGHT LEVEL OF MANAGED AND SUPPORT SERVICES

With Essential services, we offer the tools and the expert support needed to efficiently manage your radio fleet. With Advanced services, batch programming enables you to manage and program your radio fleet efficiently, saving you precious time for efficient radio fleet management. With Premier services, you transfer your APX two-way radio operations, including full service programming, to our managed services professionals, allowing your team to focus on its primary responsibilities.

SERVICES AT - A - GLANCE

Note:
- Device management training and on-site setup can be offered as add-on services with Advanced package.
- Accidental damage can be offered as an add-on service with Essential and Advanced packages.

WE DELIVER ON RESULTS THAT MATTER

Reduced Management Complexity

Drive efficiency of maintaining your device fleet while addressing technology evolution, time and cost savings.

Optimized Fleet Performance

Superior first responder experience with ongoing software and security updates for fully operational radios.

Optimized Costs

Subscription service that helps with a more predictable opex model, help save staff hours for cost optimization.

MOTOROLA SOLUTIONS YOUR TRUSTED PARTNER

We believe that our set of highly knowledgeable people with industry certifications and mission-critical expertise, industry-leading ITIL process for centralized service delivery and governance, and state-of-the-art tools allow us to provide superior Device Services that address your needs today and in the future.

For more information, please visit
www.motorolasolutions.com/apx

Resources
1, 2, 3 https://www.motorolasolutions.com/content/static/flipbook/mobile/index.html#p=1

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AirLink® RV55 Rugged LTE-A Pro Router

BENEFITS

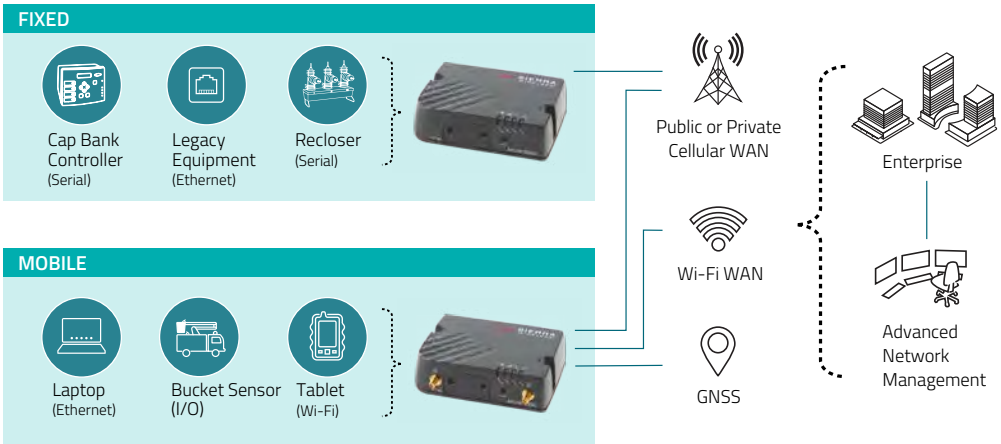
- Centrally managed, secure LTE broadband connectivity for both remote fixed or vehicle applications in harsh environments
- Ultra-Low Power consumption, ideal for solar or battery powered installations.
- Connect your field workers and devices with flexible dual Wi-Fi, and ethernet
- Reduces complexity in connecting legacy equipment with dual-serial, ethernet, and multi-protocol support
- Powerful remote cloud-based or on-premises management solutions
- Proven reliability and over 3 million AirLink routers and gateways deployed
- Peace of mind - included 3-year warranty, direct 24/7 support, and device management access[1]

Compact, Industrial Grade, Low Power LTE-Advanced Connectivity

The AirLink® RV55 is the industry's most rugged, compact, LTE-Advanced Pro router. Simple to install, and easy to manage, the RV55 router is designed for connecting critical remote assets, infrastructure, and vehicle fleets. The RV55 is especially well suited for applications in energy, utilities, smart city and public safety. The RV55 provides real-time remote connectivity for SCADA, distribution management systems and metering.

The RV55 high-performance LTE-Advanced Pro connectivity, Wi-Fi and GNSS and location-based applications and dual connectivity for vehicle fleets and mobile workforce. An LTE-M/NB-IoT variant is perfectly suited for hard to reach conditions.

The RV55 supports an extensive range of LTE bands worldwide, and its LTE-Advanced Pro capabilities deliver up to 600 Mbps downlink speeds. The RV55 also supports new unlicensed LTE bands (eg. CBRS) to support dedicated Private LTE service.



1 1st year of 24/7 Direct Technical Support and device management access included in purchase at no additional charge.

AirLink® RV55
Rugged LTE-A Pro Router

	RV55		
	North America	Global	Global
	LTE-A Pro		LTE-M/ NB-IoT
LTE CATEGORY	Cat 12		Cat M1/NB1
Peak D/L	(Up to 600 Mbps DL)		Cat-M1: 300kbps Cat-NB1: 27kbps
Peak U/L	(Up to 150 Mbps UL)		Cat-M1: 375kbps Cat-NB1: 65kbps
4G LTE Frequency Bands	2100(B1), 1900(B2),1800(B3), AWS(B4), 850(B5), 2600(B7), 900(B8), 1800(B9), 700(B12), 700(B13), 700(B14), 850(B18), 850(B19), 800(B20), 850(B26), 700(B29), 2300(B30), 1500(B32), TDD B41, TDD B42, TDD B43, TDD B46, CBRS B48, 1700(B66)	2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 2600(B7), 900(B8), 1800(B9), 700(B12), 700(B13), 850(B18), 850(B19), 800(B20), 850(B26), 700(B28), 700(B29), 2300(B30), 1500(B32), TDD B41, TDD B42, TDD B43, TDD B46, CBRS B48, 1700(B66)	2100(B1), 1900(B2), 1800(B3), AWS(B4), 850(B5), 900(B8), 700(B12), 700(B13), 700(B17), 850 (B18), 850(B19), 800(B20), 850(B26),700(B28)
3G HSPA/HSPA+ Frequency Bands*	2100(B1), 1900(B2), AWS(B4), 850(B5), 800(B6), 900(B8), 1700(B9), 850(B19)	2100(B1), 1900(B2), AWS(B4), 850(B5), 800(B6), 900(B8), 1700(B9), 850(B19)	
2G EDGE/GSM/GPRS Frequency Bands			850, 900, 1800, 1900
APPROVALS			
Regulatory	FCC, IC, PTCRB	GCF, CE, RCM	FCC, IC, PTCRB, GCF, CE, RCM
Carrier	Verizon, AT&T	Planned: Telstra	Planned: Verizon, AT&T
PART NUMBER	1104303	1104332	1104333
Regulatory	1104302 (Wi-Fi)	1104331 (Wi-Fi)	

	Specification
HOST INTERFACES	10/100/1000 Ethernet (RJ45) RS-232 serial port (DB-9) USB 2.0 Micro-B Connector 3 SMA antenna (cellular, diversity, Active GNSS) 2 RP-SMA antenna (1x1 Wi-Fi, Optional) LTE-M/NB-IoT: 1 SMA (cellular) only, no GNSS or Wi-Fi Active GPS antenna support
WI-FI (Optional)	Dual Band 2.4/5GHz Wi-Fi Dual Radio, 802.11 b/g/n/ac (Wave2 Client Mode) Support for 10 clients, WPA2 Enterprise per radio Output power 16dBm Configurable as Dual Band Access Point (AP) or AP+Client Mode Single SSID Support per radio Captive Portal
INPUT/OUTPUT	Configurable I/O pin on power connector • Digital Input ON Voltage: 2.7 to 36 VDC • Configurable Pull-up for dry contact input • Digital Open Collector Output > sinking 500 mA • Analog Input: 0.5-36 VDC
LAN (ETHERNET/USB)	DHCP Server IP Passthrough VLAN Host Interface Watchdog PPPoE
SERIAL	TCP/UDP PAD Mode Modbus (ASCII, RTU, Variable) PPP DNP3 Interoperability Dual Serial option (with an accessory)
NETWORK AND ROUTING	Network Address Translation (NAT) Port Forwarding Policy Routing NEMO/DMNR VRRP Reliable Static Route Dynamic DNS Verizon PNTM IPV6 Gateway

	Specification
SATELLITE NAVIGATION (GNSS)	30 Channel GPS and GLONASS Receiver Acquisition Time: 1 s Hot Start Accuracy: <2 m (50%), <5 m (90%), <0.2 m/s Tracking Sensitivity: -160 dBm Reports: NMEA 0183 V3.0, TAIP, RAP, XORA Multiple Redundant Servers Reliable Store and Forward
SECURITY	Remote Authentication (LDAP, RADIUS, TACACS+, DMZ) Inbound and Outbound Port filtering Inbound and Outbound Trusted IP MAC Address Filtering PCI compatible Secure Firmware Update
NETWORK MANAGEMENT	Secure mobile network & asset management application available in the cloud or licensed platform in the enterprise data center Fleet wide firmware upgrade delivery Router configuration and template management Router staging over the air and local Ethernet connection Over-the-air software and radio module firmware updates Device Configuration Templates Configurable monitoring and alerting Remote provisioning and airtime activation (where applicable)
ROUTER MANAGEMENT	ALMS Local web user interface AT Command Line Interface (Telnet/SSH/Serial) SMS Commands SNMP
EVENTS ENGINE	Custom event triggers and reports Configurable interface, no programming Event Types: Digital Input, Network Parameters, Data Usage, Timer, Power, Device Temperature and Voltage Report Types: RAP, SMS, Email, SNMP Trap, TCP (Binary, XML, CSV) Event Actions: Drive Relay Output

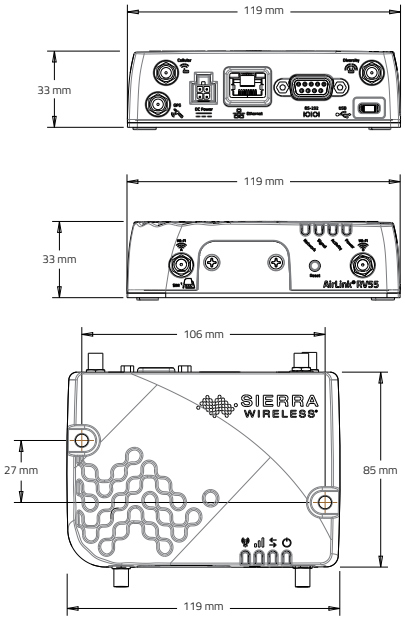
SIERRA WIRELESS®

VPN	IPsec, GRE, and OpenVPN Client Up to 5 concurrent tunnels Split Tunnel Dead Peer Detection (DPD) FIPS 140-2 compatible
APPLICATION FRAMEWORK	ALEOS Application Framework (AAF) LUA Scripting Language
POWER	Input Voltage: 7 to 36 VDC LTE Idle Power: 900mW (75 mA @ 12VDC) Standby Mode Power: 53 mW (4.4 mA @ 12 VDC) triggered on low voltage, I/O or periodic timer Low voltage disconnect to prevent battery drain Built-in protection against voltage transients including 5 VDC engine cranking and +200 VDC load dump Ignition Sense with time delay shutdown Configurable features and ports to optimize power consumption
DIMENSIONS	119 mm x 33 mm x 85 mm (102 mm including wi-fi connectors) 4.69 in x 1.34 in x 3.35 in (3.70 in including connectors) Weight: 320 g

ENVIRONMENTAL	Operating Temperature: -40°C to +70°C / -40°F to +158°F Operating Temperature (Wi-Fi variant): -30°C to +70°C / -22°F to +158°F Storage Temperature: -40°C to +85°C / -40°F to +185°F Humidity: 95% RH @ 60°C Military Spec MIL-STD-810G conformance to shock, vibration, thermal shock, and humidity IP64 rated ingress protection
INDUSTRY CERTIFICATIONS	Safety: IECEE Certification Bodies Scheme (CB Scheme), UL 60950 Vehicle Usage: E-Mark (UN ECE Regulation 10.04), ISO7637-2, SAE J1455 (Shock & Vibration) Hazardous Environments: Class 1 Div 2 Environmental: RoHS, REACH, WEEE
SUPPORT AND WARRANTY	Includes 1st Year AirLink Complete: • AirLink Management Service (ALMS) • Direct 24/7 Technical Support • 3-year standard warranty; optional 2-year warranty extension 1-day Accelerated Hardware Replacement available through participating resellers
ACCESSORIES	In the Box: DC Power Cable, and Quick Start Guide 2000579 AC Adapter, 12VDC 6000659 DIN Rail Mounting Brackets 6001110 Cellular Paddle Antenna 6001111 Wi-Fi 2.4/5GHz Paddle Antenna See website for more antenna options.

**For carrier specific band support please refer to the hardware user guide.*

DIMENSIONS



AirLink Networking Solution - Related Products

AIRLINK NETWORK MANAGEMENT SOLUTIONS

AIRLINK MANAGEMENT SERVICE (ALMS)

- Secure, Cloud-based network and asset management
- Remotely deploy, configure, monitor and manage AirLink devices
- Carrier-grade, high availability, secure, global infrastructure

AIRLINK MANAGER / MOBILITY MANAGER (AM/AMM)

- Deployable in the enterprise data center (on-premises) or in the cloud
- Advanced, end-to-end network and asset management for both fixed and mobile networks.
- Remote, real-time configuration, control and troubleshooting of AirLink devices

AIRLINK VPN APPLIANCE

AIRLINK CONNECTION MANAGER

- VPN appliance built from the ground up for Airlink routers & gateways
- Simplify deployment and management of your VPN solution, extending the enterprise to the network edge for fixed and mobile endpoints
- Carrier agnostic – ACM doesn't require fixed and/or public IP
- Compatible with FIPS 140-2, and always-onVPN capability

About Sierra Wireless

Sierra Wireless (NASDAQ: SWIR) (TSX: SW) is an IoT pioneer, empowering businesses and industries to transform and thrive in the connected economy. Customers Start with Sierra because we offer a device-to-cloud solution, comprised of embedded and networking solutions seamlessly integrated with our IoT services. OEMs and enterprises worldwide rely on our expertise in delivering fully integrated solutions to reduce complexity, turn data into intelligence and get their connected products and services to market faster. Sierra Wireless has more than 1,400 employees globally and operates R&D centers in North America, Europe and Asia. For more information, visit www.sierrawireless.com.

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SIERRA WIRELESS

MCD 5000 DESKSET SYSTEM

VoIP TECHNOLOGY FOR OUR CONVENTIONAL AND TRUNKED COMMUNICATIONS

MOTOROLA SOLUTIONS

EXPAND COMMUNICATIONS WITH VoIP TECHNOLOGY

The MCD 5000 Deskset brings you VoIP technology for your conventional and trunked communications. Ideal for dispatch environments, back-up sites, alternate locations, special events and call monitoring, the MCD 5000 Deskset is a powerful and easy-to-deploy VoIP solution for your radio system. With IP technology, you have the flexibility to quickly install desksets where you need them using your IP network infrastructure. And you can easily expand communication capabilities throughout your organization for increased safety, awareness and coordination.

ADVANCE TECHNOLOGY TO POWER YOUR DISPATCH COMMUNICATIONS

Take full advantage of VoIP technology and enable communication across your network when and where you need it most. The MCD 5000 Deskset connects over your IP network to MCD 5000 Radio Gateway Units (RGUs), each of which supports up to four radios. The MCD 5000 Deskset emulates the buttons and display of the connected radio and performs all the functions of the radio control head. The inherent flexibility of this solution allows you to tailor configurations from a single deskset and a single radio to multiple desksets and multiple radios. Further increasing your capabilities, the MCD 5000 Deskset allows deskset users to dynamically switch between MCD 5000 RGUs, giving you access to additional radios for expanded communications. Each MCD 5000 Deskset can connect and monitor up to four radios (channels) at a time.

DESIGNED FOR THE WAY YOU AND YOUR TEAMS WORK

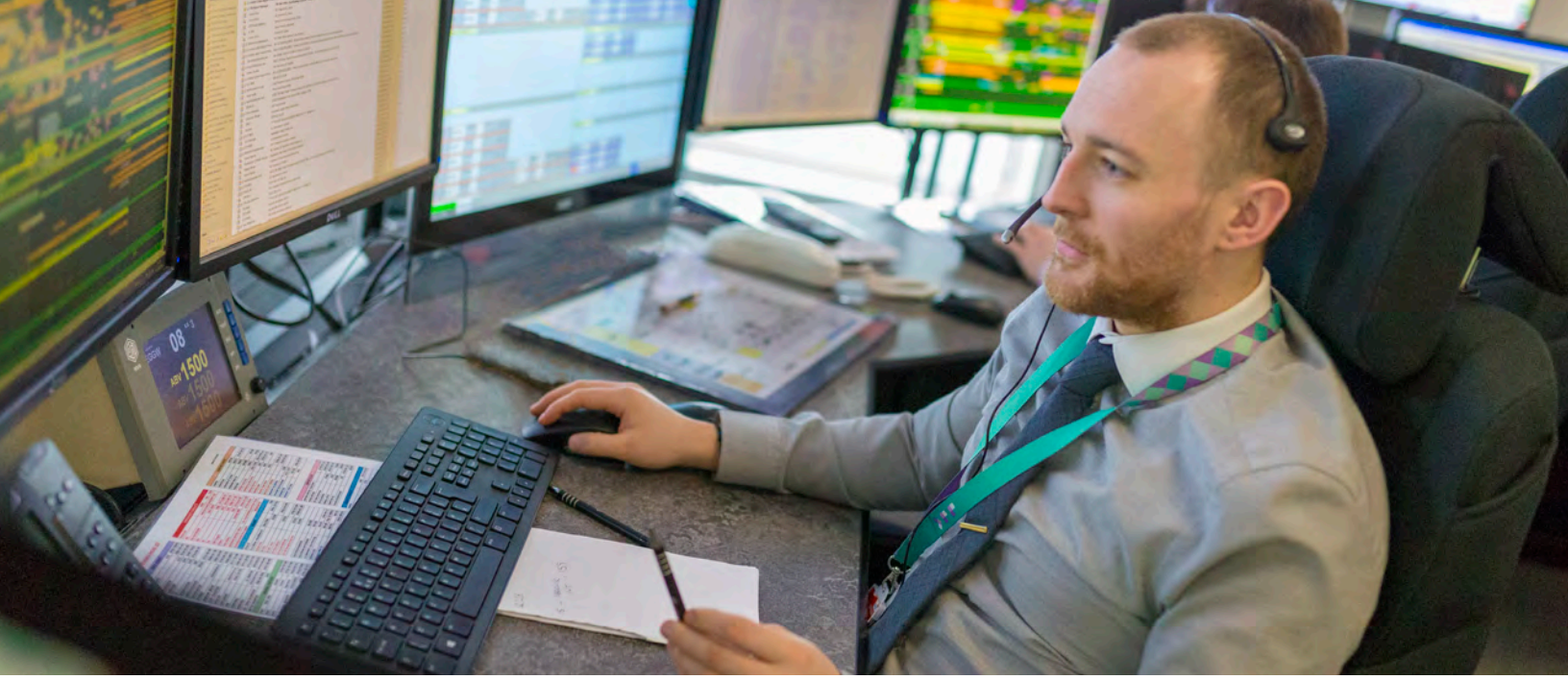
With maximum usability in mind, the MCD 5000 Deskset is ergonomically designed with a highly intuitive layout and an adjustable viewing angle for both occasional and constant everyday use. The large and easy-to-read color LCD screen gives at-a-glance access to all of the critical information you need, including messages, channel status, and names along with emergency and user IDs. You can further customize the programmable softkeys to meet the needs of your personnel.

INCREASE THE SAFETY OF YOUR PERSONNEL

Emergencies can take many shapes and can happen anytime, anywhere, the MCD 5000 Deskset includes the orange emergency activation button familiar on so many radios from Motorola Solution. Your staff will have peace of mind knowing that in an emergency, help can be summoned immediately with the simple push of a button.

EMERGENCY NOTIFICATIONS

The MCD 5000 Deskset allows you to manage all of your inbound field unit emergency activations across many system types, including ASTRO® 25 systems. Additionally, the ASTRO 25 radio emergency function allows external alarms to be triggered to notify the MCD 5000 Deskset user of an emergency situation, improving response levels.



GIVE SUPERVISORS PRIORITY TRAFFIC

When a supervisor logs into any MCD 5000 Deskset, their communications take first priority over all other MCD 5000 Desksets, allowing their critical voice traffic to get through immediately.

FREE UP AIRTIME

The intercom facilitates conversation and information exchange between MCD 5000 Deskset users with no need to key a radio channel, preserving airtime and keeping conversations off the air.

SAVE TIME AND PROVIDE ADDITIONAL SUPPORT WITH ROBUST REPORTING TOOLS

Provide timely support and save travel time when you remotely access your system to configure and troubleshoot the MCD 5000 Deskset and RGU using the MCD 5000 Deskset System Configuration Tool application. Run reports and perform queries for information you need to make real-time decisions. Supervisor reporting tools allow monitoring of each MCD 5000 Deskset System devices (MCD 5000 Deskset/MCD 5000 RGU) to enhance training and operational efficiencies.

SECURITY BUILT IN

Secure your communications in locations that are not staffed continuously, have public access or access sensitive channels. Select the individual desksets which need this additional level of security and with the MCD 5000 Deskset's security time lock, you configure the duration of time the deskset remains active, after which an authorized user name and PIN are required to reactivate the device. For increased security, user profiles can establish which radio resources are allowed to be seen and accessed. An activity log on each MCD 5000 Deskset displays the last operations performed by the user as well as received transmissions. Flexible communication options allow the use of the handset, Push-To-Talk (PTT) switch and built-in condenser microphone, or headset, footswitch and desk microphone accessories.

ADAPTS TO YOUR EVOLVING NEEDS

Scalable from small operations to complex control centers and geographically dispersed operations, you can depend on the modular MCD 5000 Deskset system to handle your communications and grow with you as your operational needs evolve and change.

OPTIONAL OPERATIONS MANAGEMENT CENTER SERVER

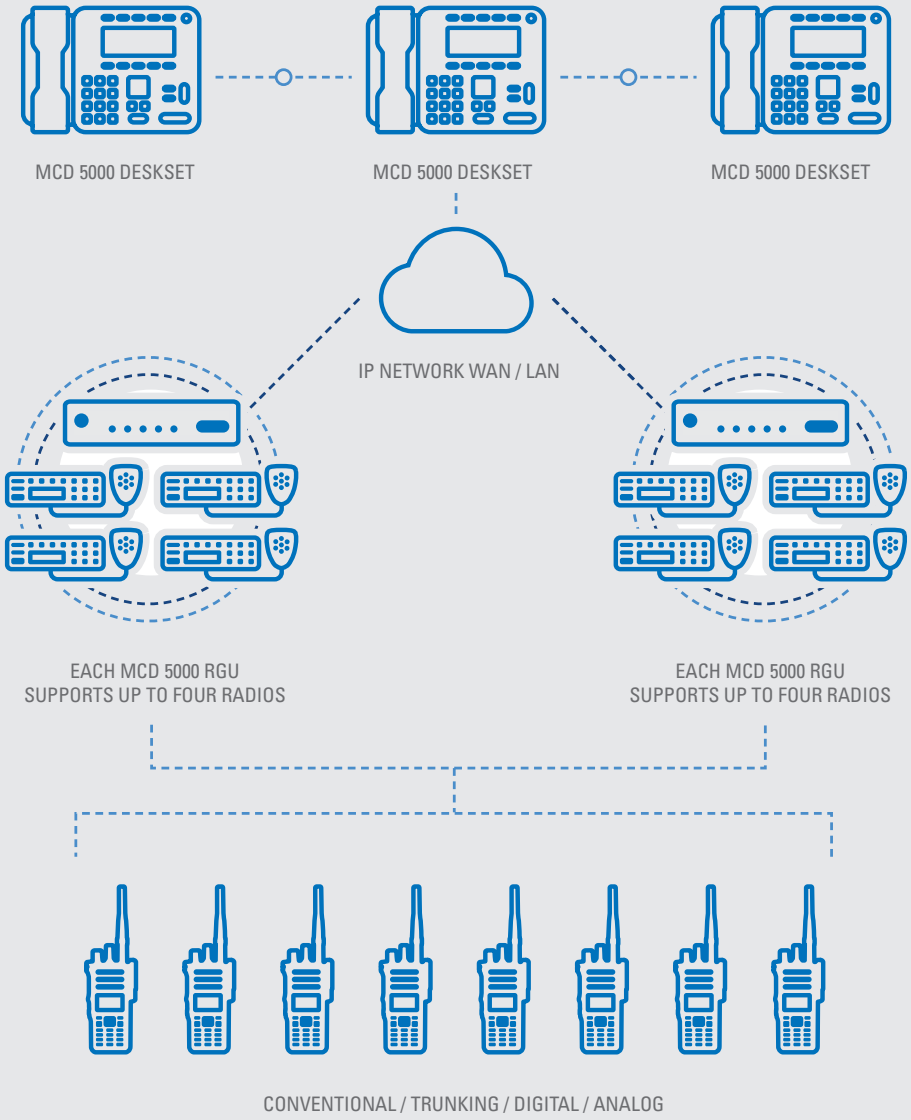
The Operations Management Center (OMC) is an optional main management server for the MCD 5000 Deskset system, enabling system operation, maintenance, provisioning, and control for larger installations as well as for customers with information assurance (IA) needs. This central repository is where all system users, MCD 5000 Desksets and radio resources are registered and where system-wide information including alarms, logs and audits is stored. The OMC server runs on the Red Hat® LINUX® operating system.

TWO-WAY RADIO SUPPORT

- XPR5550e
- APX All-Band Consolette-05 CH
- APX All-Band Consolette-E5 CH
- APX 7500 Multiband Consolette
- ASTRO CONSOLETTE (W9)
- ASTRO Spectra
- ASTRO Spectra Plus
- MTM5400
- MTM800E
- TRC Radios / Base-Stations / Adaptors
- 4-Wire E&M Radios

MCD 5000 DESKSET SHOWING 3 OPERATOR POSITIONS CONTROLLING UP TO 8 RADIOS

The MCD 5000 allows multiple desksets to dynamically switch to different MCD 5000 RGUs, giving you access to additional radios for expanded communications. Each MCD 5000 Deskset can connect and monitor up to four radios (channels) at one time.



To learn more about how the MCD 5000 Deskset solution can help you implement a flexible VoIP communications on your network, contact your Motorola Solutions representative or visit www.motorolasolutions.com/dispatch

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MCD 5000 DESKSET SYSTEM

POWERFUL AND FLEXIBLE VoIP COMMUNICATIONS

Expand your communications with VoIP technology. Scalable from small operations to complex control centers and geographically dispersed operations, you can depend on the new modular MCD 5000 Deskset System with VoIP technology for your conventional and trunked communications. Whether used in dispatch environments, back-up sites, special events or call monitoring, you can easily expand communication capabilities throughout your organization using your IP network. This easy-to-deploy solution enables communications across your network when and where you need it most, increasing safety, awareness and coordination.

MCD 5000 DESKSET

A flexible desktop console, the MCD 5000 Deskset provides digital control for a variety of Motorola two-way radios, and can connect directly to a radio or over an IP network using the MCD 5000 Radio Gateway Unit (RGU).

The MCD 5000 Deskset digital control link emulates the buttons and display of the connected radio and performs all the functions of the radio control head.

And with a large and easy-to-read color LCD screen, intuitive layout and an adjustable viewing angle, the MCD 5000 Deskset is ergonomically designed for both occasional and constant everyday use.

MOTOROLA SOLUTIONS

MCD 5000 RADIO GATEWAY UNIT

Connect the MCD 5000 Deskset to radios over your IP network using the MCD 5000 RGU. The MCD 5000 Deskset allows users to dynamically switch between MCD 5000 RGUs, giving access to additional radios across the network and expanding communications. Each MCD 5000 RGU can connect up to four radios and each MCD 5000 Deskset can connect and monitor up to four radios (channels) at a time.

DESKSET AUDIO ACCESSORIES

With flexible communication options, you can use the handset, Push-To-Talk (PTT) switch and built-in condenser microphone, or add the optional headset, footswitch and desk microphone accessories for user convenience.

IP NETWORK

Take full advantage of VoIP technology and deploy the MCD 5000 Deskset when and where you need it on your IP network.

CONFIGURATION AND REPORTING TOOLS

Our configuration tool offers the convenience of remote use from anywhere on the network or local use with an Ethernet connection. And you can provide timely support and save travel time when you remotely access your system to configure the MCD 5000 Deskset and MCD 5000 RGU. You can also remotely run reports and perform queries for information you need to make real-time decisions. Additional supervisor reporting tools allow monitoring of each MCD 5000 Deskset System devices (MCD 5000 Deskset/ MCD 5000 RGU) to enhance training and operational efficiencies.

The MCD 5000 RGU connects radios to the MCD 5000 Deskset over your IP network

OPERATIONS MANAGEMENT CENTER (OMC) SERVER

An optional main management server for the MCD 5000 Deskset System, the Operations Management Center (OMC) enables system operation, maintenance, provisioning, and control for larger installations, as well as for customers with information assurance (IA) needs.

This central repository stores registration for all system users, MCD 5000 Desksets and radio resources, along with system-wide information including alarms, logs and audits. The OMC server runs on the Red Hat® LINUX® operating system.

Providing user-level interface to the OMC, the Administrator Control Panel Client (ACP) PC allows local and remote administration access for system management activities. The ACP Client PC runs on Microsoft Windows® 7 (64-bit) OR Windows 10 Professional (64 Bit) OR Windows IoT Enterprise LTSB 2015/2016 (64 Bit) Operating System. The ACP is required for systems with an OMC.

TWO-WAY RADIO DEVICES

The MCD 5000 Deskset lets you control a wide variety of digital radios:

APX All-Band Consolette-O5 CH

APX All-Band Consolette-E5 CH

APX™ 7500 Multiband Consolette

ASTRO® Consolette (W9):
ASTRO® Spectra™
ASTRO® Spectra Plus™

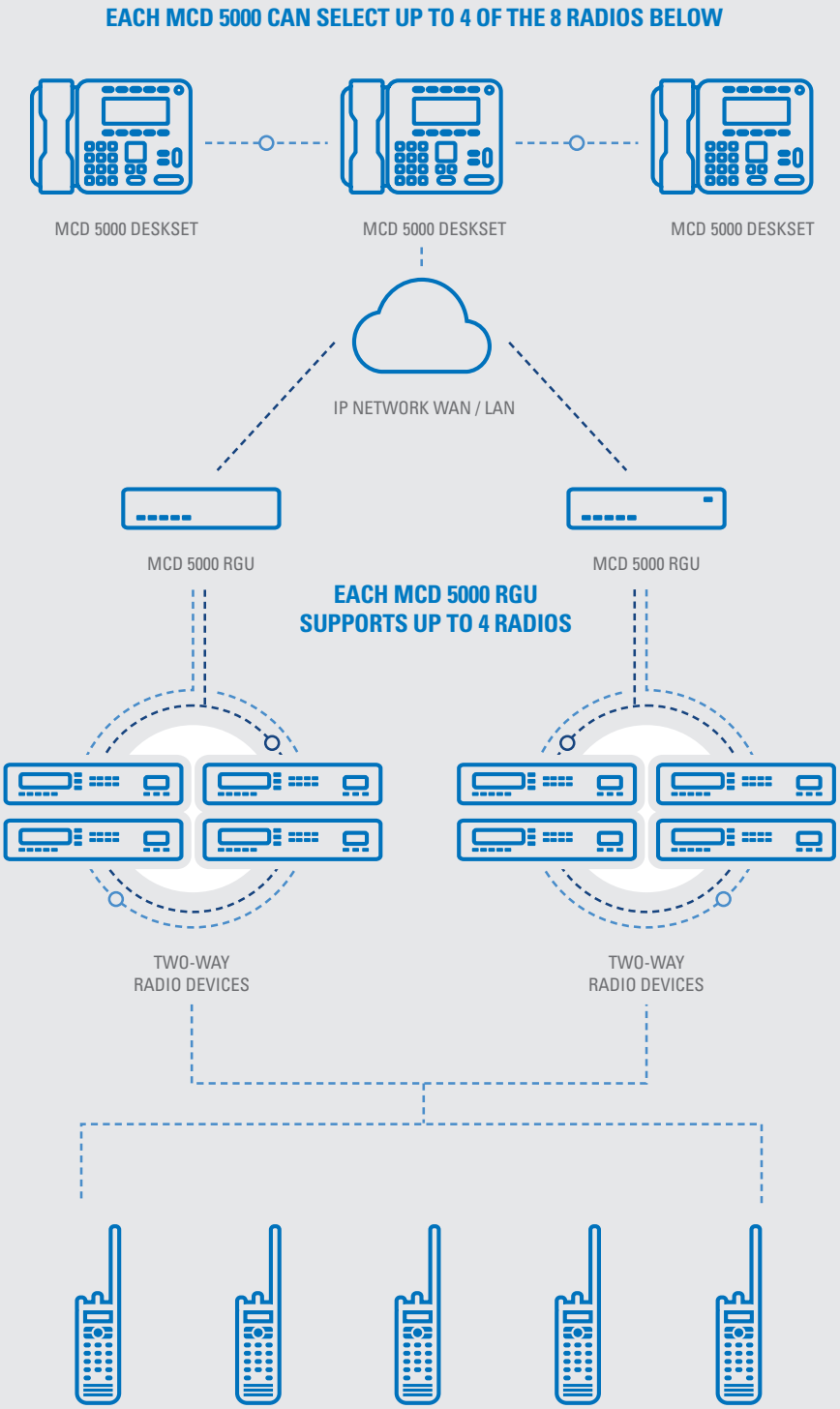
Dimetra TETRA Mobile Radios:
MTM5400
MTM800E

TRC Radios/Base-Stations/Adaptors

4-Wire E&M Radios

EXAMPLE MCD 5000 DESKSET SYSTEM SHOWING 3 OPERATOR POSITIONS CONTROLLING UP TO 8 RADIOS

The MCD 5000 Deskset system allows multiple desksets to dynamically switch to different MCD 5000 RGUs, giving you access to additional radios for expanded communications. Each MCD 5000 Deskset can connect and monitor up to four radios (channels) at one time.



SPECIFICATIONS

MCD 5000 DESKSET	
Dimensions	Height: 1.65 in (42 mm) Width: 8.58 in (218 mm) Depth: 10.39 in (264 mm) Weight: 5.73 lbs (2.6 kg)
Environmental	Operating temperature: -30 °C to 60 °C (-22 °F to 140 °F) Storage temperature: -40 °C to 80 °C (-40 °F to 176 °F) Humidity: 5% to 95% @ +50° C (122° F), Non-Condensing
Power	Input power:+10.8 to +14VDC, (+12 V nominal) Dispassion: 9W Max. 37VDC to 57VDC. Powered via POE-PD; meeting 802.3af Standard for Powered Desksets class 0
Audio	The end-to-end distortion is no more than 3% THD The generated audio is no more than -50 dBm of Hum and Noise below the rate audio output The crosstalk between any audio signals is no more than -65 dBm at 0 dBm transmit audio power
Supported Radio Protocols	RS-232 TTL, SB9600, IP, 4W-E&M, TRC
Regulatory-EMC	FCC part 15 class A
Safety	EN60950-1
Green Product	RoHS, WEEE Mark
Certified Standard Compliance Requirements	CE Mark, FCC part 15 A Mark, UL Mark (for P.S. only) US federal government Environmentally Preferable Specification (EPP) Program
Non-certified Standard Compliance Requirements	CSA, UL, MOTOROLA W18 certification, CMM
Vocoders	G.711 and G.729

MCD 5000 RADIO GATEWAY UNIT	
Dimensions	Height: 1.65 in (42 mm) Width: 8.58 in (218 mm) Depth: 10.39 in (264 mm) Weight: 5.73 lbs (2.6 kg)
Environmental	Operating temperature: -30 °C to 60 °C (-22 °F to 140 °F) Storage temperature: -40 °C to 80 °C (-40 °F to 176 °F) Humidity: 5% to 95% @ +50° C (122° F), Non-Condensing
Power	Input power:+10.8 to +14VDC, (+12 V nominal) Dispassion: 9W Max. 37VDC to 57VDC. Powered via POE-PD; meeting 802.3af Standard for Powered Desksets class 0
Audio	The end-to-end distortion is no more than 3% THD The generated audio is no more than -50 dBm of Hum and Noise below the rate audio output The crosstalk between any audio signals is no more than -65 dBm at 0 dBm transmit audio power
Supported Radio Protocols	RS-232 TTL, SB9600, IP, 4W-E&M, TRC
Regulatory-EMC	FCC part 15 class A
Safety	EN60950-1
Green Product	RoHS, WEEE Mark
Certified Standard Compliance Requirements	CE Mark, FCC part 15 A Mark, UL Mark (for P.S. only) US federal government Environmentally Preferable Specification (EPP) Program
Non-certified Standard Compliance Requirements	CSA, UL, MOTOROLA W18 certification, CMM
Vocoders	G.711 and G.729

MCD 5000 DESKSET SYSTEM CAPACITIES	
Maximum Number of Radio Resources	512
Maximum Number of MCD 5000 Radio Gateway Units (RGUs)	128
Maximum Number of Radios per MCD 5000 Radio Gateway Unit (RGU)	4
Maximum Number of MCD 5000 Desksets	100
Maximum Number of Groups per MCD 5000 Deskset	20
Maximum Number of Users per MCD 5000 Deskset	8 (Non-OMC System) 1,000 (OMC System)

To learn more about how the MCD 5000 Deskset System can help you implement powerful and flexible VoIP communications on your network, contact your Motorola representative or visit **www.motorolasolutions.com/dispatch**

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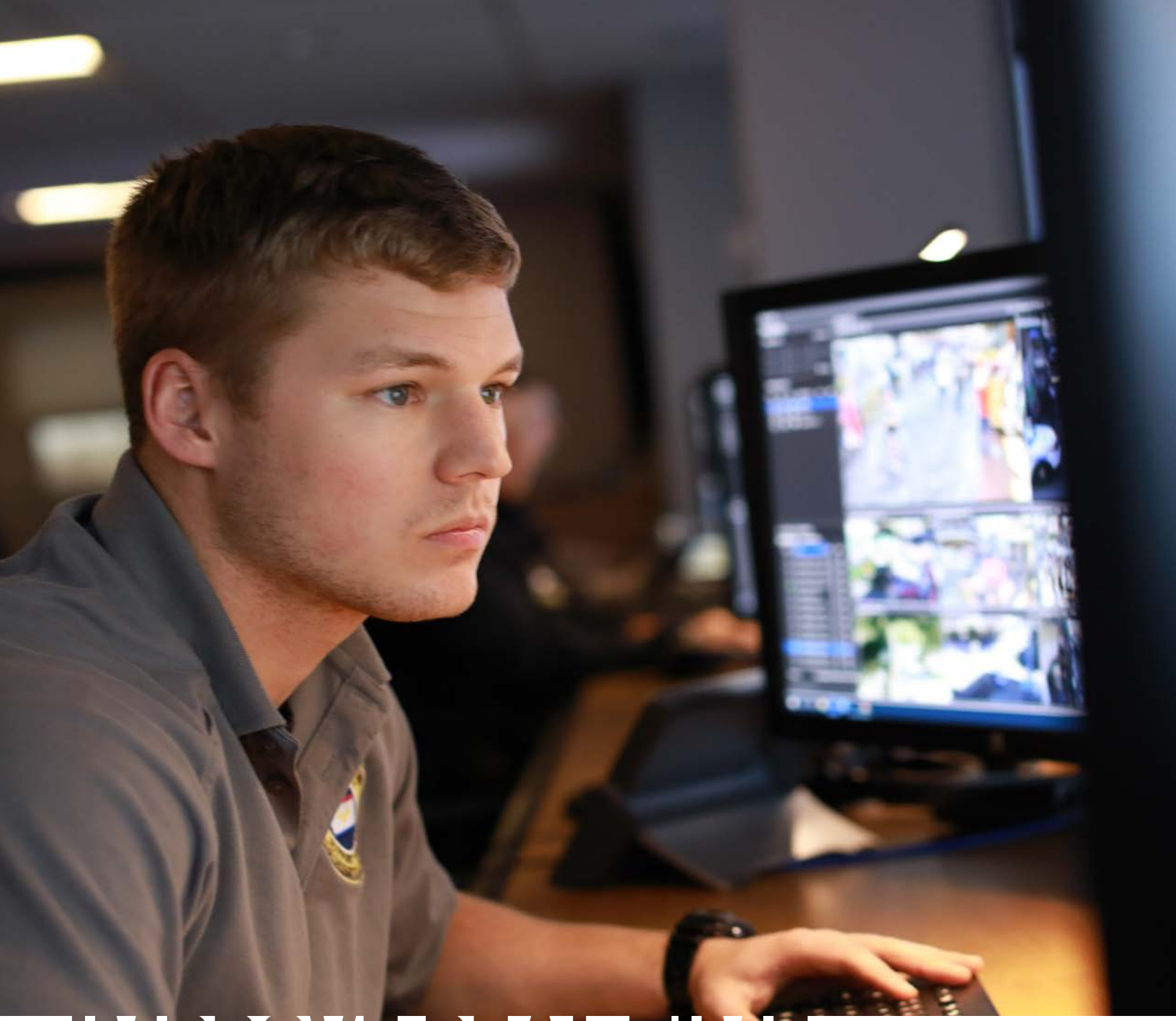


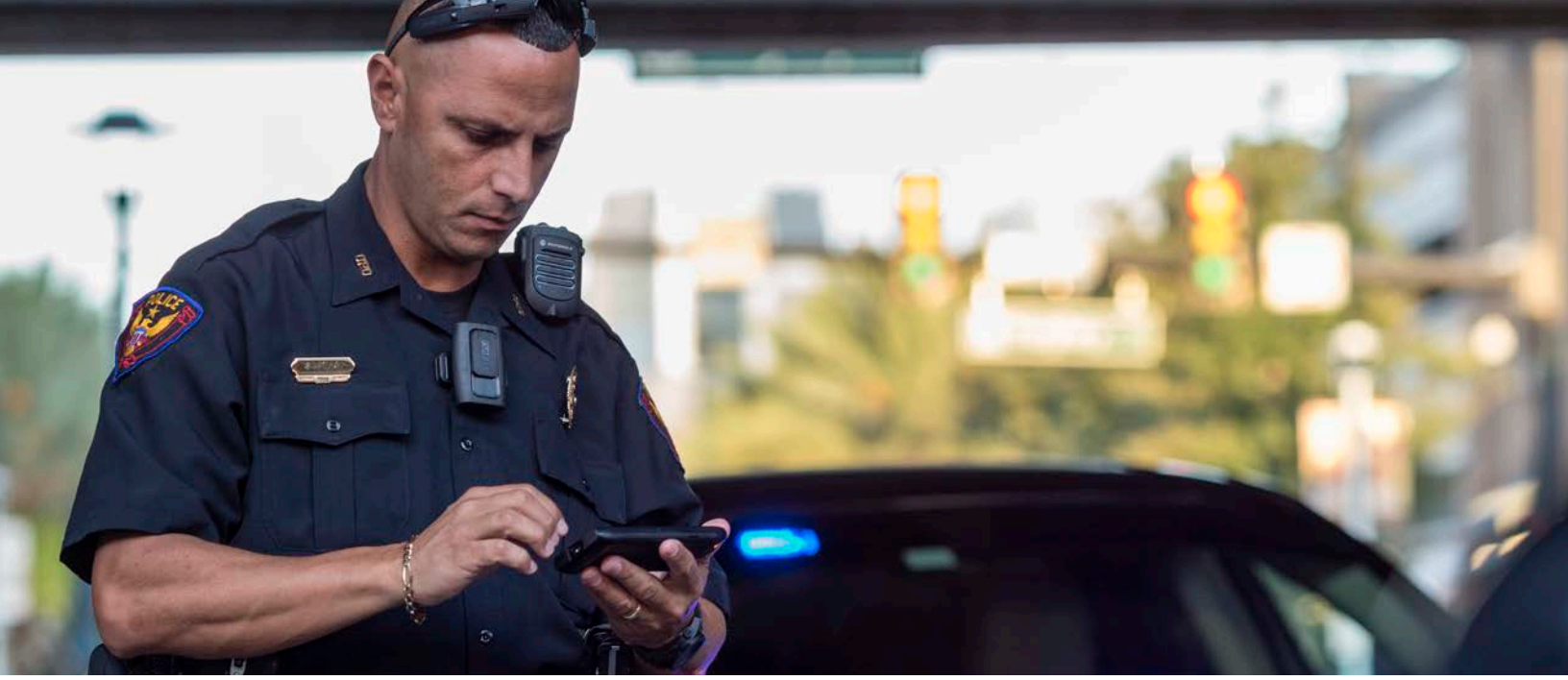
IMPROVE REAL-TIME SITUATIONAL INTELLIGENCE

COMMANDCENTRAL AWARE
REAL-TIME INTELLIGENCE OPERATIONS

MOTOROLA SOLUTIONS

REAL-TIME SITUATIONAL INTELLIGENCE

CommandCentral Aware provides a complete operating picture, integrating real-time intelligence in the command center to remotely assist officers in the field. Simplify your operational view by consolidating your resources into one single pane of glass. Support officer safety by monitoring real-time alerts and accessing nearby video feeds when incidents occur.



LOCATION & MAPPING

SIMPLIFY INFORMATION. MAKE BETTER DECISIONS.

MONITOR ACTIVITY FROM ANYWHERE

View all of your location-based data together, in real-time, on a single map display. This common operating picture can be accessed anywhere, from any internet-connected device.

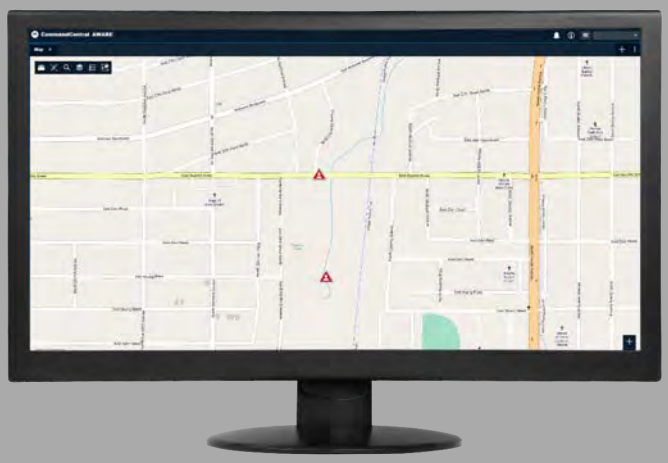
ACT WITH THE NECESSARY CONTEXT

Communicate a more informed response to a critical incident and enhance responder safety for those in the field by accessing a common operating picture through CommandCentral Aware — directly from your agency's map.

COLLABORATE WITHOUT DISTRACTION

Control specific viewing permissions based on groups of users to ensure a focused response from every team member during a critical event. Filter your view to only the datasets you need in the moment.

ACCESS DATA FROM CAD THROUGH COMMANDCENTRAL AWARE, ENHANCING THE COMMON OPERATING PICTURE.



FEATURES:

Unified Mapping: Utilizing a common Esri base map, geographically locate real-time events such as CAD incidents, device and unit location, alert and alarms, tactical decision data and camera locations. Incorporate other Esri-based map layers from your agency for enriched spatial orientation such as property boundaries, landmarks, buildings and asset locations. In addition, streaming and stationary weather layers are provided to enhance visual situational awareness. Organize your devices through group management to further refine ownership to adhere to logical inter agency and intra agency configurations. Manage the content seen by these agencies via groups of users provisioned and authorized to see specific mapping layers.

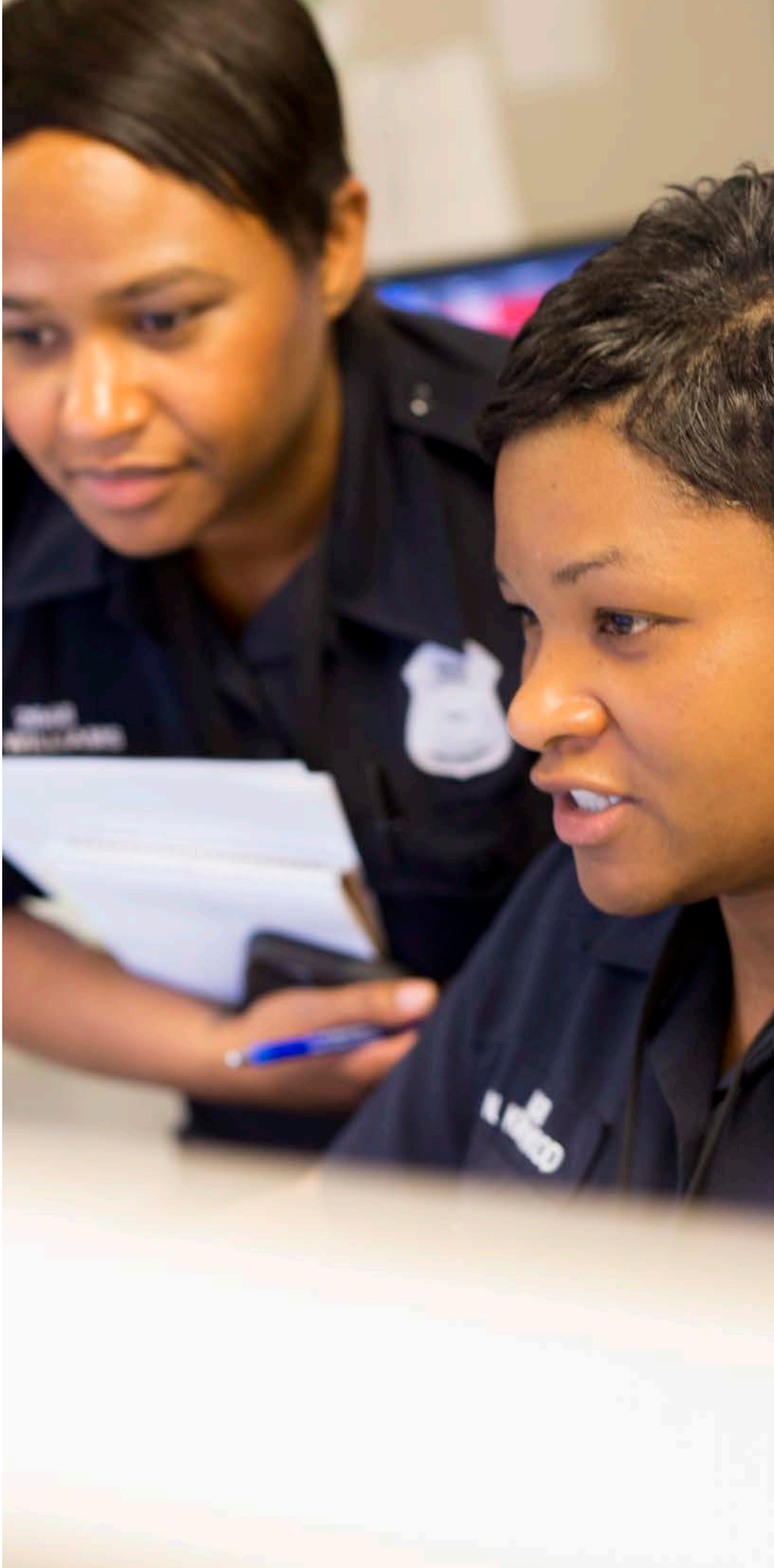
Desktop & Mobile Accessibility: Work seamlessly from desktop to mobile. CommandCentral Aware is accessible via web browser on any computer as well as from any tablet or smartphone with an internet connection.

Data Layer Filtering: Show or hide data layers, such as CAD incidents, by selecting or deselecting them in the data layer panel, ensuring your teams are seeing only what they need in that moment. Data layers can also be prioritized to ensure certain information takes visual precedence on the map.

Critical Information Display: Associate critical information with each event or resource on the map display.

Team-Based Permissions: Restrict what personnel see based on what their team needs to be most effective, while still ensuring that consistent and relevant information is being referenced from a shared common operating picture.

"View-Only" Information Access: Ensure workflows are unhindered by access to information in the simplest form possible.



LOCATION, MAPPING & ALERTS

KEEP OFFICERS AND CITIZENS SAFE ON THE STREETS

RESPOND QUICKLY TO ESCALATING INCIDENTS

Responder alerts automatically show the command center what's happening to officers during an incident, whether that be an emergency, vest pierce, man down alerts and more. Alerts showing the location and type of incident on the consolidated map help personnel enhance situational awareness and improve officer and citizen safety.

FEATURES:

CommandCentral Aware automatically informs the command center that a situation has escalated without further action by the officer. Alerts indicating weapon fired, vest pierce or other emergency display the location and type of incident in real time on the consolidated map, helping dispatchers provide immediate support and improving officer and citizen safety.

Weapon Fired Alert (Handguns Only): This sensor can be retrofitted to certain handguns to send an alert that the weapon has been discharged. The sensor is located in the grip of the handgun.

Vehicle Impact Alert: When a responder vehicle, equipped with APX radios, experiences significant impact, an emergency alert will notify the command center of the situation and location.

Man Down Alert: A man down emergency alert generated by all enabled APX portable radios appears as a notification when the radio is at an angle and there is no movement based on user parameters.

Vest Pierce Alert: When a piercing event is detected, such as a shot or stab, an emergency alert is transmitted to notify command staff that a responder may be incapacitated and needs help. Insert sensors into existing body armor.

Emergency Button Press: When the emergency button is pressed on an APX radio, an alert will appear on the consolidated map that an emergency needs to be addressed.

VIDEO INTELLIGENCE

HAVE EYES ON A SCENE WITHIN SECONDS

ENHANCE RESPONSE THROUGH REAL-TIME VIDEO

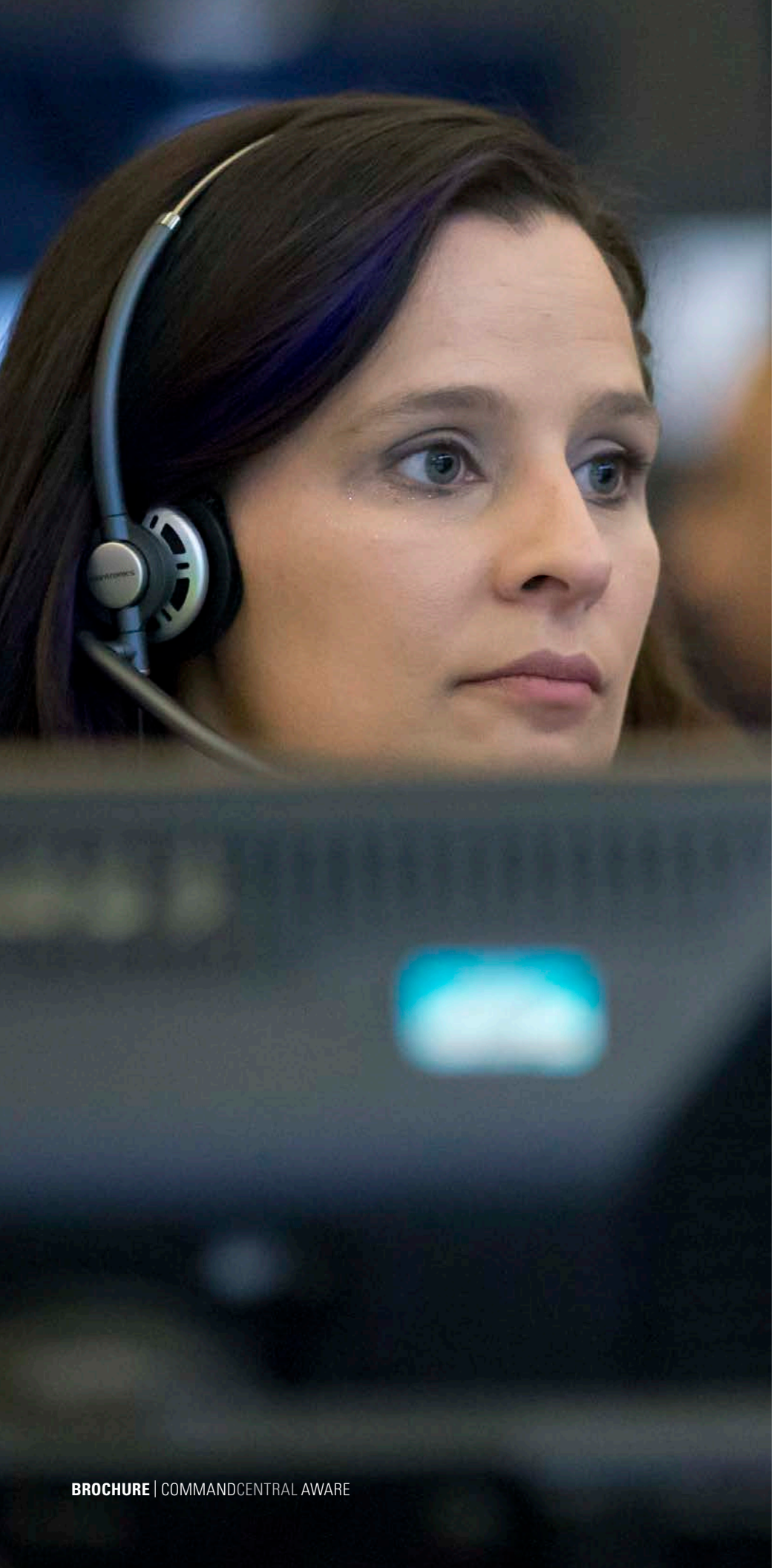
Shape your response more appropriately with CommandCentral Aware's real-time video access and notifications, which allow PSAP fusion operators or intelligence analysts to access nearby video feeds from within the consolidated map for greater visibility into an escalating situation. CommandCentral Aware brings users' attention to key video content, enhancing officer safety and boosting productivity.

STREAMLINE AGENCY WORKFLOWS

Improve productivity and easily manage evidentiary files by only storing and tagging incident-related video through CommandCentral Vault.

SIMPLIFY VIDEO MANAGEMENT

Simplify your operational view by bringing all disparate video solutions into one single, consolidated screen.



FEATURES:

Geospatial Event Mapping: Include camera locations, CAD incidents, personnel status and location, open-source data alerts, sensors and more on a single map that can be customized with any of your agency's other data layers.

Activity Monitor: View a real-time feed of alerts and incident occurrences as they populate on the map. Each event can be viewed in detail with information drawn from additional data sources pertaining to that specific event.

Workflow Configuration: Automate workflows by associating related data together from disparate systems to get a comprehensive picture of the incident or threat occurrence. This can include video sources, related open-source data alerts, a CAD incident, sensor alarms and more.

Real-Time Video Streaming: Virtually patrol your community and quickly get eyes on the scene of an event by viewing cameras simultaneously from fixed or mobile video feeds via any video management system. Easily reference the video source, date, time and location as well as customize camera groups for quicker access to particular locations.

Security Compliance: Rely on applications secured and compliant to CJIS security standards.

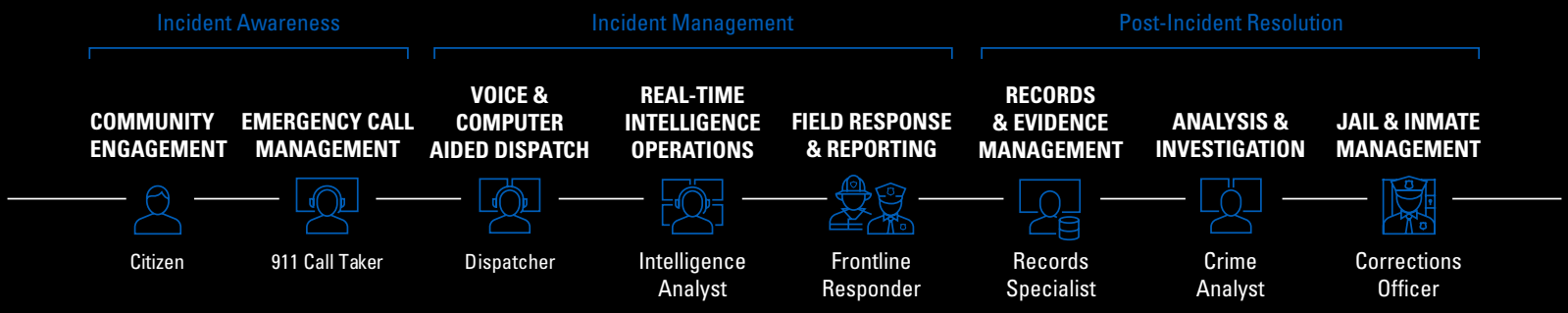
Improve situational awareness by accessing video feeds to nearby alerts on CommandCentral Aware's consolidated map. Save seconds in your response and improve responder safety.

NEXT-GENERATION EVOLUTION WITH A DEDICATED TECHNOLOGY LEADER

We build software for mission-critical environments where every second matters. CommandCentral Aware and other applications in our CommandCentral software suite unify data and streamline workflows from call to case closure in order to put your information to better use, improve safety for critical personnel and restore your focus on the communities you serve. Backed by a trusted, 90-year industry expert with proven public safety leadership, our suite is transforming the public safety experience with a focus on evolution, not revolution, in order to help you digitally transform your operation.

COMMANDCENTRAL

The industry's most integrated public safety software suite from call to case closure.



For more information about CommandCentral Aware, visit www.motorolasolutions.com/aware

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APX RADIO ACCESSORIES

RESILIENCE WITHOUT COMPROMISE

MOTOROLA SOLUTIONS

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APX PORTABLE RADIO ACCESSORIES

MISSION CRITICAL PERFORMANCE FOCUSED ON DURABILITY AND FLEXIBILITY TO KEEP YOU SAFER

Motorola P25 APX radios deliver what first responders need to increase their safety and improve their situational awareness. Get the most out of your APX radio by extending its power and reliability with resilient APX accessories. They are the only accessories tested and certified for use with APX radios. Our accessories endure rigorous testing to last longer and help keep you safer. There's simply no substitute for Motorola APX accessories.

MOTOROLA'S EXCLUSIVE ENERGY AND AUDIO FEATURES ARE MADE FOR MISSION CRITICAL MOMENTS

IMPRES™ 2 ENERGY: YOUR RADIO IS YOUR LIFELINE. IF YOUR BATTERY DIES, IT JEOPARDIZES EVERYTHING.

That's why we introduced the IMPRES 2 for APX series radios. It's a next-generation energy system that's safer and smarter, while keeping you powered for even longer. With IMPRES 2 chargers, you can charge batteries up to 40% faster. Customize your charging to extend the life of batteries in storage. And manage power more intelligently with enhanced diagnostics, so you get the most from each battery.

IMPRES AUDIO: I HEAR YOU, EVEN WHEN YOU CAN'T HEAR YOURSELF.

Motorola's exclusive IMPRES audio accessories help suppress ambient noise, amplify loudness and improve voice intelligibility. IMPRES audio can virtually block out all background noise in any extreme environment with windporting and noise-cancelling technology. Ensure your voice is heard loud and clear no matter what direction you speak with an advanced microphone system. IMPRES audio will make sure you are heard in any demanding environment.

APX 8000

APX 8000XE

APX 7000

APX 7000XE

APX 6000

APX 6000XE

APX 4000
(1-KNOB)

APX 4000
(2-KNOB)

APX 3000

APX 1000

APX 900

SRX 2200

DESIGNED FOR THE MISSION. ENGINEERED FOR THE EXTREME.

APX XE500 Remote Speaker Microphones (RSMs) are designed by firefighters for firefighters. Ergonomic, rugged and reliable, the XE500 RSM is built with the user's extreme environment in mind. Designed to withstand heat exposure of 500˚F for up to five minutes and an IP68 submersibility rating, it will perform in extreme conditions. Your lifeline needs to be as tough as your radio. That's why the XE500 RSM is the perfect companion to your APX radio.

XE500 RSM KEY FEATURES

- Available With and Without a Channel Knob
- High Visibility Strobe Light
- Adaptive Audio Engine
- IP68, 2 Meters, 4 Hours Submersion
- Heat Resistant Housing and Cable
- Orange Illuminated Emergency Button
- Transmit / Receive LED

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES								
XE500 REMOTE SPEAKER MICROPHONES (RSM)												
PORTABLE RADIOS		DESCRIPTION	PART NUMBER	IMPRES AUDIO	MICROPHONE NOISE SUPPRESSION	VOLUME CONTROL	ORANGE PROGRAMMABLE BUTTON	CHANNEL CONTROL	PROGRAMMABLE BUTTON	IP RATING	HAZLOC-CAPABLE†	SIZE (WITHOUT CLIP) (MM)
APX 8000		XE500 High Impact Green, Channel Knob, Xtreme Temperature Cable	PMMN4106	●	Multi-Mic Noise Suppression	Step			1	IP68	UL	75 x 98 x 33
APX 8000XE APX 7000		XE500 Black Housing, Channel Knob, Xtreme Temperature Cable	PMMN4106_BLK	●	Multi-Mic Noise Suppression	Step			1	IP68	UL	75 x 98 x 33
APX 7000XE APX 6000		XE500 High Impact Green, No Channel Knob, Xtreme Temperature Cable	PMMN4107	●	Multi-Mic Noise Suppression	Step			1	IP68	UL	75 x 98 x 33
APX 6000XE		XE500 Black Housing, No Channel Knob, Xtreme Temperature Cable	PMMN4107_BLK	●	Multi-Mic Noise Suppression	Step			1	IP68	UL	75 x 98 x 33

† HazLoc Details: For more information on which accessories are approved by Factory Mutual (FM) or Underwriters' Laboratory (UL) with certain APX models, please consult the manual provided with each FM- or UL-approved APX portable.

ENHANCED CONTROLS
DESIGNED FOR THE MISSION

The XE500 RSM is an evolution of the XE RSM platform and like its predecessor was designed with the user's extreme environment in mind. From the exaggerated knobs and controls, that are easy to operate with bulky gloves to the asymmetrical shape that makes it easier to find the controls without looking.

ADAPTIVE AUDIO ENGINE
HEAR AND BE HEARD

XE500 RSM utilizes 5 integrated microphones and an Adaptive Audio Engine. Similar to the radio, it automatically changes the level of noise suppression, microphone gain, Windporting and speaker equalization to produce clear and loud audio in any environment.

FLEXIBLE WEARING
WEAR IT ANYWAY YOU WANT

The strategic placement of the microphones and enhanced water drainage provide users with the flexibility to wear it straight, upside down and even sideways while still delivering loud and clear audio.

EXTREME PERFORMANCE
RUGGED, ROBUST, RELIABLE

Whether you are in the heat of a fire or exposed to extreme weather conditions the XE500 will keep you connected to your team. This RSM was designed to withstand heat exposure of 500˚F (260˚C) for up to 5 minutes. Built as a system, the APX 8000XE and the XE500 have been tested to meet IP68 (2 meter, 4 hours) submersibility specifications.

APX™ XP REMOTE SPEAKER MICROPHONE

DUAL MIC NOISE SUPPRESSION

This Remote Speaker Microphone with its thin design and optimized ergonomics is ideal for police officers and other public safety users. With Dual Mic Noise Suppression, you will be heard despite traffic noise and sirens in the background. When it gets dirty, just wash the microphone head to ensure your communication is not compromised.

WIRELESS REMOTE SPEAKER MICROPHONE

Secure pairing is easier than ever with voice prompts as there is no need to navigate menus or enter codes.

Removing the cord from the RSM makes getting ready for work quicker than ever. No more worrying about getting tangled with the seatbelt or other equipment.

This wireless RSM features large but recessed push-to-talk and emergency buttons to ensure that users have easy access to controls but don't have to worry about accidental activation. Additional features include volume control, an audio jack, 360 degree rotatable clip, as well as a task light that allows you to read in the dark.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY | **ACCESSORY** | **FEATURES** | **VERTICAL MARKETS:** Recommendations based on typical use case for each of verticals listed.

REMOTE SPEAKER MICROPHONES (RSM) Our robust portfolio includes Remote Speaker Microphones and secondary audio accessories engineered to give you clearer communications even in loud environments.

All remote speaker microphones are built with top quality materials including durable **Kevlar®** cables that survive tough working conditions.

PORTABLE RADIOS	DESCRIPTION	PART NUMBER	IMPRES AUDIO	MICROPHONE NOISE SUPPRESSION	VOLUME CONTROL	ORANGE PROGRAMMABLE BUTTON	DISPLAY	CHANNEL CONTROL	PROGRAMMABLE BUTTON	AUDIO JACK	IP RATING	SIZE (WITHOUT CLIP) (MM)	POLICE	FIRE	EMS	MILITARY	FEDERAL AGENCIES	UTILITIES AND PUBLIC WORKS	OIL, GAS AND MINING	TRANSPORTATION
APX 8000 APX 80000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 SRX 2200	IMPRES XP RSM with Dual Mic Noise Suppression, Volume Control, 1-Programmable Button and Orange Button. Rugged, Submersible (IP68)	NMN6271	●	Dual-Mic Noise Suppression	Step			1			IP68 Rugged	95 x 69 x 27	●		●	●	●		●
	IMPRES XP RSM with Dual Mic Noise Suppression, 3.5mm threaded jack, Volume Control, 1-Programmable Button and Orange Button (IP55)	NMN6274	●	Dual-Mic Noise Suppression	Step			1		3.5 mm	IP55	95 x 69 x 27	●		●	●	●		●
		XP RSM Replacement Cable with Audio Jack	PMKN4222																	
		XP RSM Replacement Cable without Audio Jack	NKN6611																	
APX 8000 APX8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 SRX 2200	Wireless RSM with Battery, Clip (RLN6544) and Dual Unit Charger (PMLN7120)	RLN6554		Windporting	Step			1		3.5 mm	IP55	88 x 63 x 26	●		●	●	●	●		●
	Wireless RSM with Battery and Clip. No Charger.	RLN6544		Windporting	Step			1		3.5 mm	IP55	8 x 63 x 26	●		●	●	●	●		●

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY | **ACCESSORY** | **FEATURES** | **VERTICAL MARKETS:** Recommendations based on typical use case for each of verticals listed.

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PORTABLE RADIOS	DESCRIPTION	PART NUMBER	IMPRES	MICROPHONE NOISE SUPPRESSION	VOLUME CONTROL	ORANGE PROGRAMMABLE BUTTON	DISPLAY	CHANNEL CONTROL	PROGRAMMABLE BUTTON	AUDIO JACK	IP RATING	HAZLOC-CAPABLE†	SIZE (WITHOUT CLIP) (MM)	POLICE	FIRE / EMS	MILITARY	FEDERAL AGENCIES	UTILITIES AND PUBLIC WORKS	OIL, GAS AND MINING	TRANSPORTATION
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 APX 900 SRX 2200	IMPRES Display RSM with Audio Jack, Channel Selector, Volume Control, 2-Programmable Buttons and Orange Button. Windporting, Rugged, Submersible (IP68)	HMN4104	●	Windporting	Step		●		2	8-Pin	IP68 Rugged	FM UL	68 x 106 x 31	●	●	●	●	●	●	●
	IMPRES Display RSM with Audio Jack, Volume Control, 2-Programmable Buttons and Orange Button. Windporting, Rugged, Submersible (IP68)	HMN4103	●	Windporting	Step		●		2	8-Pin	IP68 Rugged	FM UL	68 x 106 x 31	●	●	●	●	●	●	●
	IMPRES RSM with Audio Jack, Volume Control, 2-Programmable Buttons and Orange Button. Windporting, Rugged, Submersible (IP68)	HMN4101	●	Windporting	Step				2	8-Pin	IP68 Rugged	FM UL	68 x 106 x 31	●	●	●	●	●	●	●
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 SRX 2200	IMPRES RSM Windporting, Rugged (IP68)	PMMN4083	●	Windporting							IP68 Rugged	FM	60 x 78 x 28	●	●	●	●	●	●	●
	IMPRES RSM with 3.5mm Threaded and NON-Threaded Audio Jack and Orange Button. Noise-Cancelling (IP54) NOT INTENDED FOR FIRE MARKETS	PMMN4084	●	Noise-Cancelling						3.5 mm	IP54	FM	60 x 78 x 28	●		●	●	●	●	●
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 1000 APX 900	IMPRES Windporting RSM with Volume Toggle Switch, Orange Button, 3.5mm NON-Threaded Jack (IP68)	PMMN4099	●	Windporting	High/Low				1	3.5 mm	IP68	UL	60 x 78 x 28	●	●	●	●	●	●	●
SRX 2200	Windporting RSM, Coyote Brown, (IP57)	NNTN8235		Windporting							IP57	FM UL	55 x 60 x 27			●				
	Windporting RSM with NON-Threaded 3.5mm Audio Jack, Coyote Brown, (IP54)	NNTN8236		Windporting						3.5 mm	IP54	FM UL	55 x 60 x 27			●				
APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 APX 1000 APX 900 SRX 2200	IMPRES RSM with NON-Threaded Audio Jack, Orange Button, Noise-Cancelling (IP54) NOT INTENDED FOR FIRE MARKETS	PMMN4062	●	Noise-Cancelling						3.5 mm	IP54	FM UL	60 x 78 x 28	●		●	●	●	●	●
	IMPRES RSM with Volume Toggle Switch, Orange Button and 1-Programmable Button, Windporting (IP57)	PMMN4065	●	Windporting	High/Low				1		IP57	FM UL	60 x 78 x 28	●		●	●	●	●	●
	IMPRES RSM with NON-Threaded Audio Jack, Windporting (IP55)	PMMN4069	●	Windporting						3.5 mm	IP55	FM UL	60 x 78 x 28	●		●	●	●	●	●

† HazLoc Details: For more information on which accessories are approved by Factory Mutual (FM) or Underwriters' Laboratory (UL) with certain APX models, please consult the manual provided with each FM- or UL-approved APX portable.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY		
REMOTE SPEAKER MICROPHONE ACCESSORIES AND REPLACEMENT PARTS			
PORTABLE RADIOS	DESCRIPTION		PART NUMBER
XE RSM REPLACEMENT PARTS			
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE		Xtreme Temperature Replacement Cable for XE RSM (NNTN8203 and NNTN8575 series)	30009402002
		Xtreme Temperature Replacement Cable for XE500 RSM	30009402007
		XE RSM Clip Assembly with brass insert designed to work with the Boston Leather Straps (AY000223A01, AY000229A01) requires Clip Button NNTN8749	NNTN8271
		XE500 RSM Clip Assembly with brass insert designed to work with the Boston Leather Straps (AY000223A01, AY000229A01) requires Clip Button NNTN8749	PMLN7633
		Clip Button	NNTN8749
WIRELESS RSM ACCESSORIES AND REPLACEMENT PARTS			
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 SRX 2200		Dual Unit Charger, rapid rate charger, 120V (US Plug)	PMLN7120
		Vehicular Charger	PMLN6716
		Wireless RSM with Battery and Clip, No Charger	RLN6544
		Wireless RSM Battery, 1750 mA Li-Ion	PMNN4461
		D Ring Swivel Clip (12 pack) Compatible with all XP RSMs and Wireless RSMs	NNTN4990

FIRE MARKET SOLUTION

The XE and XE500 RSM clip paired with a clip button allows easy and secure access to your RSM when used with a Boston Radio Strap with Button Back Holder.

APX WIRELESS RSM

Every feature on this RSM has been purposefully designed. Large, yet recessed push-to-talk and emergency buttons are easy to access and designed to prevent accidental activation. Additional features include a volume control, audio jack and task light that allows you to read items such as a driver's license in the dark. This RSM features all of the advanced capabilities of Mission Critical Wireless including enhanced security, fast push-to-talk and quick touch pairing with voice prompts that confirm pairing actions. This RSM also features a removable and rechargeable battery. Charge the RSM on the go with the vehicular charger or in the office with the dual-unit desk charger.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES		
REMOTE SPEAKER MICROPHONE ACCESSORIES AND REPLACEMENT PARTS						
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	EARPIECE TYPE	CONNECTOR TYPE	HAZLOC-CAPABLE†
APX 8000		Receive-Only Earpiece with Comfort Eartube, FM and UL approved	RLN4941	Clear Rubber Eartip	3.5mm	FM UL
		Receive-Only Earpiece with Comfort Eartube. Extra loud audio output	RLN4941_XL	Clear Rubber Eartip	3.5mm	
APX 8000XE		Receive-Only Earpiece with Comfort Eartube	PMLN7560	Clear Rubber Eartip	3.5mm	
APX 7000		Receive-Only Earbud, FM and UL approved	AARLN4885	Foam Earbud	3.5mm	FM UL
APX 7000XE		Receive-Only Earpiece, Loud Version. Required BDN6783 or NMN6274	RLN5313_XL	Clear Rubber Eartip	3.5mm	
APX 6000		EP7 Sonic Defender, use with RLN4941	RLN6511 RLN6512 RLN6513			
APX 6000XE		Adjustable D-Style Earpiece	PMLN7396	Over-the-Ear	3.5mm	
APX 4000		D-Shell Rx-Only Earpiece	PMLN4620	Over-the-Ear	3.5mm	FM UL
APX 3000		Receive-Only Flexible Earpiece	WADN4190	Over-the-Ear	3.5mm	FM UL
APX 1000		Receive and Transmit Boomless Temple Transducer (for HMN4104, HMN4103 and HMN4101 only)	RMN5116	Over-the-Head	8-Pin	FM UL
APX 900		Receive-Only Extra Loud Earpiece with Translucent Tube and Rubber Eartip (for HMN4104, HMN4103 and HMN4101 only)	RLN6424_XL	Clear Rubber Eartip	8-Pin	FM UL
SRX 2200		Replacement Foam Plugs for RLN5887 and RLN6242. Noise reduction = 25dB.* (Pack of 50 pairs)	5080384F72	Foam Eartip		
		Replacement Rubber Eartip for RLN6424 (Pack of 25)	5080370E97			
		D Ring Swivel Clip (12 pack). Compatible with all XP RSMs and wireless RSMs	NNTN4990			

* For High Noise Kit solution - combine RLN6242 Low Noise Kit with translucent tube and clear rubber eartip and RLN6281 Replacement Foam Plugs for RLN6242. Noise reduction = 25dB.

† HazLoc Details: For more information on which accessories are approved by Factory Mutual (FM) or Underwriters' Laboratory (UL) with certain APX models, please consult the manual provided with each FM- or UL-approved APX portable.

WHICH MICROPHONES ARE 50% LOUDER AND CLEARER?

APX Remote Speaker Microphones and Public Safety Microphones deliver audio that is clearer, easier to understand, and up to 50% louder. That's because they have the same speaker found in APX portable radios for the best-in-class accessory audio available.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES
REMOTE SPEAKER MICROPHONE ACCESSORIES AND REPLACEMENT PARTS				
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	CONNECTOR TYPE
APX 8000XE **APX 7000** **APX 7000XE** **APX 6000** **APX 6000XE** **APX 4000** **APX 3000** **APX 1000** **APX 900** **SRX 2200**		Interface Cable, 5-Pin Nexus Female Receptacle for HMN4104, HMN4103 and HMN4101	PMKN4107	5-Pin Nexus Female
		Interface Cable 4-Pin Nexus Male Plug for HMN4104, HMN4103 and HMN4101	PMKN4112	4-Pin Nexus Male
		Interface Cable, 12-Pin Hirose Male Connector for HMN4104, HMN4103 and HMN4101	PMKN4113	12-Pin Hirose Male
		Replacement Coil Cord Kit for HMN4104, 4103 and 4101	3075336B17	
		Replacement Coil Cord Kit for PMMN4062, PMMN4065, PMMN4069, PMMN4083 and PMMN4099.	RLN6075	

WHICH MICROPHONE IS RIGHT FOR ME?

WINDPORTING AUDIO: I HEAR YOU, NOT THE WIND

If you work outdoors in demanding weather, a Windporting microphone is right for you. It reduces the effects of wind and other sounds whenever you use the microphone. It also prevents water from clogging the microphone for clear transmissions.

NOISE-CANCELLING AUDIO: I HEAR YOU, NOT THE NOISE

Talking in a crowd or near heavy equipment? A Noise-Cancelling microphone reduces background sounds. To optimize noise reduction, hold the microphone in the correct position directly in front of your mouth, facing the source of the noise.

DUAL MIC NOISE SUPPRESSION: I HEAR YOU, EVEN WHEN YOU CAN'T HEAR YOURSELF

Virtually blocks out all background noise in demanding and extreme noise environments so you can always communicate clearly.

COMPATIBILITY	ACCESSORY			FEATURES									VERTICAL MARKETS: Recommendations based on typical use case for each of verticals listed.						
PUBLIC SAFETY MICROPHONES Our robust portfolio includes Public Safety Microphones and secondary audio accessories engineered to give you clearer communications even in loud environments.																			
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	IMPRES AUDIO	MICROPHONE NOISE SUPPRESSION	VOLUME CONTROL	ORANGE PROGRAMMABLE BUTTON	PROGRAMMABLE BUTTON	AUDIO JACK	IP RATING	HAZLOC-CAPABLE†	SIZE (MM)	POLICE	FIRE / EMS	MILITARY	FEDERAL AGENCIES	UTILITIES AND PUBLIC WORKS	OIL, GAS AND MINING	TRANSPORTATION
APX 7000 700/800 MHz only **APX 6000** 700/800 MHz only **APX 3000** 700/800 MHz only		Public Safety Microphone (30 inch cable) PSM Antenna required. VHF not supported.	PMMN4061	●	Windporting	High/Low		1	3.5 mm	IP55	FM UL	60 x 78 x 28	●				●		
		Public Safety Microphone (24 inch cable) PSM Antenna required. VHF not supported. Recommended for use with UHF radios.	PMMN4060	●	Windporting	High/Low		1	3.5 mm	IP55	FM UL	60 x 78 x 28	●				●		
		Public Safety Microphone (24 inch cable) PSM Antenna required. VHF not supported. Recommended for use with 7/800MHz radios.	PMMN4060_ SP01	●	Windporting	High/Low		1	3.5 mm	IP55	FM UL	60 x 78 x 28	●				●		
		Public Safety Microphone (18 inch cable) PSM Antenna required. VHF not supported.	PMMN4059	●	Windporting	High/Low		1	3.5 mm	IP55	FM UL	60 x 78 x 28	●				●		

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HOW DOES COMMPORT™ WORK?

The miniature microphone and receiver connect to your APX radio and fasten securely and comfortably to your ear. Unlike bone conduction or boom mic technology, the CommPort System picks up sound waves as they cross the face so you hear and can be heard virtually in any environment.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY		
COMMPORT™ Integrated microphone/receiver lets you talk discreetly and hear clearly and still be aware of everything around you, from traffic noise to other responders.			
PORTABLE RADIOS	**DESCRIPTION**		**PART NUMBER**
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 SRX 2200		Replacement Palm PTT for RLN6480	NKN6510
		Replacement Cable for RLN6481	NKN6508
		Replacement Snap-On-Side PTT for RLN6482	NKN6525

COMPATIBILITY	ACCESSORY		
COMMPORT™			
PORTABLE RADIOS	**DESCRIPTION**		**PART NUMBER**
APX 8000 APX 8000XE		Replacement Ring PTT for RLN6483	NKN6512
APX 7000 APX 7000XE		Replacement Remote Body PTT for RLN6484	NNTN4188
APX 6000 APX 6000XE		CommPort Maintenance Kit (Includes 10 replacement ear tubes, 10 microphone seals and 2 windscreens)	NTN8821
APX 4000		Ear Straps for secure attachment to ear (pack of 10)	NTN8988
APX 3000		Replacement Ear Tubes (pack of 10)	RLN5037
SRX 2200		Replacement Collar Clip	4285838B01

APX PORTABLE RADIO ACCESSORIES

EAR MICROPHONE SYSTEM

COMPATIBILITY	ACCESSORY			FEATURES						VERTICAL MARKETS: Recommendations based on typical use case for each of verticals listed.						
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	IMPRES	EARPIECE TYPE	MICROPHONE	PTT	PROGRAMMABLE BUTTON	HAZLOC- CAPABLE†	POLICE	FIRE / EMS	MILITARY	FEDERAL AGENCIES	UTILITIES AND PUBLIC WORKS	OIL, GAS AND MINING	TRANSPORTATION
APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 APX 1000 APX 900 SRX 2200		IMPRES Ear Microphone with Bone Conduction and programmable button, black	PMLN5653	●	In-Ear Mic	In-Ear Mic	Large, Ring-guarded, Recessed		FM APPROVED FOR APX 7000, APX 7000XE, APX 6000, APX 6000XE	●		●	●			
		Earguard with Adjustable Loop	0180300E25													
		Earholder, Black, Small	0180358B32													
		Earholder, Clear, Large	0180358B37													

HOW DOES IMPRES IMPROVE AUDIO PERFORMANCE?

IMPRES enhances the clarity and audio quality of Motorola accessories by reducing ambient noise and improving voice intelligibility. If you speak quietly or normally, but not directly into a microphone, IMPRES Audio detects changes in your voice and automatically adjusts the transmitted volume so your listener won't have to adjust volume up and down.

SURVEILLANCE KITS

Transmit and receive discreetly with a variety of surveillance kits that feature a streamlined design and rugged cables that withstand tough conditions. A quick-disconnect, durable and comfortable translucent tube enables easy sharing between shifts.

Two-wire kits have one wire for receiving transmissions and one wire with a combined microphone and push-to-talk.
Three-wire kits feature separate wires for receiving transmissions, push-to-talk and microphone.

COMPATIBILITY	ACCESSORY			FEATURES						VERTICAL MARKETS: Recommendations based on typical use case for each of verticals listed.						
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	IMPRES	EARPIECE TYPE	MICROPHONE	PTT	PROGRAMMABLE BUTTON	HAZLOC- CAPABLE†	POLICE	FIRE / EMS	MILITARY	FEDERAL AGENCIES	UTILITIES AND PUBLIC WORKS	OIL, GAS AND MINING	TRANSPORTATION
APX 8000 APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 APX 1000 SRX 2200		1-Wire Receive-only Earpiece, Black	PMLN6125	●	Ear Hanger				FM UL	●		●	●			
		1-Wire Receive-only Earpiece, Beige	PMLN6126	●	Ear Hanger				FM UL	●		●	●			
		IMPRES 2-Wire Surveillance Kit, Programmable Button, Black	PMLN6127	●	Ear Hanger	Mic and PTT Combined on a Single Wire	Mic and PTT Combined on a Single Wire		FM UL	●		●	●			
		IMPRES 2-Wire Surveillance Kit, Programmable Button, Beige	PMLN6128	●	Ear Hanger				FM UL	●		●	●			

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APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES						VERTICAL MARKETS: Recommendations based on typical use case for each of verticals listed.						
SURVEILLANCE KITS																
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	IMPRES	EARPIECE TYPE	MICROPHONE	PTT	PROGRAMMABLE BUTTON	HAZLOC-CAPABLE†	POLICE	FIRE / EMS	MILITARY	FEDERAL AGENCIES	UTILITIES AND PUBLIC WORKS	OIL, GAS AND MINING	TRANSPORTATION
APX 8000 APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 APX 1000 APX 900 SRX 2200		IMPRES 2-Wire Surveillance Kit with Translucent Tube, Programmable Button, Black	PMLN6129	●	Clear Rubber Eartip	 Mic and PTT Combined on a Single Wire	 Mic and PTT Combined on a Single Wire		FM UL	●		●	●			
		IMPRES 2-Wire Surveillance Kit with Translucent Tube, Programmable Button, Beige	PMLN6130	●	Clear Rubber Eartip				FM UL	●		●	●			
APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 APX 1000 APX 900 SRX 2200		IMPRES 3-Wire Surveillance Kit with Translucent Tube, Programmable Button, Black	PMLN6123	●	Clear Rubber Eartip	 Separate Wire	 Separate Wire		FM UL	●		●	●			
		IMPRES 3-Wire Surveillance Kit with Translucent Tube, Programmable Button, Beige	PMLN6124	●	Clear Rubber Eartip				FM UL	●		●	●			
		1-Wire Receive-Only Surveillance Kit with Earpiece, Black, 3.5mm Threaded. Requires BDN6783.	BDN6726		Ear Hanger				FM approved with APX6000/6000XE APX7000/7000XE UL	●		●	●			
		1-Wire Receive-Only Surveillance Kit with Extra-Loud Earpiece, Black, 3.5mm Threaded. Requires BDN6783.	BDN6727		Ear Hanger				FM approved with APX6000/6000XE APX7000/7000XE UL	●		●	●			

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APX PORTABLE RADIO ACCESSORIES

SURVEILLANCE KITS

COMPATIBILITY: PORTABLE RADIOS	ACCESSORY: DESCRIPTION	PART NUMBER	EARPIECE TYPE	MICROPHONE	PTT	HAZLOC-CAPABLE†	VERTICAL MARKETS: POLICE	FIRE / EMS	MILITARY	FEDERAL AGENCIES	UTILITIES AND PUBLIC WORKS	OIL, GAS AND MINING	TRANSPORTATION
APX 8000, APX 8000XE, APX 7000, APX 7000XE, APX 6000, APX 6000XE, APX 4000, APX 3000, APX 1000, APX 900, SRX 2200	1-Wire Receive-Only Surveillance Kit with Translucent Tube, Black, 3.5mm Threaded. Requires BDN6783.	RLN5313	Clear Rubber Eartip			UL	●		●	●			
	1-Wire Receive-Only Surveillance Kit with Translucent Tube, Black, Loud version, 3.5mm Threaded. Requires BDN6783 or NMN6274.	RLN5313_XL	Clear Rubber Eartip				●		●	●			
	2-Wire Surveillance Kit with Translucent Tube, Black, 3.5mm Threaded. Requires BDN6783.	RLN5312	Clear Rubber Eartip	Mic and PTT Combined on a Single Wire	Mic and PTT Combined on a Single Wire		●		●	●			
	2-Wire Surveillance Kit with Earpiece, Black, 3.5mm Threaded. Requires BDN6783.	BDN6729	Ear Hanger	Mic and PTT Combined on a Single Wire	Mic and PTT Combined on a Single Wire	UL FM approved with APX6000/6000XE APX7000/7000XE	●		●	●			
	2-Wire Surveillance Kit with Extra-Loud Earpiece, Beige, 3.5mm Threaded. Requires BDN6783.	BDN6669	Ear Hanger	Mic and PTT Combined on a Single Wire	Mic and PTT Combined on a Single Wire	FM approved with APX6000/6000XE APX7000/7000XE	●		●	●			
	2-Wire Surveillance Kit with Extra-Loud Earpiece, Black, 3.5mm Threaded. Requires BDN6783.	BDN6731	Ear Hanger	Mic and PTT Combined on a Single Wire	Mic and PTT Combined on a Single Wire	UL FM approved with APX6000/6000XE APX7000/7000XE	●		●	●			
	3-Wire Surveillance Kit with Earpiece, Beige, 3.5mm Threaded. Requires BDN6783.	BDN6668	Ear Hanger	Separate Wire	Separate Wire	UL FM approved with APX6000/6000XE APX7000/7000XE	●		●	●			
	3-Wire Surveillance Kit with Earpiece, Black, 3.5mm Threaded. Requires BDN6783.	BDN6730	Ear Hanger	Separate Wire	Separate Wire	UL FM approved with APX6000/6000XE APX7000/7000XE	●		●	●			
	3-Wire Surveillance Kit with Extra-Loud Earpiece, Beige, 3.5mm Threaded. Requires BDN6783.	BDN6670	Ear Hanger	Separate Wire	Separate Wire	FM approved with APX6000/6000XE APX7000/7000XE	●		●	●			
	3-Wire Surveillance Kit with Extra-Loud Earpiece, Black, 3.5mm Threaded. Requires BDN6783.	BDN6732	Ear Hanger	Separate Wire	Separate Wire	UL FM approved with APX6000/6000XE APX7000/7000XE	●		●	●			

VERTICAL MARKETS: Recommendations based on typical use case for each of verticals listed.

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APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES	
SURVEILLANCE KIT ACCESSORIES AND REPLACEMENT PARTS					
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	EARPIECE TYPE	COMPATIBLE SURVEILLANCE KITS
APX 8000XE **APX 7000** **APX 7000XE** **APX 6000** **APX 6000XE** **APX 4000** **APX 3000** **APX 1000** **APX 900** **SRX 2200**		Completely Discreet Earpiece Kit with Neckloop, Beige, Includes GMLN5261, RLN4920 and RNN4005	PMLN7696		
		Phonak Nano Ear Receiver, Beige (Neckloop must be ordered separately)	GMLN5261		
		Phonak Nano Ear Receiver, Brown (Neckloop must be ordered separately)	GMLN5262		
		Replacement Earwax Guards. 5 per pack. Compatible with PMLN7696	RLN4919		
		Optional Retention Hooks, Pack of 10	NNTN8457		
		Phonak Inductive Neckloop Included in the PMLN7696	RLN4920		
		1.4 Volt Battery – Pack of 6	RNN4005		
		Low Noise Kit with Quick Disconnect Translucent Tube and Clear Rubber Eartip	RLN6242	Clear Rubber Eartip	PMLN6123, PMLN6124, PMLN6129, PMLN6130
		Replacement Standard Clear Rubber Eartip, Pack of 50	RLN6282	Clear Rubber Eartip	PMLN6123, PMLN6124, PMLN6125, PMLN6126, PMLN6127, PMLN6128, PMLN6129, PMLN6130
		Replacement Foam Plugs for RLN5887 and RLN6242. Noise reduction = 25dB.* Pack of 50 pairs.	5080384F72	Foam Eartip	PMLN6123, PMLN6124, PMLN6129, PMLN6130
		Low Noise Kit with 1 Clear Rubber Eartip	RLN5886	Clear Rubber Eartip	RLN5882, RLN5883, PMLN5111, PMLN5112, PMLN6125, PMLN6126
		High Noise Kit* with 2 Foam Earplugs	RLN5887	Foam Eartip	
		Clear EP7-Small Hearing Protectors [Sonic Defenders] Ultra Earplugs Noise reduction = 28dB	RLN6511	Comply™ Foam Eartip	RLN5882, RLN5883, PMLN5111, PMLN5112, PMLN6123, PMLN6124, PMLN6125, PMLN6126, PMLN6127, PMLN6128, PMLN6129, PMLN6130
		Clear EP7-Medium Hearing Protectors [Sonic Defenders] Ultra Earplugs Noise reduction = 28dB	RLN6512	Comply™ Foam Eartip	
		Clear EP7-Large Hearing Protectors [Sonic Defenders] Ultra Earplugs Noise reduction = 28dB	RLN6513	Comply™ Foam Eartip	

* For High Noise Kit solution - combine RLN6242 Low Noise Kit with translucent tube and clear rubber eartip and RLN6281 Replacement Foam Plugs for RLN6242. Noise reduction = 25dB.

COMPATIBILITY	ACCESSORY			FEATURES
SURVEILLANCE KIT ACCESSORIES AND REPLACEMENT PARTS				
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	EARPIECE TYPE
APX 8000 **APX 8000XE** **APX 7000** **APX 7000XE** **APX 6000** **APX 6000XE** **APX 4000** **APX 3000** **APX 1000** **APX 900** **SRX 2200**		Small Clear Comfortable Earpiece, Right Ear	RLN4760	Clear comfortable earpiece
		Medium Clear Comfortable Earpiece, Right Ear	RLN4761	Clear comfortable earpiece
		Large Clear Comfortable Earpiece, Right Ear	RLN4762	Clear comfortable earpiece
		Small Clear Comfortable Earpiece, Left Ear	RLN4763	Clear comfortable earpiece
		Medium Clear Comfortable Earpiece, Left Ear	RLN4764	Clear comfortable earpiece
		Large Clear Comfortable Earpiece, Left Ear	RLN4765	Clear comfortable earpiece
SURVEILLANCE KIT AUDIO ADAPTERS				
APX 7000 **APX 7000XE** **APX 6000** **APX 6000XE** **APX 4000** **APX 3000** **APX 1000** **APX 900** **SRX 2200**		3.5mm Threaded Audio Adapter	BDN6783†	UL Approved: BDN6667, BDN6668, BDN6669, BDN6728, BDN6729, BDN6730, BDN6731, BDN6670 Other: BDN6664, BDN6665, BDN6666, BDN6726, BDN6727, BDN6732
		6 Pin Hirose Keyload and Audio Adapter, FM/IS rated	NNTN7869	ZMN6031, ZMN6032, ZMN6038, ZMN6039

† HazLoc Details: For more information on which accessories are approved by Factory Mutual (FM) or Underwriters' Laboratory (UL) with certain APX models, please consult the manual provided with each FM- or UL-approved APX portable.

XBT HEAVY-DUTY WIRELESS HEADSET IN USE

It's the middle of a shift and with machinery running at full speed, your workplace is a noisy place to be. You need to communicate on your radio while still being aware of everything around you. XBT heavy-duty headsets connect wirelessly to your radio, suppressing noise for clearer communications. With patented SENS™ situational awareness technology, these headsets ensure you'll hear critical communications from co-workers in the field with you.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES								VERTICAL MARKETS: Recommendations based on typical use case for each of verticals listed.						
HEADSETS																		
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	IMPRES	HEADSET TYPE	SPEAKER	NOISE-CANCELLING / NOISE-REDUCTION	MICROPHONE	PTT	HAZLOC-CAPABLE†	WEIGHT	POLICE	FIRE / EMS	MILITARY	FEDERAL AGENCIES	UTILITIES AND PUBLIC WORKS	OIL, GAS AND MINING	TRANSPORTATION
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 APX 1000 APX 900 SRX 2200		IMPRES Temple Transducer with Boom Microphone and In-line Push-To-Talk Replacement Rubber Temple Cover (1 Pair) 7580384M19	PMLN5101	●	Behind-the-Head	Bone Conduction		Boom	In-line	FM UL	Lightweight	●		●		●	●	●
		Earset D-Shell	PMLN5096		Over-the-Ear	Single-Ear		Boom	In-line	UL	Lightweight							●
		Ultra Lite Headset	PMLN5102		Over-the-Head	Single-Ear		Boom	In-line	UL	Lightweight							●
		Heavy-Duty Behind-the-Head Headset with Noise-Cancelling Boom Microphone, Noise Reduction = 24dB	PMLN6852		Behind-the-Head	Dual-Ear	●	Boom	On Ear Cup		Heavy-Duty					●	●	●
		Heavy-Duty Behind-the-Head Headset with Noise-Cancelling Boom Microphone, Noise Reduction = 24dB	PMLN6853		Behind-the-Head	Dual-Ear	●	Boom	On Ear Cup	UL	Heavy-Duty					●	●	●
		Heavy-Duty Over-the-Head Headset with Noise-Cancelling boom Microphone, Noise Reduction = 24dB	PMLN7466		Over-the-Head	Dual-Ear	●	Boom	On Ear Cup		Heavy-Duty					●	●	●
		Heavy-Duty Over-the-Head Headset with Noise-Cancelling Boom Microphone, Noise Reduction = 24dB	PMLN7467		Over-the-Head	Dual-Ear	●	Boom	On Ear Cup	UL	Heavy-Duty					●	●	●
APX 8000 APX 6000XE APX 8000XE APX 4000 APX 7000 APX 1000 APX 7000XE APX 900 APX 6000 SRX 2200		Lightweight Over-the-Head Headset Single Muff with in-Line Push-To-Talk & Boom Mic REX4648 - Replacement Foam Earpad and Microphone Cover Kit	RMN5058		Over-the-Head	Single-Ear		Boom	In-line	FM UL	Lightweight			●		●	●	●
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 APX 900 SRX 2200		XBT Operations Critical Wireless Behind-the-Neck Headset	RLN6490		Behind-the-Neck	Dual-Ear	●	Boom	Radio, Headset or Wireless PTT Pod		Heavy-Duty					●		●
		XBT Operations Critical Wireless Headband Style Headset	RLN6491		Over-the-Head	Dual-Ear	●	Boom	Radio, Headset or Wireless PTT Pod		Heavy-Duty					●		●

† HazLoc Details: For more information on which accessories are approved by Factory Mutual (FM) or Underwriters' Laboratory (UL) with certain APX models, please consult the manual provided with each FM- or UL-approved APX portable.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY				FEATURES						
3M PELTOR HEAVY DUTY HEADSETS											
PORTABLE RADIOS		**DESCRIPTION AND ADAPTER TYPE**	**PART NUMBER**	**PELTOR PART NUMBER**	**HEADSET TYPE**	**CONNECTOR TYPE**	**SPEAKER**	**NOISE REDUCTION RATING (NRR)**	**NOISE-CANCELLING MICROPHONE**	**PTT (APX)**	**HAZLOC-CAPABLE†**
DIRECT CONNECT											
APX 8000 **APX 8000XE** **APX 7000** **APX 7000XE** **APX 6000** **APX 6000XE** **APX 4000** **APX 3000** **SRX 2200**		MT Series Over-the-Head Headset, Direct Radio Connect	RMN5137	MT7H79A-C5063-34	Over-the-Head	Connects directly to Radio	Dual-Ear	25dB	Boom	On Ear Cup	UL
		MT Series Neckband Headset, Direct Radio Connect	RMN5138	MT7H79B-C5063-34	Neckband	Connects directly to Radio	Dual-Ear	24dB	Boom	On Ear Cup	UL
		MT Series Hard Hat Attached Headset, Direct Radio Connect	RMN5139	MT7H79P3E-C5063-34	Hard Hat Attached	Connects directly to Radio	Dual-Ear	21dB	Boom	On Ear Cup	UL
PTT ADAPTER CONFIGURATIONS											
APX 8000 **APX 8000XE** **APX 7000** **APX 7000XE** **APX 6000** **APX 6000XE** **APX 4000** **APX 3000** **SRX 2200**		MT Series Over-the-Head Headset with Nexus Connector	PMLN6088	MT7H79A-34	Over-the-Head	Nexus	Dual-Ear	25dB	Boom	Requires PTT Adapter PMLN6095	
		MT Series Neckband Headset with Nexus Connector	RLN6477	MT7H79B-34	Neckband	Nexus	Dual-Ear	24dB	Boom	Requires PTT Adapter PMLN6095	
		MT Series Hard Hat Attached with Nexus Connector	RMN4051	MT7H79P3E-34	Hard Hat Attached	Nexus	Dual-Ear	21dB	Boom	Requires PTT Adapter PMLN6095	
		TacticalPro Series Over-the-Head Headset with Nexus Connector	RMN4052	MT15H7A-34	Over-the-Head	Nexus	Dual-Ear	26dB	Boom	Requires PTT Adapter PMLN6095	
		TacticalPro Series Neckband Headset with Nexus Connector	RMN5135	MT15H7B-07-34	Neckband	Nexus	Dual-Ear	25dB	Boom	Requires PTT Adapter PMLN6095	
		TacticalPro Series Hard Hat Attached with Nexus Connector	RMN4053	MT15H7P3E-34	Hard Hat Attached	Nexus	Dual-Ear	22dB	Boom	Requires PTT Adapter PMLN6095	
		PTT Nexus Adapter. Requires one of the six headsets listed directly above	PMLN6095	FL5063-34							
RSM CONFIGURATIONS											
APX 7000 **APX 7000XE** **APX 6000** **APX 6000XE** **APX 4000** **APX 3000** **SRX 2200**		HT Series Listen Only Over-the-Head Headset with 3.5mm NON Threaded Connector	RMN4055	HTM79A-34	Over-the-Head	3.5mm NON threaded	Dual-Ear	25dB	(Listen-Only)	APX radio requires RSM: PMMN4062, PMMN4069 or PMMN4084	
		HT Series Listen Only Neckband Headset with 3.5mm NON Threaded Connector	RMN5132	HTM79B-34	Neckband	3.5mm NON threaded	Dual-Ear	24dB	(Listen-Only)		
		HT Series Listen Only Hard Hat Attached Headset with 3.5mm NON Threaded Connector	RMN5133	HTM79P3E-34	Hard Hat Attached	3.5mm NON threaded	Dual-Ear	23dB	(Listen-Only)		

† HazLoc Details: For more information on which accessories are approved by Factory Mutual (FM) or Underwriters' Laboratory (UL) with certain APX models, please consult the manual provided with each FM- or UL-approved APX portable.

COMPATIBILITY	ACCESSORY			
HEADSET REPLACEMENT PARTS				
PORTABLE RADIOS		**DESCRIPTION**	**PART NUMBER**	**PELTOR PART NUMBER**
APX 7000 **APX 7000XE** **APX 6000** **APX 6000XE** **APX 4000** **APX 3000** **SRX 2200**		Earmuff Hygiene Kit Black Earseals	RLN4923	HY79
		Boom Microphone Wind Screen	RLN6543	M40/1

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES				VERTICAL MARKETS: Recommendations based on typical use case for each of verticals listed.						
HEARING PROTECTION														
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	IMPRES	HEADSET TYPE	SPEAKER	NOISE-CANCELLING / NOISE-REDUCTION	POLICE	FIRE / EMS	MILITARY	FEDERAL AGENCIES	UTILITIES AND PUBLIC WORKS	OIL, GAS AND MINING	TRANSPORTATION
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 APX 1000 APX 900 SRX 2200		Clear EP7-Small Hearing Protectors [Sonic Defenders] Ultra Earplugs, noise reduction = 28dB	RLN6511		Comply™ Foam Ear tip		Noise-Reduction					●	●	●
		Clear EP7-Medium Hearing Protectors [Sonic Defenders] Ultra Earplugs, noise reduction = 28dB	RLN6512		Comply™ Foam Ear tip		Noise-Reduction					●	●	●
		Clear EP7-Large Hearing Protectors [Sonic Defenders] Ultra Earplugs, noise reduction = 28dB	RLN6513		Comply™ Foam Ear tip		Noise-Reduction					●	●	●
TACTICAL SOLUTIONS														
APX 8000		Tactical PTT/VOX Interface Module	PMLN6765					●	●	●	●	●		●
APX 8000XE		Tactical PTT Only Interface Module	PMLN6827					●	●	●	●	●		●
APX 7000		Tactical Boomless Temple Transducer Requires Interface Module PMLN6765 or PMLN6827.	PMLN6766		Over-the-Head	Bone Conduction	Noise-Cancelling	●		●	●	●		●
APX 7000XE		Tactical Throat Microphone Requires Interface Module PMLN6765 or PMLN6827.	PMLN6828		Neckband	Earbud	Noise-Cancelling	●		●	●	●		●
APX 6000		Tactical Ear Microphone Requires Interface Module PMLN6765 or PMLN6827.	PMLN6829		In-Ear	In-Ear	Noise-Cancelling	●	●			●		●
APX 6000XE		Tactical Temple Transducer / Boom Mic Requires Interface Module PMLN6765 or PMLN6827.	PMLN6833		Over-the-Head	Bone Conduction	Noise-Cancelling	●			●	●		●
APX 4000		Tactical Remote Body PTT For use with Interface Module PMLN6765 or PMLN6827.	PMLN6767					●	●	●	●	●		●
APX 3000		Tactical Remote Ring PTT For use with Interface Module PMLN6765 or PMLN6827.	PMLN6830						●		●			●
SRX 2200														

WHAT ARE THE EP7 SONIC DEFENDERS ULTRA EARPLUGS?

RLN6511, RLN6512, RLN6513

The EP7 Sonic Defenders Ultra Earplugs provide extra comfort and/or noise protection for users wearing surveillance accessories or users wearing heavy duty headsets / helmets. With a foam-tipped stem design and soft memory-foam Comply™ Canal Tips, these comfortable earplugs protect your hearing without blocking your ability to hear routine sounds or conversations. Safe sounds are allowed to pass through into the ear canal, while potentially harmful noises (above 85dB) are reduced through a filter.

Filter caps are included and can be inserted for additional hearing protection or removed for use with surveillance kits.* With a patented EarLock® technology to hold them in place, all-day comfort, and a low-profile design, these earplugs can be worn while wearing a helmet or mask, or while using a phone or heavy duty headset. Lanyard is included in each earplug kit.

*EP7 earpiece will not provide full 28dB Noise Reduction when the noise-reducing filter is removed.

Motorola's Tactical Solution offers a high performance interface enhanced by high speed DSP (Digital Signal Processor) which only detects the human voice.

Providing steady and trouble free transmission without clipping your message even in the noisiest environments.

Combined with various headsets assures efficient and safer operation in a variety of work environments.

HOW DO MISSION CRITICAL WIRELESS ACCESSORIES HELP ME?

They free you from being physically connected to the radio and are ideal for surveillance operations. They look CONSUMER, but are mission critical in performance and provide exceptional flexibility, high security, superior audio performance and a new dimension of freedom. Carry your radio in a backpack, bag or purse without being constrained by wires. YOUR RADIO, UNLEASHED.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES										VERTICAL MARKETS: Recommendations based on typical use case for each of verticals listed.						
MISSION CRITICAL WIRELESS (MCW) ACCESSORIES This portfolio is a game changer, giving you the flexibility to remove the radio from your belt and stay connected within 30 feet.																				
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	EARPIECE TYPE	MICROPHONE	PTT	TALK TIME (HOURS) 5/5/90 DUTY CYCLE	CHARGE TIME (HOURS)	WEIGHT (GRAMS)	SIZE (MM)	RANGE (FEET LINE OF SIGHT)	IP RATING	HAZLOC-CAPABLE†	POLICE	FIRE / EMS	MILITARY	FEDERAL AGENCIES	UTILITIES AND PUBLIC WORKS	OIL, GAS AND MINING	TRANSPORTATION
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 SRX 2200		Mission Critical Wireless Earpiece with 12" Cable and Push-To-Talk Pod	NTN2570	Over-the-Ear (CommPort™)	Directional, above the Earpiece	●	10	3	43	70 x 41 x 25	30	IP54	FM	●	●	●	●	●		●
		Mission Critical Wireless Push-To-Talk Pod	NTN2571			●	10	3	43	70 x 41 x 25	30	IP54	FM	●	●	●	●	●		●
		Mission Critical Wireless Remote Control Keyfob with Programmable Buttons	NNTN8442			●	10	3	26	67 x 32 x 16	30	IP54		●			●			

† HazLoc Details: For more information on which accessories are approved by Factory Mutual (FM) or Underwriters' Laboratory (UL) with certain APX models, please consult the manual provided with each FM- or UL-approved APX portable.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES		
MISSION CRITICAL WIRELESS (MCW) ACCESSORIES This portfolio is a game changer, giving you the flexibility to remove the radio from your belt and stay connected within 30 feet.						
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	EARPIECE TYPE	MICROPHONE	PTT
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 SRX 2200		Single-wire Surveillance Kit With Quick Disconnect Translucent Tube for Wireless Push-to-Talk Pod	PMLN7052	Clear Rubber Eartip	In-line	On Pod, ordered separately
		Single-wire Earbud with 11.5" Cable for Wireless Push-to-Talk Pod, Black	NNTN8294	Earbud	In-line	On Pod, ordered separately
		Single-wire Earbud with 45" Cable for Wireless Push-to-Talk Pod, Black	NNTN8295	Earbud	In-line	On Pod, ordered separately
		Covert Audio Kit for Mission Critical Wireless PTT Pod	NNTN8296	1 Earbud and 2 Earbud Headsets	In-line	On Pod, ordered separately
		Y-Adapter and Retention Hook for Mission Critical Wireless Push-to-Talk Pod	NNTN8385		Directional, on Separate Wire	On Pod, ordered separately
		Neckloop for Discreet Earpiece Kit	RLN4920			
		Accessory Kit for Completely Discreet Wireless Surveillance Kit. Includes: Wireless Neckloop, Y-adapter and Retention Hook (NNTN8385), Completely Discreet Earpiece Kit (PMLN7696) and Mission Critical Wireless Push-To-Talk Pod (NTN2571)	NNTN8434			
		Commercial 3.5mm Earbud Headset Adapter, 10 per pack	NNTN8737			
		Replacement Wireless Earpiece Cable, 12 inch	NTN2572	Over-the-Ear (CommPort™)	Directional above the Ear CommPort	On Pod, ordered separately
		Mission Critical Wireless Covert Pack-N-Go Kit, Basic. Kit includes: NNTN8296 Basic Mission Critical Wireless Covert Kit, NTN2571 Mission Critical Wireless Push-to-Talk (PTT) Pod and NNTN8442 Mission Critical Wireless Remote Control Unit	RLN6489	Earbud and Earbud Headset	On Y-Adapter or In-line on Earbuds	On PTT and MCW Keyfob
		Mission Critical Wireless Covert Pack-N-Go Kit, Advanced. Kit includes: All contents of Covert Pack-n-Go Kit plus PMLN7696 Completely Discreet Earpiece Kit and NNTN8385 Wireless Neckloop Y-adapter	RLN6501	Completely Discreet Earpiece, Earbud and Earbud Headset	On Y-Adapter or In-line on Earbuds	On PTT and MCW Keyfob

COMPATIBILITY	ACCESSORY			FEATURES		
MISSION CRITICAL WIRELESS (MCW) ACCESSORIES This portfolio is a game changer, giving you the flexibility to remove the radio from your belt and stay connected within 30 feet.						
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	EARPIECE TYPE	MICROPHONE	PTT
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 SRX 2200		Wireless Earpiece Maintenance Kit with 10 Silicone Ear Tubes, 10 Microphone Seal Strips and 2 Foam Windscreens for NTN2572 Over-the-Ear Earpiece	NTN8821	Over-the-Ear (CommPort™)		
		Ear Strap for CommPort™ Earpiece to Secure Earpiece to Ear (10 per pack)	NTN8988	Over-the-Ear (CommPort™)		
		Eartubes for CommPort™ Earpiece (10 per pack)	RLN5037	Over-the-Ear (CommPort™)		
		Replacement Ear Tips Kit for Wireless Ear Buds (20 Small, 20 Medium, 20 Large and 10 Clips)	NNTN8361	Earbud		
		Replacement Swivel Clip for Wireless PTT Pod	PMLN6246			
		Replacement or Spare Micro-USB Plug-In Charger (US)	PMPN4027			

WHAT MAKES THE COVERT PACK-AND-GO KIT A MUST-HAVE?

Organize and stow all your APX wireless accessories on the go, all in one place. Keep this durable kit in a backpack or messenger bag and you'll always have the right accessories on hand. With a dozen secure straps and deep mesh pockets, you can access exactly what you need when an operation happens.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES		
OPERATIONS CRITICAL WIRELESS (OCW) ACCESSORIES This portfolio is a game changer, giving you the flexibility to remove the radio from your belt and stay connected within 30 feet.						
PORTABLE RADIOS		DESCRIPTION	PART NUMBER	EARPIECE TYPE	MICROPHONE	PTT
APX 900		EP900W Opertions Critical Wireless Earpiece with PTT	PMLN7851	Over-the-Ear (Swivel)	In-line	On Pod
		Bluetooth Accessory Kit with Flexible Earpiece, Bluetooth Pod, and Charging Cradle with Power Supply	RLN6500	Over-the-Ear (Swivel)	Boom	On Earpiece
		Flexible Earpiece With Boom Microphone for RLN6500	PMLN7203	Over-the-Ear (Swivel)	Boom	On Pod, ordered separately
		Operations Critical Wireless Earpiece with 12 inch Cable	NNTN8125	Over-the-Ear (CommPort™)	Directional, above the Earpiece	On Pod
		Operations Critical Wireless Push-to-Talk Pod with Charger	NNTN8127			On Pod
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 APX 900 SRX 2200		Accessory Kit for Completely Discreet Wireless Surveillance Kit. Includes: Wireless Neckloop, Y-adapter and Retention Hook (NNTN8385), Completely Discreet Earpiece Kit (PMLN7696) and Mission Critical Wireless Push-To-Talk Pod (NTN2571)	NNTN8434			
		Single-wire Surveillance Kit With Quick Disconnect Translucent Tube for Wireless Push-to-Talk Pod for Pod	PMLN7052	Clear Rubber Eartip	In-line	On Pod, NNTN8127 ordered separately
		Single-wire Earbud with 11.5" Cable for Wireless Push-to-Talk Pod, Black	NNTN8294	Earbud	In-line	On Pod, NNTN8127 ordered separately
		Single-wire Earbud with 45" Cable for Wireless Push-to-Talk Pod, Black	NNTN8295	Earbud	In-line	On Pod, NNTN8127 ordered separately
		XBT Operations Critical Wireless Behind-the-Neck Headset	RLN6490	Headset	Boom	Headset or On Pod NNTN8127 ordered separately

COMPATIBILITY	ACCESSORY			FEATURES		
OPERATIONS CRITICAL WIRELESS (OCW) ACCESSORIES						
PORTABLE RADIOS		DESCRIPTION	PART NUMBER	EARPIECE TYPE	MICROPHONE	PTT
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 APX 900 SRX 2200		XBT Operations Critical Wireless Headband Style Headset	RLN6491	Headset	Boom	Headset or On Pod NNTN8127 ordered separately
		Replacement Wireless Earpiece Cable, 12 inch	NTN2572	Over-the-Ear (CommPort™)	Directional above the Ear CommPort	On Pod, NNTN8127 ordered separately
		Covert Audio Kit for Operations Critical Wireless PTT Pod	NNTN8296			
		CommPort Maintenance Kit (Includes 10 replacement ear tubes, 10 microphone seals and 2 windscreens)	NTN8821	Over-the-Ear (CommPort™)		
		Ear Strap for CommPort™ Earpiece to Secure Earpiece to Ear (10 per pack)	NTN8988	Over-the-Ear (CommPort™)		
		Eartubes for CommPort™ Earpiece (10 per pack)	RLN5037	Over-the-Ear (CommPort™)		

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY		FEATURES						
MOTOROLA IMPRES 2 BATTERIES									
PORTABLE RADIOS	DESCRIPTION	PART NUMBER	IMPRES	CHEMISTRY	TYPICAL RATED CAPACITY (mAh)	DIMENSIONS (MILLIMETERS) (H x W x D)	WEIGHT (MAX. GRAMS)	HAZLOC-CAPABLE†	IP RATING
APX 8000 APX 7000 APX 7000XE APX 6000 APX 6000XE SRX 2200	IMPRES 2 Li-Ion 3400 mAh Battery, IP68 Rugged	PMNN4486	●	Li-Ion	3400	86 x 59 x 42	185		IP68 Rugged
	IMPRES 2 Li-Ion 2550 mAh Battery, IP68 Rugged	PMNN4485	●	Li-Ion	2550	86 x 59 x 37	150		IP68 Rugged
	IMPRES 2 Li-Ion 4850 mAh Battery, IP68 Rugged, -30ºC Rated	PMNN4487	●	Li-Ion	4850	130 x 59 x 42	320		IP68 Rugged
	IMPRES 2 Li-Ion 5100 mAh Battery, IP68 Rugged	PMNN4494	●	Li-Ion	5100	130 x 59 x 42	320		IP68 Rugged
APX 7000 APX 7000XE APX 6000 APX 6000XE SRX 2200	IMPRES 2 Li-Ion 3100 mAh Battery, IP68 Rugged	PMNN4547	●	Li-Ion	3100	86 x 59 x 45	200	UL	IP68 Rugged
	IMPRES 2 Li-Ion 4600 mAh Battery, IP68 Rugged	PMNN4573	●	Li-Ion	4600	130 x 59 x 42	320	UL	IP68 Rugged
APX 8000XE	IMPRES 2 Li-Ion 3400 mAh Battery, IP68 Rugged	PMNN4504	●	Li-Ion	3400	86 x 59 x 42	185	UL	IP68 Rugged
	IMPRES 2 Li-Ion 4850 mAh Battery, IP68 Rugged, -30ºC Rated	PMNN4505	●	Li-Ion	4850	130 x 59 x 42	320	UL	IP68 Rugged
MOTOROLA IMPRES BATTERIES The only batteries developed, tested and certified for optimal performance with your APX radio. APX batteries are Proven Tough, in lab test after lab test, to withstand shocks, knocks, drops and shakes and outperform the other brands.									
APX 7000 APX 7000XE APX 6000 APX 6000XE SRX 2200	IMPRES Li-Ion 2350 mAh Battery, IP68 Rugged	NNTN8092	●	Li-Ion	2350	86 x 59 x 42	160	FM	IP68 Rugged
	IMPRES Li-Ion 4300 mAh Battery IP68 Rugged	NNTN7033	●	Li-Ion	4300	130 x 59 x 42	285	FM	IP68 Rugged

† HazLoc Details: For more information on which accessories are approved by Factory Mutual (FM) or Underwriters' Laboratory (UL) with certain APX models, please consult the manual provided with each FM- or UL-approved APX portable.

IMPRES 2 – A NEW GENERATION. COMPLETELY RE-ENERGIZED.

With IMPRES 2 chargers, you can charge IMPRES 2 batteries up to 40% faster. Customize your charging to extend the life of batteries in storage. And manage power more intelligently with enhanced diagnostics, so you get the most from each battery. IMPRES 2 batteries have been improved inside and out, so your team can tackle whatever the day brings. With higher capacity, you'll get more talk time. With better water resistance, you'll never think twice about submersion. And with the ability to charge up to 60% more times than standard Lithium Ion batteries, you'll reduce costs.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY		FEATURES							
MOTOROLA IMPRES BATTERIES The only batteries developed, tested and certified for optimal performance with your APX radio. APX batteries are Proven Tough, in lab test after lab test, to withstand shocks, knocks, drops and shakes and outperform the other brands.										
PORTABLE RADIOS	**DESCRIPTION**	**PART NUMBER**	**IMPRES**	**CHEMISTRY**	**TYPICAL RATED CAPACITY (mAh)**	**DIMENSIONS (MILLIMETERS) (H x W x D)**	**WEIGHT (MAX. GRAMS)**	**HAZLOC-CAPABLE†**	**IP RATING**
APX 7000 APX 7000XE APX 6000 APX 6000XE SRX 2200	IMPRES NiMH 2200 mAh Battery IP68 Rugged	NNTN7035	●	NiMH	2200	136 x 59 x 40	335	FM	IP68 Rugged
	APX Clamshell Battery Pack, IP57 Requires 12 AA Alkaline batteries (not included).	PMNN4439		AA Alkaline/ Li-Ion	Alkaline: 2700 Li-Ion: 6100	165 x 60 x 60	Alkaline: 476 Li-Ion: 380		IP57
SRX 2200	Military, Li-Ion 3100 mAh, Battery IP68 Rugged, Coyote Brown	NNTN8182		Li-Ion	3100	86 x 59 x 42	185		IP68 Rugged
APX 4000 APX 3000 APX 1000 APX 900	IMPRES Li-Ion 2000 mAh Slim Battery, IP67	NNTN8128	●	Li-Ion	2000	115 x 52 x 18	160		IP67
	IMPRES Li-Ion 2350 mAh Battery, IP67	PMNN4424	●	Li-Ion	2350	115 x 52 x 23	170		IP67
	IMPRES Li-Ion 2800 mAh Battery, IP67	PMNN4448	●	Li-Ion	2800	115 x 52 x 23	170		IP67
APX 900	IMPRES Li-Ion 2900 mAh Battery, IP68	PMNN4489	●	Li-Ion	2900	115 x 52 x 23	170	UL	IP68
	IMPRES Li-Ion 2100 mAh Battery, IP68	PMNN4491	●	Li-Ion	2100	115 x 52 x 18	160		IP68
	IMPRES Li-Ion 3000 mAh Battery, IP68	PMNN4493	●	Li-Ion	3000	115 x 52 x 23	170		IP68
APX 4000 APX 3000 APX 1000	IMPRES Hi-Cap Li-Ion 2500 mAh Battery, IP57	NNTN8560	●	Li-Ion	2500	113 x 52 x 23	195	UL	IP57
	IMPRES Li-Ion 2350 mAh Battery, IP67	NNTN8129	●	Li-Ion	2350	115 x 52 x 23	170	FM	IP67
APX 3000	IMPRES Li-Ion 1300 mAh Slim Battery, IP67	NNTN8305	●	Li-Ion	1300	115 x 52 x 14	98		IP67

† HazLoc Details: For more information on which accessories are approved by Factory Mutual (FM) or Underwriters' Laboratory (UL) with certain APX models, please consult the manual provided with each FM- or UL-approved APX portable.

INCREASED CAPACITY

DO MORE WITHOUT THE BULK.

First responders, public works employees, and other professionals know that shifts aren't getting any shorter. Thankfully, you can keep your people connected even longer. IMPRES 2 batteries deliver higher capacity without an increase in size.

DURABLE DESIGN

TACKLE THE TOUGHEST CONDITIONS.

Wherever the job takes you, be confident your battery will be up to the challenge. All IMPRES 2 batteries share the same IP68 rating as APX radios, which means they can be fully submersed in two meters of water for up to four hours. Designed with a rugged housing, they're as tough as the radios they charge. And in test after test, IMPRES 2 batteries continually withstand shocks, knocks, drops and shakes, outperforming the competition every time.

EXTENDED BATTERY LIFE

EXTENDED LIFE. BUILT TO LAST.

You face challenges every day. Battery life shouldn't be one of them. IMPRES 2 batteries, when combined with an IMPRES 2 charger, deliver up to 60% more charging cycles than traditional Lithium Ion batteries, so they're on the job longer. Which means you can stock fewer spares, and replace fewer batteries. We've also extended our capacity warranty from 18 to 24 months*, while backing all IMPRES batteries with a long 48 month workmanship warranty. IMPRES 2 batteries are compatible with all existing IMPRES chargers, so your upgrade will be a smooth one.

*IMPRES 2 batteries not charged exclusively in IMPRES 2 chargers receive a 6 month capacity warranty reduction to 18 months instead of 24 months.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES							
CHARGER SOLUTIONS Choose from a variety of solutions including single-unit, unique dual-unit, multi-unit, travel and vehicular chargers and be confident your radio is charged and ready to go the moment you need it.											
PORTABLE RADIOS	**DESCRIPTION**		**PART NUMBER**	**IMPRES**	**CHEMISTRY**	**POWER SOURCE**	**DIMENSIONS (MILLIMETERS) (H x W x D)**	**NUMBER OF POCKETS**	**RECONDITIONING CAPABLE**	**CHARGING CURRENT (MAX.)**	**NUMBER OF DISPLAYS**
SINGLE AND MULTI-UNIT CHARGERS											
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE SRX 2200		IMPRES 2 Single-Unit Fast Charger, 115V	NNTN8860	●	Li-Ion, NiMH	115VAC	60 x 97 x 163	1	●	Fast	
		IMPRES 2 Single-Unit Fast Charger, 115V, TAA compliant	NNTN8860_ TAA	●	Li-Ion, NiMH	115VAC	60 x 97 x 163	1	●	Fast	
		IMPRES 2 Single-Unit Fast Charger, 100-240V	NNTN8863	●	Li-Ion, NiMH	100-240VAC	60 x 97 x 163	1	●	Fast	
APX 4000 APX 3000 APX 1000 APX 900		IMPRES Single-Unit Charger, 115V	PMPN4174	●	Li-Ion, NiMH	115VAC	61 x 97 x 163	1	●	Rapid Rate	
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE SRX 2200		IMPRES 2 Multi-Unit Fast Charger with 6 Displays and 6 Integrated USB Charging Ports, 100-240V	NNTN8844	●	Li-Ion, NiMH	100-240VAC	153 x 445 x 292	6	●	Fast	6
APX 4000 APX 3000 APX 1000 APX 900		IMPRES Multi-Unit Charger, 115V	PMPN4284	●	Li-Ion, NiMH	115VAC	117 x 444 x 170	6	●	Rapid Rate	1
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE SRX 2200		Wall Mount Bracket for IMPRES Multi-Unit Chargers NNTN8844	NLN7967								
APX 4000 APX 3000 APX 1000 APX 900		Wall mount bracket for PMPN4284 Charger	BR000272A01								

CHARGE FAST. RESPOND FASTER.

With IMPRES 2 chargers, you can charge IMPRES 2 batteries up to 40% faster. Customize your charging to extend the life of batteries in storage. And manage power more intelligently with enhanced diagnostics, so you get the most from each battery.

Get a detailed look at performance while your batteries charge. A built-in diagnostic tool, integrated in the multi-unit charger, provides important usage data, such as a battery's ability to hold a charge and its time in service. Use the information to manage your fleet more efficiently, and replace low capacity batteries before it's too late.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES					
CHARGER SOLUTIONS Choose from a variety of solutions including single-unit, unique dual-unit, multi-unit, travel and vehicular chargers and be confident your radio is charged and ready to go the moment you need it.									
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	IMPRES	CHEMISTRY	POWER SOURCE	DIMENSIONS (MILLIMETERS) (H x W x D)	NUMBER OF POCKETS	CHARGING CURRENT (MAX.)
VEHICULAR, TRAVEL CHARGERS AND VEHICULAR ADAPTER									
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE SRX 2200		IMPRES Single-Unit Rapid Rate Vehicular Charger	NNTN7624	●	Li-Ion, NiMH	12VDC Hardwire	82 x 97 x 200	1	Rapid Rate
APX 4000 APX 3000 APX 1000 APX 900		IMPRES Single-Unit Rapid Rate Vehicular Charger	NNTN7616	●	Li-Ion, NiMH	12VDC Hardwire	82 x 97 x 200	1	Rapid Rate
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE SRX 2200		Travel Charger with Voltage Regulated Vehicular Charger Adapter, Custom Charger Base, Mounting Bracket, and Coil Cord	RLN6434		Li-Ion, NiMH	12VDC Cigarette Lighter Adapter	67 x 67 x 70	1	
APX 4000 APX 3000 APX 1000 APX 900		Travel Charger with Voltage Regulated Vehicular Charger Adapter, Custom Charger Base, Mounting Bracket, and Coil Cord	NNTN8525		Li-Ion, NiMH	12VDC Cigarette Lighter Adapter	64 x 67 x 57	1	
APX 8000 APX 8000XE APX 6000 APX 6000XE SRX 2200		APX Vehicular Adapter includes Fused Power Cable, 2 Keys for the Lock, Screws for Attaching Vehicular Adapter to the Trunnion Mounting Bracket & Quick Start Guide. Trunnion mounting bracket NTN8940 ordered separately.	NNTN8527		Li-Ion	12VDC Hardwire	254 x 137 x 84	1	Rapid Rate
		Trunnion Mounting Bracket	NTN8940						

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY		
CHARGER SOLUTIONS			
PORTABLE RADIOS	DESCRIPTION		PART NUMBER
IMPRES BATTERY MANAGEMENT TOOLS			
APX 8000 APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 APX 1000 APX 900 SRX 2200		IMPRES Battery Fleet Management Software	https://www.motorolasolutions.com/en_us/products/two-way-radio-accessories/batteries/impres.html
		IMPRES Battery Fleet Management License Key	HKVN4036
		IMPRES 2 single unit charger (NNTN8860, NNTN8860_TAA, NNTN8863) reprogramming and Battery Fleet Management interface cable	NNTN8870
KEYLOAD CABLES			
APX 8000 APX 8000XE		Keyload RS-232 Cable	WPLN6905
APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 SRX 2200		Keyloader Cable, KVL3000 and KVL4000	WPLN6904

HOW DO I KNOW MY BATTERIES WILL LAST AN ENTIRE SHIFT?

With the unique IMPRES Battery Reader and IMPRES Battery Fleet Management systems, you can efficiently manage batteries with real-time data not available from other manufacturers.

These easy-to-use software applications show you if there is enough capacity for a full shift, alert you to low capacity batteries, prevent downtime and eliminate throwing batteries out prematurely.

CARRY SOLUTIONS

Motorola Carry Solutions were developed to meet the demands of public safety and other users who operate in the most rigorous of environments. A variety of carrying accessories are available for comfort and convenience.

LEATHER CARRY CASES

Motorola Leather Carry Cases constructed of top-grain leather are designed to withstand the harsh conditions of public safety users.

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES				
CARRY SOLUTIONS Carry cases and holders are available in sizes designed to fit your radio and battery and permit audio to be heard clearly. Our carry accessories keep your hands-free, so you can concentrate on the task at hand.								
PORTABLE RADIOS		DESCRIPTION	PART NUMBER	MATERIAL	BELT LOOP/CLIP DIMENSION (INCHES)	SWIVEL / FIXED	D-RINGS	COMPATIBLE BATTERIES
APX 7000		Carry Holder for 1.5, 2.5 and 3.5 Model Radios	PMLN5331	Plastic	3	Fixed		
APX 7000XE		Carry Holder for 1.5, 2.5 and 3.5 Model Radios	PMLN6102	Plastic	3	Fixed		
APX 8000 APX 6000		Carry Holder for 1.5, 2.5 and 3.5 Model Radios	PMLN7901	Plastic	2.5	Fixed		
APX 8000XE APX 6000XE		Carry Holder for 1.5, 2.5 and 3.5 Model Radios	PMLN7902	Plastic	2.5	Fixed		
APX 3000		Covert Carry Holster	PMLN6327	Plastic	3	Fixed		
APX 7000		Leather Carry Case with 3" Fixed Belt Loop	PMLN5323	Hard Leather	3	Fixed	●	NNTN7038 NNTN8092 NNTN8930 PMMN4403 PMNN4485 PMNN4486
		Leather Carry Case with 3" Fixed Belt Loop	PMLN5326	Hard Leather	3	Fixed	●	NNTN7033 NNTN7034 NNTN8921 PMNN4487 PMNN4494
		Leather Carry Case with 3" Fixed Belt Loop	PMLN5329	Hard Leather	3	Fixed	●	NNTN7035 NNTN7036 NNTN7037 NNTN7573

COMPATIBILITY	ACCESSORY			FEATURES				
CARRY SOLUTIONS								
PORTABLE RADIOS		DESCRIPTION	PART NUMBER	MATERIAL	BELT LOOP/CLIP DIMENSION (INCHES)	SWIVEL / FIXED	D-RINGS	COMPATIBLE BATTERIES
APX 7000		Leather Carry Case with D-Rings and 2.75" Swivel Belt Loop	PMLN5324	Hard Leather	2.75	Swivel	●	NNTN7038 NNTN8092 NNTN8930 PMMN4403 PMNN4485 PMNN4486
		Leather Carry Case with D-Rings and 2.75" Swivel Belt Loop	PMLN5327	Hard Leather	2.75	Swivel	●	NNTN7033 NNTN7034
		Leather Carry Case with D-Rings and 2.75" Swivel Belt Loop	PMLN5330	Hard Leather	2.75	Swivel	●	NNTN7035 NNTN7036 NNTN7037 NNTN7573
		Dual Display Radio Flip Leather Carry Case with 2.75" Swivel Belt Loop	PMLN5560	Hard Leather	2.75	Swivel	●	NNTN7038 NNTN8092 PMMN4403
APX 8000 APX 6000 APX 8000XE APX 6000XE APX 7000 APX 7000XE		Molded Nylon Carry Case with Quick Disconnect Swivel and Adjustable Lanyard	PMLN6802	Nylon		Swivel		
APX 7000XE		Leather Carry Case with 3" Fixed Belt Loop	NNTN8112	Hard Leather	3	Fixed	●	NNTN7038 NNTN8092 PMMN4403
		Leather Carry Case with 3" Fixed Belt Loop	NNTN8114	Hard Leather	3	Fixed	●	NNTN7033 NNTN7034
		Leather Carry Case with 3" Fixed Belt Loop	NNTN8116	Hard Leather	3	Fixed	●	NNTN7035 NNTN7036 NNTN7037 NNTN7573

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES				
CARRY SOLUTIONS								
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	MATERIAL	BELT LOOP/CLIP DIMENSION (INCHES)	SWIVEL / FIXED	D-RINGS	COMPATIBLE BATTERIES
APX 7000XE		Leather Carry Case with 2.75" Swivel Belt Loop	NNTN8111	Hard Leather	2.75	Swivel		NNTN7038 NNTN8092 PMMN4403
		Leather Carry Case with D-Rings and 2.75" Swivel Belt Loop	NNTN8113	Hard Leather	2.75	Swivel	●	NNTN7033 NNTN7034 PMNN4487 PMNN4494 NNTN8921
		Leather Carry Case with D-Rings and 2.75" Swivel Belt Loop	NNTN8115	Hard Leather	2.75	Swivel	●	NNTN7035 NNTN7036 NNTN7037 NNTN7573
		Boston Leather Carry Case with D Rings – Requires an Audio Accessory, Radio strap holds down radio by strapping over the Audio Accessory connector, used with Boston Leather radio straps	AY000222A01	Hard Leather			●	
APX 8000 APX 6000		Leather Carry Case with 3" Fixed Belt Loop	PMLN7903	Hard Leather	3	Fixed	●	NNTN7038 NNTN8092 PMMN4403 PMNN4485 PMNN4486 PMNN4547 NNTN8930 (for APX 6000)
		Leather Carry Case with 3" Fixed Belt Loop	PMLN5660	Hard Leather	3	Fixed	●	NNTN7033 NNTN7034 PMNN4487 PMNN4494 NNTN8921 (for APX 6000)
		Leather Carry Case with D-Rings and 2.75" Swivel Belt Loop	PMLN7904	Hard Leather	2.75	Swivel	●	NNTN8092 PMNN4485 PMNN4486 PMNN4547 NNTN8930 (for APX 6000)
		Leather Carry Case with D-Rings and 2.75" Swivel Belt Loop	PMLN5659	Hard Leather	2.75	Swivel	●	NNTN7033 NNTN7034 PMNN4487 PMNN4494 NNTN8921 (for APX 6000)
APX 8000XE APX 6000XE		Leather Carry Case with 3" Fixed Belt Loop	PMLN7905	Hard Leather	3	Fixed	●	NNTN7038 NNTN8092 PMMN4403 PMNN4547 PMNN4485 (for APX 6000XE) PMNN4486 (for APX 6000XE) NNTN8930 (for APX 6000XE) PMNN4504 (for APX 8000XE)

COMPATIBILITY	ACCESSORY			FEATURES				
CARRY SOLUTIONS								
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	MATERIAL	BELT LOOP/CLIP DIMENSION (INCHES)	SWIVEL / FIXED	D-RINGS	COMPATIBLE BATTERIES
APX 8000XE APX 6000XE		Leather Carry Case with 3" Fixed Belt Loop	PMLN5879	Hard Leather	3	Fixed	●	NNTN7033 NNTN7034 PMNN4487 (for APX 6000XE) PMNN4494 (for APX 6000XE) NNTN8921 (for APX 6000XE) PMNN4505 (for APX 8000XE)
		Leather Carry Case with D-Rings and 2.75" Swivel Belt Loop	PMLN7906	Hard Leather	2.75	Swivel	●	NNTN7038 NNTN8092 PMMN4403 PMNN4547 PMNN4485 (for APX 6000XE) PMNN4486 (for APX 6000XE) NNTN8930 (for APX 6000XE) PMNN4504 (for APX 8000XE)
		Leather Carry Case with D-Rings and 2.75" Swivel Belt Loop	PMLN5877	Hard Leather	2.75	Swivel	●	NNTN7033 NNTN7034 PMNN4487 (for APX 6000XE) PMNN4494 (for APX 6000XE) NNTN8921 (for APX 6000XE) PMNN4505 (for APX 8000XE)
APX 4000 APX 1000		Leather Carry Case with 2.5" Swivel Belt Loop	PMLN6085	Hard Leather	2.5	Swivel		
		Carry Case for APX 4000 Two Knob Radios	PMLN7182	Hard Leather	2.5	Swivel	●	
		Replacement Belt Loop for PMLN7182	PMLN7229					
SRX 2200		Nylon, Coyote Brown Carry Pouch designed to fit Elite Special Ops "Molle" Vest (sold separately)	NNTN8269	Nylon	Up to 5	Fixed		
		Coyote Brown Carry Case	RLN6253	Nylon	Up to 5	Fixed		
APX 7000		Nylon Carry Case with 3" Fixed Belt Loop	PMLN5322	Nylon	3	Fixed	●	NNTN7038 PMMN4403 NNTN8092
		Nylon Carry Case with 3" Fixed Belt Loop	PMLN5325	Nylon	3	Fixed	●	NNTN7033 NNTN7034
		Nylon Carry Case with 3" Fixed Belt Loop	PMLN5328	Nylon	3	Fixed	●	NNTN7035 NNTN7036 NNTN7037 NNTN7573

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES				
CARRY SOLUTIONS								
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	MATERIAL	BELT LOOP/CLIP DIMENSION (INCHES)	SWIVEL / FIXED	D-RINGS	COMPATIBLE BATTERIES
APX 900		Leather Carry Case with 3" Fixed Belt Loop	PMLN5838	Hard Leather	3	Fixed		PMNN4424 PMNN4491 PMNN4493 PMNN4489 PMNN4448 NNTN8128
		Leather Carry Case with 2.5" Swivel Belt Loop	PMLN5842	Hard Leather	2.5	Swivel		
		Leather Carry Case with 3" Swivel Belt Loop	PMLN5840	Hard Leather	3	Swivel		
		Nylon Carry Case with 3" Fixed Belt Loop.	PMLN5844	Nylon	3	Fixed		
APX 8000 **APX 7000**		Carry Case for APX Radio with Clamshell Battery	PMLN6712	Nylon	Up to 5	Fixed	●	
APX 8000 **APX 8000XE** **APX 7000** **APX 7000XE** **APX 6000** **APX 6000XE**		2.5" Hard Plastic Belt Clip (not compatible with APX 7000 UHF Radios)	NTN8266	Plastic	2.5			
		3" Hard Plastic Belt Clip	HLN6875	Plastic	3			
		Universal Chest Pack with Radio Holder, Pen Holder and Velcro Secured Pouch	HLN6602	Nylon				
		Break-a-Way Chest Pack with Radio Holder Pen Holder and Velcro Secured Pouch	RLN4570	Nylon				
		Replacement Strap for HLN6602 and RLN4570	1505596Z02	Nylon				
APX 4000 **APX 1000** **APX 900**		2" Hard Plastic Belt Clip	PMLN4651	Plastic				
		2.5" Hard Plastic Belt Clip	PMLN7008	Plastic				
		Accessory Connector Dust Cover	15012157001					

COMPATIBILITY	ACCESSORY			FEATURES
CARRY SOLUTIONS				
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	MATERIAL
APX 900		Replacement 2.5" Leather Swivel Belt Loop	PMLN5610	Hard Leather
		Replacement 3" Leather Swivel Belt Loop	PMLN5611	Hard Leather
APX 7000 **APX 7000XE** **APX 6000** **APX 6000XE** **APX 4000** **APX 1000**		Replacement 2.5" Leather Swivel Belt Loop	PMLN5407	Hard Leather
		Replacement 2.75" Leather Swivel Belt Loop	PMLN5408	Hard Leather
		Replacement 3" Leather Swivel Belt Loop	PMLN5409	Hard Leather
APX 7000XE		Replacement Carry Case Strap with Snaps, Long. Used with NNTN8111, NNTN8112, NNTN8113, NNTN8114, NNTN8115 and NNTN8116	PMLN5800	Leather
APX 8000 **APX 8000XE** **APX 7000** **APX 7000XE** **APX 6000** **APX 6000XE** **APX 4000** **SRX 2200**		1.75" Wide Leather Belt	4200865599	Leather
		Adjustable Nylon Carrying Strap	NTN5243	Nylon
APX 8000 **APX 8000XE** **APX 7000** **APX 7000XE** **APX 6000** **APX 6000XE** **APX 4000** **APX 3000** **SRX 2200**		Boston Leather Fireman's Radio Strap	RLN6486	Leather
		Boston Leather Fireman's Radio Strap - XL	RLN6487	Leather
		Boston Leather Fireman's Radio Strap with button back holder	AY000223A01	Leather
		Boston Leather Fireman's Radio Strap with button back holder - XL	AY000229A01	Leather
		Boston Leather Anti-Sway Strap for Boston Leather Fireman's Radio Strap	RLN6488	Leather

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES					
ANTENNAS									
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	UHF / VHF / 700/800 MHz	FREQUENCY BAND (MHz)	INTEGRATED GPS	LENGTH (CM)	TYPE	HAZLOC-CAPABLE†
APX 7000 **APX 7000XE** **APX 6000** **APX 6000XE** **APX 4000** **APX 3000** **APX 1000** **SRX 2200**		700/800 MHz, GPS Whip Antenna	NAF5085	700/800	764-870	●	20	Whip	UL
		UHF, GPS Whip Antenna	PMAE4065	UHF	380-520	●	14.2	Whip	UL
APX 6000 **APX 6000XE** **APX 4000** **APX 3000** **APX 1000** **SRX 2200**		VHF, GPS Whip Antenna	NAR6593	VHF	136-174	●	20	Whip	UL
APX 4000		900 MHz, GPS Antenna	PMAF4008	800/900	896-941	●	6	Whip	
		800/900 MHz, GPS Combination Helical Antenna	PMAF4003	800/900	806-941	●	18	Helical	UL
APX 8000 **APX 8000XE** **APX 7000** **APX 6000** **APX 6000XE** **APX 4000** **APX 1000**		1/4 Wave, 700/800 MHz, GPS Stubby Antenna	NAR6595	700/800	764-870	●	9.8	Stubby	UL
APX 8000		VHF, 700/800, UHF Range 1, UHF Range 2 GPS (radio only)	KT000026A01	VHF 700/800		●		Whip	UL
APX 8000 **APX 8000XE** **APX 7000** **APX 7000XE**		VHF, 700/800 MHz Dual Band, GPS Whip Antenna	NAR6594	VHF 700/800	136-174 764-870	●	20	Whip	UL
		VHF, UHF Dual Band, GPS Whip Antenna	PMAT4001	VHF UHF	136-174 380-520	●	21.8	Whip	UL
		UHF 700/800 MHz Dual Band, GPS Whip Antenna	PMAS4001	UHF 700/800	380-520 764-870	●	19.7	Whip	UL

† HazLoc Details: For more information on which accessories are approved by Factory Mutual (FM) or Underwriters' Laboratory (UL) with certain APX models, please consult the manual provided with each FM- or UL-approved APX portable.

COMPATIBILITY	ACCESSORY			FEATURES					
ANTENNAS									
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	UHF / VHF / 700/800 MHz	FREQUENCY BAND (MHz)	INTEGRATED GPS	LENGTH (CM)	TYPE	HAZLOC-CAPABLE†
APX 900		UHF, Flexible Whip Antenna	PMAE4022	UHF	403-470		16	Flexible Whip	UL
		VHF, 136-147 MHz, Stubby Antenna	PMAD4093	VHF	136-147		11	Stubby	UL
		VHF, 147-160 MHz, Stubby Antenna	PMAD4094	VHF	147-160		11	Stubby	UL
		VHF, 160-174 MHz, Stubby Antenna	PMAD4095	VHF	160-174		11	Stubby	UL
		700/800 MHz Flexible Whip Antenna	NAF5080	700/800	764-870		6.5	Flexible Whip	
		Coaxial Flexible Whip Antenna, 896-941 MHz	NAF5088	900	896-941		7	Flexible Whip	
		VHF, 136-174 MHz, Flexible Whip Wideband Antenna,	PMAD4088	VHF	136-174		8.3	Flexible Whip	UL
		700/800 MHz Stubby Antenna	PMAF4022	700/800	764-870		9	Stubby	
		UHF, 380-470 MHz, Stubby Antenna	PMAE4100	UHF	380-470		9	Stubby	UL
		UHF, 450-527 MHz, Stubby Antenna	PMAE4102	UHF	450-527		9	Stubby	UL
		UHF, 420-445Mhz, Stubby Antenna	PMAE4094	UHF	420-445		4.5	Stubby	

APX PORTABLE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES					
ANTENNAS									
PORTABLE RADIOS	DESCRIPTION		PART NUMBER	UHF / VHF / 700/800 MHz	FREQUENCY BAND (MHz)	INTEGRATED GPS	LENGTH (CM)	TYPE	HAZLOC-CAPABLE†
APX 6000 APX 6000XE APX 4000 APX 1000		UHF Range 1, GPS Stubby Antenna	FAF5259	UHF	380-470	●	9.3	Stubby	UL
		UHF Range 2, GPS Stubby Antenna	FAF5260	UHF	470-520	●	9.3	Stubby	UL
APX 7000 (700/800 MHz only) APX 6000 (700/800 MHz only)		GPS Antenna (Directly connected to radio when a public safety microphone is used)	NAG4000	700/800		●	7	Stubby	
		700/800 Public Safety Microphone Only Stubby Antenna	PMAF4002	700/800	764-870		9	Stubby	
APX 3000		Flexible Antenna with one flexible antenna spacer, 700/800 MHz	PMAF4006	700/800	764-870	●	41	Flexible	
		Flexible Antenna with three flexible antenna spacers, UHF	PMAE4080	UHF	308-470	●	77	Flexible	
		Flexible Antenna with two flexible antenna spacers, VHF	PMAD4125	VHF	136-174		44	Flexible	
PROGRAMMING CABLES									
APX 8000XE APX 7000 APX 7000XE APX 6000 APX 6000XE APX 4000 APX 3000 APX 1000 APX 900 SRX 2200		Programming and Test Cable	PMKN4013						
		Programming Cable (Not compatible with APX 900)	PMKN4012						

† HazLoc Details: For more information on which accessories are approved by Factory Mutual (FM) or Underwriters' Laboratory (UL) with certain APX models, please consult the manual provided with each FM- or UL-approved APX portable.

APX MOBILE RADIOS ACCESSORIES

COMMUNICATE SAFELY AND EASILY WHEREVER YOU GO

You count on your mobile radio to function clearly and easily so you can concentrate on the mission and communicate safely.

Get the most out of your APX radio by extending its power and reliability with APX accessories. Every mobile microphone, speaker, alarm and control station accessory is best-in-class technology, designed and optimized specifically for your APX mobile. There's simply no substitute for APX accessories.

APX 8500 WITH 03 CONTROL HEAD

APX 7500 WITH 07 CONTROL HEAD

APX 6500 WITH 05 CONTROL HEAD

APX 4500 WITH 02 CONTROL HEAD

APX 1500 WITH 02 CONTROL HEAD

APX MOBILE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY		
LONG RANGE WIRELESS get ready in seconds without having to worry about the wires getting in the way. No more getting tangled with your seatbelt. Work, safer, smarter and more comfortable in demanding environments.			
PORTABLE RADIOS	DESCRIPTION		PART NUMBER
APX 8500 SERIES APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		Long Range Wireless Mobile Accessory Kit, includes Wireless Remote Speaker Microphone (RLN6544), Mobile Microphone Bluetooth Gateway (PMMN4097C), Vehicular Charger (PMMN6716)	RLN6551
		Long Range Wireless Mobile Accessory Kit (No Power Charger), includes Wireless Remote Speaker Microphone (RLN6544), Mobile Microphone Bluetooth Gateway (PMMN4097C), Charger must be purchased separately	RLN6552
ACCESSORIES AND REPLACEMENT PARTS			
 APX 8500 SERIES APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		Dual Unit Charger, Rapid Rate Charger, 120V	PMLN7120
		Vehicular Charger	PMLN6716
		Wireless RSM with Battery and Clip	RLN6544
		Mobile Microphone with Bluetooth Gateway	PMMN4097
		Wireless RSM Battery, 1750 mA Li-Ion	PMNN4461
		D Ring Swivel Clip (12 pack)	NNTN4990
		Receive-Only Earpiece with Comfort Eartube, FM and UL approved†	RLN4941
		Receive-Only Earpiece with Comfort Eartube	PMLN7560
		Receive-Only Earbud, FM and UL approved	AARLN4885
		EP7 Sonic Defender, use with RLN4941	RLN6511 RLN6512 RLN6513

† HazLoc Details: For more information on which accessories are approved by Factory Mutual (FM) or Underwriters' Laboratory (UL) with certain APX models, please consult the manual provided with each FM- or UL-approved APX portable.

LONG RANGE WIRELESS REMOTE SPEAKER MICROPHONE (RSM)

The Long Range Wireless Remote Speaker Microphone (RSM) pairs instantly with touch pairing to the mobile microphone with Bluetooth gateway. The Long Range Wireless RSM works up to 100 meters away line-of-sight from the mobile radio, keeping you in communication where you never thought possible. Plug and play – Just attach the mobile gateway microphone to your radio, align the two devices where indicated by the blue dot and you are ready to go. Voice prompts will walk you through pairing quickly.

APX MOBILE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES	
MICROPHONES Access critical features directly on the Keypad microphone. Navigational buttons and a full keypad allow users to navigate radio menus, dial phone numbers and send text messages. Three programmable buttons are available for additional customization.					
MOBILE RADIOS	DESCRIPTION		PART NUMBER	MICROPHONE STYLE	IMPRES
APX 8500 SERIES APX 7500 SERIES		Water Resistant Palm Microphone for Motorcycle Mounted Mobiles	HMN1079	Standard	
APX 8500 SERIES APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		Keypad Microphone	HMN4079	Keypad + Navigation	
		Standard Palm Microphone	HMN1090	Standard	
		Water Resistant Palm Microphone	HMN1089	Standard	
		Telephone Keypad Handset with Hang-Up Cup	HMN4097	Telephone + Keypad	
		Hang-Up Handset with Armored Cable	HKN1018	Telephone	
		Handset with Hang-Up Cup	HLN1457	Telephone	
		Desktop Microphone	RMN5070	Desktop	
		IMPRES Visor Microphone, requires PTT Switch GLN7278 or RLN5926	RMN5054	Visor	●

IMPRES AUDIO ACCESSORIES

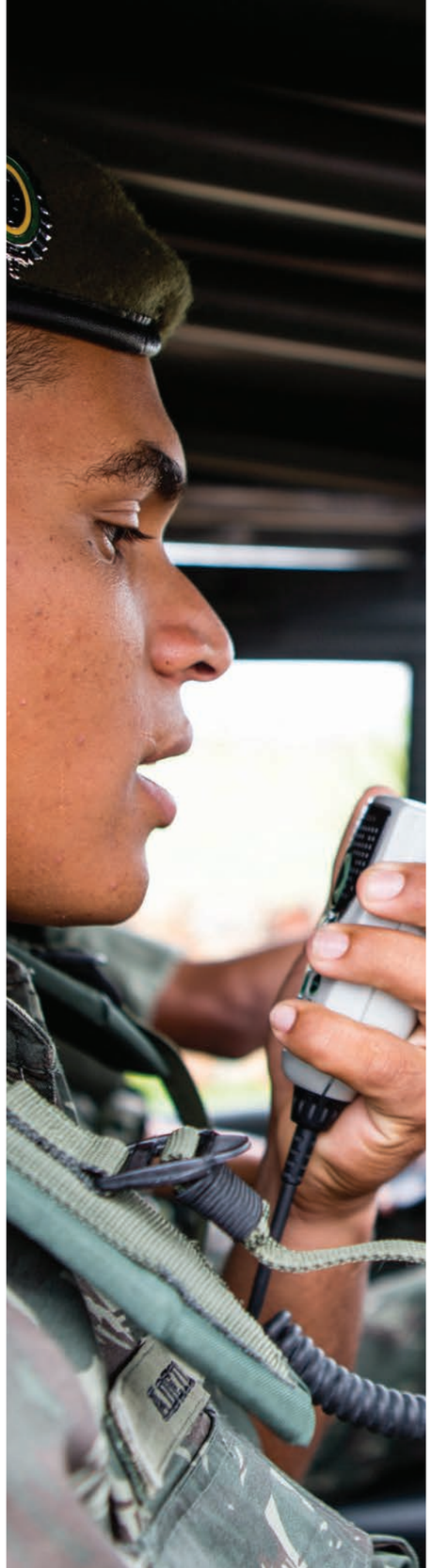
Mission critical voice transmissions have to be heard over engine, siren, road and wind noise. Fortunately, Motorola's exclusive IMPRES audio accessories are designed to optimize its output based on the accessory in use. IMPRES Visor Microphones are able to pick up and transmit the user's voice consistently to the receiving user regardless of how close they are speaking into the microphone.

COMPATIBILITY	ACCESSORY		
MOBILE MICROPHONE ACCESSORIES			
MOBILE RADIOS	DESCRIPTION		PART NUMBER
APX 8500 SERIES APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		Microphone Hang-Up Clip	HLN5391
		Microphone Extension Cable, 2-Feet. Not compatible with HMN4097 handset or HMN4079 Keypad	PMKN4093
		Microphone Extension Cable, 10-Feet. Not compatible with HMN4097 handset or HMN4079 Keypad	PMKN4033
		Microphone Extension Cable, 20-Feet. Not compatible with HMN4097 handset or HMN4079 Keypad	PMKN4034
		Emergency Push Button, can be used with the Visor Microphone	HLN5131
		Emergency Footswitch, can be used with the Visor Microphone	HLN5113
		Footswitch Push-To-Talk, can be used with the Visor Microphone	GLN7278
		Push Button Push-To-Talk, can be used with the Visor Microphone	RLN5926
		Replacement Cable for HMN4079	3075336B10
CONTROL STATION ACCESSORIES			
APX 8500 SERIES		Power Supply for APX 8500 Mid Power Mobile Radio	KT000254A01
APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		Power Supply for APX Mid Power Mobile Radios	HPN4007
APX 8500 SERIES APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		Desktop Tray with Speaker	HLN6042
		110V Line Cord, Replacement Cable for HPN4007	3060665A04

APX MOBILE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY		
INSTALLATION AND MOUNTING ACCESSORIES Mount your radio in your vehicle without compromising safety. Trunnion kits give you the flexibility to mount the radio under your dash, in your dash, between the seats or on the floor. Remote mount kits allow the radio to be mounted in the trunk when dash space is limited.			
MOBILE RADIOS	**DESCRIPTION**		**PART NUMBER**
APX 8500 SERIES APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		High Power Trunnion Kit; Quick Release with Lock-	HLN7003
		Mid Power Trunnion Kit; Standard Installation Bracket APX 6500 Enhanced requires KT000053A01 screws	HLN7002
		Mid Power Trunnion Lock	HLN6372
		Remote Mount Control Head Trunnion Compatible with 02/05 and 07 control heads	HKN6186
		Low Profile Remote Mount Control Head Trunnion Kit	HLN7031
		Dual Trunnion To be used with APX 8500 MP, APX 6500 and APX 6500 Enhanced	HLN7045B
		Motorcycle Enclosure, Black	HLN7022

COMPATIBILITY	ACCESSORY		
EXTERNAL ALARM ACCESSORIES External alarm accessories enable additional switching power when external accessories are attached.			
MOBILE RADIOS	**DESCRIPTION**		**PART NUMBER**
APX 8500 SERIES APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		External Alarm Relays	HLN6969



COMPATIBILITY	ACCESSORY		
SPEAKERS Boost audio at your control station on your desk or in your vehicle with external speakers.			
MOBILE RADIOS	**DESCRIPTION**		**PART NUMBER**
APX 8500 SERIES APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		Remote Mount, Water Resistant Speaker, 7.5 Watt Rated Audio	HSN4038
		Remote Mount, Water Resistant Speaker, 15 Watt Rated Audio	HSN4040
		Non-Water Resistant Speaker, 13 Watt Rated Audio	HSN4032
		Covert 10 Watt Rated Audio Speaker	HSN4042
		Siren Speaker, Round with Chrome Finish	TDN6251
		Siren Speaker, Rectangular with White Finish	TDN6252
		Siren Speaker, Round with Grey Finish	TDN6254
		Siren Speaker, Under Hood with Grey Finish	TDN6253

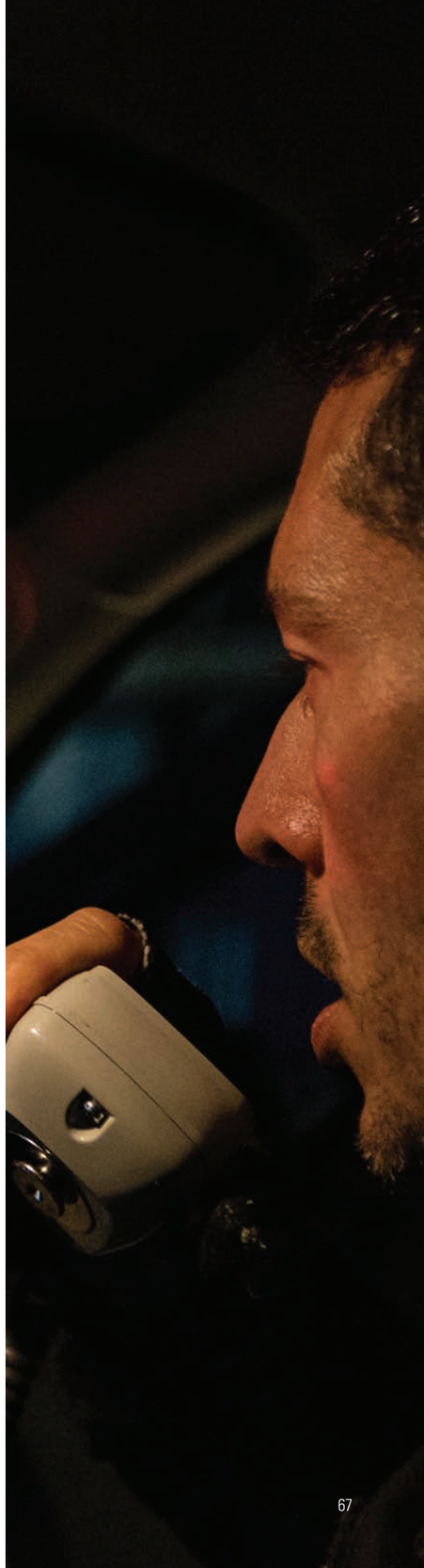
COMPATIBILITY	ACCESSORY		
UNIVERSAL RELAY CONTROLLER			
MOBILE RADIOS	**DESCRIPTION**		**PART NUMBER**
APX 8500 SERIES APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		Universal Relay Controller for O9 Control Head, 10 DC Outputs, 15 Amps per Channel	PMUN1046
		Universal Relay Controller to Transceiver Cable	3064153H05

APX MOBILE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY	
MOBILE SIREN		
MOBILE RADIOS	**DESCRIPTION**	**PART NUMBER**
APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES	Siren	DDN1542
	Siren Install Hardware	DDN1543
	Siren to Radio Cable	DDN1883
	O3 Siren to DEK Cable	DDN1545

COMPATIBILITY	ACCESSORY	
SIREN ACCESSORIES		
MOBILE RADIOS	**DESCRIPTION**	**PART NUMBER**
APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES	Siren Switchbox	HLN6819
	Wire Harness for Siren Switchbox. Needed to connect HLN6819 to DDN1774	DDN1886
	Mode Direct Entry Keypad, 8-Buttons	H1835
	Siren Cable, O3 Siren to Switchbox	HKN6146
	Siren Cable, O5 Siren to Switchbox	HKN4363
	Siren Cable, Direct Keypad for O3 Control Head	HKN6145

COMPATIBILITY	ACCESSORY	
SLIM (SIREN LIGHT INTERFACE MODULE)		
MOBILE RADIOS	**DESCRIPTION**	**PART NUMBER**
APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES	SLIM (Siren Light Interface Module)	DDN1774
	Power Harness for SLIM	DDN1775
	Radio to SLIM Cable	DDN1776
	Programming Kit for SLIM	DDN1777
	Interface Kit IK-A1	DDN1778
	Interface Kit IK-A4	DDN1779
	Interface Kit IK-C1	DDN1780
	Interface Kit IK-D3	DDN1781
	Interface Kit IK-E2	DDN1782
	Interface Kit IK-F5	DDN1783
	Interface Kit IK-A1WA	DDN1896
	Interface Kit IK-A1WB	DDN1897
	Interface Kit IK-C1F	DDN1898
	Interface Kit IK-C1C	DDN1899
	Interface Kit IK-A4WC	DDN1937



APX MOBILE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY		
CABLES			
MOBILE RADIOS	**DESCRIPTION**		**PART NUMBER**
CONTROL HEAD CABLES			
APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		O3 Handheld Control Head Extension Cable, 17-Feet	PMLN4958
		O3 Handheld Control Head Accessory Cable	PMLN4959
		Control Head Cable with Connections for Power, Speaker and Headset Jack	HKN6187
		Control Head Cable with Connections for Power and Speaker	HKN6188
REMOTE MOUNT CABLES			
 APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		Remote Mount Cable, 131-Feet	HKN6164
		Remote Mount Cable, 115-Feet	HKN6165
		Remote Mount Cable, 75-Feet	HKN6166
		Remote Mount Cable, 50-Feet	HKN6167
		Remote Mount Cable, 30-Feet	HKN6168
		Remote Mount Cable, 17-Feet	HKN6169
		Remote Mount Cable, 10-Feet	HKN6170
		Cable, Remote Control Head Vehicular Interface Port Connector for O5 Control Head	HKN6196
		Cable, Remote Control Head Mobile Accessory Port Connector for O5 Control Head	HKN6961
APX 7500 SERIES		Motorcycle Remote Cable for O5 Control Head	3075217A02
KEYLOAD CABLES			
APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		Keyloader Cable, KVL3000 and KVL4000	TKN8531
		Keyload Adapter for Mobile Microphone Port	HKN6182

COMPATIBILITY	ACCESSORY		
CABLES			
MOBILE RADIOS	**DESCRIPTION**		**PART NUMBER**
POWER CABLES			
 APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		Mid Power, Dash Mount Power Cable, 10-Feet	HKN4191
		Mid Power, Remote Mount Power Cable, 20-Feet	HKN4192
		Mid Power, Rear Ignition Cable, Dash Mount	HLN6863
		High Power, Remote Mount Power Cable 20-Feet	HKN6110
		Motorcycle Power Cable	HKN6032
DATA CABLES			
APX 8500 SERIES		Data Cable connects APX 8500 to Siren and DVRS MSU support with J600 port adapter	CB000409A01
APX 8500 SERIES APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES		Data Tethering Cable, required to connect to VML or certified data modem	KT000252A01
APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		RS232 Cable for Rear Accessory Port, Dash Mount Only, 6-Feet	HKN6160
		RS232 Cable for Rear Accessory Port, Remote Mount Only, 20-Feet	HKN6161
		RS232 Cable for Mobile Microphone Port	HKN6183
		RS232 Cable for J600 Transceiver Interconnect Board, 22-Feet	HKN6122
PROGRAMMING CABLES			
APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		USB Cable, Rear Accessory Port, Remote Mount, 15-Feet (for use with customer program software)	HKN6172
		USB Cable, Rear Accessory Port, Dash Mount, 6-Feet (for use with customer program software)	HKN6163
APX 7500 SERIES APX 6500 SERIES		Programming Cable	HKN6184

ANTENNAS

For optimum range and quality, it is important to match the mobile radio's frequency with the proper Motorola antenna. These are available as standard 1/4 wave models or can include 3dB, 3.5dB or 5dB signal gain.

APX MOBILE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY		FEATURES		
ANTENNAS A variety of antennas ensure the best possible reception wherever you operate. Choose from antennas with integrated GPS to standalone RF antennas.					
MOBILE RADIOS	DESCRIPTION	PART NUMBER	UHF / VHF / 800/900 MHz	FREQUENCY BAND (MHz)	MOUNTING STYLE
APX 8500 MOTORCYCLE ANTENNAS					
APX 8500 SERIES	All Band Mobile Antenna	AN000131A01			Through-hole
	Motorcycle Mount, 1/4 Wave Whip Antenna with QMA Connector, 136-144 MHz, No Tuning Required	AN000197A01	VHF	136-144	Motorcycle
	Motorcycle Mount, 1/4 Wave Whip Antenna with QMA Connector,144-150.8 MHz, No Tuning Required		VHF	144-150.8	Motorcycle
	Motorcycle Mount, 1/4 Wave Whip Antenna with QMA Connector, 150.8-162 MHz, No Tuning Required	AN000197A03	VHF	150.8-162	Motorcycle

COMPATIBILITY	ACCESSORY		FEATURES		
ANTENNAS					
MOBILE RADIOS	DESCRIPTION	PART NUMBER	UHF / VHF / 800/900 MHz	FREQUENCY BAND (MHz)	MOUNTING STYLE
APX 8500 MOTORCYCLE ANTENNAS					
APX 8500 SERIES	Motorcycle Mount, 1/4 Wave Whip Antenna with QMA Connector, 162-174 MHz, No Tuning Required	AN000197A04	VHF	162-174	Motorcycle
	Motorcycle Mount, 1/4 Wave Whip Antenna with QMA Connector, 380-433 MHz, No Tuning Required	AN000197A05	UHF	380-433	Motorcycle
	Motorcycle Mount, 1/4 Wave Whip Antenna with QMA Connector, 425-470 MHz, No Tuning Required	AN000197A06	UHF	425-470	Motorcycle
	Motorcycle Mount, 1/4 Wave Whip Antenna with QMA Connector, 450-482 MHz, No Tuning Required	AN000197A07	UHF	450-482	Motorcycle

APX MOBILE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY		FEATURES		
ANTENNAS					
MOBILE RADIOS	DESCRIPTION	PART NUMBER	UHF / VHF / 800/900 MHz	FREQUENCY BAND (MHz)	MOUNTING STYLE
APX 8500 MOTORCYCLE ANTENNAS					
APX 8500 SERIES	Motorcycle Mount, 1/4 Wave Whip Antenna with QMA Connector, 482-520 MHz, No Tuning Required	AN000197A08	UHF	482-520	Motorcycle
	Motorcycle Mount, Low Profile, Unity Gain Antenna with QMA Connector, 450-512 MHz, No Tuning Required	AN000197A09	UHF	450-512	Motorcycle
	Motorcycle Mount Antenna with QMA Connector, 3dB Gain, 762-870 MHz	AN000197A10	800/900	762-870	Motorcycle
	Motorcycle Mount, Low Profile Antenna with QMA Connector, 3dB Gain, 762-870 MHz	AN000197A11	800/900	762-870	Motorcycle

COMPATIBILITY	ACCESSORY	
APX 8500 ANTENNA MULTIPLEXERS AND ADAPTERS		
MOBILE RADIOS	DESCRIPTION	PART NUMBER
APX 8500 SERIES	Vehicle Multiplexer (supports HP)	EQ000103A02
	Motorcycle Multiplexer (low power)	EQ000103A01
	Mini U To QMA Adapter 12"	CB000091A03
	QMA to QMA Adapter 12"	CB000091A02
	SMA to QMA Adapter 12"	CB000091A04

COMPATIBILITY	ACCESSORY		FEATURES		
ANTENNAS					
MOBILE RADIOS	DESCRIPTION	PART NUMBER	UHF / VHF / 800/900 MHz	FREQUENCY BAND (MHz)	MOUNTING STYLE
VHF ANTENNAS (RF ONLY)					
APX 8500 SERIES* APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		VHF 1/4 Wave Antenna, 136-144 MHz	HAD4006	VHF	136-144	Through-hole
		VHF 1/4 Wave Antenna, 144-150.8 MHz	HAD4007	VHF	144-150.8	Through-hole
		VHF 1/4 Wave Antenna, 150.8-162 MHz	HAD4008	VHF	150.8-162	Through-hole
		VHF 1/4 Wave Antenna, 162-174 MHz	HAD4009	VHF	162-174	Through-hole
		VHF 1/4 Wave Antenna, 136-162 MHz	HAD4016	VHF	136-162	Through-hole
		VHF 1/4 Wave Antenna, 146-174 MHz	HAD4017	VHF	146-174	Through-hole
		VHF Wideband Antenna, 136-174 MHz	HAD4021	VHF	136-174	Through-hole
		VHF Wideband Antenna 3.0 dB Gain, 136-174 MHz	HAD4022	VHF	136-174	Through-hole
UHF ANTENNAS (RF ONLY)						
APX 8500 SERIES* APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		UHF 1/4 Wave Antenna, 380-433 MHz	HAE6012	UHF	380-433	Through-hole
		UHF 1/4 Wave Antenna, 450-470 MHz	HAE4003	UHF	450-470	Through-hole
		UHF 1/4 Wave Antenna, 470-512 MHz	HAE4004	UHF	470-512	Through-hole

*CB000091A03 - Mini-U to QMA adapter required for APX 8500 to antenna connection.

APX MOBILE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES		
ANTENNAS						
MOBILE RADIOS	DESCRIPTION		PART NUMBER	UHF / VHF / 700/800 MHz	FREQUENCY BAND (MHz)	MOUNTING STYLE
UHF ANTENNAS (RF ONLY)						
APX 8500 SERIES* APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		UHF 3 dB Gain Antenna, 494-512 MHz	HAE4013	UHF	494-512	Through-hole
		UHF 3.5 dB Gain Antenna, 380-420 MHz MAXRAD	HAE6010	UHF	380-420	Through-hole
		UHF 3.5 dB Gain Antenna, 470-495 MHz	HAE4011	UHF	470-495	Through-hole
		UHF 3.5 dB Gain Antenna, 450-470 MHz	HAE4012	UHF	450-470	Through-hole
		UHF 5 dB Gain Antenna, 380-420 MHz MAXRAD	HAE6011	UHF	380-420	Through-hole
		UHF 5 dB Gain Antenna, 455-470 MHz	RAE4014	UHF	455-470	Through-hole
		UHF 5 dB Gain Antenna, 470-494 MHz	RAE4015	UHF	470-494	Through-hole
		UHF 5 dB Gain Antenna, 494-512 MHz	RAE4016	UHF	494-512	Through-hole
		UHF 2 dB Gain Wideband Antenna, 380-470 MHz, MAXRAD	HAE6013	UHF	380-470	Through-hole
		UHF 2 dB Gain Wideband Antenna, 450-512 MHz	HAE6015	UHF	450-512	Through-hole
		UHF 2 dB Gain Wideband Antenna, 380-520 MHz	HAE6031	UHF	380-520	Through-hole
		UHF Wideband Low Profile Antenna, 450-512 MHz	HAE6016	UHF	450-512	Through-hole

*CB000091A03 - Mini-U to QMA adapter required for APX 8500 to antenna connection.

COMPATIBILITY	ACCESSORY			FEATURES		
ANTENNAS.						
MOBILE RADIOS	DESCRIPTION		PART NUMBER	UHF / VHF / 700/800 MHz	FREQUENCY BAND (MHz)	MOUNTING STYLE
700/800 MHZ ANTENNAS (RF ONLY)						
APX 8500 SERIES* APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		1/4 Wave Antenna, 762-870 MHz	HAF4016	700/800	762-870	Through-hole
		3 dB Gain Low Profile Antenna, 762-870 MHz	HAF4013	700/800	762-870	Through-hole
		3 dB Gain Elevated Feed Antenna, 762-870 MHz	HAF4014	700/800	762-870	Through-hole
		3 dB Gain Collinear Antenna, 762-870 MHz	HAF4017	700/800	762-870	Through-hole

*CB000091A03 - Mini-U to QMA adapter required for APX 8500 to antenna connection.

APX MOBILE RADIO ACCESSORIES

COMPATIBILITY	ACCESSORY			FEATURES		
ANTENNAS						
MOBILE RADIOS		DESCRIPTION	PART NUMBER	GPS / WI-FI	FREQUENCY BAND (MHz)	MOUNTING STYLE
GPS / WI-FI ANTENNAS						
APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		GPS Roof Mount Antenna SMA Male connector with RG-174 17ft cable	HAG4000	GPS Only		Roof Mount
		GPS Glass Mount Antenna SMA Male connector with RG-174 17ft cable	PMAN4001	GPS Only		Glass Mount
 APX 8500 SERIES* APX 7500 SERIES APX 6500 SERIES APX 4500 SERIES APX 1500 SERIES		Convert glass-mount motorcycle antenna with Wi-Fi 5GHz	PMAN5101	Wi-Fi Only		Glass Mount
		Convert glass-mount motorcycle antenna with GPS GNSS	PMAN4109	GPS Only		Glass Mount
		Wi-Fi/GPS Combination Vehicle Antenna	AN000163A01	GPS Wi-Fi		Through-hole
		Wi-Fi/GPS Combination Motorcycle Antenna	AN000163A02	GPS Wi-Fi		Motorcycle
 APX 7500 SERIES		GPS Motorcycle Antenna	HAG4001	GPS Only		Motorcycle

*CB000091A03 - Mini-U to QMA adapter required for APX 8500 to antenna connection.

GLOSSARY

HAZLOC-CAPABLE

For more information on which accessories are approved by Factory Mutual (FM) or Underwriters' Laboratory (UL) with certain APX models, please consult the manual provided with each FM- or UL-approved APX portable. Motorola-approved accessories are a critical part of the overall radio system intrinsic safety certification. Non-Motorola approved accessories may not be certified for APX and if used, could result in equipment that is NOT approved and unsafe in a hazardous environment.

IP RATING

International Protection (IP) is a global standard for rating dust and water protection. The first digit IP5x or IP6x represents increased levels of dust protection. The second digit, IPx7 or IPx8 represents increased levels of water protection.

- **IPx7** represents withstanding submersion in 1 meter of fresh water for 30 minutes.
- **IPx8** represents heating accessory to 27°C higher than the water temperature for 2 hours then immediately immersing it to a depth of 1 meter for another 2 hours.
- **IPx8+Rugged** represents exceeding industry specs by heating accessory to 27°C higher than the water temperature for 2 hours then immediately immersing it to a depth of 2 meters for another 4 hours.

MICROPHONE NOISE SUPPRESSION

Multi Mic Noise Suppression: Five integrated microphones and Adaptive Audio Engine automatically change the level of noise suppression, microphone gain, Windporting and speaker equalization to produce clear and loud audio in any environment.

Dual Mic Noise Suppression: Dual-microphone design tracks your voice so that you can keep your eye on what's in front of you while speaking. A digital signal processor (DSP) algorithm helps suppress background noise so you can be heard clearly regardless of the noise around you.

Windporting (Motorola Exclusive): Windporting reduces the effect of wind and other outdoor noises on your microphone performance and prevents water from clogging the microphone and distorting your transmission.

Noise-cancelling microphones negate crowd or machinery noise so your voice comes through loud and clear anytime you speak directly into the microphone.

SWIVEL OR FIXED LOOP

Secure to a belt loop and the case swings freely from side to side. The swivel latch system also allows the radio and case to be removed from the belt loop by simply inverting, lifting it up and out of the belt loop. Fixed loops provide a sturdy attachment to your belt.

For more information on Motorola mission critical accessories, visit **motorolasolutions.com/apx**.

MOTOROLA SOLUTIONS

Motorola Solutions, Inc. 500 West Monroe Street, Chicago, IL 60661 U.S.A. **motorolasolutions.com**

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RELIABILITY MEETS P25 PORTABILITY

APX™ 1000 PROJECT 25 PORTABLE RADIO

If you are racing to respond to an electrical outage or monitor a highway construction build, you need a radio that keeps you connected, instantly and continuously no matter the situation, background noise, weather, or duration. You expect a reliable radio where every word is heard and every message understood when it counts most.

Public safety, utilities, and government service users require a P25 radio that can stand up to the toughest tasks while keeping them connected to surrounding agencies and first responders. The APX 1000 is engineered to give you the capabilities you need at the budget you can afford. It combines uncompromising durability, simplified controls and excellent audio quality in a compact P25 TDMA capable portable radio.

EVERYTHING YOU WANT IN A RADIO, FOR LESS

With the APX 1000, you pay for only the functionality you need at the level you can afford without giving up the exceptional quality and reliability you expect from APX. The APX 1000 provides you with a radio that meets and fits your budget needs.

MISSION READY VOICE TECHNOLOGY

The APX 1000 is P25 TDMA capable for twice the voice capacity so you can add more users without adding more frequencies or infrastructure. And it's backwards and forwards compatible with all Motorola mission critical radio systems, so you can interoperate with surrounding agencies and first responders with confidence.

POWER UP WITH APX 1000 ACCESSORIES

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

APX 1000 PROJECT 25 PORTABLE RADIO

FEATURES AND BENEFITS

- Available in 700/800 MHz, 900 MHz, VHF, UHF R1 and UHF R2 bands
- Trunking standards supported:
  - Clear or digital ASTRO® 25 Trunked Operation 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)[1]
- Embedded digital signaling (ASTRO and ASTRO 25)
- Available in models 1.5, 2 and 3
- Lightbar with Intelligent Lighting
- Radio Profiles
- Unified Call List
- User programmable Voice Announcement
- Meets Applicable MIL-STD-810C, D, E, F and G
- Meets IP54 Environmental Specifications
- 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 devices[2]

OPTIONAL FEATURES

- ASTRO 25 Integrated Voice & Data
- Programming Over Project 25
- P25 Link Layer Authentication

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

		VHF	UHF Range 1	UHF Range 2	700/800 MHz	900 MHz
Frequency Range/Bandsplits		136-174 MHz	380-470 MHz	450-520 MHz	764-776 MHz 794-806 MHz 806-824 MHz 851-870 MHz	896-901 MHz 935-940 MHz
Channel Spacing		25/12.5 kHz	25/12.5 kHz	25/12.5 kHz	25/12.5 kHz	12.5 kHz
Maximum Frequency Separation		Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power Adj[3]		1-5 Watts Max	1-5 Watts	1-5 Watts Max	1-2.5 Watts 1-3 Watts	1-2.5 Watts
Frequency Stability[3] (-30°C to +60°C; +25°C Ref.)		±0.00010 %	±0.00010 %	±0.00010 %	±0.00010 %	±0.00010 %
Modulation Limiting[3]		±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	±2.5 kHz
Emissions (Conducted and Radiated)[3]		–75 dB	–75 dB	–75 dB	–75 dB	–75 dB
Audio Response[3]		+1, –3 dB	+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	-45dB
Audio Distortion[3]		1.00%	1.00%	1.00%	1.00%	1.00%

BATTERIES FOR APX 1000

BATTERY CAPACITY / TYPE	DIMENSIONS (H X W X D)	WEIGHT	BATTERY PART NUMBER	BATTERY CAPACITY
Li-Ion IMPRES 1900 mAh IP54	114.5 x 55.04 x 17.85	150 grams	NNTN8128B	1900 mAh
Li-Ion IMPRES 2300 mAh IP54	114.5 x 55.04 x 23.15	160 grams	PMNN4424AR	2300 mAh
Li-Ion IMPRES 2700 mAh IP54	114.5 x 55.04 x 23.15	160 grams	PMNN4448AR	2700 mAh

[1] Per the FCC Narrowbanding rules, new products (APX 1000 UHFR1) 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] Chargers and batteries for the APX 1000 radios will interoperate with APX 4000 radios.
[3] Measured in the analog mode per TIA / EIA 603 under nominal conditions.

PRODUCT SPEC SHEET
APX™ 1000 PROJECT 25 PORTABLE RADIO

RADIO MODEL

	MODEL 1.5	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	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		
VHF (136-174 MHz)	H84KDD9PW5AN	H84KDF9PW6AN	H84KDH9PW7AN
UHF Range 1 (380-470 MHz)	H84QDD9PW5AN	H84QDF9PW6AN	H84QDH9PW7AN
UHF Range 2 (450-520 MHz)	H84SDD9PW5AN	H84SDF9PW6AN	H84SDH9PW7AN
700/800 MHz (763-870 MHz)	H84UCD9PW5AN	H84UCF9PW6AN	H84UCH9PW7AN
900 MHz (896-940 MHz)		H84WCF9PW6AN	
Buttons and Switches	Large PTT button • Multi-function knob • Orange emergency button • 3 programmable side buttons		

TRANSMITTER CERTIFICATION

VHF (136-174 MHz)	AZ489FT3834
UHF Range 1 (380-470 MHz)	AZ489FT4917
UHF Range 2 (450-520 MHz)	AZ489FT4920
700/800 MHz (764-869 MHz)	AZ489FT7057
900 MHz (896- 901, 935-940 MHz)	AZ489FT5861

FCC EMISSION DESIGNATORS

FCC Emissions Designators	11K0F3E, 16K0F3E, 8K10F1D, 8K10F1E, 8K10F1W

POWER SUPPLY

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

RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS

		VHF	UHF Range 1	UHF Range 2	700/800 MHz	900 MHz
Frequency Range/Bandsplits		136-174 MHz	380-470 MHz	450-520 MHz	763-776 MHz 851-870 MHz	935-940 MHz
Channel Spacing		25/12.5 kHz	25/12.5 kHz	25/12.5 kHz	25/12.5 kHz	12.5 kHz
Maximum Frequency Separation		Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Audio Output Power at Rated[3]		500mW	500mW	500mW	500mW	500mW
Frequency Stability[3] (–30°C to +60°C; +25°C Ref.)		±0.00010 %	±0.00010 %	±0.00010 %	±0.00010 %	±0.00010 %
Analog Sensitivity[4] Digital Sensitivity[5]	12 dB SINAD 1% BER (800 MHz) 5% BER	0.216µV 0.277µV 0.188µV	0.234µV 0.307µV 0.207µV	0.234µV 0.307µV 0.207µV	0.250µV 0.400µV 0.250µV	0.236µV 0.33µV 0.222µV
Selectivity[3]	25 kHz channel 12.5 kHz channel	-76 dB -70 dB	-76 dB -67 dB	-76 dB -67 dB	-76 dB -67 dB	-67 dB
Intermodulation		-79.5 dB	-77 dB	-77 dB	-75 dB	-75 dB
Spurious Rejection		-79.3 dB	-80.3 dB	-80.3 dB	-76.6 dB	-80 dB
FM Hum and Noise	25 kHz 12.5 kHz	-51 dB -45 dB	-50 dB -45 dB	-50 dB -45 dB	-53 dB -47 dB	-47 dB
Audio Distortion[3]		1.00%	1.00%	1.00%	1.00%	1.00%

[4] Measured conductively in analog mode per TIA / EIA 603 under nominal conditions.
[5] Measured conductively in digital mode per TIA / EIA IS 102.CAAA under nominal conditions.

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	516.3	I, VI	516.4	I, VI	516.5	I, VI	516.6	I, 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	5.26	133
Width Push-To-Talk button	2.37	60.2
Depth Push-To-Talk button	1.72	43.6
Width Top	2.56	65
Depth Top	2.13	43
Weight of the Radios Without Battery	8.47 oz	240 g

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature[6]	-30°C / +60°C
Storage Temperature[6]	-40°C / +85°C
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP54
Housing Availability	Black only

ENCRYPTION

Supported Encryption Algorithms	ADP SW
Key Storage	Tamper protected volatile or non-volatile memory
Key Erasure	Keyboard command

[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.

To learn more about the APX 1000 P25 portable radio contact your Motorola representative or visit **motorolasolutions.com/apx1000**.

Motorola Solutions, Inc. 1301 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. **motorolasolutions.com**

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