Request for Proposal, 23MCO620 MOTOROLA RADIOS
Date Required: Wednesday December 13, 2023
Time Required: 10:00am Local Time

INTRODUCTION:
Midland County, hereafter called County, invites sealed proposals from interested qualified Vendors, hereinafter called Vendors, for Motorola radios. The following pages provide general information about the requirements and specifications for the package.

This request for proposal ("RFP") is part of a competitive procurement process which provides qualified vendors with a fair opportunity for their commodities and services to be considered, and to provide information concerning their expertise and experience in providing similar services to other customers. The RFP process provides a competitive negotiation platform, wherein price or cost is not the sole determinative factor. This process, designed to best serve the interests of the County, allows the County the flexibility to negotiate with interested, qualified Vendors (following designation by the Commissioners Court, one at a time) to arrive at a mutually agreeable relationship.

QUESTIONS:
If further information is required, please contact the Midland County Purchasing Department. All requests for information must be submitted in writing. Responses to all questions received will be sent to each Contractor/Vendor known to have copies of the Request for Proposal. Requests for information may be faxed to 432-688-4914 or e-mailed to pur103@co.midland.tx.us. All questions should be submitted on or before **5:00pm on Friday December 8, 2023**. Questions received after said date and time will not receive a response. Answers and clarifications which are considered to materially change the solicitation will be issued as written addenda to the original RFP and will be posted to the Midland County website at www.co.midland.tx.us Solution providers are responsible for ensuring all answers to questions are reviewed prior to bid submittal and that all issued added are properly acknowledged with their submitted proposal response. Midland County will not be responsible for any verbal exchange between the vendor and an employee of Midland County.

COPIES AND RECEIPT:
Please submit one (1) original, three (3) copies, and an electronic copy on USB drive of the proposal. **An executed copy of the Proposal Affidavit SIGNED AND NOTARIZED (Page 7) must be included in each submission.** Please note that if no Proposal Affidavit is included, the response will be rejected. Midland County is exempt from all state and federal taxes. Tax exempt certificates are available upon request.

All responses should be submitted in a sealed envelope, marked on the outside**,**

<div align="center">

23MCO620 MOTOROLA RADIOS

_____
Company Name

</div>

Responses must be received by **10:00am Local Time on Wednesday December 13, 2023.** Late proposals will be rejected and returned without being opened. The clock in the Purchasing Agent's office is the official time piece for this submission. If interested, Contractors may use mail or express systems to deliver their proposal to the Purchasing Department; they should ensure that they are tendered to the carrier in plenty of time to reach the Purchasing Department by the time and date required. Facsimile transmitted proposals shall not be accepted.

SUBMISSION LOCATION: All bids which are mailed, shipped, delivered, etc. should be addressed as follows:

> **Midland County Purchasing Department**
> Midland County Courthouse
> Attention: Kristy Engeldahl, Purchasing Agent
> 500 N. Loraine Street, Suite 1101
> Midland, Texas 79701

DOCUMENTATION SUBMISSION:
The respondent must submit all required documentation. Failure to provide requested information may result in rejection of the proposal.

ALTERATION OF PROPOSAL:
A proposal may be altered, modified or amended by a Vendor at any time, prior to the time and date set forth above as the submission deadline. Alterations, modifications or amendments to a proposal must be made in the offices of the Purchasing Department. Any interlineations, alteration or erasure made on a proposal before the submission deadline must be initialed by the signer of the proposal, guaranteeing authenticity. A proposal may not be altered, modified or amended after the submission deadline.

WITHDRAWAL:
A proposal may not be withdrawn or canceled by the respondent for a period of sixty (60) days following the date designated for the receipt of proposals, and respondent so agrees upon submittal of their proposal.

CONFLICT OF INTEREST:
No public official shall have interest in this contract, in accordance with Vernon's Texas Codes annotated Local Government Code Title 5, Subtitle C, Chapter 171. Vendor is required to sign affidavit form included in Proposal documents.

SILENCE OF SPECIFICATIONS:
The apparent silence of these specifications as to any detail of the apparent omission from it of a detailed description concerning any point, shall be regarded as meaning that only the best commercial practices are to prevail. All interpretations of these specifications shall be made on the basis of this statement.

CONFIDENTIALITY:
Contents of the proposals will remain confidential until the contract is awarded. At that time the contents will be made public under the Texas Public Information Act; except for any portion of a proposal which has been clearly marked as a trade secret or proprietary data (the entire proposal may not be so marked). Proposals will be opened, and the name of the firm submitting the proposal read aloud, acknowledged, at **10:05am on Wednesday December 13, 2023**, in the Purchasing Department Conference Room located in the Midland County Courthouse, Suite 1101. All respondents or other interested parties are invited to attend the opening.

Vendors are hereby notified that the Owner strictly adheres to all statutes, court decisions, and opinions of the Texas Attorney General with respect to disclosure of public information.

ADDITIONAL INFORMATION AND DEMONSTRATION, NEGOTIATIONS:
Prior to award, selected Vendors may be asked to provide further information concerning their proposal, up to and including presentations/demonstrations. The Midland County Commissioners Court reserves the right to reject any and all proposals or waive formalities as deemed in the best interests of Midland County. The County may also enter into discussions and revisions of proposals after submission and before award for the purpose of obtaining the best and final offer, and to accept the proposal deemed most advantageous to Midland County.

This request for proposal (RFP) is part of a competitive procurement process which is designed to best serve the interests of the County in obtaining complicated commodities and/or services. It also provides interested Contractors with a fair opportunity for their goods and services to be considered. The RFP process is designed to be a competitive negotiation platform, where price is not required to be the sole determinative factor. Also, the County has the flexibility to negotiate with interested vendors (one at a time) to arrive at a mutually agreeable relationship. Negotiations will be arranged with vendors in a hierarchal order, starting with the vendor selected as the primary. If a contract cannot be negotiated, negotiations will, formally and in writing, end with that Vendor and proceed to move to the second vendor, and so forth until a contract is negotiated.

RIGHTS OF THE CONTRACTING AUTHORITY:
Midland County reserves the right to withdraw this RFP at any time and for any reason. Midland County also has the right to terminate its selection process at any time and to reject all responses, or all proposals. Receipt of the proposal materials by Midland County or submission of a proposal to Midland County confers no rights upon the vendor nor obligates Midland County in any manner.

All costs associated with the preparation or submittal of proposals shall be borne by the vendor, and no cost shall be sustained by Midland County.

ORAL COMMITMENT:
Vendors should clearly understand that any verbal representations made or assumed to be made during any discussions held between representatives of a vendor and any Midland County personnel or official are not binding on Midland County.

WAIVER OF CLAIMS:
Submission of a proposal indicates Vendor's acceptance of the evaluation technique and Vendor's recognition that some subjective judgments must be made by the County during the determination of qualification.

SELECTION CRITERIA:
Price is a primary consideration; however, it is not the only consideration to be used in the selection. The product and/or service to be provided is also of major importance. Midland County will require that the successful vendor provide a representative for all County related business, including fitting, warranty, and billing of said product and/or service.

ORDINANCES AND PERMITS:
The Contractor/Vendor agrees, during the performance of the work, to comply with all applicable Federal, State, or local codes, ordinances, and laws.

INVOICES:
Invoices are to be mailed to P.O. Box 421, Midland, Texas 79702 and should cite the applicable Purchase Order Number. Any and all notices or other communications required or permitted by any contract awarded as a result of this RFP shall be served on or given to Midland County, in writing, by personal delivery to the Purchasing Agent of Midland County, Texas, or by deposit with the United States Mail, postage prepaid, registered or certified mail, return receipt requested, addressed to the Midland County Purchasing Agent 500 N. Loraine Suite 1101 Midland, TX 79701, or at such other address as may have been specified by written notice to Vendor.

INSURANCE:
The awarded Vendor will maintain such insurance that will protect the Vendor and the County from claims under the Workers' Compensation Acts, and any amendments thereof, and from any other claims for damages from personal injury, including death, which may arise from operations under this agreement, whether such operations be by themselves or by any sub-contractor, or anyone directly or indirectly employed by either of them. Current certificates of insurance shall be furnished to Midland County and shall show all applicable coverage(s). Any subcontractor must adhere to the same requirements listed above and below (with the exception of the pollution liability, if required).

Other insurance requirements are:
-General Liability (including completed operations) with a $1,000,000 per occurrence limit and $2,000,000 general aggregate.

Midland County will require the selected Vendor to name Midland County as an additional insured for both the general liability and auto liability. A waiver of subrogation in favor of the County is required for the workers compensation. If the additional insured status or waiver of subrogation is not on a blanket basis, please send a copy of the actual endorsements prior to commencement of any work. All insurance must be placed through an insurance carrier licensed to operate in Texas and have an AM Best Rating greater than A-VI.

INDEMNIFICATION:
The Vendor shall defend, indemnify and save whole and harmless the County and all its officers, agents and employees from and against any and all demands, claims, suits, or causes of action of any character, name, kind or description brought for, or on account of, arising out of or in connection with the Vendor's performance or non-performance of any obligation of Vendor or any negligent act, misconduct or omission of the Vendor in the performance of its contractual obligations. The Vendor shall defend, indemnify, save, and hold harmless the County and its officers, agents, representatives and employees from and against any and all demands, claims, suits, or causes of action of any character, name, kind or description brought for, on account of, arising out of or in connection with Vendor's product or service.

STATUS OF INDEPENDENT CONTRACTOR:
Vendor shall be considered an independent contractor, for all purposes. Vendor will not at any time, directly or indirectly, act as an agent, servant, representative or employee of the County. Vendor will not take any action which is intended to create any commitments, duties, liabilities or obligations on behalf of the County, without prior written consent of the County.

PARTIAL INVALIDITY:
In the event any one or more of the provisions contained in this RFP or any contract resulting therefore, for any reason, be held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability shall not affect any other provision of this RFP or any contract resulting therefore and this RFP or the contract resulting therefore shall be construed as if such invalid, illegal or unenforceable provision had never been contained herein.

CONTRACT TERMINATION:

Non-performance of the Vendor/Contractor in terms of specifications or noncompliance with terms of this contract shall be basis for termination of the contract by the County. Termination in whole or in part, by the County may be made at its option and without prejudice to any other remedy to which it may be entitled at law or in equity, or elsewhere under this contract, by giving (60) sixty days written notice to the Contractor/Vendor with the understanding that all work being performed under this contract shall cease upon the date specified in such notice. The County shall not pay for work, equipment, services or supplies which are unsatisfactory. Contractor/Vendor may be given reasonable opportunity prior to termination to correct any deficiency. This, however, shall in no way be construed as negating the basis for termination for non-performance. The right to terminate the notice thereof is controlled by these proposal specifications and is not subject to being altered by contract.

LAW GOVERNING:

The parties under contract shall be subject to all Federal laws and regulations, and all rules and regulations of the State of Texas. The laws of the State of Texas shall govern the interpretation and application of the contract; regardless of where any disagreement over its terms should arise or any case of action arise. Vendor agrees to follow all local, state and federal laws.

REMEDIES:

The successful vendor and Midland County agree that both parties have all rights, duties, and remedies available as stated in the Uniform Commercial Code.

VENUE:

It is hereby agreed that the contract will be made in Midland, Midland County, Texas, and any dispute arising as a result of it shall be governed by the laws of the State of Texas for the purpose of any law suit, and the parties agree that such lawsuit shall be brought in Midland County, Texas.

FUNDING CONTINGENCY:

Any contract awarded pursuant to this RFP shall be contingent on sufficient funding and authority being made available in each fiscal period by the appropriate officials of Midland County. If sufficient funding or authority is not made available, the contract shall become null and void.

ASSIGNMENT:

The Contractor shall not sell, assign transfer or convey this contract in whole or in part, without the prior written consent of the County.

REQUIRED FORM
COMPANY AFFIDAVIT

The affiant, _____ states with respect to this submission to County:

I (we) hereby certify that if the contract is awarded to our firm that no member or members of the governing body, elected official or officials, employee or employees of said County, or any person representing or purporting to represent the County, or any family member including spouse, parents, or children of said group, has received or has been promised, directly or indirectly, any financial benefit, by way of fee, commission, finder's fee or any other financial benefit on account of the act of awarding and/or executing a contract.

I hereby certify that I have full authority to bind the company and that I have personally reviewed the information contained in the RFP and this submission, and all attachments and appendices, and do hereby attest to the accuracy of all information contained in this submission, including all attachments and exhibits.

I acknowledge that any misrepresentation will result in immediate disqualification from any consideration in the submission process.

I further recognize that County reserves the right to make its award for any reason considered advantageous to the County. The company selected may be without respect to price or other factors.

Signature _____   Date _____

Name _____   Phone _____

Title _____

Firm Name _____
Type of business organization (corporation, LLC, partnership, proprietorship)

Address _____

County, State, Zip _____

Notary Seal Below

SPECIFICATION

PURPOSE:

Midland County is in need of a vendor to provide Motorola radios (both mobile and portable), accessories, and licensing of said radios.

SUBCONTRACTOR AND/OR SUPPLIER IDENTIFICATION:

Should the Bidder subcontract any work, the Bidder shall indicate below the name of each subcontractor and/or supplier the bidder will use in the performance of the contract. The Bidder shall specify the work to be performed by the subcontractor or the materials to be provided by the supplier. Any changes in subcontractor and/or supplier listed below shall require prior approval by the Purchasing Office.

SPECIFICATIONS:

Please see the details required for these radios listed on pages 10-13 of this document. Additional information, provided by Motorola, is included in this bid document (see pages 14-36). This information provides more detail regarding the goods/services that Midland County is looking to purchase.

CONTRACT TERM:

This contract will last for 12 months and renew annually, unless either Midland County or Vendor provides a 60 day notice to cancel or not renew.

REFERENCES:

Please provide at least 2 references, preferably any local/state government clients that the vendor has provided a similar type of product/service as requested in this RFP.

EVALUATION PROCESS:

The County will award to the bidder that submits a bid which represents the "best value" to the County. The best value shall not be based solely upon price, but the bid which receives the highest cumulative score for each of the evaluation factors delineated herein.

CRITERIA:

Introduction (Executive Summary): 1 page maximum

Tab 1 Previous Related Experience: (10 points, maximum)
- Indicate experience with publicly funded entities of same approximate size. Be sure to indicate any previous experience with Midland County.
- Indicate any contracts terminated due to breach of contract by Vendor.

Tab 2 Identity and Location of Vendor: (40 points, maximum)
- Indicate the exact legal name of Vendor, its corporate location, any local/regional offices near Midland County, shipping warehouse location, length of time in business.

Tab3 References: (Include name, address, and phone number of contact person): (10 points, maximum)
- Indicate (2 minimum) references who can attest to the Vendor's ability to provide these goods/services.

Tab 5 Cost: (40 points, maximum)
- Indicate the Vendor's proposed costs of mobile radio, portable radio, licensing, and accessories necessary to operate said radios according to their normal function.

Midland County Mobile and Portable Radio Configurations

Date: 11/29/2023

APX 8500 Mobile Radio Configuration

	Item Number	Description	Quantity
1	M37TSS9PW1AN	APX8500 ALL BAND MP Mobile	10
2	GA09008AA	ADD: GROUP SERVICES	10
3	GA09007AA	ADD: OUT OF THE BOX WIFI PROVISIONING	10
4	G851AG	ADD: AES/DES-XL/DES-OFB ENCRYP APX AND	10
5	GA00318AF	ENH: 5 YEAR ESSENTIAL SVC	10
6	GA00250AA	ADD: BLUETOOTH/WIFI/GNSS FLEXIBLE CABLE LMR195	10
7	G996AS	ENH: OVER THE AIR PROVISIONING	10
8	G67DG	ADD: REMOTE MOUNT 07 MP	10
9	GA00580AA	ADD: TDMA OPERATION	10
10	G51AT	ENH:SMARTZONE	10
11	GA01620AA	ADD: MULTI SYSTEM OTAR	10
12	GA05509AA	DEL: DELETE UHF BAND	10
13	GA09001AA	ADD: WI-FI CAPABILITY	10
14	G298AS	ENH: ASTRO 25 OTAR W/MULTIKEY	10
15	B18CR	ADD: AUXILIARY SPKR 7.5 WATT APX	10
16	GA00805AA	ADD: APX O7 CONTROL HEAD (STANDARD KEYPAD)	10
17	G89AC	ADD: NO RF ANTENNA NEEDED	10
18	G444AH	ADD: APX CONTROL HEAD SOFTWARE	10
19	QA03399AA	ADD: ENHANCED DATA APX	10
20	GA01517AA	DEL: NO J600 ADAPTER CABLE NEEDED	10
21	G806BL	ENH: ASTRO DIGITAL CAI OP APX	10
22	GA01767AG	ADD: RADIO AUTHENTICATION	10
23	W22BA	ADD: STD PALM MICROPHONE APX	10
24	QA09113AB	ADD: BASELINE RELEASE SW	10
25	GA01630AA	ADD: SMARTCONNECT	10
26	G361AH	ENH: P25 TRUNKING SOFTWARE APX	10
27	HKVN4912A	LICENSE,LICENSE, IMW PRESENCE (PER USER)	10
28	HKVN4917A	LICENSE,LICENSE, IMW LOCATION (PER USER)	10
29	HKVN4916A	LICENSE,LICENSE, LOCATION ON PTT/VOICE (PER USER)	10
30	HKVN4915A	LICENSE,LICENSE, RADIO ALIAS UPDATE (PER USER)	10
31	HKVN4914A	LICENSE,LICENSE, IMW GROUP MANAGEMENT	10
32	HKVN4913A	LICENSE,LICENSE, TRUNKED RADIO USER (PER USER)	10
33	EQ000103A02	MULTIPLEXER,_ALL BAND, APX8500, VEHICLE	10
34	HAD4008A	UNITY GAIN ANTENNA QUARTERWAVE VHF	10
		150.8-162 - ROOF MOUNT	
35	HAF4013A	7/8/900 MHZ WIDEBAND LOW PROFILE, 3DB GAIN	10
		THROUGH HOLE NMO MOUNT	
36	CB000091A09	CABLE, COAXIAL,QMA PLUG TO MINI-UHF JACK	10
		CONNETOR (BECU QMA)	
37	CB000091A02	CABLE, COAXIAL,CABLE, COAXIAL,QMA PLUG TO	10
		QMA PLUG CONNECTOR	

APX Next Multi Radio Configuration

	Item Number	Description	Quantity
1	H55TGT9PW8AN	APX NEXT; ALL-BAND MODEL 4.5 PORTABLE	18
2	BD00001AA	ADD: CORE BUNDLE	18
3	H499KC	ENH: SUBMERSIBLE (DELTA T)	18
4	H38DA	ADD: SMARTZONE OPERATION	18
5	Q806CH	ADD: ASTRO DIGITAL CAI OPERATION	18
6	QA09028AA	ADD: VIQI VC RADIO OPERATION	18
7	QA03399AK	ADD: ENHANCED DATA	18
8	Q387CB	ADD: MULTICAST VOTING SCAN	18
9	QA00580BA	ADD: TDMA OPERATION	18
10	QA09001AM	ADD: WIFI CAPABILITY	18
11	BD00010AA	ADD: SECURITY BUNDLE	18
12	QA01767BL	ADD: P25 LINK LAYER AUTHENTICATION	18
13	Q498BN	ENH: ASTRO 25 OTAR W/MULTIKEY	18
14	H797DW	ENH: DVP-XL ENCRYPTION AND ADP	18
15	Q15AU	ADD: AES/DES-XL/DES OFB ENCRYPTION AND ADP	18
16	QA09113AA	ADD: BASELINE RELEASE SW	18
17	Q361CD	ADD: P25 9600 BAUD TRUNKING	18
18	QA09030AA	ADD: MOTOROLA HOSTED RADIOCENTRAL W CPS	18
19	H637AB	ADD: RADIO CENTRAL PROGRAMMING PROMO CARVE OUT+	18
20	H636AB	ADD: APX NEXT APPLICATION BUNDLE PROMO+	18
21	QA09017AA	ADD: LTE WITH ACTIVE SERVICE AT&T US	18
22	NNTN9216A	BATTERY PACK,IMPRES GEN2, LIION,IP68, 4400T	18
23	SSV01P01407B	SMARTPROGRAMMING PROMO+	18
24	SSV01P01406A	SMARTCONNECT PROMO+	18
25	SSV01P01476A	SMARTLOCATE PROMO+	18
26	SSV01P01902A	SMARTMAPPING PROMO+	18
27	SSV01P01685B	ELIGIBLE FOR PROMO - CC AWARE STARTER+	18
28	LSV01S03447A	APX NEXT DMS ESSENTIAL W ACC DMG	18
29	LSV01P03092A	RADIOCENTRAL PROGRAMMING PROMO	18
30	LSV01S03082A	RADIOCENTRAL PROGRAMMING	18
31	PSV01S02944A	PROVISIONING SUPPORT	18
32	NNTN9199A	IMPRES 2 SUC, 3.0A, 120VAC, TYPE A PLUG, NA	18
33	PMMN4136B	XVP830 REMOTE SPEAKER MICROPHONE NO CHANNEL KNOB	18

APX 8000 Portable Radio Configuration

	Item Number	Description	Quantity
1	H91TGD9PW7AN	APX 8000 ALL BAND PORTABLE MODEL 3.5	20
2	Q806CB	ADD: ASTRO DIGITAL CAI OPERATION	20
3	Q361AN	ADD: P25 9600 BAUD TRUNKING	20
4	QA00580AA	ADD: TDMA OPERATION	20
5	Q15AJ	ADD: AES/DES-XL/DESOFB ENCRYPTION AND	20
6	QA01767AB	ADD: P25 LINK LAYER AUTHENTICATION	20
7	QA05509AA	DEL: DELETE UHF BAND	20
8	Q887AU	ADD: 5Y ESSENTIAL SERVICE	20
9	QA09008AA	ADD: GROUP SERVICES	20
10	QA09007AA	ADD: OUT OF THE BOX WIFI PROVISIONING	20
11	QA09001AB	ADD: WIFI CAPABILITY	20
12	Q498AU	ENH: ASTRO 25 OTAR W/MULTIKEY	20
13	QA03399AA	ADD: ENHANCED DATA APX	20
14	H38BS	ADD: SMARTZONE OPERATION	20
15	QA07682AA	ADD: SMARTCONNECT	20
16	QA09113AB	ADD: BASELINE RELEASE SW	20
17	G996AP	ADD: PROGRAMMING OVER P25 (OTAP)	20
18	QA07680AA	ADD: MULTI SYSTEM OTAR	20
19	GA09011AA	ADD: THIRD PARTY DATA MODEM TETHERING	20
20	HKVN4912A	LICENSE,LICENSE, IMW PRESENCE (PER USER)	20
21	HKVN4917A	LICENSE,LICENSE, IMW LOCATION (PER USER)	20
22	HKVN4916A	LICENSE,LICENSE,LOCATION ON PTT/VOICE (PER USER)	20
23	HKVN4915A	LICENSE,LICENSE, RADIO ALIAS UPDATE (PER USER)	20
24	HKVN4914A	LICENSE,LICENSE, IMW GROUP MANAGEMENT	20
25	HKVN4913A	LICENSE,LICENSE, TRUNKED RADIO USER (PER USER)	20
26	PMNN4486A	BATT IMPRES 2 LIION R IP67 3400T	20
27	NNTN8860A	CHARGER, SINGLE-UNIT, IMPRES 2, 3A, 115VAC, US/NA	20
28	PMMN4136B	XVP830 REMOTE SPEAKER MICROPHONE NO CHANNEL KNOB	20

APX Radio Management

	Item Number	Description	Quantity
1	T7913A	RADIO MANAGEMENT OFFLINE	1
2	UA00048AA	ADD: RADIO MANAGEMENT LICENSES OFFLINE	48

Pricing Summery

Upfront Costs for Hardware, Accessories and Implementation

(if applicable), plus Subscription Fee

	Item Number	Description	Sale Price
1		Year 2 Subscription Fee	
2		Year 3 Subscription Fee	
3		Year 4 Subscription Fee	
4		Year 5 Subscription Fee	

UNLIMITED MOBILITY. UNCOMPROMISING PERFORMANCE.

APX™ 8000 ALL-BAND P25 PORTABLE RADIO

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 analogue 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 equalisation 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 metre water submersion for 2 hours (IP68) and Motorola Solutions' renowned Accelerated Life Test.

DESIGNED TO SECURE & PROTECT

The APX 8000's voice and data is secured by multiple hardware encryption algorithms (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.

PRODUCT DATA SHEET
APX 8000 PORTABLE RADIO

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

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, Analogue 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

Software Key

Text-Messaging

Voice Announcements

ISSI 8000 Roaming

Radio Profiles, Dynamic Zone

Intelligent Lighting

Single-key ADP Encryption

IP68 submersion (2 metres, 2 hours)

IMPRES 2 Battery

ADAPTIVE AUDIO ENGINE:
3 Watt Speaker with Adaptive Equalisation

Adaptive Dual-sided Operation

Adaptive Noise Suppression Intensity

Adaptive Gain Control

Adaptive Windporting

PROGRAMMING:
Utilises Windows Customer Programming Software (CPS) with Radio Management

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

GPS Outdoor Location Tracking

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

Rugged submersible option: MIL-STD 512.X/I, IP68 (2 metres, 4 hours)

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

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 2150 mAh IP68	3.39" x 2.34" x 1.45"	5.07 oz	PMNN4403	2150 mAh
Li-Ion IMPRES 3100 mAh IP68**	3.39" x 2.34" x 1.65"	6.61 oz	NNTN7038	3100 mAh
Li-Ion IMPRES 4200 mAh IP68	5.12" x 2.34" x 1.65"	11.43 oz	NNTN7034	4400 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
***Use of the 700/800MHz band is dependent on in-country spectrum regulations.

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-colour backlight	**Top display plus:** Full bitmap colour 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 colour 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)	H91TGD9PW5AN	H91TGD9PW6AN	H91TGD9PW7AN
UHF Range 2 (450-520 MHz)			
Buttons & Switches	Large PTT button ■ Angled On/Off volume control ■ Orange emergency button ■ 16 position top-mounted rotary switch ■ 2-position concentric switch ■ Multi-colour 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
Analogue 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
Immersion[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	Millimetres
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, AES, DES, DES-XL, DES-OFB, DVP-XL, Localised 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)
Synchronisation	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 metres (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 metres, 2 hours)

RUGGED OPTION SPECIFICATIONS

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

HOUSING COLOR

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

[1] Measured conductively in analogue 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.

Motorola Solutions Australia Pty Limited   www.motorolasolutions.com.au

MOTOROLA SOLUTIONS

SILL 8000 08/16

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, Bluetooth 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.

RF antenna port | GPS | Wi-Fi/Bluetooth | Accessory connector | DC power

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

Choose the level of support that suits you best, from simple support of technical troubleshooting to additional provisioning services.

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.

Exaggerated design and rugged housing for extreme environments

Full color display with night mode and intelligent lighting

Integrated high density speaker for loud, clear audio

MOTOROLA
APX 8500
Zone | Chan | Call | Next

Programmable multi-select buttons

Enlarged multi-function channel / volume knob

O3 HANDHELD CONTROL HEAD

Programmable buttons all around

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.

MOTOROLA
APX 8500
Call Scan Cnts

Full color display with intelligent lighting

Programmable menu buttons

Dedicated volume and channel rockers

Fully integrated DTMF keypad

Integrated control head and microphone design

APX 8500 CONTROL HEADS*

Dedicated volume and channel knobs for quick control

Easy to read, anti-reflective color display

Motorola
APX 8500
SMARTCONNECT
Call | RSSI | Zone | Chan | Scan

Programmable menu buttons

Bluetooth MPP Pairing

Full color display with night mode and intelligent lighting

Multi-function channel / volume knob

MOTOROLA
APX 8500
Zone | Chan | Call

Programmable multi-select buttons

Integrated controls for siren and lights, PA and gunlock or DTMF keypad

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***

Bluetooth (Version 4.2)**

MANAGEMENT

Radio Management

Customer Programming Software (CPS)

LOCATION-TRACKING

Integrated GPS/GLONASS for Outdoor Location Tracking

Mission-Critical Geofence*

SECURITY

265-bit AES, ADP, DES, DVP*

FIPS 140-3 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*

*Optional feature
**Identified as Wireless Pair on the mid-power APX 8500
***Optional feature. Check with your Motorola Solutions
    representative if the feature is available in your region.

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 with Ethernet Faceplate*	51 x 178 x 248 mm (2.0 x 7.0 x 9.8 in)	2.9 kg (6.4 lbs)
Mid Power Radio Transceiver and Remote Mount with Standard Faceplate	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)

*Compatible with Sierra Wireless MG90 only

88mm

248mm

320mm

248mm

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)

ENVIRONMENTAL SPECIFICATIONS

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

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 140-3 Level 3, FIPS 197

INTEGRATED WI-FI, BLUETOOTH, 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
Data Modem Tethering[1]		
Bluetooth (Version 4.2)/Wireless Pair	2402-2480 MHz. Supports MPP Pairing[3] and compatible with HSP, PAN, DUN and SPP Profiles found in Off-the-shelf Bluetooth accessories. Supports up to 6 data connections and 1 audio connection.	

RED CERTIFICATION

Designator	Band and Power Level
MMD905PE35	136-174MHz, (1-50W) 380-470MHz, (1-40W)

[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.
[3] Only for E5 control head

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

For more information, please visit us on the
web at: www.motorolasolutions.com/APX

MOTOROLA SOLUTIONS

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

Customer Programming Software (CPS)

RadioCentral™*

SmartProgramming*

Radio Management*

LOCATION-TRACKING

Built-in GNSS (GPS, Galileo, GLONASS) and A-GPS

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: Radio operation 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 / Fall Alert*

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)

8.2 in (210 mm)

5.4 in (138 mm)

2.5 in (63 mm)

1.7 in (43 mm)

3.2 in (80 mm)

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, 256-bit 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 140-3 Level 1 and Level 3, FIPS 197
Device Certificates	x.509v3 ECC-P384, x.509v3 RSA-2048
Cipher Suites FIPS 140-2 Level 1	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)			
HN001451A02	GCAI Side, Red	HN001452A02	PTT Side, Red
HN001451A03	GCAI Side, Blue	HN001452A03	PTT Side, Blue
HN001451A04	GCAI Side, Coyote Brown	HN001452A04	PTT Side, Coyote Brown
HN001451A05	GCAI Side, Yellow	HN001452A05	PTT Side, Yellow
HN001451A06	GCAI Side, Orange	HN001452A06	PTT Side, Orange
HN001451A07	GCAI Side, Impact Green	HN001452A07	PTT Side, Impact Green

WIRELESS

LTE	Footnote	
Bands Supported	-	2, 4, 12, 13, 14, 17
Bands (Hardware Ready)	-	5
Device Category	-	4
Certifications	5	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	-	GPS, Galileo, GLONASS, A-GPS
Tracking Sensitivity	-	-159 dBm
Accuracy	6	<5m (95%)
Cold Start	6	<60 Seconds (95%)
Hot Start	6	<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	7	-30 to +60 ºC (-22 to +140 ºF)
Storage Temperature	7	-40 to +85 ºC (-40 to +185 ºF)
Humidity	-	Per MIL-STD 810
ESD	-	IEC 61000-4-2
Dust Resistance	-	IP6X
Water Resistance (Submersion)	-	IPX8 (2 meters, 4 hours) MIL-STD Delta-T, 512.X Procedure 1

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-incentive 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. SIM cards for the listed carriers can be pre-installed at the Motorola Solutions factory or supplied by the end user via Bring Your Own SIM (BYOS) for certified carriers.

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

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 (788 - 798 MHz), Modulation *G7D, *D7W Band 17 (704 - 716 MHz), Modulation: *G7D, *D7W
All-band Model Number	H55TGT9PW8AN

6. Measured conductively with >6 satellites visible at a nominal -130 dBm signal strength. Specs provided are 95th percentile values.
7. LMR only. Front display, LTE, WiFi, Bluetooth and GPS not available when radio internal temperature is below -20 ºC (-4 ºF). Hi-capacity battery required for operation between -20 ºC (-4 ºF) and -30 ºC (-22 ºF). Batteries should be charged at 0 to +45 ºC (+32 to +113 ºF) and stored at +20 to +25 ºC (+68 to +77 ºF) . Reference motorolasolutions.com/batterycare

ACCESSORIES

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

AUDIO
HEAR AND BE HEARD LIKE NEVER BEFORE

XVP Remote Speaker Microphone

PMMN4135
- 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

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.

Motorola Solutions provides a range of service capabilities, including:

MYVIEW
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.

TECHNICAL SUPPORT
Industry certified technical engineers can troubleshoot and provide prompt resolution to any technical issues, whether on-site dispatch or remote.

HARDWARE REPAIR AND SOFTWARE MAINTENANCE
Ensure continuous security, performance and enhanced functionality of your two-way radios by getting access to APX NEXT certified and tested release software updates and upgrades and protect your radios from normal wear and tear.

ACCIDENTAL DAMAGE
Radios are protected from accidental breakage or liquid spills and physical damage. With state-of-the-art diagnostic equipment all of your agency's radio components are protected in the event of an unexpected failure and are back in operation as soon as possible.

DEVICE PROGRAMMING
APX NEXT includes Customer Programming Software (CPS) for one-at-a-time programming. We can enable batch programming for radios with centralized management to dramatically reduce the time and resources needed to provision and update your radio fleet.

As an add-on service, our technical teams can help you provision and program your fleet of radios on-site and train your staff on the radio fleet commissioning and management.

PREVENTIVE MAINTENANCE
Our certified technicians conduct annual maintenance checks to help extend the useful life of your radios, reducing repair and replacement costs.

PROTECT YOUR FOCUS WHEN IT MATTERS MOST

For more information, please visit
motorolasolutions.com/apxnext

MOTOROLA SOLUTIONS

APX NEXT

APX RADIO MANAGEMENT
RADIO PROGRAMMING MADE SIMPLE

Managing your radio fleet is an important part of day-to-day operations. But it can also be expensive and time consuming. Updates to add or remove channels, upgrade firmware, or add purchased features through FLASHport upgrade, take substantial time and resources because each radio has to be programmed individually. Motorola's Customer Programming Software Radio Management application simplifies APX™ radio configuration and management, saving you time and money while ensuring your users can accomplish their mission without interruption.

The APX CPS Management application can program up to 16 radios at one time and track which radios have been successfully programmed, providing a clear view of the entire radio fleet and a codeplug history for each radio.

ACCESS AND SHARE CODEPLUGS

When codeplug updates occur, the radio codeplug database can be stored on a network server allowing remote programmers to access and program radios and share a codeplug template across multiple radios. Changes to codeplug templates can be automatically applied to all affected radios while radio programming jobs can be scheduled ahead of time giving you more flexibility and operational efficiency.

MINIMIZE DOWNTIME

Save time and fuel by programming radios either via a USB port on a local or remote PC, or with Over-the-Air-Programming (OTAP) on a Project 25 system. With USB programming, a Device Programmer application resides on a PC and you can connect up to 16 radios via a USB hub to expedite the programming. To read/write multiple radios through a single computer or USB hub, the radios must be programmed with a unique IP address the first time they are read/written.

No application knowledge or application interaction is necessary by the user to program a radio with the Device Programmer application. The user simply plugs the radio into a USB port and the application automatically reads and writes the updates from the server to the radio.

Radio Management batch programming of APX radios via OTAP can only occur with a Motorola ASTRO® 25 Project 25 system, which has voice priority over data, so a user's call, emergency notifications or critical communications will not be interrupted with OTAP. Should an OTAP session be interrupted with communications, programming will resume after the call without the need to restart, expediting the process.

RADIO MANAGEMENT COMPONENTS

RM CLIENT
Radio management user interface is integrated into the CPS, giving radio managers a unified view into their radio fleet from a single dashboard.
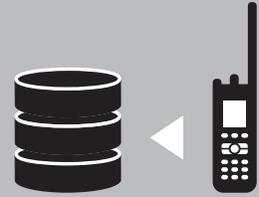
RM SERVER
Provides radio managers with flexible options for managing radios, templates, codeplug data and programming jobs via a hardware or cloud based database.

JOB PROCESSOR
Responsible for preprocessing of programming jobs by validating and transforming template and radio data into a format that can be written to the radio.

DEVICE PROGRAMMER
Performs read and write jobs to the APX radios.

FLEXIBLE ARCHITECTURE

RM INSTALLED ON ONE COMPUTER
All Radio Management components are installed on a single machine.

Use Case: A small self-maintained agency can gain the benefit of the integrated database that maintains all the template versions and keeps tracks all radio information and updates without having to maintain separate spreadsheets and codeplug files in the computer directory. An administrator can schedule jobs on the terminal, log out or lock the computer, and allow radio users to update their APX radios via the connected USB cable on their own time, without his or her presence required.

- Install all three Radio Management parts – CPS, RM Server and RM Device Programmer on a single PC
- Configuration is automatically handled by the RM Device Programmer
- Simple installation with full RM functionality

RM INSTALLED ON MULTIPLE COMPUTERS
Allows the Device Programmer to program radios at different locations by distributing the workload across multiple computers, a centrally located server and a remote RM client.

Use Case: A medium-sized agency can have two radio administrators. They can log into the centralized server located at the County IT building via the RM Clients on their personal laptops to make changes and schedule jobs. Meanwhile, there can be three programming kiosks (RM Device Programmers) throughout the county. Radio users can come to receive updates on their own convenience and avoid driving to and from the radio shop – one kiosk at the Fire Station, one at the Police Station, and one at City Hall. Fire-fighters, police officers and general government radio users all have a nearby kiosk for radio programming.

- Install the RM Server and RM Device Programmer at a central location at your shop

- Install the CPS on one or more PCs
- Share the same configuration database with multiple users who can access it remotely

FULLY DISTRIBUTED RM SYSTEM
Multiple Job Processors, RM Clients and RM Device Programmers share the workload and allow configuration and programming from different locations.

Use Case: A large-scale operation has a centrally-located RM Server in an IT server room along with four Job Processor servers that enable a higher throughput of jobs. RM Device Programmers are installed at each of the programming kiosks in the key government buildings, police stations, fire stations, and correctional facilities. The RM Device Programmers are also installed in all the MW810 mobile computers in the police vehicle fleet. These mobile computers can be used to program the APX mobile radios in the vehicle using the front microphone port USB interface on the APX control head. The radio shop has three RM Device Programmer computers and each one has a USB hub with 16 programming cables so that 48 radios can be programmed in parallel whenever future firmware upgrades need to be deployed. The RM Clients are also installed in the five personal laptops of the respective Radio Fleet Technicians.

- Install the CPS, RM Server and up to five wired RM Device Programmer's on separate PCs
- Keep the RM Server at your shop
- Conveniently and remotely access codeplug configurations on the RM Server from your CPS
- Install light-weight RM Device Programmers at customer's site
- It's green! No more driving around burning up fossil fuels for codeplug changes

RADIO MANAGEMENT ADVANTAGES

- Efficient radio inventory management

- Centralized radio configuration and codeplug management

- Automated radio updates of both codeplugs and software flash versions

- Remote over the air programming via the P25 radio system

- Batch programming via USB configuration (up to 16 radios at one time)

- No missed calls with Over-the-Air Programming due to voice priority with Motorola's ASTRO 25 systems

CPS RADIO MANAGEMENT (RM) REDUCES TOTAL COST OF OWNERSHIP

🕐 = $

105 HOURS

WITHOUT RM

12 HOURS

WITH RM

1000 RADIOS

HOW LONG DOES IT TAKE TO FLASH 1,000 RADIOS?

WITHOUT RM
105 HOURS
13 WORKING DAYS

WITH RM
12 HOURS
1.5 WORKING DAYS

* Time shown are average estimates based on small sample of actual data on APX 7000

For additional information, contact your Motorola representative or visit **motorolasolutions.com**.

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