BE BETTER EQUIPPED TO BE MISSION READY

APX™ 2500 PROJECT 25 MOBILE RADIO

A downed power line or the city transit system coming to a halt during rush hour, when natural disasters to the unexpected strikes, you must interoperate seamlessly and securely with other agencies and responders – often across multiple Project 25 (P25) systems. You need to instantly connect and be informed to make better decisions and respond effectively. While the advanced technology of APX™ radios expertly equips you for the unexpected, your organization may be challenged to improve operating expenses.

That's where the APX 2500 P25 mobile radio fits the bill perfectly. It delivers all the benefits of TDMA technology in a compact P25 capable mobile. The APX 2500 brings together powerful technology in an easy-to-use radio that's easy on your budget. It seamlessly unifies public works, utility, rural public safety and transportation users to first responders so they can communicate effectively in the moments that matter.

CONVENIENTLY SMALL, EASY TO INSTALL

The APX 2500 is designed to get the job done without getting in the way. A simplified design makes installation quick and easy, fitting into the existing XTL™ footprint so you can reuse mounting holes and cables.

Count on the APX 2500 to withstand wet, dusty and hazardous conditions, too. Its IP56 durability rating is the highest level of certification for uncompromising durability and world class quality in a mobile performer you can hose down.

KEEPS CREWS IN TOUCH, AND UP TO THE MINUTE

Safety runs in the APX family and the APX 2500 mobile is no exception. Like all our APX P25 radios trusted by responders worldwide, the APX 2500 mobile redefines safety. Your crews can count on quick, seamless interoperability and extended range – whether they are talking from the top of a pole or the bottom of a trench.

With integrated GPS in the APX 2500, you can keep an eye on responders and assets you can't see, tracking their locations continuously. With a variety of installation and control head options the APX 2500 can be mounted either remotely or in the dash and is compatible with the O2, O3 and O7 control heads. The color display is easy to read and operate in all lighting conditions, from bright sunlight to dark streets. The intelligent lighting feature notifies your workers when a call is received, an emergency arises, or when they are out of range. Plus, an enlarged multifunction knob on the O2 and O7 control heads makes it easy to use talk-group and volume settings when they're wearing gloves.

Over-the-air programming on the APX 2500 keeps your crews current in the field. You can update the latest mobile without interrupting voice communications while they work.

SIZED RIGHT FOR YOUR BUDGET

The APX 2500 lets you reuse many accessories which utilize the O5 and O3 control heads on XTL radios, so you can maximize your investment while you benefit from the latest technology. Since the APX 2500 is P25 Phase 2 capable for twice the voice capacity, you can add more users without adding more frequencies or infrastructure. It is backwards and forwards compatible with all Motorola mission critical radio systems, so you can interoperate with confidence while you improve operating expenses.

APX™ 2500 SPECIFICATIONS

FEATURES AND BENEFITS:

Available in 700/800 MHz, VHF bands

Channels: Standard 512

Trunking Standards supported:
- Clear or digital encrypted Trunked Operation
- Capable of SmartZone®, SmartZone Omnilink, SmartNet®

Analog MDC-1200 and Digital APCO P25 Conventional System Configurations

Narrow and wide bandwidth digital receiver (6.25kHz/12.5kHz/25kHz/30 kHz)

Embedded digital signaling (ASTRO and ASTRO 25)

Integrated GPS capable

Intelligent lighting

Radio profiles

Unified Call List

Full rate AMBE vocoder for Phase 1 (FDMA)

Half rate AMBE+2 vocoder for Phase 2 (TDMA)

Meets applicable MIL-STD 810C, D, E, F, G

Ships standard IP56

Utilizes Windows XP, Vista and Windows 7 Customer Programming Software (CPS)
- Supports USB Communications
- Built in FLASHport™ support

Re-use of most XTL™ accessories, plus new IMPRES accessories

OPTIONAL FEATURES:

Programming over Project 25 (POP25)

Text Messaging

12 character RF ID asset tracking

Over the Air Rekeying (OTAR)

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS					
	700 MHz		**800 MHz**		**VHF**
Frequency Range/Bandsplits	764-776 MHz 794-806 MHz		806-824 MHz 851-870 MHz		136-174 MHz
Channel Spacing	25/12.5 kHz		25/12.5 kHz		30/25/12.5 kHz
Maximum Frequency Separation	Full Bandsplit		Full Bandsplit		Full Bandsplit
Rated RF Output Power Adj*	10-30 Watts		10-35 Watts		5-50 Watts
Frequency Stability* (−30°C to +60°C; +25°C Ref.)	±0.00015 %		±0.00015 %		±0.0002 %
Modulation Limiting*	±5 kHz / ±2.5 kHz		±5 kHz/±4 kHz (NPSPAC) /±2.5 kHz		±5 kHz / ±2.5 kHz
Modulation Fidelity (C4FM) 12.5kHz Digital Channel	±2.8 kHz		±2.8 kHz		±2.8 kHz
Emissions*	Conducted+ −75/−85 dBc	Radiated+ −20/−40 dBm	Conducted −75 dBc	Radiated −20 dBm	Conducted −85 dBc
Audio Response*	+1, −3 dB (EIA)		+1, −3 dB (EIA)		+1, −3 dB (EIA)
FM Hum & Noise 25 kHz 12.5 kHz	−50 dB −48 dB		−50 dB −48 dB		−53 dB −52 dB
Audio Distortion*	2 %		2 %		2 %

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APX 2500 CONTROL HEAD PORTFOLIO

O2 RUGGED CONTROL HEAD

- Large color display with intelligent lighting
- 3 lines of text 14 characters max / 1 line of icons / 1 line of menus
- Built in 7.5 watt speaker
- Multifunction volume/channel knob
- Night/day mode button

O3 HAND HELD CONTROL HEAD

- Large color display with intelligent lighting
- 2 lines of text 14 characters max / 1 line of icons / 1 line of menus
- Integrated full size DTMF keypad
- Hand-held control head with intuitive user interface
- Two quick-access side buttons
- Display contrast selector

O7 ENHANCED CONTROL HEAD

- Large color display with intelligent lighting
- 3 lines of text 14 characters max / 1 line of icons / 1 line of menus
- Available with Lighting & Siren Controls or DTMF Keypad
- Multiple control head configuration (up to 2)
- Multifunction volume/channel knob
- Night/day mode button

DIMENSIONS

	Inches	Millimeters
Mid Power Radio Transceiver	2 x 7 x 6.4	50.8 x 178 x 163
O2 Control Head	2.7 x 8.1 x 2.1	60 x 207 x 53
O7 Control Head	2 x 7 x 1.5	50.8 x 179 x 40
Mid Power Radio Transceiver and O2 Control Head - Dash Mount	2.7 x 8 .1 x 8.8	69 x 207 x 223
Mid Power Radio Transceiver and O7 Control Head - Dash Mount	2 x 7 x 8.2	50.8 x 179 x 208
Mid Power Radio Transceiver and Remote Mount	2.0 x 7 x 9.6	50.8 x 180.3 x 243.8
Mid Power Radio Transceiver and O2 Control Head Weight	5.28 lbs	2.45 kg
Mid Power Radio Transceiver and O7 Control Head Weight	4.83 lbs	2.24 kg
Mid Power Radio Transceiver and Remote Mount Weight	4.70 lbs	2.18 kg

TRANSMITTER CERTIFICATION

700/800 (764-775, 793-805, 806-824, 851-869 MHz)	AZ492FT7055 (Basic/Expanded)
VHF (136-174 MHz)	AZ492FT3826 (Basic/Expanded)

FCC EMISSIONS DESIGNATORS

FCC Emissions Designators	8K10F1D, 8K10F1E, 8K10F1W, 11K0F3E, 16K0F3E, 20K0F1E

RECEIVER – TYPICAL PERFORMANCE SPECIFICATIONS

		700 MHz	800 MHz	VHF	
Frequency Range/Bandsplits		764-776 MHz	851-870 MHz	136-174 MHz	
Channel Spacing		25/12.5 kHz	25/12.5 kHz	30/25/12.5 kHz	
Maximum Frequency Separation		Full Bandsplit	Full Bandsplit	Full Bandsplit	
Audio Output Power at 3% distortion*		7.5 W or 15 W ++	7.5 W or 15 W ++	7.5 W or 15 W ++	
Frequency Stability* (−30°C to +60°C; +25°C Ref.)		+/-0.8 PPM	+/-0.8 PPM	+/-0.8 PPM	
				Pre-Amp	Standard
Analog Sensitivity*	12 dB SINAD	-121 dBm	-121 dBm	-123 dBm	-119 dBm
Digital Sensitivity	5% BER	-121.5 dBm	-121.5 dBm	-123 dBm	-119 dBm
Intermodulation	25 kHz	82 dB	82 dB	84 dB	86 dB
	12.5 kHz	82 dB	82 dB	85 dB	86 dB
Spurious Rejection		91 dB	91 dB	95 dB	
Audio Distortion at rated*		1.20%	1.20%	1.20%	
FM Hum & Noise	25 kHz	59 dB	59 dB	59 dB	
	12.5 kHz	50 dB	50 dB	50 dB	
Selectivity*	25 kHz	85 dB	85 dB	85 dB	
	12.5 kHz	75 dB	75 dB	75 dB	
	30 kHz	—	—	90 dB	

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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	II	500.5	II
High Temperature Storage	501.1	I	501.2	I/A1	501.3	I/A1	501.4	I/Hot	501.5	I/A1
High Temperature Operation	501.1	II	501.2	II/A1	501.3	II/A1	501.4	II/Hot	501.5	II
Low Temperature Storage	502.1	I	502.2	I/C3	502.3	I/C3	502.4	I/C3	502.5	I/C3
Low Temperature Operation	502.1	I	502.2	II/C1	502.3	II/C1	502.4	II/C1	502.5	II
Temperature Shock	503.1	-	503.2	I/A1-C3	503.3	I/A1-C3	503.4	I/Hot-C3	503.5	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.5	I/A1
Rain Blowing	506.1	I	506.2	I	506.3	I	506.4	I	506.5	I
Rain Steady	506.1	II	506.2	II	506.3	II	506.4	III	506.5	III
Humidity	507.1	II	507.2	II	507.3	II	507.4	-	507.5	II-Aggravated
Salt Fog	509.1	-	509.2	-	509.3	-	509.4	-	509.5	1 Proc
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.5	I
Blowing Sand		-	510.2	II	510.3	II	510.4	II	510.5	II
Vibration Min. Integrity	514.2	VIII/F, Curve-W	514.3	I/10	514.4	I/10	514.5	I/24	514.6	I-Cat.24
Vibration Loose Cargo	514.2	XI	514.3	II/3	514.4	II/3	514.5	II/5	514.6	-
Shock Functional	516.2	I	516.3	I	516.4	I	516.5	I	516.6	I, V, VI

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.

POWER AND BATTERY DRAIN

Model Type	136-174 MHz, 764-870 MHz		
Minimum RF Power Output	10-35 Watt (764-870 MHz), 1-50 Watts (136-174 MHz)		
Operation	13.8V DC ±20% Negative Ground		
Standby at 13.8V	0.85A (764-870 MHz), 0.85A (136-174MHz)		
Receive Current at Rated Audio at 13.8V	3.2A (764-870 MHz), 3.2A (136-174 MHz)		
Transmit Current (A) at Rated Power	136-174 MHz (10-50 Watt)	13A (50W)	8A (15W)
	764-870 MHz (10-35 Watt)	12A (35W)	8A (15W)

GPS SPECIFICATIONS

Channels	12
Tracking Sensitivity	−153 dBm
Accuracy**	<10 meters (95%)
Cold Start	<60 seconds (95%)
Hot Start	<10 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GPS

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-30ºC / +60ºC
Storage Temperature	-40ºC / +85ºC
Humidity	Per MIL-STD
ESD	IEC 801-2 KV
Water and Dust Intrusion	IP56, MIL-STD

* Measured in the analog mode per TIA/EIA 603 under nominal conditions
** Accuracy specs are for long-term tracking
(95th percentile values >5 satellites visible at a nominal −130 dBm signal strength)
+ Specs includes performance for the non-GNSS/GNSS bands
++ Output power in to 8 and 3.2 Ohm external speakers respectively

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

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