BE BETTER EQUIPPED TO BE MISSION READY

APX™ 2500 PROJECT 25 MOBILE RADIO

A sudden demonstration in the city centre requires the entire police force. When the unexpected strikes, you need radio technology you can depend on to communicate securely with all parties.

The APX 2500 P25 mobile radio's powerful platform makes it possible for agencies, such as police, emergency services, utilities and transportation, to communicate securely at all times, from all locations. Delivering all the benefits of TDMA technology, in a compact P25 capable mobile, the APX™ 2500 P25 has the resiliency and coverage to enable teams to instantly connect, make more informed decisions and respond effectively. And it does so cost-efficiently.

CONVENIENTLY SMALL, EASY TO INSTALL

The APX 2500 is compact so it doesn't get in the way. Compatible with the existing XTL™ platform, installation is quick and easy. It also saves on installation costs because mounting holes and cables can be reused.

The APX 2500 has an IP56 durability rating – the highest certified standard for unsurpassed durability and world-class quality.

KEEPS TEAMS IN TOUCH AND UP TO SPEED

Like all our APX P25 radios, the APX 2500 mobile raises the bar for safety. Responders can count on quick, seamless interoperability and extended range to support them wherever they are.

GPS is integrated into the APX 2500, allowing you to track the locations of responders and assets you can't see, 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 02, 03 and 07 control heads.

The colour display is easy to read and operate in all lighting conditions, from bright sunlight to dark nights. An intelligent lighting feature notifies your workers when a call is received, an emergency arises, or when they are out of range. Plus, the enlarged multifunction knob on the 02 and 07 control heads makes it easy to use talk-group and volume settings while wearing gloves. Over-the-air programming on the APX 2500 keeps everyone current in the field. You can even update the latest mobile software without interrupting voice communications while they work.

SIZED RIGHT FOR YOUR BUDGET

The APX 2500 lets you reuse many components from 05 and 03 control heads on XTL radios to maximise your radio investment while taking advantage of the latest technology. Since the APX 2500 P25 is Phase 2 ready with twice the voice capacity, you can add more users without adding more frequencies or infrastructure. It's also backwards and forwards compatible with all Motorola Mission Critical radio systems, so you interoperate with confidence while optimising operating expenses.

FEATURES AND BENEFITS:

- Available in 700-800 MHz, VHF, UHF Range 1 and UHF Range 2 bands
- Channels: Standard 512
- Trunking standards supported:
  - Clear or digital encrypted ASTRO® 25 Trunked Operation
  - Capable of SmartZone®, SmartZone Omnilink, SmartNet®
- Analog MDC-1200 and Digital APCO P25 Conventional System Configurations
- Narrow and wide bandwidth digital receiver (6.25 kHz equivalent / 12.5 kHz / 30 kHz / 25 kHz)
- Embedded digital signalling (ASTRO & 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

- Utilises Windows XP, Windows 7, and Vista Customer Programming Software (CPS)
  - Supports USB communications
  - Built in FLASHport™ support
- Reuse of most XTL™ accessories plus IMPRES accessories

OPTIONAL FEATURES:

- Programming Over Project 25 (POP25)
- Text messaging
- 12-character RFID asset tracking
- Over the Air Rekeying (OTAR)

APX 2500 CONTROL HEAD PORTFOLIO

02 RUGGED CONTROL HEAD

- Large colour display with intelligent lighting
- 3 lines of text, 14 characters max/ 1 line of icons/1 line of menus
- Multiple control head configurations (up to 2)
- Built in 7.5 watt speaker
- Multifunction volume/channel knob
- Night/day mode button

03 HAND-HELD CONTROL HEAD

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

07 ENHANCED CONTROL HEAD

- Large colour display with intelligent lighting
- 3 lines of text, 14 characters max/ 1 line of icons/1 line of menus
- Available with lighting and Siren controls or DTMF Keypad
- Multiple control head configurations (up to 2)
- Multifunction volume/channel knob
- Night/day mode button

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

	700 MHz	800 MHz	VHF	UHF Range 1	UHF Range 2
Frequency Range/Bandsplits	764-776 MHz 794-806 MHz	806-824 MHz 851-870 MHz	136-174 MHz	380-470 MHz	450-520 MHz
Channel Spacing	25/12.5 kHz	25/12.5 kHz	30/25/12.5 kHz	25/12.5 kHz	25/12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Rated RF Output Power Adj[1]	2-30 Watts (2-3 Watts Itinerant)	2-35 Watts	1-50 Watts R & TTE - 1-25 Watts[4]	1-40 Watts R & TTE - 1-25 Watts[4]	1-45 Watts (450-485 MHz) 1-40 Watts (485-512 MHz) 1-25 Watts (512-520 MHz)
Frequency Stability[1] (–30°C to +60°C; +25°C Ref.)	±0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM
Modulation Limiting[1]	±5 kHz / ±2.5 kHz	±5 kHz/±4 kHz (NPSPAC) /±2.5 kHz	±5 kHz / ±2.5 kHz	±5 kHz / ±2.5 kHz	±5 kHz / ±2.5 kHz
Modulation Fidelity (C4FM) 12.5 kHz Digital Channel	1.5%	1.5%	2.5%	1.1%	1.1%
Emissions[1]	Conducted[2] –75/–85 dBc Radiated[2] –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 25 kHz 12.5 kHz	–50 dB –48 dB	–50 dB –48 dB	–52 dB –51 dB	–51 dB –48 dB	–51 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

	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	25/12.5 kHz	25/12.5 kHz	30/25/12.5 kHz	25/12.5 kHz	25/12.5 kHz
Maximum Frequency Separation	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit	Full Bandsplit
Audio Output Power at 3% distortion[1]	7.5 W or 15 W[3]	7.5 W or 15 W[3]	7.5 W or 15 W[3]	7.5 W or 15 W[3]	7.5 W or 15 W[3]
Frequency Stability[1] (–30°C to +60°C; +25°C Ref.)	±0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM	±0.8 PPM
Analog Sensitivity[1] 12 dB SINAD Digital Sensitivity 5% BER	–120 dBm –121 dBm	–120 dBm –121 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	82 dB 82 dB	82 dB 82 dB	82 dB / 87 dB 83 dB / 86 dB	81 dB / 86 dB 82 dB / 85 dB	81 dB / 86 dB 82 dB / 85 dB
Spurious Rejection	91 dB	91 dB	95 dB	91 dB	91 dB
Audio Distortion at rated[1]	2%	2%	2%	2%	2%
Selectivity[1] 25 kHz 12.5 kHz 30 kHz	85 dB 75 dB —	85 dB 75 dB —	89 dB 77 dB 90 dB	83 dB 72 dB —	83 dB 72 dB —

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	69 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 x 7 x 7.6	50.8 x 180.3 x 194
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

RADIO MODELS

700/800 (764-870 MHz)	M24URS9PW1AN
VHF (136-174 MHz)	M24KSS9PW1AN
UHF Range 1 (380-470 MHz)	M24QSS9PW1AN
UHF Range 2 (450-520 MHz)	M24SSS9PW1AN

TRANSMITTER CERTIFICATION

700/800 (764-775, 793-805, 806-824, 851-869 MHz)	AZ492FT7055
VHF (136-174 MHz)	AZ492FT3826
UHF R1 (380-470 MHz)	AZ492FT4915
UHF R2 (450-520 MHz)	AZ492FT4916

FCC EMISSIONS DESIGNATORS

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

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

[2] Specs includes performance for the non-GNSS/GNSS bands.

[3] Output power in to 8 and 3.2 Ohm external speakers respectively.

[4] For R & TTE countries, rated output power will be restricted to 1-25 Watts.

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/A2
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/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 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	I	509.2	I	509.3	I	509.4	–	509.5	–
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

POWER AND BATTERY DRAIN

Model Type	136-174 MHz, 380-470 MHz, 450-520 MHz, 764-870 MHz
Minimum RF Power Output	2-30 Watts (764-776 MHz), 2-30 Watts (794-806 MHz), 2-35 Watts (806-824 MHz), 2-35 Watts (851-870 MHz), 1-50 Watts (136-174 MHz), 1-40 Watts (380-470 MHz), 1-45 Watts (450-485 MHz), 1-40 Watts (485-512 MHz), 1-25 Watts (512-520 MHz)
Operation	13.8V DC ±20% Negative Ground
Standby at 13.8V	0.85A (764-870 MHz), 0.85A (136-174 MHz), 0.85A (380-470 MHz), 0.85A (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) 13A (50 W) 8A (15 W) 380-470 MHz (1-40 W) 11A (40 W) 8A (15 W) 450-520 MHz (1-45 W) 11A (45 W) 8A (15 W) 764-870 MHz (2[5]-35 W) 12A (35 W) 8A (15 W)

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.

ENVIRONMENTAL SPECIFICATIONS

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

GPS SPECIFICATIONS

Channels	12
Tracking Sensitivity	–153 dBm
Accuracy[6]	<10 meters (95%)
Cold Start	<60 seconds (95%)
Hot Start	<10 seconds (95%)
Mode of Operation	Autonomous (Non-Assisted) GPS

[5] 2 W. itinerant frequencies.

[6] Accuracy specs are for long-term tracking (95th percentile values >5 satellites visible at a nominal –130 dBm signal strength).

REGULATORY COMPLIANCE

Radio (R&TTE Article 3.2)	Directive 1999/5/EC RTTE EN 300 086-2 v1.3.1
	EN 300 113-2 v1.5.1
EMC (R&TTE Article 3.1.b)	EN 301 489-1 V1.9.2
	EN 301 489-5 V1.3.1
	EN 300 086-2 v1.3.1 (rad. emissions)
Electrical Safety (R&TTE Article 3.1.a)	EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 + AC:2011
	ICNIRP(1998) Occupational Controlled Environment
Environmental	Directive 2002/96/EC WEEE
	Directive 2011/65/EU RoHS-2
Year of first application of CE Mark	2012 (136-174MHz) ; 2013 (380-470MHz)
Type Designators	MMC308P (136-174MHz) ; MMC508P (380-470MHz)
Automotive	ECE regulation 10
Automotive Marking	E24 10R-040989

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

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