SPECIFICATION SHEET

APX™ 6500

PROJECT 25 MOBILE RADIO

We've put exceptional flexibility into an advanced mission critical mobile radio that's easy to operate and intuitive to use. The APX 6500 P25 mobile allows users to choose from 2 control heads, mid and high power models and multiple installation configurations in an easy to install design. Innovative safety features such as GPS location tracking, intelligent lighting and one-touch controls help to keep first responders safer than ever before.

Focus on the task not the technology, with the hardworking mission critical mobile that turns mission critical into mission complete.

FLEXIBLE PLATFORM

- Interchangeable control heads (O3 and O5) and transceivers (mid power and high power). Dual control head support offered on the O5
- O3 hand held control head – this unique, palm-sized device is easy to read and operate, with its large color display and keypad
- O5 control head – gives you a rugged display, easy-to-use controls and five programmable soft buttons for even more radio flexibility

EASY TO INSTALL AND EFFORTLESS TO USE

- Mid-power model fits into any existing XTL footprint, so you can reuse mounting holes and cables
- High-power model trunnion design lets you remove the radio without removing the cables
- 12 character RF ID label helps you track information without uninstalling your radio

CUTTING-EDGE TECHNOLOGY AND ADVANCED FEATURES

- Project 25 Phase 2 technology provides twice the voice capacity
- Integrated GPS lets you locate and track an individual or vehicle
- Advanced features like intelligent lighting, radio profiles and text messaging improve communication and coordination

APX™ 6500 SPECIFICATIONS

FEATURES AND BENEFITS:

Available in 700/800 frequency bands

Up to 870 Channels

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)

Embedded digital signaling (ASTRO and ASTRO 25)

Integrated GPS capable

Integrated Encryption Hardware

Intelligent lighting

Radio profiles

Unified Call List

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

Ships standard IP54

Utlizes 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:

Enhanced Encryption Software Options

Programming over Project 25 (POP25)

Text Messaging

Over the Air Re-Key (OTAR)

12 character RF ID asset tracking

Tactical OTAR

TRANSMITTER - TYPICAL PERFORMANCE SPECIFICATIONS

		700 MHz	800 MHz
Frequency Range/Bandsplits		764-776 794-806	806-825 851-870
Channel Spacing		25/12.5 kHz	25/20/12.5 kHz
Maximum Frequency Separation		Full Bandsplit	Full Bandsplit
Rated RF Output Power Adj*		10-30 Watts Max	10-30 Watts Max
Frequency Stability* (–30°C to +60°C; +25°C Ref.)		±0.00015 %	±0.00015 %
Modulation Limiting*		±5 kHz /±2.5 kHz	±5 kHz /±4 kHz (NPSPAC) /±2.5 kHz
Modulation Fidelity (C4FM) 12.5kHz Digital Channel		±2.8 kHz	±2.8 kHz
Emissions*	Conducted+ Radiated+	–70/–85 dBc –20/–40 dBm	–70 dBc –20 dBm
Audio Response*		+1, –3 dB (EIA)	+1, –3 dB (EIA)
FM Hum & Noise (25 & 20 KHz /12.5 KHz)		40/34 dB	40/34 dB
Audio Distortion*		2 %	2 %

DIMENSIONS

		Inches	Millimeters
Mid Power Radio Transceiver		2 x 7 x 8.6	50.8 x 177.8 x 218.4
O5 Control Head		2 x 7 x 2.5	50.8 x 180.3 x 63.5
Mid Power Radio Transceiver and O5 Control Head–Dash Mount		2 x 7 x 9.6	50.8 x 180.3 x 243.8
Mid Power Radio Transceiver and Remote Mount		2.0 x 7 x 9.6	50.8 x 180.3 x 243.8
High Power Radio Transceiver		2.9 x 11.5 x 8.8	74 x 293 x 223
High Power Radio Transceiver with Handle		3.4 x 11.5 x 8.8	87 x 293 x 223
Mid Power Radio Transceiver and Control Head Weight		7.0 lbs	3.17 kg
High Power Radio Transceiver Weight	With Trunnion Without Trunnion	14.2 lbs 12 lbs	6.4 kg 5.4 kg

O3 Hand Held Control Head features

- 4 lines: 2 lines text (14 characters), 1 line icons, 1 line soft menu keys
- 3 x 6 keypad with up to 24 programmable soft keys
- Cellular style user interface and color display

O5 Control Head features

- Tri-color LCD display
- 4 lines: 2 lines text (14 characters), 1 line icons, 1 line soft menu keys
- 3 x 6 keypad microphone accessory with 3 programmable soft keys
- 5 programmable soft key buttons and 5 scroll-through menus with
- Up to 24 programmable soft keys
- Dual control head configuration to fully control a single radio from 2 different wired locations

RECEIVER - TYPICAL PERFORMANCE SPECIFICATIONS

		700 MHz	800 MHz
Frequency Range/Bandsplits		764-776	851-870
Channel Spacing		25/12.5 kHz	25/20/12.5 kHz
Maximum Frequency Separation		Full Bandsplit	Full Bandsplit
Audio Output Power at 3% distortion*		7.5W or 13W++	7.5W or 13W++
Frequency Stability* (–30°C to +60°C; +25°C Ref.)		±0.00015 %	±0.00015 %
Analog Sensitivity*	12 db SINAD	0.25 µV	0.25 µV
Digital Sensitivity	1% BER	0.3 µV	0.3 µV
	5% BER	0.25 µV	0.25 µV
Intermodulation		80 dB	80 dB
Spurious Rejection		90 dB	90 dB
Audio Distortion at rated*		3.00%	3.00%
Selectivity	25 kHz/30 kHz	80 dB	80 dB
	12.5 kHz	65 dB	65 dB

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	764-870 MHz
Minimum RF Power Output	10-35 Watt (764-870 MHz)
Operation	13.8V DC ±20% Negative Ground
Standby at 13.8V	764-870 MHz (10-35 Watt) 0.85A
Receive at Rate Audio at 13.8V	764-870 MHz (10-35 Watt) 3.2A
Transmit Current (A) at Rated Power (W)	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

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
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
Temperature Shock	503.1	–	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	–	507.5	II-Aggravated
Salt Fog	509.1	–	509.2	–	509.3	–	509.4	–	509.5	–
Blowing Dust	510.1	I	510.2	I, II	510.3	I, II	510.4	I, II	510.5	I, II
Vibration	514.1w	VIII/F, Curve-W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	514.6	I-cat.24
Shock	516.2	I, III	516.3	I, IV	516.4	I, IV	516.5	I, IV	516.6	I, V, VI

ENCRYPTION

Supported Encryption Algorithms	ADP, AES, DES, DES-XL, DES-OFB, DVP-XL
Encryption Algorithm Capacity	1
Encryption Keys per Radio	Module capable of storing 1024 keys. Programmable for 64 Common Key Reference (CKR) or 16 Physical Identifier (PID)
Encryption Frame Re-sync Interval	P25 CAI 300 mSec
Encryption Keying	Key Loader
Synchronization	XL – Counter Addressing OFB – Output Feedback
Vector Generator	National Institute of Standards and Technology (NIST) approved random number generator
Encryption Type	Digital
Key Storage	Tamper protected volatile or non-volatile memory
Key Erasure	Keyboard command and tamper detection
Standards	FIPS 140-2 FIPS 197

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	IP54, MIL-STD

FCC TYPE ACCEPTANCE ID

Band	Output Power	Transmitter Number
764-870 MHz	10-35 Watt	AZ492FT5858

* 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.

MOTOROLA

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

R3-1-2047A