



# APX 1500

Single-band P25 mobile radio



## P25 connectivity. Exceptional price.

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

The APX 1500 mobile is designed to provide reliable P25 radio communication at an affordable price while standing up to the riggers of every day work. The rugged simplicity of

the O2 control head includes an easy to read color display and a built-in 7.5 watt speaker for efficient and confident communication. P25 radio capability enables seamless interoperability with first responders and other P25 radio users.

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





## Great value

### Do more, don't pay more

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



## Rugged and reliable

### Respond With Confidence

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



## P25 Collaboration

### Collaborate seamlessly

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



## Device management services

### The support you need

Choose the maintenance service level that suits you best to keep your radio optimized and operating.



# APX 1500 Control head

## O2 Control head

### Extreme usability

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

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



Zone Chan Call Next

Programmable multi-select buttons

Enlarged multi-function channel / volume knob



# Features

## General features

Channel Capacity	512 channels
Wireless Connectivity	GPS/GLONASS

## Operating modes

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

## Data connectivity

ASTRO 25 Integrated Voice and Data
Enhanced Data <sup>1</sup>
Integrated GPS/GLONASS for Outdoor Location Tracking
Mission Critical Geofence <sup>1</sup>
Bluetooth version 4.2 compatible with HSP, PAN, DUN and SPP Profiles found in the Off-the shelf Bluetooth accessories. Supports up to 6 data connections and 1 audio connection.

## Management

Customer Programming Software (CPS)
Radio Management
Over-the-air Programming (OTAP) <sup>1</sup>

## Security

P25 Authentication
Software Key
Single-key ADP Encryption Programmable for 8 Common Key Reference (Available with no encryption for public safety)
Multikey for 8 keys
256-bit AES software encryption

## GPS/GNSS specifications

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

<sup>1</sup> Optional

<sup>2</sup> Measured conductively with >6 satellites visible at a nominal -130 dBm signal strength



#### Other features

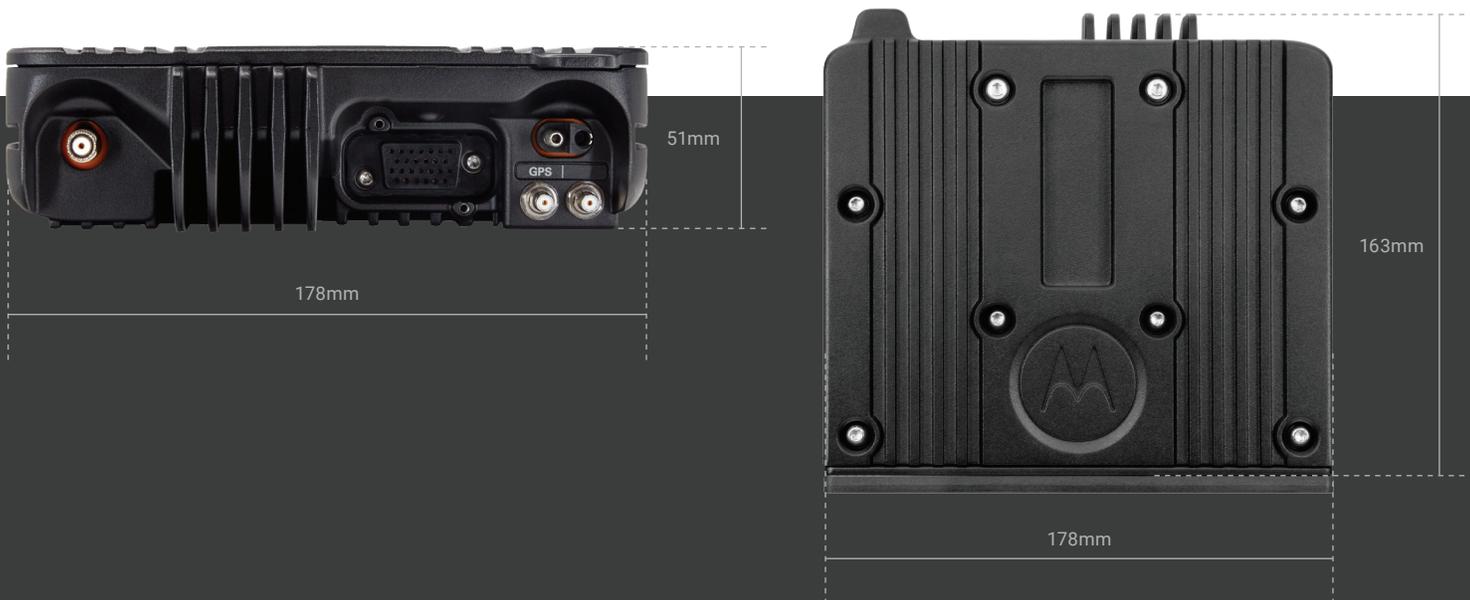
Text Messaging <sup>1</sup>
Radio Profiles
Dynamic Zone
Intelligent Priority Scan
Unified Call List
Instant Recall
12 Character RFID Asset Tracking <sup>1</sup>
Digital Tone Signaling <sup>1</sup>

#### Signaling (ASTRO 25 mode)

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

#### Dimensions and weight

Radio Transceiver	50.8 x 178 x 163 mm (2.0 x 7.0 x 6.4 in)	2.18 kg (4.80 lbs)
Radio Transceiver and O2 Control Head - Dash Mount	69 x 207 x 223 mm (2.7 x 8.1 x 8.8 in)	2.43 kg (5.36 lbs)



<sup>1</sup> Optional

# Performance and regulatory

Transmitter										
	VHF		UHF R1		UHF R2		700 MHz		800 MHz	
Frequency Range/Bandsplits	136-174 MHz		380-470 MHz		450-520 MHz		764-776, 94-806 MHz		806-825, 851-870 MHz	
Rated RF Output Power (Adjustable)	1-50 W 1-25 W <sup>3</sup>		1-40 W 1-25 W <sup>3</sup>		1-45 W 1-25 W <sup>3</sup>		3-30 W		3-35 W	
Frequency Stability (-30°C to +60°C; +25°C Ref.)	± 0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM	
Emissions	Conducted -85 dBc	Radiated -10 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
Modulation Limiting (12.5/20/25 kHz)	±5/±2.5 kHz		±5/±2.5 kHz		±5/±2.5 kHz		±5/±2.5 kHz		±5/±2.5 kHz	
Modulation Fidelity (C4FM) 12.5 kHz Digital Channel	2.5%		1.50%		1.50%		1.50%		1.50%	
Audio Response	+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)		+1, -3 dB (EIA)	
FM Hum & Noise (12.5 kHz/25 kHz)	-52 dB / -53 dB		-50 dB / -53 dB		-50dB / -53dB		-48 dB / -50 dB		-48 dB / -50 dB	
Audio Distortion (12.5 kHz/25 kHz)	0.50%		0.50%		0.50%		0.50%		0.50%	

Receiver										
	VHF		UHF R1		UHF R2		700 MHz		800 MHz	
Frequency Range/Bandsplits	136-174 MHz		380-470 MHz		450-520 MHz		764-776 MHz		851-870 MHz	
Channel Spacing	12.5/25 kHz		12.5/25 kHz		12.5/25 kHz		12.5/25 kHz		12.5/25 kHz	
Maximum Frequency Separation	Full Bandsplit		Full Bandsplit		Full Bandsplit		Full Bandsplit		Full Bandsplit	
Audio Output Power at Rated/Max	7.5 / 15 W		7.5 / 15 W		7.5 / 15 W		7.5 / 15 W		7.5 / 15 W	
Frequency Stability (-30 °C to +60 °C; +25 °C Ref.)	±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM		±0.8 PPM	
Analog Sensitivity (12db 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 dB (0.199 μV)		-121 dB (0.199 μV)	
5% BER	Pre-Amp -123 dBm (0.158μV)	Standard -119 dBm (0.251μV)	Pre-Amp -123 dBm (0.158μV)	Standard -119 dBm (0.251μV)	Pre-Amp -123 dBm (0.158μV)	Standard -119 dBm (0.251μV)	-121.5 dB (0.188 μV)		-121.5 dB (0.188 μV)	
Selectivity (12.5 kHz / 25 kHz / 30 kHz)	77 dB / 89 dB / 90 dB		72 dB / 83 dB / -		72 dB / 83 dB / -		75 dB / 85 dB / -		75 dB / 85 dB / -	
Intermodulation Rejection	Pre-Amp 84 dB	Standard 86 dB	Pre-Amp 82 dB	Standard 86 dB	Pre-Amp 82 dB	Standard 86 dB	82 dB		82 dB	
Spurious Rejection	95 dB		93 dB		93 dB		91 dB		91 dB	
FM Hum & Noise (12.5 kHz / 25 kHz)	-50 dB / -59 dB		-50 dB / -55 dB		-50 dB / -55 dB		-50 dB / -59 dB		-50 dB / -59 dB	
Audio Distortion (12.5 kHz / 25 kHz)	1.20%		1.50%		1.50%		1.20%		1.20%	

Power and battery drain								
	VHF		UHF R1		UHF R2		700/800 MHz	
Model Type	136-174 MHz		380-470 MHz		450-520 MHz		764-870 MHz	
Minimum RF Power Output	1-50 W 1-25 W <sup>3</sup>		1-40 W 1-25 W <sup>3</sup>		450-485 MHz: 1-45 W 485-512 MHz: 1-40 W 512-520 MHz: 1-25 W		2-30 W (764-776 MHz) 2-30 W (794-806 MHz) 2-35 W (806-824 MHz) 2-35 W (851-870 MHz)	
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	
Standby at 13.8 V	0.85 A		0.85 A		0.85 A		0.85 A (764-870 MHz)	
Receive Current at Rated Audio at 13.8 V	3.2 A		3.2 A		3.2 A		3.2 A (764-870 MHz)	
Transmit Current (A) at Rated Power	8 A @ 15 W 13 A @ 50 W		11 A @ 40 W 8A @ 15 W		11 A @ 40 W 8A @ 15 W		12A @ 35 W 8A @ 15 W	

<sup>3</sup> 1-25W applies to countries with a 25W maximum limit.



#### Environmental

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

#### Radio model number

VHF	M36KSS9PW1BN
UHF R1	M36QSS9PW1BN
UHF2 R2	M36SSS9PW1BN
700/800	M36URS9PW1BN

#### FCC/IC Type acceptance ID

FCC/IC ID	Band and Power Level
FCC ID: AZ492FT7130 IC ID: 109U-92FT7130	136-174 MHz (1-50 W)
FCC ID: AZ492FT7129 IC ID: 109U-92FT7129	380-470 MHz (1-40 W)
FCC ID: AZ492FT4967 ISED ID: 109U-92FT4967	450-520 MHz (1-45 W) 485-512 MHz (1-40 W) 512-520 MHz (1-25 W) 764-776 MHz (2-30 W)
FCC ID: AZ492FT7124 IC ID: 109U-92FT7124	794-806 MHz (2-30 W) 806-824 MHz (2-35 W) 851-870 MHz (2-35 W)

#### Red certification

Type Designator	Band and Power Level
MMCR308PE	136-174 MHz (1-50 W)
MMCR508PE	380-470 MHz (1-40 W)

#### Mobile military standards 810, C, D, E, F, G & H

	MIL-STD 810C		MIL-STD 810D		MIL-STD 810E		MIL-STD 810F		MIL-STD 810G		MIL-STD 810H	
	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.	Method	Proc./Cat.
Low Pressure	500.1	I	500.2	II	500.3	II	500.4	I/II	500.6	II	500.6	II
High Temperature	501.1	I, II	501.2	I/A1, II/A1	501.3	I/A1, II/A1	501.4	I/Hot, II/Hot	501.6	I/A1, II/A1	501.7	I/A1, II/A1
Low Temperature	502.1	I	502.2	I/C3, II/C1	502.3	I/C3, II/C1	502.4	I/C3, II/C1	502.6	I/C3, II/C1	502.7	I/C3, II/C1
Temperature Shock	503.1	I	503.2	1/A1C3	503.3	1/A1C3	503.4	I	503.6	I/C	503.7	I/C
Solar Radiation	505.1	II	505.2	I	505.3	I	505.4	I	505.6	I/A1	505.7	I/A1
Rain	506.1	I, II	506.2	I, II	506.3	I, II	506.4	I, III	506.6	I, III	506.6	I, III
Humidity	507.1	II	507.2	II	507.3	II	507.4	-	507.6	II/Aggravated	507.6	II/Aggravated
Salt Fog	509.1	I	509.2	I	509.3	I	509.4	-	509.6	-	509.7	-
Blowing Dust	510.1	I	510.2	I	510.3	I	510.4	I	510.6	I	510.7	I
Blowing Sand	-	-	510.2	II	510.3	II		II	510.6	II	510.7	II
Vibration	514.2	VIII, F, W	514.3	I/10, II/3	514.4	I/10, II/3	514.5	I/24	514.7	I/24	514.8	I/24, II/5
Shock	516.2	I, III, V	516.3	I, V, VI	516.4	I, V, VI	516.5	I, V, VI	516.7	I, V, VI	516.8	I, V, VI



For more information, please visit  
[www.motorolasolutions.com/apx](http://www.motorolasolutions.com/apx)

