

The MASTR V Base Station

- Provides secure digital trunked communications for mission-critical applications
- Supports the P25 Common Air Interface
- Operates on a secure, scalable Internet Protocol network



The MASTR V provides the flexibility to commission a base station that will meet critical communication needs today and into the future.

Versatile, Efficient P25 Design

The MASTR V incorporates P25 digital voice and data using a digital signal processor for maximum design versatility. P25 digital voice is translated through an on-board voice encoder/decoder in the station to allow immediate access to P25 communications through the user's existing network.

P25^{IP} Network Expansion

As network needs expand, the MASTR V station is ready to grow to meet the communication requirements of the 21st century. The MASTR V enables IP voice and data packets to be sent over

a Harris P25^{IP} network and be received at the base station. This setup enables all of the advantages of IP:

- Seamless integration of off-the-shelf IP data applications.
- Easy interconnection of peripherals and ancillary equipment such as mobile data terminals, printers, scanners, and video devices for user organizations.
- Economical routing and backhaul of network data.
- Redundancy benefit of distributed IP architecture, one of the key requirements for most public safety users.

Advanced Features

The MASTR V station offers the following industry-leading functionality:

- Software upgradeable to P25 Phase 2 (TDMA).
- Linear Simulcast for superior coverage.
- Compact and integrated hardware allowing up to 8 channels per cabinet.

Programmable Flexibility

The MASTR V employs an easy-to-use software interface that provides flexibility, simplified setup, and easy field upgrades as well as remote programming. The functional design of the MASTR V base station allows the user to make changes quickly, easily, and affordably.

The modular design of the base station makes maintenance and servicing simple and fast.

General Specifications

Size (Base Station):

4 channels per 5 Rack Unit Shelf

Open Rack Dimensions

(H x W x D):

86.0 x 20.5 x 19.295 in.
(218 x 52 x 49 cm)

Cabinet Dimensions

(H x W x D):

86.0 x 23.0 x 31.5 in.
(218 x 58 x 80 cm)

Power:

90-230 VAC or -48 VDC

Ambient Temperature Range:

-22 to +140°F
(-30 to +60°C)

Humidity (EIA):

90% @ 122°F (+50°C)

Altitude:

Operational: Up to 15,000 ft
(4,572 m)

Shippable: Up to 50,000 ft
(15,240 m)

Transmitter

	VHF	UHF	700	800
Frequency Range (MHz):	150-174	380-400, 470-520	764-776	851-870
Rated Power Output (W):	100			
RF Output Impedance (ohm):	50			
Conducted Spurious and Harmonic Emission (dB):	<86		<70	
Frequency Stability (ppm):	<0.1			
Channel Spacing (kHz):	12.5			
Synthesizer Step Size (kHz):	1.25		6.25	

Receiver

	VHF	UHF	700	800
Frequency Range (MHz):	150-174	380-400, 470-520	799-817	806-824
Sensitivity, TIA-P25 (dBm):	<-118		<-119	
RF Input Impedance(ohm):	50			
Intermodulation Rejection, TIA-P25 (dB):	<80			
Spurious Response/Image Rejection (dB):	<90/<100			
Frequency Stability (ppm):	<0.1			
Channel Spacing (kHz):	12.5			
Synthesizer Step Size (kHz):	1.25		6.25	

Operational Modes

Mode	Modulation	Emission Designator
P25 Phase 1	C4FM	8K00F1D
P25 Linear Simulcast	WCQPSK	9K70D1W
P25 Phase 2	HDQPSK	9K80D7W

Regulatory Data

Frequency Range (MHz)	Power Output (Adjustable) (W)	FCC Type Acceptance Number	Applicable FCC Rules	Industry Canada Certification Number	Applicable Industry Canada Rules	NTIA Certification Number
150-174	10-100	OWDTR-0065-E	90	3636B-0065	RSS-119	NA
380-400	10-100	NA	NA	NA	NA	JF-09628
470-494	10-100	OWDTR-0100-E	90	NA	NA	NA
494-512	10-100	OWDTR-0101-E	90	NA	NA	NA
764-776	10-100	OWDTR-0057-E	90	3636B-0057	RSS-119	NA
851-869	10-100	OWDTR-0053-E	90	3636B-0053	RSS-119	NA