

## 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<sup>IP</sup> Network Expansion**

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

a Harris P25<sup>IP</sup> 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

### Rack Dimensions (H x W x D):

83 x 23.1 x 21 in.  
(209 x 59 x 53.3 cm)  
69.1 x 23.1 x 21 in.  
(175 x 59 x 53.3 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  
(4570 m)  
Shippable: Up to 50,000 ft  
(15250 m)

## Transmitter

|  | VHF     | UHF     | 700     | 800     |
|--|---------|---------|---------|---------|
| Frequency Range (MHz):                         | 150-174 | 380-400 | 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 | 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       | 8K0F1D              |
| P25 Linear Simulcast | WCQPSK     | 9K7F1D              |
| P25 Phase 2          | HDQPSK     | 9K8F1D              |

## Regulatory Data

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