

# V3R1 Analog Tri-Band Video Receiver

## Tri-Band Receiver

L-Band: 1700–1850 MHz

S-Band: 2200–2500 MHz

C-Band: 4400–5850 MHz

## V3R1 Series

V3R1 receivers provide versatility by allowing you to receive analog video in L, S, and C bands with a single receiver.

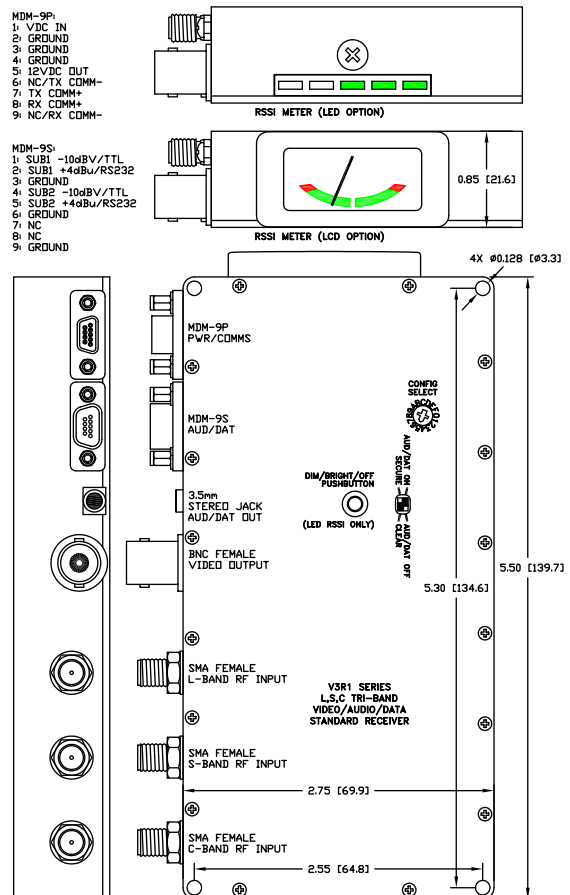
Receiver carrier frequency may be selected remotely and locally/remotely with a programmable binary switch. Slide switches allow selection between standard (positive) and inverted (negative) video and subcarrier On/Off. Received signal strength is indicated with a local display (LCD meter or LED bar) and via remote query. If equipped with an LED display, intensity may be controlled by a local pushbutton switch.

If your application requires video and audio or data reception, V3R1 receivers are optionally configured with up to 2 audio or data subcarriers with dual outputs for driving auxiliary devices.

V3R1 receivers are ideal for law enforcement, surveillance, UAV, UGV, Military, and other applications requiring high quality diversity video reception in a compact, rugged package.

## Design Features

- L, S, and C Band in One Receiver
- 12.8 Cubic Inch Package (2.75"x5.50"x0.85")
- Weighs < 12 oz.
- Low Current Draw (Extends Battery Life)
- Low Noise Figure (More Range)
- Full Frequency Band Channelization
- Supports Composite Video (NTSC or PAL)
- Optional Dual Audio or Data Subcarriers
- Received Signal Strength Indication (Chassis Display and Remote Query)
- J-STD-001D Class 3 Assembly (Medical/Aerospace)



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## RF Characteristics

|                                |   |               |                |
|--------------------------------|---|---------------|----------------|
| Frequency Range:               | L-Band:   | 1700–1850 MHz | 1 MHz Channels |
| (Other Ranges Available)       | S-Band:   | 2200–2500 MHz | 1 MHz Channels |
|                                | C-Band:   | 4400–5850 MHz | 1 MHz Channels |
| Frequency Selection (Specify): | Full Band Channelized - Remote Control Only or Remote/Programmable Switch |               |                |
| Maximum RF Input:              | +10 dBm Without Damage  |               |                |
| Input Impedance:               | 50 Ω Nominal, VSWR 2:1 Maximum  |               |                |
| Noise Figure:                  | < 3 dB  |               |                |
| Image Rejection:               | > 50 dB   |               |                |
| Signal Strength Output:        | Local Display and Remote Query  |               |                |

## LO/IF Characteristics

|                              |                            |
|------------------------------|----------------------------|
| LO Stability:                | ±5 ppm Over -20°C to +60°C |
| First IF::                   | 1227 MHz, 20 MHz Bandwidth |
| Second IF:                   | 480 MHz, 17 MHz Bandwidth  |
| Harmonic and Spurious Level: | -25 dB Maximum             |

## Video Characteristics

|                           |  |
|---------------------------|--|
| Modulation Type:          | Analog FM, Standard (Positive) or Inverted (Negative) Sense, (Selectable)            |
| Video Standard (Specify): | NTSC (10Hz to 4.2MHz, 525 Line D/E) or PAL (10Hz to 5.0MHz, 625 Line D/E), +/- 1.5dB |
| Output Level:             | 1 Vpk-pk/±4 MHz @ Crossover Frequency into 75 Ω Load                                 |
| Output Impedance:         | 75 Ω Nominal, Unbalanced   |

## Audio/Data Subcarrier Characteristics

|                                 |  |
|---------------------------------|--|
| Subcarriers (Specify):          | None, One, or Two - Audio or Data  |
| Subcarrier Frequency (Specify): | 5.8, 6.0, 6.2, 6.5, 6.8, 7.2, 7.5, 8.3, or 8.59 MHz, or Custom   |
| Subcarrier Separation (Two):    | 700 kHz Minimum  |
| Frequency Stability:            | ±0.5% Over -20°C to +60°C  |
| Subcarrier On/Off Control:      | Local, Remote, and Programmable Switch   |
| Modulation Type:                | Analog FM, Positive Sense  |
| Frequency Response:             | 100 Hz to 10 kHz ±1.5 dB (Audio) or DC to 50 kbps (Data)   |
| De-Emphasis:                    | 75 μsec NTSC or 50 μsec PAL (Audio) or None (Data)   |
| Output Level:                   | -10 dBV and +4 dBu Line / 150 kHz pk-pk @ 1 kHz Rate into 10 kΩ Load (Audio) or RS232 and TTL / 150 kHz pk-pk Deviation (Data) |
| Output Impedance:               | 100 Ω Nominal, Unbalanced (Audio) or 300 Ω (Data)  |

## Configuration Interface Characteristics

|                            |  |
|----------------------------|--|
| Interface Type:            | Two-Way UART   |
| Signalling Type (Specify): | RS232, RS422, or 3.3V TTL                                      |
| Interface Parameters:      | 9600/8/1/None/None (Baud/Data Bits/Stop Bits/Parity/Handshake) |

## Power Requirements

|                                |  |
|--------------------------------|--|
| Input Voltage:                 | +11 to +16 Vdc, Reverse Polarity Protected |
| Current Draw (Typical at 12V): | 300 mA                                     |
| Auxiliary Supply Output:       | +12 Vdc, 0.5 A Current Limit               |

## Mechanical

|                         |  |                   |
|-------------------------|--|-------------------|
| Material:               | CNC Machined T6061-T6 Aluminum   |                   |
| Finish (Specify):       | Nickel Plated or Gold Iridite  |                   |
| Dimensions:             | 2.75" W x 5.50" L x 0.85" H  |                   |
| Weight:                 | <12 oz.  |                   |
| RSSI Display (Specify): | LCD Analog Bar Meters or LED Light Bars - Local Enable and Intensity Control (LED) |                   |
| Connectors:             | RF Inputs (L/S/C):   | SMA Female        |
|                         | Video Output:  | BNC Female        |
|                         | DC Supply, 12V Out, Comms:   | MDM-9P            |
|                         | Audio Output, Data Output  | MDM-9S            |
|                         | Audio Output:  | 3.5mm Stereo Jack |

## Environmental

|                          |   |
|--------------------------|---|
| Temperature (Operating): | -20°C to +60°C  |
| Acceleration:            | 100 g, 3 Axis   |
| Altitude:                | Unlimited   |
| Humidity:                | Up to 95% @ Any Temperature Forming Frost or Condensation |