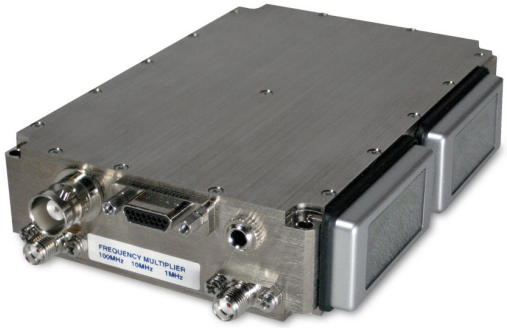
VRD1 Diversity Video/Audio/Data Receiver

UHF, L-Band, S-Band, C-Band

Rugged, Reliable, Feature Rich in a Small Package. Ideal for Covert Operations, UAVs, and UGVs!



AMP's VRD1 Series 13.5 cubic inch diversity video receivers offer high quality diversity reception with many advanced features including miniature packaging, low power consumption, low noise figure, and video inversion. All receivers utilize a robust machined aluminum chassis and high quality connectors designed to withstand harsh environments.

VRD1 Series receivers feature a proprietary voting circuit that ensures reception of the strongest signal at all times. Innovative circuit designs are utilized to reduce power consumption for significantly longer battery life and to reduce noise figure for substantially more range and better video quality.

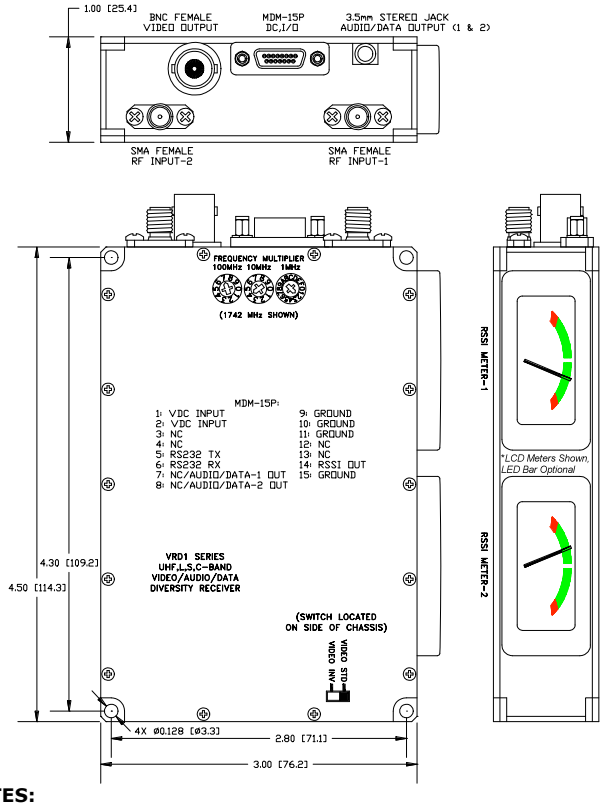
Receiver carrier frequency may be selected locally with BCD rotary switches, remotely with RS232 interface, and locally/remotely with a programmable binary switch. A slide switch allows selection between standard (positive) and inverted (negative) video. Received signal strength is indicated with dual local displays (LCD meter or LED bar) and an output pin on the I/O connector. VRD1 Series receivers are optionally configured with 5V and/or 12V auxiliary supplies.

If your application requires video and audio or data reception, AMP's receivers are optionally configured with up to two audio or data subcarriers. Dual buffered subcarrier outputs are provided for simultaneous monitoring and recording.

VRD1 Series 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:

- **13.5 Cubic Inch Package (3.0" x 4.5" x 1.0")**
- **Weighs <12 oz.**
- **Low Current Draw (Longer Battery Life)**
- **Low Noise Figure (More Range)**
- **Full Frequency Band Channelized**
- **Three Frequency Selection Modes (BCD Switches, RS232, Programmable Switch)**
- **Dual L/S-Band (1.7-1.85 GHz and 2.2-2.5 GHz)**
- **Video Inversion (Slide Switch Control)**
- **NTSC or PAL Video (Bandwidth & De-Emphasis)**
- **Optional Dual Audio or Data Subcarriers**
- **Dual Buffered Subcarrier Outputs (Monitor & Record)**
- **RS232 Data Subcarriers up to 48 kbps**
- **Dual Received Signal Strength Indication (Local Displays and Connector Pin)**
- **Internal 5V / 12V Auxiliary Supplies (Optional)**
- **J-STD-001D Class 3 Assembly (Medical/Aerospace)**



**** NOTES:**

1) NC = No Connection
2) Models with no subcarriers have 3.5mm Stereo Jack omitted

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AMP VRD1 Series Diversity Video/Audio/Data Receiver

RF Characteristics

Frequency Range (Specify):	UHF:	340.0 – 399.9 MHz	Steps: 100 kHz
(Other Ranges Available)	Lower L-Band:	1435 – 1535 MHz	Steps: 1 MHz BCD, 250 kHz Other
	Upper L-Band:	1700 – 1850 MHz	Steps: 1 MHz BCD, 250 kHz Other
	S-Band:	2200 – 2399 MHz	Steps: 1 MHz BCD, 250 kHz Other
	ISM S-Band:	2400.00 – 2499.75 MHz	Steps: 250 kHz
	Dual L/S-Band:	1700–1850/2200-2500 MHz	Steps: 1 MHz BCD, 250 kHz Other
	C-Band:	4400 – 4999 MHz	Steps: 1 MHz BCD, 250 kHz Other
	Public Safety C-Band:	4940 – 4990 MHz	Steps: 1 MHz BCD, 250 kHz Other
Frequency Selection (Specify):	Fixed or Channelized (Full Band - BCD Rotary Switches, RS232 Remote Control, and Programmable Binary Switch)		
Maximum RF Input:	+10 dBm Without Damage		
Input Impedance:	50 Ω Nominal, VSWR 1.5:1 Maximum		
Noise Figure:	UHF, Dual L/S:	4.5 dB Typical	
	L/S/C-Band:	4.0 dB Typical	
	ISM S-Band:	2.5 dB Typical	
Image Rejection:	UHF/L/S/Dual: 60 dB Min C-Band: 50 dB Min		
Signal Strength Output:	0.3 Vdc @ -90 dBm to 5.0 Vdc @ -20 dBm, Monotonic, Dual RSSI		
Voting Characteristics:	RSSI-based, >150 kHz Voting Rate		

LO/IF Characteristics

LO Stability:	±4 ppm Over -20°C to +60°C	
IF Frequency:	UHF: 140 MHz	L/S/C-Band, Dual: 480 MHz
IF Bandwidth:	UHF: 18 MHz	L/S/C-Band, Dual: 20 MHz
Harmonic and Spurious Level:	-50 dB Maximum	

Video Characteristics

Modulation Type:	Analog FM
Modulation Sense:	Standard (Positive) or Inverted (Negative), Slide Switch Selectable
Frequency Response (Specify):	10 Hz to 3.5 MHz (Monochrome), 4.2 MHz (NTSC), or 5.0 MHz (PAL), ±1.5 dB
De-Emphasis:	525-Line (NTSC) or 625-Line (PAL)
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
Subcarrier Type (Specify):	Audio or Data
Subcarrier Frequency (Specify):	4.83, 5.8, 6.0, 6.2, 6.5, 6.8, 7.2, 7.5, 8.3, 8.5, or 8.59 MHz, or Custom
Subcarrier Separation (Two):	1 MHz Minimum
Modulation Type:	Analog FM, Positive Sense
Frequency Response:	100 Hz to 10 kHz ±1.5 dB (Audio) or 100 bps to 48 kbps (Data)
De-Emphasis:	75 µsec NTSC or 50 µsec PAL (Audio) or None (Data)
Output Level:	-10 dBV Line / 100 kHz pk-pk @ 1 kHz Rate into 600 Ω Load (Audio) or RS232 / 150 kHz pk-pk Deviation (Data)
Output Impedance:	600 Ω Nominal, Unbalanced (Audio) or 300 Ω (Data)

Power Requirements

Input Voltage:	+9 to +16 Vdc, Reverse Polarity Protected
Current Draw:	350 mA Maximum
Auxiliary Supply Output (Specify):	None, +5 Vdc, +12 Vdc, or Both, 1.6A Current Limit

Mechanical

Material:	CNC Machined T6061-T6 Aluminum	
Finish (Specify):	Nickel Plated or Black Plated	
Dimensions:	3.00” W x 4.50” L x 1.0” H	
Weight:	14 oz. Maximum	
RSSI Display (Specify):	LCD Analog Bar Meter or LED Light Bar	
Connectors:	RF Inputs:	SMA Female, Dual
	Video Output:	BNC Female
	Audio/Data Output:	3.5mm Stereo Jack (If Applicable)
	DC Supply, Audio/Data, RSSI, RS232, Aux Supply:	MDM-15P

Environmental

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