VST1 Series

AMP’s VST1 Series 1.7 cubic inch video transmitters offer innovative features and high quality packaging with up to two Line/Mic audio or RS232/TTL data subcarriers and up to 2 Watts output power.

VST1 transmitters may be configured with fixed RF output powers of 250 mW, 500 mW, 1 Watt, or 2 Watts. Transmitters may be optionally configured with remotely selectable power levels utilizing any of these four power levels. AMP’s proprietary power-leveling circuit ensures level output power over the entire frequency band.

Locally configurable features include carrier frequency, high/low output power, video inversion, subcarrier enable, and subcarrier input type. These features and PA on/off, all power modes, and temperature fold-back characteristics may be configured remotely and assigned to programmable switch presets.

With military telemetry heritage, VST1 transmitters are designed to withstand harsh environments and are ideal for law enforcement, surveillance, UAV, UGV, Military, and other applications requiring efficient, high quality video/audio/data transmission in a compact, rugged package.

VST1 transmitters can be mated to AMP’s HHA1 High Power Amplifier for applications that require higher RF output power.

Design Features

- 1.7 Cubic Inch Package (1.25”x3.50”x0.375”)
- Weighs < 1.7 oz.
- Up to 2 Watts RF Output Power
- Up to 4 Power Modes (Remote Control)
- Full Frequency Band Channelization
- 3 Configuration Modes
- Supports Composite Video (NTSC or PAL)
- Dual Audio or Data Subcarriers (Optional)
- Power Amp On/Off Control (Remote Control)
- Temperature Indication and Fold-Back (Remote Control)
- J-STD-001D Class 3 Assembly (Medical/Aerospace)
### RF Characteristics

| Frequency Range (Specify): | Lower L-Band: 1435–1535 MHz | 1 MHz Channels |
| (Other Ranges Available) | Upper L-Band: 2200–2399 MHz | 1 MHz Channels |
| | Lower S-Band: 2200–2399 MHz | 1 MHz Channels |
| | Full S-Band: 2200–2399 MHz | 1 MHz Channels |
| | Lower C-Band: 4900–4999 MHz | 1 MHz Channels |
| | Full C-Band: 4400–4999 MHz | 1 MHz Channels |
| | 5.8 GHz: 5725–5875 MHz | 1 MHz Channels |

#### Frequency Selection (Specify):
- Full Band Channelized - Remote Control Only or Remote/Programmable Switch/Local BCD

#### Frequency Stability:
- ±5 ppm Over -20°C to +60°C

#### Output Power (Specify):
- 250 mW, 500 mW, 1 Watt, or 2 Watts, Nominal (Selectable)

#### Output Power, PA Disabled:
- <0 dBm

#### Power Modes (Specify):
- One (Fixed), Two (Specify), Three (Specify), or Four (Specify)

#### Power Leveling:
- Within ±0.5 dB Over 6 Equal Width Sub-Bands, Typical

#### Output Impedance:
- 50 Ω Nominal, VSWR 2:1 Maximum

#### Output Protection:
- Internal Isolator (Most Bands) - Open/Short Indefinitely

#### Spurious Output:
- -13 dBm Maximum

### Video Characteristics

#### Modulation Type:
- Analog FM, Standard (Positive) or Inverted (Negative) Sense, (Selectable)

#### Video Standard (Specify):
- NTSC (10Hz to 4.2MHz, 525 Line P/E) or PAL (10Hz to 5.0MHz, 625 Line P/E), +/- 1.5dB

#### Modulation Sensitivity:
- ±4 MHz / 1 Vpk-pk @ Crossover Frequency

#### Input Impedance:
- 75 Ω Nominal, Unbalanced, Shunted by 30 pF Maximum

#### Distortion:
- 2% Maximum

#### Incidental FM:
- 10 kHz RMS Maximum

### 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 Insertion Level:
- 26 dBc Nominal (Audio) or -22 dBc Nominal (Data)

#### 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)

#### Pre-Emphasis:
- 75 µsec NTSC or 85 µsec PAL (Audio) or None (Data)

#### Modulation Sensitivity:
- 150 kHz pk-pk @ 1 kHz rate (Audio) or 150 kHz pk-pk (Data)

#### Input Level:
- -55 dBV Mic/10 dBV Line Audio or RS232/TTL Data (Selectabe)

#### Input Impedance:
- >4 kΩ Unbalanced (Audio) or 10 kΩ to Gnd (Data)

#### Mic DC Supply (Audio Input(s)):
- 2.0 Vdc Thru 4.7 kΩ Pull Up

### Configuration Interface Characteristics

#### Interface Type:
- Two-Way UART

#### Signaling 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):
- 200mA for 250mW, 300mA for 500mW, 400mA for 1W, or 650mA for 2W

#### Current Draw, PA Disabled:
- 70 mA, Typical

#### Camera Supply Output:
- +12 Vdc, 250mA Current Limit

### Mechanical

#### Material:
- CNC Machined T6061-T6 Aluminum

#### Finish (Specify):
- Nickel Plated or Gold Iridite

#### Dimensions:
- 1.25" W x 3.50" L x 0.375" H

#### Weight:
- <1.7 oz.

#### Connectors:
- RF Output: SMA Female
- Video Input: SSMA Female
- DC Supply, Comms, Cam Supply: MDM-9P
- Audio Inputs, Data Inputs: MDM-9S

### 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