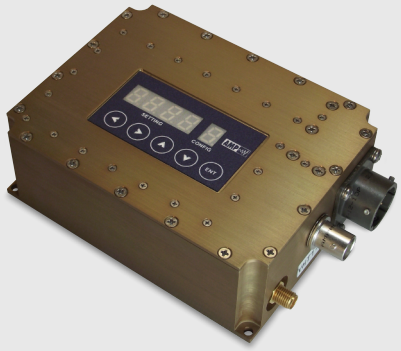
VHT1 Analog Video/Audio/Data Transmitter

A Drop in Replacement for ST Series Transmitters



VHT1 Series

AMP's VHT1 Series analog FM video transmitters is an upgraded drop in replacement for ST series video transmitters. It has up to two Line/Mic audio or RS232/TTL data subcarriers and up to 10 Watts output power.

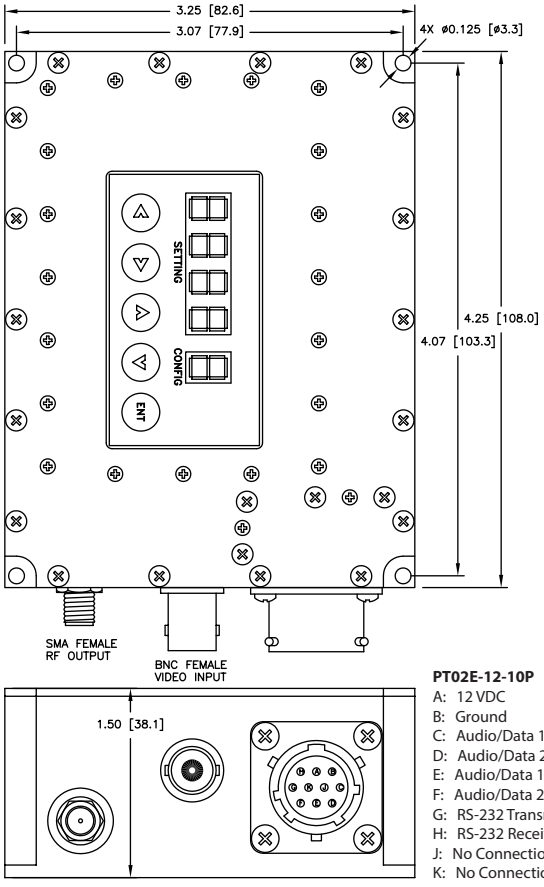
VHT1 transmitters may be configured with fixed RF output powers of 4 Watts or 10 Watts. Transmitters may be optionally configured with remotely selectable power levels utilizing both power levels. AMP's proprietary power-leveling circuit ensures level output power over the entire frequency band.

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.

With military telemetry heritage, VHT1 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.

Design Features

- 20.7 Cubic Inch Package (3.25"x4.25"x1.5")
- Weighs < 16 oz.
- Up to 10 Watts RF Output Power
- Up to 2 Power Modes (Remote Control)
- Full Frequency Band Channelization
- 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)



PT02E-12-10P
A: 12 VDC
B: Ground
C: Audio/Data 1 High Input
D: Audio/Data 2 High Input
E: Audio/Data 1 Low Input or Ground
F: Audio/Data 2 Low Input or Ground
G: RS-232 Transmit
H: RS-232 Receive
J: No Connection
K: No Connection

Advanced Microwave Products
PO Box 1437
2465 Old Highway 40 West, Suite 200
Verdi, NV 89439

Phone: (775) 345-9933
E-mail: sales@advmw.com
Web: www.advmw.com

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RF Characteristics

Frequency Range (Specify):	UHF:	340.0-399.9 MHz	100 kHz Channels
(Other Ranges Available)	Lower L-Band:	1435-1535 MHz	1 MHz Channels
	Upper L-Band:	1700–1850 MHz	1 MHz Channels
	Lower S-Band:	2200-2399 MHz	1 MHz Channels
	Upper S-Band:	2400-2499 MHz	1 MHz Channels
	Full S-Band:	2200-2499 MHz	1 MHz Channels
	Lower C-Band:	4400-4900 MHz	1 MHz Channels
	Upper 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:	Full Band Channelized - Remote Control and Local		
Frequency Stability:	±5 ppm Over -20°C to +60°C		
Output Power (Specify):	4 Watt or 10 Watts, Nominal (Selectable)		
Output Power, PA Disabled:	<0 dBm		
Power Modes (Specify):	One (Fixed), Two (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 50 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 (Selectable)
Input Impedance:	>4 k Ω Unbalanced (Audio) or 10 k Ω to Gnd (Data)
Mic DC Supply (Audio Input(s)):	2.0 Vdc Thru 4.7 k Ω 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) custom configurations are available

Power Requirements

Input Voltage:	+11 to +16 Vdc, Reverse Polarity Protected
Current Draw (Typical at 12V):	2.5 A (10W) 1.5 A (4W)
Current Draw, PA Disabled:	130 mA, Typical

Mechanical

Material:	CNC Machined T6061-T6 Aluminum	
Finish (Specify):	Nickel Plated or Gold Iridite	
Dimensions:	3.25" W x 4.25" L x 1.5" H	
Weight:	16 oz.	
Connectors:	RF Output:	SMA Female
	Video Input:	BNC Female
	DC Supply, Comms, Audio, Data:	PT02E-12-10P

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