



The ComNet FVT/FVR10A1 video transmitter/data transceiver and video receiver/data transceiver series utilizes digital encoding and decoding for high-quality video transmission that meets the requirements of EIA RS-250C for short-haul video transmission. These environmentally hardened units provide transmission of one independent video channel and one bi-directional data channel over one optical fiber and are ideal for use in unconditioned roadside or out-of-plant installations. They also provide transmission of one high quality audio signal over the same fiber. The modules use 24-bit 96kHz sample rate digital encoding for superior audio transmission.

## FEATURES

- › Digital video transmission: transmits one real-time color video signal and one optional bi-directional data signal on one optical fiber
- › One simplex High Quality Audio Channel
- › 24-Bit 96kHz Digitally Encoded Transmission
- › 20Hz – 20 kHz Audio Bandwidth
- › Exceeds all requirements for EIA RS-250C short-haul transmission: Extremely high video performance
- › Exceptionally low video distortion with zero Performance Variation vs. Optical Path Loss
- › Ideally suited to networks requiring multiple physical layers where video degradation may be a problem
- › Compatible with all NTSC, PAL, or SECAM CCTV camera systems
- › Designed to meet full compliance with the environmental requirements (ambient operating temperature, mechanical shock, vibration, humidity with condensation, high-line/low-line voltage conditions and transient voltage protection) of NEMA TS-1/TS-2 and the Caltrans Specification for Traffic Signal Control Equipment.
- › Voltage transient protection on all power and signal input/output lines provides protection from power surges and other voltage transient events.
- › Robust design ensures extremely high reliability in unconditioned out-of-plant environments
- › Plug-and-play design ensures ease of installation and no electrical or optical adjustments are ever required.
- › Indicator LEDs provide rapid indication of critical operating parameters
- › Hot-swappable rack modules
- › Interchangeable between stand-alone or rack mount use – ComFit
- › Lifetime Warranty

## SPECIFICATIONS

## Video

Video Input	1 volt pk-pk (75 ohms)
Overload	>1.5V pk-pk
# Input/Output Channels	1
Bandwidth (minimum)	10 Hz - 8 MHz
Differential Gain	<2%
Differential Phase	<0.7°
Tilt	<1%
Signal-to-Noise Ratio (SNR)	>60 dB typical @ Maximum Optical Loss Budget

## Audio

Input Signal	Max 10 V pk-pk @ 140dB SPL (Sound Pressure Level), min 0.31 mV pk-pk @ 50 dB SPL, Asymmetrical or Symmetrical
Output Signal	Symmetrical, typical 10 V pk-pk
Bandwidth	20Hz - 80 Hz (-1 dB) 80 Hz - 16 kHz (-0.2 dB) 16 kHz - 20 kHz (-1 dB)
Signal-to-Noise Ratio (SNR)	90 dB (min)
Resolution	24 bit
Input Impedance	100 kOhm, Asymmetrical
Output Impedance	Max 60 Ohm
THD+N	<0.01%

## Optical Fiber

Wavelength	Receiver: 1550/1310 nm Transmitter: 1310/1550 nm (Multimode and Single Mode)
Number of Fibers	1

## Connectors

Optical	ST
Power	Terminal Block
Video	BNC
Audio	Terminal Block

## Power

Operating Voltage Range	8 to 15 VDC
Power Consumption	4W
Rack Mount	From Rack

## Electrical &amp; Mechanical

Indicator LEDs	> Video Sync Presence > Received Data > Transmitted Data > Link > Audio Channels 1-2 > Power
Number of Rack Slots	2
Current Protection	Automatic Resettable Solid-State Current Limiters
Circuit Board	Meets IPC Standard
Size	6.1 × 5.3 × 2.2 in (15.5 × 13.5 × 5.6 cm)
Shipping Weight	<2 lb / 0.9 kg

## Environmental

MTBF	>100,000 hours
Operating Temp	-40° C to +75° C
Storage Temp	-40° C to +85° C
Relative Humidity	0% to 95% (non-condensing) <sup>1</sup>

AGENCY COMPLIANCE  
FCC PART 15  
COMPLIANT



MADE IN THE  
USA

## ORDERING INFORMATION

Part Number	Description	Fiber	Optical Pwr Budget	Maximum Distance <sup>2</sup>	# Rack Slots
FVT10A1M1	1 CH Video Transmitter, 1 CH Audio Transmitter	Multimode 62.5/125µm	16 dB	3 km (2 mi)	2
FVR10A1M1	1 CH Video Receiver, 1 CH Audio Receiver	Multimode 62.5/125µm	16 dB	3 km (2 mi)	2
FVT10A1S1	1 CH Video Transmitter, 1 CH Audio Transmitter	Single Mode 9/125µm	23 dB	54 km (33 mi)	2
FVR10A1S1	1 CH Video Receiver, 1 CH Audio Receiver	Single Mode 9/125µm	23 dB	54 km (33 mi)	2
Accessories	DC Plug-in Power Supply, 90-264 VAC, 50/60 Hz (Included, for benign 0° to 50°C applications only. Hardened power supply available, consult factory)				
Options	[1] Add 'C' for Conformally Coated Circuit Boards (Extra charge, consult factory) DIN-Rail Mounting Adaptor Plate Kit - With mounting hardware (Optional, order model DINBKT1 or DINBKT4)				

NOTE: This product requires a fiber installation with a minimum 30 dB connector return loss. The use of Super Polish Connectors is recommended.  
[2] Distance may be limited by optical dispersion.

Complies with FDA Performance Standard for Laser Products, Title 21, Code of Federal Regulations, Subchapter J. In a continuing effort to improve and advance technology, product specifications are subject to change without notice.

## TYPICAL APPLICATION

