



The ComNet™ FVT/FVR40A4 series video/audio multiplexer utilizes 10-bit video encoding for true EIA/TIA RS-250C Short-Haul broadcast quality transmission, and 24-bit encoding at a 96 KHz sampling rate for the highest possible audio fidelity. Digitally encoded transmission ensures that the video and audio performance remain completely unaffected up to the maximum usable optical transmission distance or optical path loss. These environmentally hardened units provide the transmission of four independent simplex video and four independent simplex line-level audio channels over one multimode or single mode optical fiber. The FVT/FVR40A4 series is completely transparent to and universally compatible with any NTSC, PAL, or SECAM camera system. Plug-and-play design ensures ease of installation, and no electrical or optical adjustments are ever required.

## FEATURES

- › 4 channels of real-time 10-bit digitally encoded EIA/TIA RS-250C Short-Haul quality video on one optical fiber
- › 4 channels of 24-bit/96 KHz sampling rate digitally encoded audio for the highest possible audio quality
- › Digitally Encoded Transmission: No video or audio performance degradation up to the maximum usable optical transmission distance or optical path loss
- › 20Hz to 18KHz audio frequency response
- › Line-Level 600 ohm balanced audio input and audio output at a maximum level of +6dBm
- › Directly compatible with all NTSC, PAL, and SECAM CCTV camera systems
- › Wide optical dynamic range: optical attenuators are never required
- › Optical transmission distances of up to 48 km (30 miles)
- › Designed for installation in harsh out-of-plant/unconditioned industrial or roadside operating environments (-40° to +75°C ambient). Fully compliant with the environmental requirements of NEMA TS-2 for Traffic Signal Control Equipment
- › Voltage transient protection on all power and signal input/output line provide protection from voltage surges and other transient events

- › Bi-color LED status indicators confirm operating status
- › Hot-swappable rack modules
- › Interchangeable between stand-alone or rack mount use - ComFit
- › Lifetime warranty
- › Made in the USA

## APPLICATIONS

- › Highest Performance/True Broadcast Quality Multi-Channel Video & Audio Transmission Systems
- › Television Broadcast Plants, Audio/Video Production & Post-Production Facilities
- › Hi-Resolution Video/Audio Security & Surveillance Installations
- › Factory Floor Monitoring of Critical Manufacturing Processes & Operations
- › Complete Elimination of EMI/RFI in Electrically Noisy Environments
- › Optical Transmission Eliminates Troublesome & Frequently Encountered Ground Loop Issues in Broadcast Facilities

## SPECIFICATIONS

### Video

Video Input	1 volt pk-pk (75 ohms)
Overload	>1.5 V pk-pk
# Input/Output Channels	4
Bandwidth (minimum)	10 Hz - 6.5 MHz per channel
Differential Gain	<2%
Differential Phase	<0.7°
Tilt	<1%
Signal-to-Noise Ratio (SNR)	67 dB Typical
Max. RG-59 COAX Distance	100 m (300 ft) Camera to Fiber Optic Module to maintain 6 Mhz Bandwidth

### Audio

# Input/Output Channels	4 (balanced)
Audio Input/Output Signal	4.4 volt pk-pk (+6dBm)
Bandwidth	20Hz - 18kHz
Total Harmonic Distortion	<0.02%
Signal-to-Noise Ratio (SNR)	85 dB (minimum)

**Wavelength** 1310 nm/1550 nm, Multimode & Single Mode

**Number of Fibers** 1

**LED Indicators** > Video CH 1-4 > Audio CH 1-4 > Link > Power

**Optical Emitter** Laser Diode

### Connectors

Optical	ST
Power	Terminal Block
Video	BNC (Gold Plated Center-Pin)
Audio	Terminal Block

### Power

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

### Electrical & Mechanical

Number of Rack Slots	2
Current Protection	Automatic Resettable Solid-State Current Limiters
Circuit Board	Meets IPC Standard
Size (in./cm) (L×W×H)	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



**MADE IN THE  
USA**

## ORDERING INFORMATION

Part Number	Description	Fibers Required	Fiber	Optical PWR Budget	Maximum Distance <sup>2</sup>	# Rack Slots
FVT40A4M	4 Channel Video/Audio Transmitter (1310/1550 nm)	1	Multimode	16 dB	2 km (1.2 mi)	2
FVR40A4M	4 Channel Video/Audio Receiver (1310/1550 nm)	1	62.5/125µm			
FVT40A4S	4 Channel Video/Audio Transmitter (1310/1550 nm)	1	Single Mode	16 dB	48 km (30 miles)	2
FVR40A4S	4 Channel Video/Audio Receiver (1310/1550 nm)		9/125µm			
Accessories	9 Volt DC Plug-in Power Supply, 90-264 VAC, 50/60 Hz (Included)					
Options	[1] Add suffix 'C' for Conformally Coated Circuit Boards to extend to condensation conditions (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

