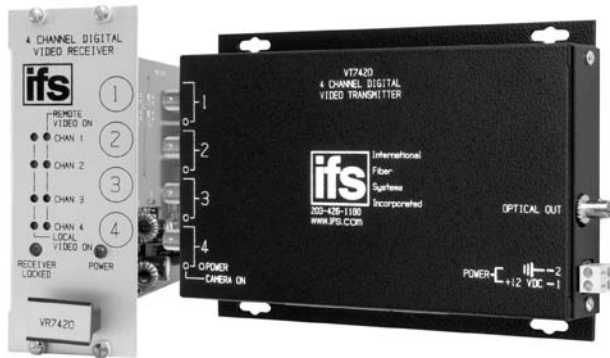




PRODUCT SPECIFICATION

4-CHANNEL DIGITALLY ENCODED VIDEO MULTIPLEXER

VT/VR7400 SERIES



DESCRIPTION

The IFS VT/VR7400 series multiplexers simultaneously transmits four channels of video over one optical fiber utilizing 8-bit digital encoding for the high-quality video transmission. state-of-the-art 8-bit digital encoding and decoding for high-quality video transmission that exceeds the requirements of EIA RS-250C for Medium-Haul Video Transmission. These environmentally hardened units are ideal for use in unconditioned roadside or out-of-plant installations. These units are completely transparent to and universally compatible with any NTSC, PAL, or SECAM CCTV camera system. Plug-and-play design ensures ease of installation and no electrical or optical adjustments are ever required. LED indicators are provided for rapidly ascertaining equipment operating status, and these units are available in either stand-alone or rack mount configurations.

APPLICATION EXAMPLES

- High-Performance CCTV (Fixed Video)

FEATURES

- 8-Bit Digitally Encoded Video Transmission Transmits 4 Real-Time Color Video Signals on One Optical Fiber
- Exceeds All Requirements for RS-250C Medium-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
- Wide Optical Dynamic Range: Optical Attenuators Are Never Required
- NTCIP Compatible
- Tested and Certified by an Independent Testing Laboratory for 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.
- Robust Design Ensures Extremely High Reliability In Unconditioned Out-of-Plant Environments
- LED Status Indicators Provide Rapid Indication of Critical Operating Parameters
- Solid-State Current Limiters on All Power Lines Provide Equipment Protection
- Comprehensive Lifetime Warranty



Available at: **www.ifs.com**

- A & E Specifications, (CSI)
- AutoCAD Drawings
- Operation Manuals
- Technical Bulletins

ORDERING INFORMATION

	PART NUMBER	DESCRIPTION	FIBERS REQUIRED	OPTICAL PWR BUDGET	MAX. DISTANCE*
MULTIMODE 62.5/125µm**	VT7420	4 Channel Video Transmitter (1310 nm)	1	7 dB	1.2 miles (2 km)▲
	VR7420	4 Channel Video Receiver (1310 nm)			
SINGLEMODE 9/125µm	VT7430	4 Channel Video Transmitter (1310 nm)	1	17 dB	31 miles (51 km)
	VT7430-HP	4 Channel Video Transmitter (1310 nm)		23 dB	43 miles (69 km)
	VR7430	4 Channel Video Receiver (1310 nm)	1	17 dB	42 miles (68 km)
	VT7450	4 Channel Video Transmitter (1550 nm)			
	VT7450-HP***	4 Channel Video Transmitter (1550 nm)			
	VR7450	4 Channel Video Receiver (1550 nm)		24 dB	60 miles (96 km)
ACCESSORIES♦	PS-12VDC 12 Volt DC Plug-in Power Supply (Included)				
	PS-12VDC-230 12 Volt DC Plug-in Power Supply, 230 VAC Input (Included if specified at time of order)				
OPTIONS	Add '-R3' to Model Number for R3 Rack Mount - No Charge (Requires R3 Rack purchased separately) Add '-C' for Conformally Coated Printed Circuit Boards (Extra charge, consult factory) Add '-SC' for SC Connector (Single-mode equipment only) Add '-FC' to model number for FC Optical Connector (Singlemode equipment only)				

* Optical transmission distance is limited to optical loss of the fiber and any additional loss introduced by connectors, splices and patch panels. Distance can also be limited by fiber bandwidth. ** For 50/125 Fiber, subtract 4 dB from Optical Power Budget. ▲ This product may be used with 62.5µm graded index multimode fiber having a maximum run length of 2 km and/or a maximum optical loss of 10 dB.

(1) When ordered with the Fiber Optic Auto Reversing Switch FOARSM (R3), the optical power will be factory adjusted to maintain a net optical power budget of 10 dB.

NOTE: All optical terminations need to be epoxy polished with a minimum back reflection of -30dB.

***VT7450-HP requires a minimum of 3dB loss to operate. ♦ All accessories are third party manufactured.



TECHNICAL SPECIFICATION

4-CHANNEL DIGITALLY ENCODED VIDEO MULTIPLEXER

VT/VR7400 SERIES

SPECIFICATIONS

VIDEO

Video Input:	1 volt pk-pk (75 ohms)
# Input/Output Channels:	4
Bandwidth (minimum):	10 Hz - 6.5 MHz
Differential Gain:	<2%
Differential Phase:	<0.7°
Tilt:	<1%
Signal-to-Noise Ratio (SNR):	60 dB @ mMaximum Optical Loss Budget

OPTICAL EMITTER

Laser Diode (all models)

WAVELENGTH

1310 nm, Multimode
1310 or 1550 nm, Singlemode

NUMBER OF FIBERS

1

LED INDICATORS

VT Transmitter Unit:	VR Receiver Unit:
• Video Input Sync Presence for Each Video Channel	• Video Output Sync Presence for Each Video Channel
• Video Input Overload for Each Video Channel	• Video Output Overload for Each Video Channel
• Optical Carrier Detect/ Link-Lock	• Optical Carrier Detect/ Link-Lock w/Solid State Relay*
• Operating Power	• Operating Power

REMOTE SENSING

• Closed with Carrier Detect, 24VAC/VDC @ 100 mA

CONNECTORS

Optical:	ST, SC or FC (see ordering information)
Power:	Terminal Block with Screw Clamps
Video:	BNC (Gold Plated Center-Pin)

ELECTRICAL & MECHANICAL

Power:	
Surface Mount:	+12 VDC @ 500 mA
Rack:	From Rack
Number of Rack Slots:	2
Current Protection:	Automatic Resettable Solid-State Current Limiters
Circuit Board:	Meets IPC Standard
Size (in./cm.) (LxWxH)	
Surface Mount VT:	7.0 x 4.9 x 1.0 in., 17.8 x 12.5 x 2.5 cm
All Others:	7.7 x 5.0 x 2.0 in., 19.6 x 12.7 x 5.1 cm
Shipping Weight:	< 2 lbs./0.9 kg

ENVIRONMENTAL

MTBF:	> 100,000 hours
Operating Temp:	-40° C to +74° C
Storage Temp:	-40° C to +85° C
Relative Humidity:	0% to 95% (non-condensing)*

* May be extended to condensation conditions by adding suffix '-C' to model number for conformal coating.

AGENCY COMPLIANCE

FCC PART 15 COMPLIANT



GSA
Federal Supply Schedule
Contract No. GS-07F-0049M

MADE IN THE USA

Complies with FDA Performance Standard for Laser Products, Title 21, Code of Federal Regulations, Subchapter J

OPTICAL POWER BUDGET

FIBER	WAVELENGTH	TRANSMITTER	RECEIVER	OPTICAL PWR BUDGET	MAX. DISTANCE*
		MODEL	MODEL		
Multimode 62.5/125µm**	1310 nm	VT7420	VR7420	7dB	1.2 miles (2 km)▲
Singlemode 9/125µm		VT7430 VT7430-HP	VR7430	17 dB 23 dB	31 miles (51 km) 43 miles (69 km)
	1550 nm	VT7450 VT7450-HP****	VR7450 VR7450	17 dB 24 dB	42 miles (68 km) 60 miles (96 km)

* Optical transmission distance is limited to optical loss of the fiber and any additional loss introduced by connectors, splices and patch panels.

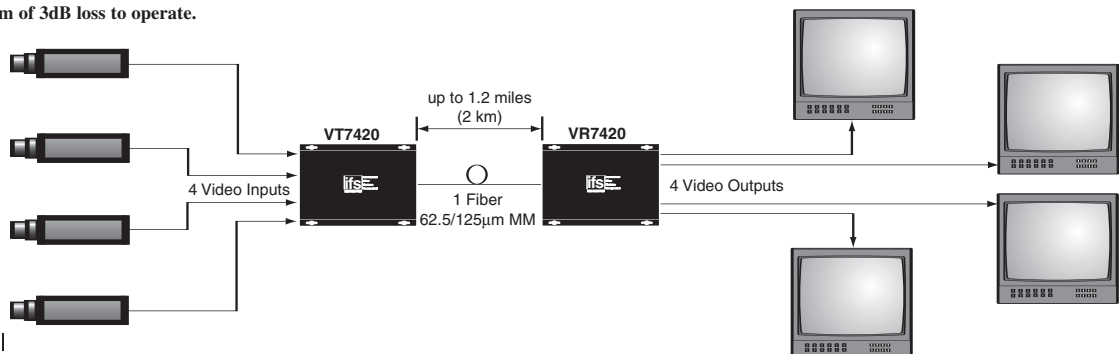
Distance can also be limited by fiber bandwidth. ** For 50/125 Fiber, subtract 4 dB from Optical Power Budget.

▲ This product may be used with 62.5µ graded index multimode fiber having a maximum run length of 2 km and/or a maximum optical loss of 10 dB.

(1) When ordered with the Fiber Optic Auto Reversing Switch FOARSM (-R3), the optical power will be factory adjusted to maintain a net optical power budget of 10 dB.

***VT7450-HP requires a minimum of 3dB loss to operate.

SYSTEM DESIGN



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Due to our continued effort to advance technology, product specifications are subject to change without notice.