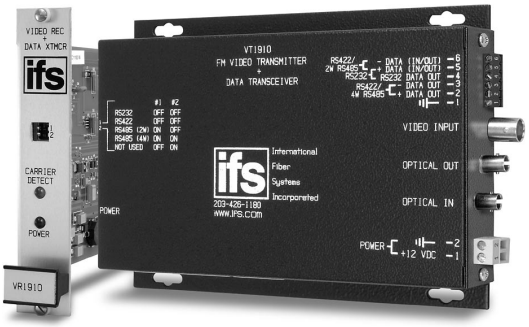
PRODUCT SPECIFICATION — VT/VR1900 SERIES
FM VIDEO WITH BI-DIRECTIONAL DATA AND TAMPER SWITCH



DESCRIPTION

The IFS VT/VR1900 Series video transmitter/receiver and data transceiver supports the simultaneous transmission of frequency modulation (FM) video, contact closure and bi-directional data over one or two optical fibers. The modules are universally compatible with major CCTV camera manufactures and support RS-232, RS-422, RS-485 (Tri-State 2 or 4-wire). Modules within the series are available for use with multimode or singlemode optical fiber. Plug-and-play design ensures ease of installation requiring no electrical or optical adjustments. The modules incorporate power, and carrier detect status indicating LED's to monitor proper system operation. The modules are available in either stand-alone or rack mount versions.

FUNCTION OF TAMPER SWITCH:
The tamper switch terminals on the VR will open upon one of the following conditions; loss of carrier, loss of video, switching of SW3 on the VT to the ON position.

APPLICATION EXAMPLES

- CCTV with Bi-Directional PTZ Camera Control
- CCTV with Access Control Communication
- CCTV with Remote Signalization
- CCTV with Remote Keyboard Control

FEATURES

- FM Video Transmission reduces ghosting, jitter and cross-talk between channels, providing superior video transmission
- NTSC, PAL, SECAM Compatible
- Supports Contact Closures, 24V AC/DC, 170ma - Optically Isolated
- Supports RS-232, RS-422, RS-485 (Tri-State 2 or 4-Wire)
- Transparent to Data Encoding/Compatible with Major CCTV Camera Manufactures
- Power and Carrier Detect Status Indicating LED's to Monitor System Performance
- Integrated WDM for Greater Product Reliability
- No In-field Electrical or Optical Adjustments Required
- Hot-Swappable Rack Modules • Tamper Switch
- Automatic Resettable Fuses • Full Color Compatibility
- Optical Loss Relay Output
- Distances up to 43 Miles (69 km) Without Repeaters
- Comprehensive Warranty
- Available in FiberPak™

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**	VT1910 VR1910	Video Transmitter/Data Transceiver (850 nm) Video Receiver/Data Transceiver (850 nm)	2	13 dB	2 miles (3.3 km)
	VT1910WDM VR1910WDM	Video Transmitter/Data Transceiver (1310/850 nm) Video Receiver/Data Transceiver (850/1310 nm)	1	14 dB	2.5 miles (4 km)
	VT1920WDM VR1920WDM	Video Transmitter/Data Transceiver (1310/1550 nm, Laser) Video Receiver/Data Transceiver (1550/1310 nm, Laser)	1	15 dB	6.2 miles (10 km)
SINGLEMODE 9/125µm	VT1930WDM VR1930WDM	Video Transmitter/Data Transceiver (1310/1550 nm, Laser) Video Receiver/Data Transceiver (1550/1310 nm, Laser)	1	23 dB	43 miles (69 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)				

*** 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.**

♦ All accessories are third party manufactured.

International Fiber Systems, Incorporated ■ DESIGN CENTER (888) 999-9IFS or (203) 426-1180
FAX (203) 426-3326 ■ sales@ifs.com
Europe, Middle East, Africa TEL +44(0) 1732 522 777 ■ Asia Pacific TEL +65 6235 2661 ■ Latin America TEL (512) 477-8787

TECHNICAL SPECIFICATION — VT/VR1900 SERIES
FM VIDEO WITH BI-DIRECTIONAL DATA AND TAMPER SWITCH

SPECIFICATIONS

VIDEO

Video Input:	1 volt pk-pk (75 ohms)
Bandwidth:	5 Hz - 8.0 MHz
Differential Gain:	<5%
Differential Phase:	<5°
Tilt:	<1%
Signal-to-Noise Ratio (SNR):	> 55 dB @ 10 dB ATTN.

CONTACT CLOSURE

Contacts:	24V AC/DC, 170ma, Optically Isolated Optical Loss Relay Output

DATA

Data Interface:	RS- 232, RS-422, RS-485 (Tri-State 2 or 4-wire)
Data Format:	Manchester, Bi-phase
Data Rate:	DC-50 Kbps (NRZ)
Operating Mode:	Simplex or Full Duplex

WAVELENGTH

VT/VR1910:	850 nm, Multimode
VT/VR1910WDM:	1310/850 nm, Multimode
VT/VR1920WDM:	1310/1550 nm, Multimode
VT/VR1930WDM	1310/1550 nm, Singlemode

NUMBER OF FIBERS

VT/VR1910:	2
VT/VR1910WDM:	1
VT/VR1920WDM:	1
VT/VR1930WDM:	1

CONNECTORS

Optical:	ST
Power and Data:	Terminal Block with Screw Clamps
Video:	BNC (Gold Plated Center-Pin)

ELECTRICAL & MECHANICAL

Power:	
Surface Mount:	12 VDC @ 300 mA
Number of Rack Slots:	1
Current Protection:	Automatic Resettable Solid-State Current Limiters
Max. RG59 Cable Length:	750 ft.
Circuit Board:	Meets IPC Standard
Size (in./cm.) (LxWxH)	
Surface Mount:	7.0 x 4.9 x 1.0 in., 17.8 x 12.5 x 2.5 cm
Rack Mount:	7.7 x 5.0 x 1.0 in., 19.6 x 12.7 x 2.5 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 CE cUL UL GSA

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

MADE IN THE USA

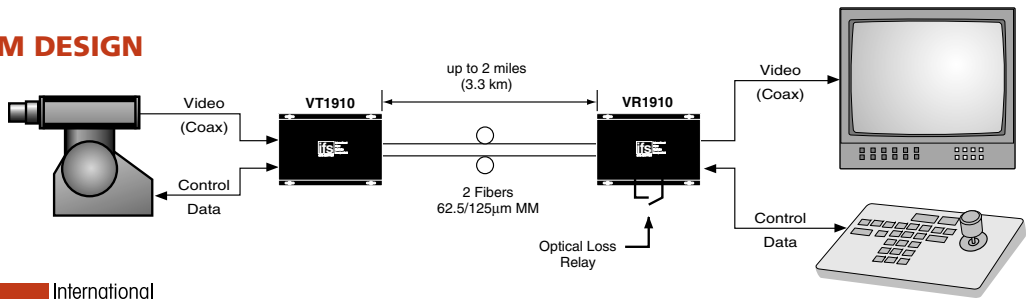
Complies with FDA Performance Standard for Laser Products, Title 21, Code of Federal Regulations, Subchapter J

OPTICAL POWER BUDGET

FIBER	WAVELENGTH	TRANSMITTER MODEL	RECEIVER MODEL	OPTICAL PWR BUDGET	MAX. DISTANCE*
Multimode 62.5/125µm**	850 nm	VT1910	VR1910	13 dB	2.0 miles (3.3 km)
	1310/850 nm	VT1910WDM	VR1910WDM	14 dB	2.5 miles (4 km)
	1310/1550 nm	VT1920WDM	VR1920WDM	15 dB	6.2 miles (10 km)
Singlemode 9/125µm	1310/1550 nm	VT1930WDM	VR1930WDM	23 dB	43 miles (69 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.**

SYSTEM DESIGN



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TEL (203)426-1180 ■ FAX (203)426-3326 ■ www.ifs.com ■ sales@ifs.com
16 Commerce Road ■ Newtown, CT 06470

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