GE
Security

IFS Transmission Products
VT/VR7800-2DRDT Series

Overview

The IFS VT/VR7800-2DRDT video transmitter/data transceiver and video receiver/data transceiver series utilizes 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 provide transmission of eight independent video channels and two bi-directional data channels over one optical fiber and are ideal for use in unconditioned roadside or out-of-plant installations. Completely transparent to and universally compatible with any NTSC, PAL, or SECAM CCTV camera system, all standard pan-tilt-zoom control signals including RS-232, RS-422, or 2- or 4-wire RS-485 with Tri-state. 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

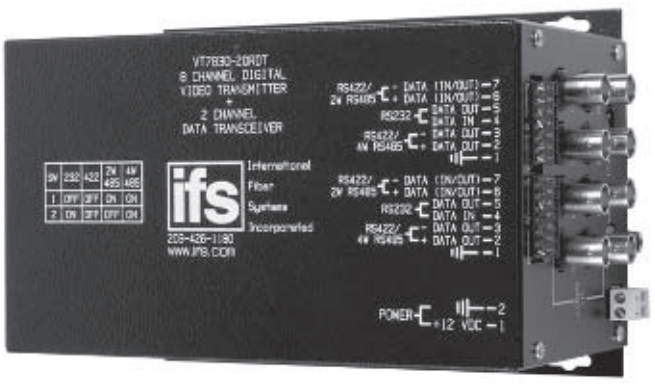
- High Performance CCTV with PTZ Control
- High Performance CCTV with Access Control

8-Channel Digitally Encoded Video and 2 Bi-Directional Data Multiplexer

Utilizes 8-bit digital encoding and decoding for high-quality video transmission.

Standard Features

- 8-bit digitally encoded video transmission transmits 8 real-time color video signals and 2 bi-directional data signals on one single-mode optical fiber
- Supports RS-232, RS-422, and 2- or 4-wire RS-485 with tri-state data interfaces
- LED status indicators provide rapid indication of critical operating parameters
- 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
- Directly compatible with all NTSC, PAL, or SECAM CCTV camera systems
- 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
- Solid-state current limiters on all power lines provide unconditional equipment protection
- Comprehensive lifetime warranty



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Specifications subject to
change without notice

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Agency compliance

FCC PART 15 COMPLIANT CE cULus GSA Federal Supply Schedule Contract No. GS-07F-0049M

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

Specifications

Video	
Video Input:	1 volt pk-pk (75 ohms)
Input/Output Channels:	8
Bandwidth (minimum):	10 Hz - 6.5 MHz per channel
Differential Gain:	<2%
Differential Phase:	<0.7°
Tilt:	<1%
Signal-to-Noise Ratio (SNR):	60 dB @ Max. Optical Loss Budget
Data	
Data Channel:	2
Data Format:	RS-232, RS-422, 2-w or 4-w RS-485 with Tri-State, Manchester, Bi-phase and Sensornet
Wavelength	1310/1550 nm, Multimode or Single Mode
Optical Emitter	Laser Diode
Number of Fibers	1
Connectors	
Optical:	ST, SC or FC (see ordering information)
Power:	Terminal Block with Screw Clamps
Video:	BNC (Gold-Plated Center-Pin)
Electrical & Mechanical	
Power:	12 VDC @ 500 mA (stand-alone)
Number of Rack Slots:	4
Current Protection:	Automatic Resettable Solid-State Current Limiters
Circuit Board:	Meets IPC Standard
Size (in./cm.) (LxWxH)	
Surface Mount (Transmitter):	7.0 x 4.9 x 3.0 in., 17.8 x 12.5 x 7.6 cm
Surface Mount (Receiver):	7.0 x 4.9 x 4.0 in., 17.8 x 12.5 x 10.4 cm
Rack Mount:	7.7 x 5.0 x 4.0 in., 19.6 x 12.7 x 10.4 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)†

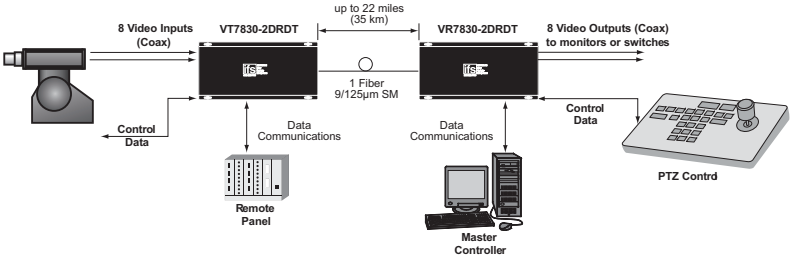
†May be extended to condensation conditions by adding suffix '–C' to model number for conformal coating.

Ordering Information

	Part Number	Description	Fibers Required	Optical Pwr. Budget	Max. Distance*
Multimode 62.5/125µm**	VT7820-2DRDT VR7820-2DRDT	8-Channel Video Transmitter/Data Transceiver (1310/1550 nm) 8-Channel Video Receiver/Data Transceiver (1310/1550 nm)	1	18 dB	1.2 miles (2 km)***
Single Mode 9/125µm	VT7830-2DRDT VR7830-2DRDT	8-Channel Video Transmitter/Data Transceiver (1310/1550 nm) 8-Channel Video Receiver/Data Transceiver (1310/1550 nm)	1	17 dB	31 miles (51 km)
	VT7830-2DRDT-HP VR7830-2DRDT-HP	8-Channel Video Transmitter/Data Transceiver (1310/1550 nm) 8-Channel Video Receiver/Data Transceiver (1310/1550 nm)	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 '-SC' to model number for SC Optical Connector (For Single-Mode equipment only) Add '-C' for Conformally Coated Printed Circuit Boards (Extra charge, consult factory) Add '-HP' to VT Model Number for 26 dB Single-Mode Optical Power Budget Add '-FC' to model number for FC Optical Connector (For Single-Mode 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 62.5 µm graded index multimode fiber having a maximum run length of 2 km and/or a maximum optical loss budget of 10 dB.
♦All accessories are third-party manufactured.

System Design



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