



PRODUCT SPECIFICATION

DIGITALLY ENCODED VIDEO WITH 2 AUDIO AND 1 DATA CHANNEL

VAADT/VAADR14130WDM



DESCRIPTION

The IFS VAADT/VAADR14130WDM series video transceivers support simultaneous broadcast quality transmission of 10-bit digitally encoded video, 20-bit digitally encoded stereo audio and bi-directional data transmission over one singlemode optical fiber. The modules are universally compatible with major CCTV camera manufactures and support RS-232, RS-422, and 2-wire or 4-wire RS-485 data interfaces and all major data protocols. Plug-and-play design ensures ease of installation requiring no electrical or optical adjustments. Each transceiver incorporates status indicating LED's for monitoring of proper system operation. The modules are available in either stand-alone or rack mount versions.

APPLICATION EXAMPLES

- Distance Learning CCTV with PTZ and Access Control with 2-way Audio Communications
- ITS (Intelligent Transportation Systems)

FEATURES

- 10-Bit Digitally Encoded Video Transmission
- Exceeds RS-250C Short-Haul Transmission
- NTSC, PAL, SECAM Compatible
- Full Color Compatibility
- 20-Bit Digitally Encoded Stereo Audio
- 600 Ohm Impedance Line-Level Audio
- No In-field Electrical or Optical Adjustments Required
- LED Status Indicators For Monitoring All Critical Operating Parameters
- 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.
- Hot-Swappable Rack Modules
- Automatic Resettable Fuses on all Power Lines
- Distances up to 43 Miles (69 km)
- 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*
SINGLEMODE 9/125µm	VAADT14130WDM	Video Transmitter & Audio Transceiver/Data Transceiver (1310/1550 nm)	1	23 dB	43 miles (69 km)
	VAADR14130WDM	Video Receiver & Audio Receiver/Data Transceiver (1550/1310 nm)			
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)				
	PS-24VACCT 24 volt AC Center Tap Power Supply				
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				
	Add -‘FC’ to Model Number for FC Optical Connector				
	Add ‘-HP’ to Model Number for 26 dB Singlemode Optical Power Budget				

* 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.

♦ All accessories are third party manufactured.



TECHNICAL SPECIFICATION

VAADT/VAADR14130WDM

DIGITALLY ENCODED VIDEO WITH 2 AUDIO AND 1 DATA CHANNEL

SPECIFICATIONS

VIDEO

Video Input: 1 volt pk-pk (75 ohms)
 Video Bandwidth: 5 Hz - 10 MHz
 Differential Gain: <2%
 Differential Phase: <0.7°
 Tilt: <1%
 Signal-to-Noise Ratio (SNR): >67 dB

DATA

Data Interface: RS-232, RS-422, or 4 wire RS-485 with Tri-State
 Data Format: NRZ, NRZI, Manchester, Bi-phase
 Data Rate: DC-100 kbps (NRZ)
 DTE/DCE Interface: User-Selectable
 Operating Mode: Simplex or Full-Duplex

AUDIO

No. of Bits: 20
 Sampling Rate: 52.3 KHz
 Bandwidth: 20 Hz to 18 KHz @ -1 dB
 Maximum Input/Output Level: 0 dBm across 600 ohms
 Signal-to-Noise Ratio (SNR): 87 dB, Min.
 Total Harmonic Distortion: 0.01% @ 0 dB Output Level
 Channel Crosstalk: -100 dB at 1 KHz
 Input/Output: Balanced or Unbalanced, 600 ohm

WAVELENGTH

1310/1550 nm, Singlemode

NUMBER OF FIBERS

1

LED INDICATORS

VAADT Transmitter Unit:
 • 8-Segment Display for Audio Input Level, Audio Channel 1
 • 8-Segment Display for Audio Input Level, Audio Channel 2
 • Video Input Sync Presence (Bi-Color LED)
 • Data Transmit
 • Data Receive
 • Analog-to-Digital Converter Overload (Bi-Color LED)
 • Optical Carrier Detect/Line-Lock (Bi-Color LED)
 • Operating Power

VAADR Receiver/ Data Transceiver Unit:

• 8-Segment Display for Audio Input Level, Audio Channel 1
 • 8-Segment Display for Audio Input Level, Audio Channel 2
 • Video Output Sync Presence (Bi-Color LED)
 • Data Transmit
 • Data Receive
 • Analog-to-Digital Converter Overload (Bi-Color LED)
 • Optical Carrier Detect/Line-Lock (Bi-Color LED)
 • Operating Power

CONNECTORS

Power, Audio and Data:
 Video:
 Optical:
 Video and Reverse
 Sync (Genlock):

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

ELECTRICAL & MECHANICAL

Power:
 Surface Mount: 12 VDC @ 500 mA
 Rack:
 Number of Rack Slots: 2
 Current Protection: Automatic Resettable Solid-State Current Limiters
 Meets IPC Standard

Circuit Board:
 Size (in./cm.) (LxWxH)
 Surface Mount: 7.0 x 4.0 x 2.0 in., 17.8 x 10.2 x 5.1 cm
 Rack Mount: 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 **CE** **cUL** **US** **GSA**
 Federal Supply Schedule
 Contract No. GS-07F-0049M

MADE IN THE USA

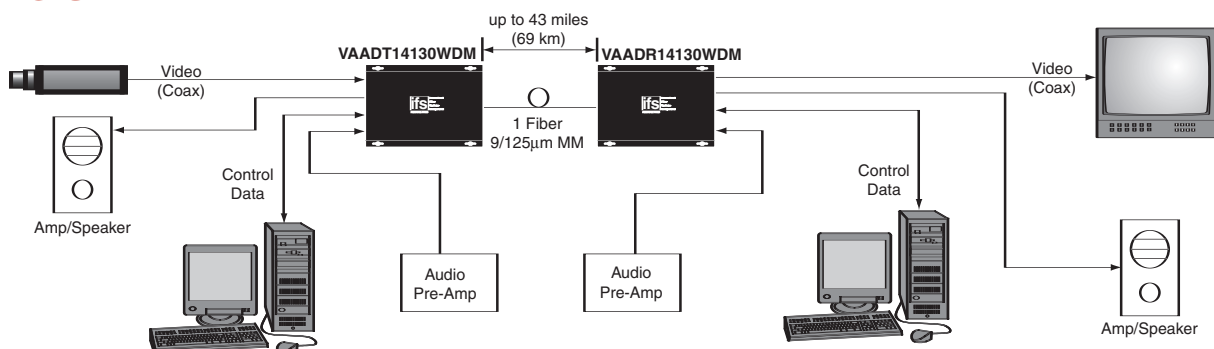
Complies with FDA Performance Standard for Laser Products, Title 21, Code of Federal Regulations, Subchapter J

OPTICAL POWER BUDGET

FIBER	WAVELENGTH	TRANSMITTER		RECEIVER		OPTICAL PWR BUDGET	MAX. DISTANCE*
		MODEL	OUTPUT	MODEL	SENSITIVITY		
Singlemode 9/125µm	1310/1550 nm	VAADT14130WDM	400 µw (-4 dBm)	VAADR14130WDM	2 µw (-27 dBm)	23 dB (26 dB -HP Option)	43 miles (69 km) 48 miles (78 km)

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

SYSTEM DESIGN



International
 Fiber
 Systems
 Incorporated

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