



VersiVision

FDVT1A0xA / FDVR1A0xA

1-CHANNEL DIGITALLY ENCODED VIDEO,

1-CHANNEL BI-DIRECTIONAL DATA

TRANSMITTER / RECEIVER

USER'S MANUAL

Revision B

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PROPRIETARY DATA

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All VERSITRON products are covered by a **Lifetime Warranty** against defects in materials and workmanship. This coverage is applicable to the original purchaser and is not transferable.

We repair, or at our option, replace parts/products that, during normal usage and operation, are proven to be defective during the time you own the products, provided that said products and parts are still manufactured and/or available. Such repair/replacement is subsequent to receipt of your product at our facility and our diagnostic evaluation and review of the unit. Advance replacements are not provided as part of the warranty coverage.

This warranty does not cover damage to products caused by misuse, mishandling, power surges, accident, improper installation, neglect, alteration, improper maintenance, or other causes which are not normal and customary applications of the products and for which they were not intended. No other warranty is expressed or implied, and VERSITRON is not liable for direct, indirect, incidental or consequential damages or losses.

In the unlikely event a warranty issue should arise, simply contact us at 302-894-0699 or 1-800-537-2296 or via email at fiberlink@versitron.com to obtain a Return Material Authorization (RMA) number, along with instructions for returning your product.

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GENERAL INFORMATION

Introduction:

The VERSITRON *VersiVision* FDVT1A0xA and FDVR1A0xA Series video, data, and contact closure transmitter and receiver support simultaneous transmission of one channel of 8-bit digitally encoded video, one channel of bi-directional data, and one channel of bi-directional contact closure over one multi-mode or single-mode optical fiber. Plug and Play design ensures the ease of installation and electronic and optical adjustments are never required.

Model Number

Unit Type	Model Number
One-Channel Digitally Encoded Video	FDVT1A0xA
One-Channel Bi-Directional Data Transmitter	
One-Channel Digitally Encoded Video	FDVR1A0xA
One-Channel Bi-directional Data Receiver	

Technical Specifications:

VIDEO

Video Input	2.0 volt pk-pk (75 ohms)
Input/Output Channels	1
Bandwidth	5 Hz - 8 MHz
Bit Resolution	8-bit
Differential Gain	< 2%
Differential Phase	< 0.6°
Tilt	< 1%
S/N Ratio	60dB (Weighed)

DATA

Data Interface	RS-485 (RS-422, RS-232 Available Upon Request)
Data Channel	1 (Bi-Directional)
Data Rate	0~300Kbps
Bit Error Rate	10 ⁻⁹

WAVELENGTH

850/1310nm Multi-Mode
1310/1550nm Single-Mode

Technical Specifications (cont):

OPTICAL EMITTER Laser Diode

NUMBER OF FIBERS 1

CONNECTORS

Optical ST

Video BNC

GENERAL

Power Supply 5VDC @ 2A

Size 4.33 x 4.09 x 1.10 Inches

Construction Aluminum

MTBF > 100,000 hours

Operating Temp -35°C to +50°C

Storage Temp -45°C to +85°C

Relative Humidity 0% to 95% (non-condensing)

INDICATOR

Module:

Green Video Sync Present

Green Data Sync Present

Green Power On

OPTICAL POWER BUDGET

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

CAUTION!

The transmitter unit contains a laser-emitting diode located in the optical connector. This device emits invisible infrared electromagnetic radiation that can be harmful to human eyes. The radiation from this optical connector, if viewed closely without any protection, may cause instantaneous damage to the retina of the eye. Direct viewing of this LED should be avoided at all times.

Fiber	Wavelength	Transmitter		Receiver		Optical Power Budget	Max Distance
		Model	Output	Model	Sensitivity		
Singlemode	1310nm 1550nm	FDVT 1A05A	-5 dBm	FDVR 1A05A	-26 dBm	21 dB	30 Km
Multimode	850nm 1310nm	FDVT 1A03A	-10 dBm	FDVR 1A03A	-24 dBm	14 dB	3 Km

INSTALLATION INSTRUCTIONS

Installation Procedure

The VERSITRON *VersiVision* FDVT1A0xA and FDVR1A0xA video transmission systems series are preset for immediate use. There are indicator LEDs on the units for monitoring the real-time status of video, data and power. The following instructions describe the typical installation procedure and the function of the LED indicators located on each unit.

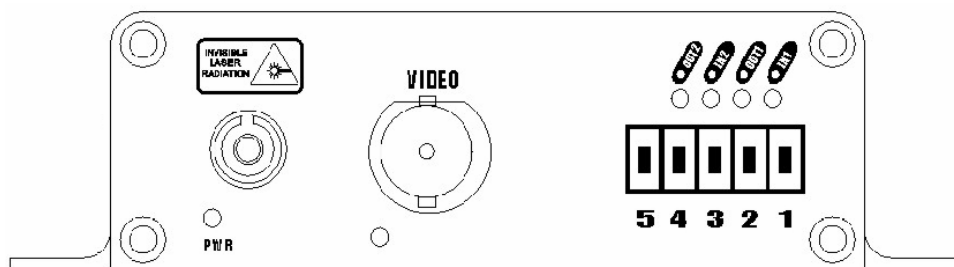
1. Connect the video source (camera) to the video input BNC connector on the transmitter unit using coaxial cable.
2. Connect the video output BNC connector on receiver unit to the video monitor using coaxial cable.
3. Connect the fiber optic cable between the transmitter and receiver.
4. Apply the power supply to both the transmitter and receiver.
5. When the power is applied, the green POWER LED will light, indicating the presence of operating power. The green VIDEO LED and DATA LED will give an indication as stated in the following page.
6. The system should now be operational.

System Terminal Strip Connections

The various input and output connections for the VERSITRON *VersiVision* FDVT1A0xA and FDVR1A0xA Series system are as follows:

Video Input or Output: BNC Connectors

Data Connection — Camera Site (Transmitter):



Front Panel of FDVT1A0xA (Transmitter)

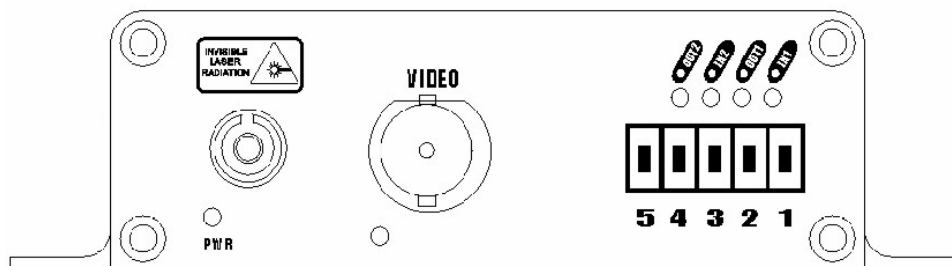
RS-485 2-Wire Connection (1-Channel Bi-directional)

Pin 1 — RS485A

Pin 2 — RS485B

Pin 3 — GND

Data Connection — Control Site (Receiver):



Front Panel of FDVR1A0xA (Receiver)

RS-485 2-Wire Connection (1-Channel Bi-directional)

Pin 1 — RS485A

Pin 2 — RS485B

Pin 3 — GND

Indicator LEDs

The stand-alone units have integral LEDs that are used to monitor the state of the unit. There is one video LED and one power LED on each unit. One, labeled as “PWR”, lights when operating power is present. Another LED under the BNC connector, illuminates when the video input/output signals are detected. The other LEDs above the data green screw terminals blink at the rate of the operating data. The indicator LEDs function as follows:

TRANSMITTER and RECEIVER:

Power: ON: (Green) Indicates that correct power has been applied

Transmitter:

Video: OFF: Indicates no video detected on input BNC connector
(No Video present on input BNC)
ON: (Green) Indicates video detected on input BNC connector
(Video present on input BNC)

Data (TX): OFF: Indicates no data detected on the transmit data cable
Blinking: (Green) Indicates data being transmitted.

Receiver:

Video: OFF: Indicates no video present on output BNC connector
(No Video present on output BNC)
ON: (Green) Indicates video detected on output BNC connector
(Video present on input BNC)

Data (RX): OFF: Indicates no data detected on the receive data cable
Blinking: (Green) Indicates data being received at rate of operation

TROUBLESHOOTING

Optical Fiber

The VERSITRON *VersiVision* FDVT1A0xA and FDVR1A0xA Series is available for most applications using multimode or single mode optical fibers. Please be certain that the correct size and type of fiber is being used for the particular mode transmitter/receiver combination.

Also be certain that the attenuation and bandwidth of the fiber optic cable being used is within the range of the system's loss budget specifications.

General

Any dirt or dust may easily pollute or block the fiber from accepting or radiating light. Therefore, please try to keep the optical connector clear and always use the dust caps whenever the connector is exposed to air. It is suggested that the tip of the optical connected should be carefully cleaned with a lint-free cloth moistened with alcohol from time to time.

The status of any of the VIDEO LED should provide the first clue as to the origin of any operational failure. If the VIDEO LED on the receiver unit is off, it usually means that the fiber is broken or has too much attenuation.

Please also make sure that the transmitter and the receiver are not used in opposite position

If the system is still not working after examining the above possibilities, please contact our Customer Service Department for further assistance.

Data Link

Even when installed exactly as directed, it is possible that the data function may fail to operate properly. If this problem occurs, first please check all data cable connections.

If the system is still not working after examining the above possibilities, please contact our Customer Service Department for further assistance.