VERSITRON®

Your Copper to Fiber Connection

HD-CVI / AHD / HD-TVI
Video Only

USER'S MANUAL

v2.0

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PROPRIETARY DATA

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VERSITRON LIFETIME WARRANTY

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.

CAUTION!

The fiber optic transmitters contain 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.

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GENERAL INFORMATION

Introduction:

The VersiVision HD Series video transmitters and receivers support the highest quality of 8-bit digitally encoded HD-CVI, AHD or HD-TVI video over one strand of single-mode or multi-mode fiber. Optimized optical modules; which are compatible with 1280H/25F, 1280H/30F, 1280H/50F, and 1280H/60F, ensure the highest performance for the most demanding applications. The hot-pluggable and adjustment-free design ensures the convenience of the installation and operation. The modules are available in either standalone or rack mount versions.

Model Numbers:

HD-CVI Video Only

Model	Function	Connector	Fiber Cable	Wavelength	Max Distance
HDCVIT1003	1-Channel Transmitter	ST Simplex	MM	1310nm	2 Km
HDCVIR1003	1-Channel Receiver	ST Simplex	MM	1310nm	2 Km
HDCVIT1005	1-Channel Transmitter	ST Simplex	SM	1310nm	30 Km
HDCVIR1005	1-Channel Receiver	ST Simplex	SM	1310nm	30 Km
HDCVIT2003	2-Channel Transmitter	ST Simplex	MM	1310nm	2 Km
HDCVIR2003	2-Channel Receiver	ST Simplex	MM	1310nm	2 Km
HDCVIT2005	2-Channel Transmitter	ST Simplex	SM	1310nm	30 Km
HDCVIR2005	2-Channel Receiver	ST Simplex	SM	1310nm	30 Km
HDCVIT4003	4-Channel Transmitter	ST Simplex	MM	1310nm	1 Km
HDCVIR4003	4-Channel Receiver	ST Simplex	MM	1310nm	1 Km
HDCVIT4005	4-Channel Transmitter	ST Simplex	SM	1310nm	30 Km
HDCVIR4005	4-Channel Receiver	ST Simplex	SM	1310nm	30 Km

AHD Video Only

Model	Function	Connector	Fiber Cable	Wavelength	Max Distance
AHDT1003	1-Channel Transmitter	ST Simplex	MM	1310nm	2 Km
AHDR1003	1-Channel Receiver	ST Simplex	MM	1310nm	2 Km
AHDT1005	1-Channel Transmitter	ST Simplex	SM	1310nm	30 Km
AHDR1005	1-Channel Receiver	ST Simplex	SM	1310nm	30 Km
AHDT2003	2-Channel Transmitter	ST Simplex	MM	1310nm	2 Km
AHDR2003	2-Channel Receiver	ST Simplex	MM	1310nm	2 Km
AHDT2005	2-Channel Transmitter	ST Simplex	SM	1310nm	30 Km
AHDR2005	2-Channel Receiver	ST Simplex	SM	1310nm	30 Km
AHDT4003	4-Channel Transmitter	ST Simplex	MM	1310nm	1 Km
AHDR4003	4-Channel Receiver	ST Simplex	MM	1310nm	1 Km
AHDT4005	4-Channel Transmitter	ST Simplex	SM	1310nm	30 Km
AHDR4005	4-Channel Receiver	ST Simplex	SM	1310nm	30 Km

HD-TVI Video Only

Model	Function	Connector	Fiber Cable	Wavelength	Max Distance
HDTVIT1003	1-Channel Transmitter	ST Simplex	MM	1310nm	2 Km
HDTVIR1003	1-Channel Receiver	ST Simplex	MM	1310nm	2 Km
HDTVIT1005	1-Channel Transmitter	ST Simplex	SM	1310nm	30 Km
HDTVIR1005	1-Channel Receiver	ST Simplex	SM	1310nm	30 Km
HDTVIT2003	2-Channel Transmitter	ST Simplex	MM	1310nm	2 Km
HDTVIR2003	2-Channel Receiver	ST Simplex	MM	1310nm	2 Km
HDTVIT2005	2-Channel Transmitter	ST Simplex	SM	1310nm	30 Km
HDTVIR2005	2-Channel Receiver	ST Simplex	SM	1310nm	30 Km
HDTVIT4003	4-Channel Transmitter	ST Simplex	MM	1310nm	1 Km
HDTVIR4003	4-Channel Receiver	ST Simplex	MM	1310nm	1 Km
HDTVIT4005	4-Channel Transmitter	ST Simplex	SM	1310nm	30 Km
HDTVIR4005	4-Channel Receiver	ST Simplex	SM	1310nm	30 Km

Technical Specifications

VIDEO

Video Input:	0.6 ~ 2.0 Volt pk-pk (75 Ohms)
Input/Output Channels:	1, 2, & 4
Bandwidth:	5 Hz - 8MHz
Bit Resolution:	8-Bit
Differential Gain:	< ±1%
Differential Phase:	< ±1°
Tilt:	< 1%
S/N Ratio:	60dB (Weighted)

WAVELEGNTH

Multi-Mode:	1310nm
Single-Mode:	1310nm

OPTICAL EMITTER

Laser Diode

Number of Fibers:	1

CONNECTORS

Optical:	ST
Video:	BNC

GENERAL

Power Supply:	5VDC, 2A
Dimensions (Inches):	1-Channel Units: 4.33 x 4.09 x 1.10
	2-Channel Units: 4.33 x 4.09 x 1.10
	4-Channel Units: 5.98 x 5.12 x 1.13
MTBF:	> 100,000 Hours
Operating Temperature:	-35° C to +65° C
Storage Temperature:	-45° C to +85° C
Relative Humidity:	0% to 95% (non-condensing)

Optical Power Budget

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

Fiber	Wavelength	Transmitter Output	Receiver Sensitivity	Optical Power Budget
Single-mode	1310nm	-5 dBm	-26 dBm	21 dB
Multi-mode	1310nm	-10 dBm	-24 dBm	14 dB

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INSTALLATION INSTRUCTIONS

Installation Procedure:

The HD series units are preset for immediate use. There are indicator LEDs on the units for monitoring the real-time status of power and video. The following instructions describe the typical installation procedure and the function of the LED indicators located on each unit.

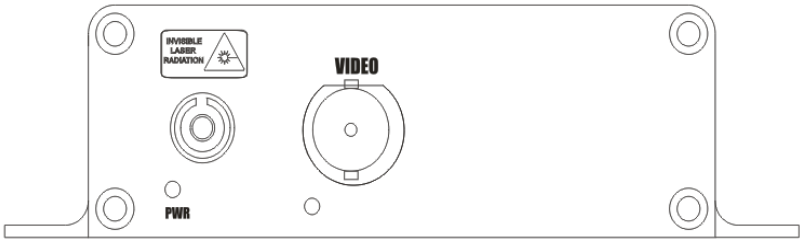
1. Connect the HD video source to the BNC connector on the **transmitter** using coaxial cable.
2. Connect the BNC connector on the **receiver** unit to HD video monitor using coaxial cable.
3. Connect the fiber optic cable between the transmitter and receiver.
4. Apply the power supply to both the transmitter and receiver.
5. The system should now be operational.

Indicator LEDs:

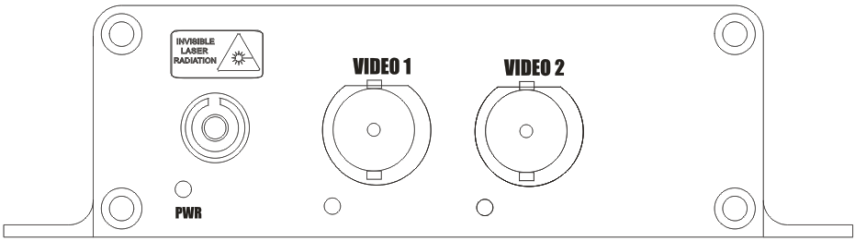
Each unit has integral LEDs that are used to monitor the state of the unit. Below are descriptions for each.

TRANSMITTER and RECEIVER:

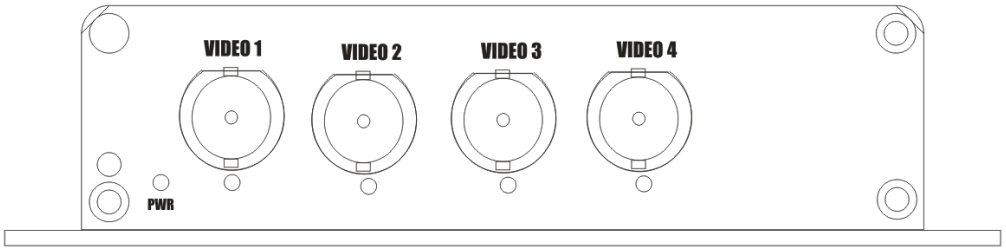
Power:	ON (Green):	Indicates power has been applied.
Video :	OFF:	Indicates no video signal present on the BNC connector.
	ON (Green):	Indicates video signal present on the BNC connector.



1-Channel Units



2-Channel Units



4-Channel Units

TROUBLESHOOTING

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

Optical Fiber

The HD Series is available for most applications using multi-mode or single-mode optical fiber.

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 optic cable from accepting/transmitting light. Therefore, please try to keep the optical connector clear and always use the dust cap whenever the connector is exposed to air. It is suggested that the tip of the optical fiber be carefully cleaned with a lint-free cloth moistened with alcohol from time to time.

The status of any of the LEDs should provide the first clue as to the origin of any operational failure.