VersiVision

FVTMHA0xA / FVRMHA0xA

16-CHANNEL DIGITALLY ENCODED VIDEO

1-CHANNEL BI-DIRECTIONAL DATA

MULTIPLEXER

USER'S MANUAL

Revision B

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PROPRIETARY DATA

WARRANTY

All VERSITRON products purchased after January 2001 carry a limited lifetime warranty against defects in materials and workmanship for the lifetime of the product. Purchases made prior to January 2001 are warranted for a period of one year from date of delivery. VERSITRON reserves the right to repair or, at our option, replace parts which during normal usage prove to be defective during the warranty period provided that:

1. You call VERSITRON at (302) 894-0699 or (800) 537-2296 and obtain a (RMA) Return Authorization Number. Please reference your RMA number on the outside of the box in which the item is returned.

2. Shipping charges are pre-paid.

No other warranty is expressed or implied and we are not liable for consequential damages. For repairs outside of the warranty period, the same procedure must be followed.

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GENERAL INFORMATION

Introduction:

The VERSITRON ***VersiVision*** FVTMHA0xA and FVRMHA0xA Series video transmitter and receiver support simultaneous transmission of 16-channels of 8-bit digitally encoded video and one channel of bi-directional data over one multi-mode or single-mode optical fiber. The units are universally compatible with major camera systems. Plug and Play design ensures ease of installation and electronic and optical adjustments are never required. The 16-channel units are available as standalone or for installation in a 19" rack.

Model Number

Unit Type	Model Number
16-Channel Digitally Encoded Video + 1-channel Bi-directional Data TX	FVTMHA0xA
16-Channel Digitally Encoded Video + 1-channel Bi-directional Data RX	FVRMHA0xA

Technical Specifications:

VIDEO

Video Input	2 volt pk-pk (75 ohms)
Input/Output Channels	16
Bandwidth	5 Hz - 8 MHz
Bit Resolution	8-bit
Differential Gain	< 1%
Differential Phase	< 1°
Tilt	< 1%
S/N Ratio	60dB (Weighed)

DATA

Data Protocol	RS-485 (RS-422, RS-232 upon request)
Data Rate	0~300Kbps
Data Channels	1 (Bi-directional)

WAVELENGTH	850/1310nm Multimode 1310/1550nm Singlemode
OPTICAL EMITTER	Laser Diode
NUMBER OF FIBERS	1

CONNECTORS

Optical	ST
Video	BNC

GENERAL

Power Supply	5VDC@2A
Size	10.24 x 7.05 x 1.97 Inches
Construction	Aluminum
MTBF	> 100,000 hours
Operating Temp	-30° C to + 65° C
Storage Temp	-45° C to + 85° C
Relative Humidity	0% to 95% (non-condensing)

INDICATOR

Green	Video 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 Model	Receiver Model	Optical Power Budget	Max Distance
Multimode	850/1310nm	FVTMHA03A	FVRMHA03A	14 dB	1 Km
Singlemode	1310/1550nm	FVTMHA05A	FVRMHA05A	21 dB	30 Km

INSTALLATION INSTRUCTIONS

Installation Procedure

The VERSITRON ***VersiVision*** FVTMHA0xA and FVRMHA0xA video transmission systems series are preset for immediate use. There are indicator LEDs on the units for monitoring the real-time status of video and power. The following instructions describe the typical installation procedure and the function of the LED indicators located on each unit.

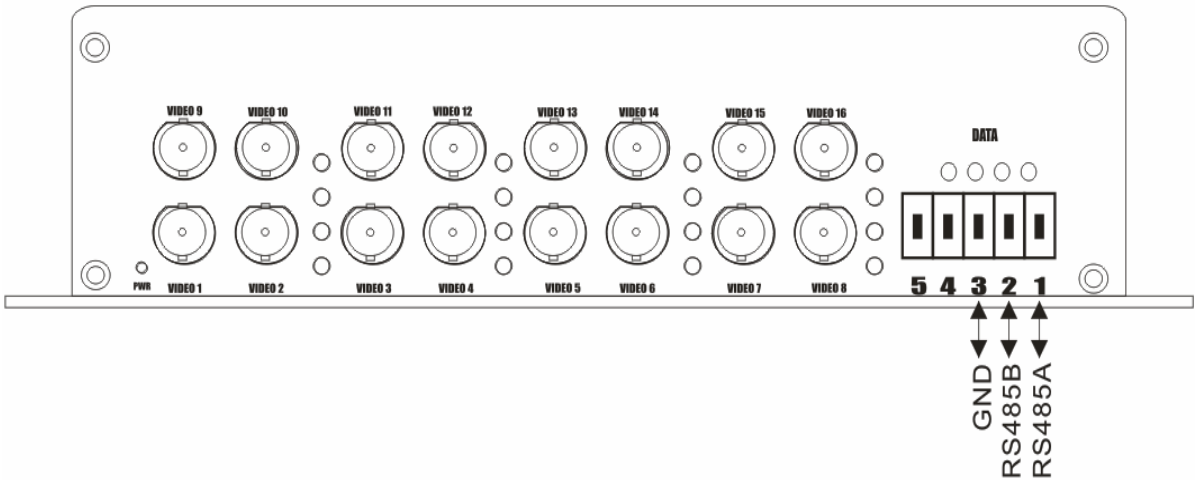
1. Connect the video source (camera) to the video input BNC connector on the transmitter unit (FVTMHA0xA) using coaxial cable.
2. Connect the video output BNC connector on the receiver unit (FVRMHA0xA) to the video monitor using coaxial cable.
3. Connect the fiber optic cable between the transmitter and receiver units.
4. Apply the power supply to both the transmitter and receiver units.
5. When the power is applied, the green POWER LED will light, indicating the presence of operating power. The green VIDEO LED will give an indication as stated on the following pages.
6. The system should now be operational.

System Terminal Block Connections

The various input and output connections for FVTMHA0xA and FVRMHA0xA series systems are as follows:

Video Input or Output: BNC Connectors

Data Connection —— Camera Site (Transmitter):

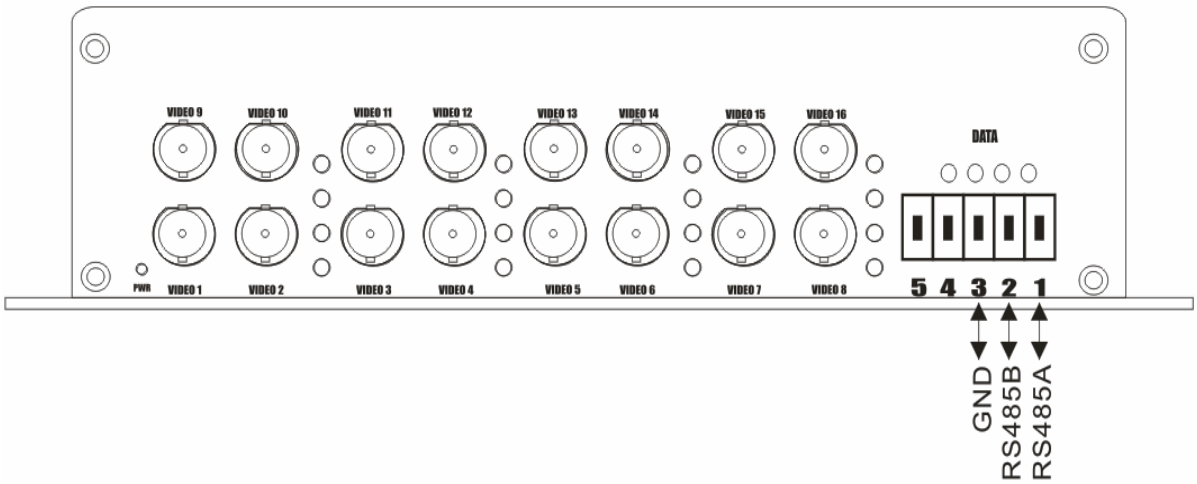


*Front panel of FVTMHA0xA

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 FVRMHA0xA

RS-485 2-Wire Connection (1-Channel Bi-directional)
Pin 1——RS485A
Pin 2——RS485B
Pin 3——GND

Indicator LEDs

The units have integral LEDs that are used to monitor the state of the unit. Each unit has one power LED and along with a VIDEO LED for each of the sixteen video connections. 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: OFF: Indicates no data detected on the transmit data cable.
Blinking: (Green) Indicates data being transmitted at the rate of operating data.

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 output BNC)

DATA: OFF: Indicates no data detected on the receive data cable
Blinking: (Green) Indicates data being received at the rate of operating data.

TROUBLESHOOTING

Optical Fiber

The VERSITRON ***VersiVision*** FVTMHA0xA and FVRMHA0xA video transmission systems series are available for most applications using multi-mode or single-mode optical fibers. Please be certain that the correct size and type of the fiber is being used for the particular 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 connecter 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 positions.

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