The FVT/FVR1031 transmits 10 bit digital video and full duplex data over one Singlemode or Multimode fiber. The video supports NTSC, PAL and SECAM CCTV camera systems. The data supports RS232, RS422 and RS485 (2W & 4W) at data rates up to 115 Kbps (NRZ). The FVT/FVR1031 series also supports “UP-THE-COAX” control signals for Pelco and Panasonic cameras with a maximum distance of 1500 feet (590 meters). The product is “Plug-and-Play” with no electrical or optical adjustments.

The FVT/FVR1031 allows the user to choose bi-directional data or up-the-coax data through a switch on the unit, as described in Figure 6 on Page 3.

Bi-color (Red/Green) LED indicators are provided for rapidly ascertaining equipment operating status. Figure 4 on Page 3 describes the LED indicators for each light on the unit.

These units are interchangeable between stand-alone or card mount configurations, or used with a DIN-rail adapter. See Figure A on Page 4 for installation instructions.

See Figures 1 - 7 for complete installation details.
FIGURE 1 - FVT/FVR1031 TRANSMITTER AND RECEIVER

MULTIMODE OR SINGLE MODE OPTICAL FIBER

BLACK
BLACK WITH WHITE STRIPES

Power Supply:
Surface Mount: 8–15 VDC @ 2W
Rack Mount: From Rack

NOTE: Remove Electrical Connector for Rack Mount Units

FIGURE 2 - FVT1031 TRANSMITTER

FIGURE 3 - FVR1031 RECEIVER
FIGURE 4 - LED INDICATORS

<table>
<thead>
<tr>
<th>LINK</th>
<th>VIDEO</th>
<th>DATA IN</th>
<th>DATA OUT</th>
<th>POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>GREEN</td>
<td>Communication link has been established over optical fiber</td>
<td>An active video signal is present on the BNC connector.</td>
<td>An active data signal is present on the input pins of the data connector.</td>
<td>An active data signal is present on the output pins of the data connector.</td>
</tr>
<tr>
<td>RED</td>
<td>Communication link has not been established.</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>OFF</td>
<td>Unit powered down.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FIGURE 5 - DATA CHANNEL CONNECTIONS

![Data Channel Connections Diagram]

FIGURE 6 - SWITCH POSITIONS

The mode for each data channel is configured using a pair of switches on the front panel of the unit.

Switch

1 2

ON

Up-the-Coax

Protocols

RS485

4-Wire Data

RS232 Data

RS422, RS485

2-Wire Bi-Phase or Manchester Data
FIGURE 7 - DATA CONNECTIONS

UTC Control

- Customer Equipment
- Up-the-Coax Control Receiver
- VIDEO IN

FVT1031
- VIDEO OUT

FVR1031
- Up-the-Coax Control Transmitter

RS232

- Customer Equipment
- Data Transmit
- Data Receive
- Signal Ground

FVT1031
- DIN
- DOUT
- GND

FVR1031
- DIN
- DOUT
- GND

Customer Equipment
- Data Receive
- Data Transmit
- Signal Ground

RS422

- Data Out (+)
- Data Out (-)
- Data In (+)
- Data In (-)

FVT1031
- DIN(+)
- DOUT(+)
- DIN(-)
- DOUT(-)

FVR1031
- DOUT(+)
- DOUT(-)
- DIN(+)
- DIN(-)

Customer Equipment
- Data In (+)
- Data In (-)
- Data Out (+)
- Data Out (-)

Bi-phase or Manchester

- Data Out (+)
- Data Out (-)

FVT1031
- DIN(+)
- DOUT(+)
- DIN(-)
- DOUT(-)

FVR1031
- DOUT(+)
- DOUT(-)
- DIN(+)
- DIN(-)

Customer Equipment
- Data In (+)
- Data In (-)

2-Wire RS485

- Data (A)
- Data (B)

FVT1031
- A
- B

FVR1031
- A
- B

Customer Equipment
- Data (A)
- Data (B)

4-Wire RS485

- Data Out (A)
- Data Out (B)
- Data In (A)
- Data In (B)

FVT1031
- A
- B
- DOUT(+)
- DOUT(-)

FVR1031
- DOUT(+)
- DOUT(-)
- A
- B

Customer Equipment
- Data In (A)
- Data In (B)
- Data Out (A)
- Data Out (B)
MECHANICAL INSTALLATION INSTRUCTIONS

INSTALLATION CONSIDERATIONS
This fiber-optic link is supplied as a Standalone/Rack module. Units should be installed in dry locations protected from extremes of temperature and humidity.

C1-US, C1-EU, C1-AU OR C1-CH CARD CAGE RACKS

CAUTION: Although the units are hot-swappable and may be installed without turning power off to the rack, ComNet recommends that the power supply be turned off and that the rack power supply is disconnected from any power source. Note: Remove electrical connector before installing in card cage rack.

1. Make sure that the card is oriented right side up, and slide it into the card guides in the rack until the edge connector at the back of the card seats in the corresponding slot in the rack’s connector panel. Seating may require thumb pressure on the top and bottom of the card’s front panel.

CAUTION: Take care not to press on any of the LEDs.

2. Tighten the two thumb screws on the card until the front panel of the card is seated against the front of the rack.

WARNING: Standalone units are to be used with a Listed Class 2 or LPS power supply

IMPORTANT SAFEGUARDS:
A) Elevated Operating Ambient - If installed in a closed or multi-unit rack assembly, the operating ambient temperature of the rack environment may be greater than room ambient. Therefore, consideration should be given to installing the equipment in an environment compatible with the maximum ambient temperature (Tma) specified by the manufacturer.

B) Reduced Air Flow - Installation of the equipment in a rack should be such that the amount of air flow required for safe operation of the equipment is not compromised.

FIGURE A
Dimensions are for a standard ComNet™ one slot module