V701 Series Fiber-Optic Video Transmission System

- **High performance**
- **Full optical automatic gain control (AGC)**
- **10 MHz bandwidth**
- **Bicolor diagnostic LEDs**
- **Reliable and compact**

The V701 series provides high-performance transmission of a composite video signal over fiber-optic cable. Each system consists of one transmitter and one receiver.

These units feature reliable circuitry with full OAGC and trouble-free installation. No adjustments are required during installation or thereafter. The V701 units are supplied with ST connectors and are set up for 62.5 µm cable.

A series of status-indicating LEDs on the transmitter and receiver eliminate guesswork and uncertainty in installation. On the transmitters, a bicolor LED glows green if the input video signal has adequate sync signal strength. It glows red if the sync is inadequate.

The receiver features an optical signal strength bicolor LED. This glows bright green for strong optical signal, and diminishes in brightness as signal is attenuated by losses due to cabling, terminations, and splices. This LED glows red if no optical signal is present. The receiver also has a video output signal strength LED which indicates strength of the sync portion of the output video signal. It functions like the video signal LED on the transmitter.

The transmitter and receiver are available in the standard compact surface-mount modules or in rack-mount versions for use with the V515R-PS or V517R-PS card cage racks. The VOPPS-120 and VOPPS-240 power supplies are available for use with the surface-mount modules. Rack-mount modules are powered by the power supply built into the V515R-PS or by the external V517E-PS if installed in the V517-R-PS

OPTICAL CABLE RECOMMENDATIONS

Vicon recommends that a professional fiber company terminate and install the optical cable. The cable should meet the application requirements for fiber size and for physical properties, such as strength, weatherproofing, etc. V701 series requires 62.5-micron diameter fiber. The fiber contractor will provide recommendations for exact cable type based on the details of the installation.

COAXIAL CABLE RECOMMENDATIONS

Using the correct coaxial cable is critical for proper system operation. The cable must meet these requirements: (1) pure copper center conductor; (2) pure copper braid shield with a minimum of 95% coverage; (3) polyethylene dielectric. If the cable is connected to a camera on a pan-and-tilt, use a multistrand center conductor. Other cable properties, such as outer jacket material, will be determined by the physical requirements of the installation. With RG-59/U type cable made of the materials above, the fiber-optic transmitter or receiver may be located up to 300 feet (about 100 meters) from the video source or video destination.

ASSOCIATED EQUIPMENT AND ACCESSORIES

Model V515R-PS 15-Channel Rack, Product Code 7214: Rack with built-in power supply can accommodate 15 modules with a total current requirement of 6 A. Modules must be rack-mount version. Product specification V052.

Model V517R-PS 17-Channel Rack, Product Code 7215: Accommodates 17 single-width rack-mount modules or the equivalent in double- and single-width modules. Requires external rack-mount power supply V517E-PS. Product Specification V052.

Model V517E-PS Rack-Mount Power Supply, Product Code 7216: Provides power for two fully loaded V517R-PS card-cage racks. Mounts in standard 19-inch EIA-type rack. Product Specification V052.

Model VOPPS-120DC Power Supply Product code 5940: Converts 120 VAC to 12 VDC. Pins for standard U.S. utility outlet are molded into the power supply case for power input. Power output is via a pendant cable. Product Specification 743.

Model VOPPS-220HDC Power Supply Product code 5942: Converts 230 VAC to 12 VDC. Pins for continental European utility outlet are molded into the power supply case for power input. Power output is via a pendant cable. Product Specification 743.

Model Number	Product Code	Description
V701T	8232	Surface-mount transmitter
V701T-R	8232-02	Rack-mount transmitter
V701R	8233	Surface-mount receiver
V701R-R	8233-02	Rack-mount receiver

Table 1: Models, Product Codes and Descriptions

TECHNICAL SPECIFICATIONS **SECURITY SYSTEM**
DIVISION 13 - SPECIAL CONSTRUCTION
SECTION 137_ _ - SECURITY CCTV SYSTEM

PART 2 - PRODUCTS

2.01 GENERAL

A. All equipment and materials used shall be standard components, regularly manufactured, regularly utilized in the manufacturer's system.

B. All systems and components shall have been thoroughly tested and proven in actual use.

C. All systems and components shall be provided with the availability of a toll free 24-hour technical support phone number from the manufacturer. The phone number shall allow for immediate technical assistance for either the dealer/installer or the end user at no charge.

D. All systems and components shall be provided with an explicit manufacturer warranty.

2.02 FIBER-OPTIC VIDEO TRANSMISSION SYSTEM

A. This series of fiber-optic transmitters and receivers shall include surface-mount modules and rack-mount modules. The modules shall offer one video channel. Full system bandwidth shall be 10 MHz (±1 dB). Video input and output signals shall be 1 V p-p, composite video. The optical wavelength shall be 850 nm. Maximum optical attenuation shall be 13 dB with 62.5-um cable. The signal-to-noise ratio (SNR) shall be greater than 54 dB at 13 dB attenuation The system shall feature ATT ST type optical connectors as standard. All receivers shall feature optical automatic gain control (OAGC).

B. The receiver shall feature two green-red bicolor type status LEDs: an optical signal LED (which shall indicate the presence and strength of an optical signal), and a video level LED (which shall indicate the strength of the synchronizing component of the composite video). The transmitter shall also feature a video signal LED.

C. **1. Mounting:** Surface-mount or rack-mount.

2. Dimensions: **Surface-Mount**
Height: 1.2-in. (30 mm).
Width: 3.7-in. (94 mm).
Length: 4.9-in. (125 mm).
Rack-Mount
1 slot, 1.0 in. (25.4 mm).

3. Weight: **Surface-Mount**
0.3 lb (0.14 kg).
Rack-Mount
0.61 lb (0.28 kg).

4. Construction: Aluminum.

5. Finish: Black semigloss paint.

The components of this system shall be Vicon Industries model series V701.

Technical Information

ELECTRICAL

Power Requirements: Standalone: 12-24 VAC 50/60 Hz or 12-16 VDC.
Rack Mount: 13.5-16 VDC

Current: 82 mA @14 V.

Power Consumption: 1.1 W @14 V.

Heat Equivalent: 0.12 btu/min (0.03 kg-cal/min).
Note: These figures represent the conversion of 100% of the electrical energy to heat. Actual percentage of heat generated will be less and will vary from product to product. These figures are provided as an aid in determining the extent of cooling required for an installation.

Safety Standard: UL 1950.

Radio Frequency Emissions Rating: FCC Class A.

European Community (CE) Standards: EN60950.

VIDEO

Number of Channels: 1.

Modulation Type: Frequency Modulation (FM).

Formats Supported: NTSC and PAL

Video Bandwidth: 10 MHz per channel (±1 dB).

Horizontal Video Resolution: >800 TV lines.

Video Input/ Output Impedance: 75 ohms.

Video Input Signal: 1 V p-p nominal, composite video.

Video Output Signal: 1 V p-p nominal, composite video, unity gain, ±5%.

Differential Phase: 3°

Differential Gain: 3%.

Signal-to-Noise Ratio: >54 dB, at maximum optical attenuation.

Interconnection Distance: Video devices to transmitter: ≤100 ft (30 m).
Receiver to video devices: ≤100 ft (30 m).

Recommended Cable Type: RG59/U coaxial cable (Belden no. 9259 or equivalent).

OPTICAL

Optical Wavelength: 850 nm.

Maximum Optical Attenuation: 13 dB.

Gain Control: Fully automatic optical (OAGC).

Fiber Type: 62.5 um.

Operating Distance: 3.2 mi (5.2 km) (approximate, assumes best fiber).

CONNECTORS AND INDICATORS

Power Connector: Detachable screw terminal.

Video Input/Output Connector: BNC.

Optical Connector: ST-type.

Indicators: Transmitter: video green LED.
Receiver: Standalone, video green LED. Rack, Level Loss bicolor LED.

MECHANICAL

Dimensions: Standalone
Height (H): 1.2 in. (30 mm).
Width (W): 3.7 in. (94 mm).
Length (L): 4.9 in. (125 mm).
Rack Mount
1 slot, 1.0 in. (25.4 mm).

Construction: Aluminum.

Finish: Black semigloss paint.

Mounting Method: Standalone: 4 No. 6 (3 or 3.5 mm) screws.

Weight: Standalone: 0.3 lb (0.14 kg).
Rack Mount: 0.61 lb (0.28 kg).

Shipping Dimensions: Standalone
Height (H): 1.3 in. (33 mm).
Width (W): 5.0 in. (127 mm).
Depth (D): 6.3 in. (160 mm).
Rack Mount
Height: 1.0 in. (25.4 mm).
Width: 5.25 in. (133.4 mm).
Depth: 9.75 in. (247.7 mm).

Shipping Weight: Standalone: 0.5 lb (0.23 kg).
Rack Mount: 0.7 lb (0.32 kg).

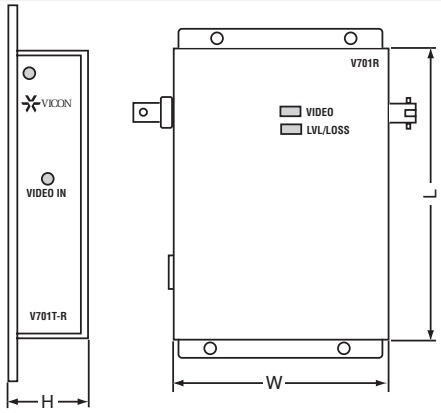
Shipping Volume: Standalone: 0.024 ft3 (0.00067 m3).
Rack Mount: 0.03 ft3 (0.00085 m3).

ENVIRONMENTAL

Operating Temperature Range: -40 to 167° F (-40 to 75° C).

Storage Temperature Range: -40 to 185°F (-40 to 85°C).

Humidity: Up to 95% relative, noncondensing.



VICON INDUSTRIES
89 Arkay Drive
Hauppauge, NY 11788
www.vicon-cctv.com
TEL: 631-952-2288
FAX: 631-951-2288
TOLL FREE: 800-645-9116