



### V700 Series Single-Channel Fiber-Optic Video Transmission System

- Superior performance and reliability
- Standalone or rack-mount versions
- Transmits one channel over one multimode fiber

The V700 series fiber-optic video transmission system provides superior performance and reliability in closed-circuit video systems. The system consists of transmitter and receiver and is designed to transmit one channel of composite video up to 3.2 miles (5.2 km).

The V700 series can withstand an optical signal loss of up to 13 dB over 62.5-um cable. The V700 is set up for 62.5-um cable. It requires no adjustments. The transmitter and receiver are available in standalone or rack-mount configurations. Refer to Table 1.

Two models of power supply, VOPPS-120DC and VOPPS-220HDC, are available for use with a standard V700 transmission system.

Rack mount models are powered by the power supply built into the V515R-PS card cage or by the external V517E-PS if installed in the V517R-PS.

#### OPTICAL CABLE RECOMMENDATIONS

Vicon recommends that a professional fiber company install and terminate the optical cable. The cable should meet the application requirements for physical properties, such as strength and weatherproofing. 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 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 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	Product Code	Description
V700T	8229	Video transmitter, standalone module
V700T-R	8229-02	Video transmitter, rack-mount module
V700R	8230	Video receiver, standalone module
V700R-R	8230-02	Video receiver, rack-mount module

**Table 1: Models, Product Codes and Descriptions**

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

**SECURITY 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 SINGLE-CHANNEL FIBER OPTIC VIDEO TRANSMISSION SYSTEM**

- A. The fiber optic transmission system shall consist of a transmitter and a receiver.
- B. The fiber optic transmission system shall provide single-channel video transmission over a single optical multimode fiber.
- C. Input video signal shall be 1 V p-p composite video. Video bandwidth shall be 8 MHz. Optical wavelength shall be 850 nm. Maximum optical attenuation with 62.5-um cable shall be 13 dB. Signal-to-noise ratio shall be greater than 50 dB at maximum path loss.
- D. The transmitter and receiver shall be available in standalone (surface-mount) or rack mount models.
- E. The fiber optic transmission system shall have the following mechanical specifications:
  - 1. **Mounting:** Standalone (surface-mount) or rack-mount.
  - 2. **Dimensions:**
    - Standalone**  
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:**
    - Standalone**  
0.3 lb (0.14 kg);
    - Rack-mount**  
0.60 lb (0.27 kg).
  - 4. **Construction:** Aluminum.
  - 5. **Color:** Black.

The Fiber Optic Transmission System shall be Vicon Industries model number V700 Series. See Table 1 for specific model numbers.

<b>Vicon Product Facts</b>	<b>Model No:</b> V700 Series	<b>Product Code:</b> Refer to Table 1	<b>SEC:</b> 10	<b>SPEC NO.:</b> V124	<b>REV:</b> 103
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# Technical Information

## ELECTRICAL

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

**Current:** 35 mA.

**Power Consumption:** 1.4 W.

**Heat Equivalent:** 0.08 btu/min (0.02 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:** 8 MHz per channel.

### Horizontal

**Video Resolution:** >640 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  $\pm 10\%$  nominal, composite video, unity gain,  $\pm 5\%$ .

**Differential Phase:** 1.7°

**Differential Gain:** 1.6%.

**Signal-to-Noise Ratio:** Greater than 50 dB, at maximum path loss.

### Interconnection

**Distance:** Video equipment to transmitter:  
 $\leq 100$  ft (30 m).  
Receiver to video equipment:  
 $\leq 100$  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  $\mu$ m.

**Operating Distance:** 3.2 mi (5.2 km).

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

## CONNECTORS AND INDICATORS

**Power Connector:** 3 detachable screw terminals.

**Video Input/Output Connector:** BNC.

**Optical Connector:** ST-type.

**Indicators:** Receiver: Level/Loss™ bicolor LED.  
Transmitter: Video and power 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: 0.6 lb (0.27 kg).

**Shipping Dimensions:** Standalone  
Height (H): 1.3 in. (33 mm).  
Width (W): 5.0 in. (127 mm).  
Depth (D): 6.3 in. (160 cm).  
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 ft<sup>3</sup> (0.00067 m<sup>3</sup>).  
Rack Mount: 0.03 ft<sup>3</sup> (0.00085 m<sup>3</sup>).

## 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.

