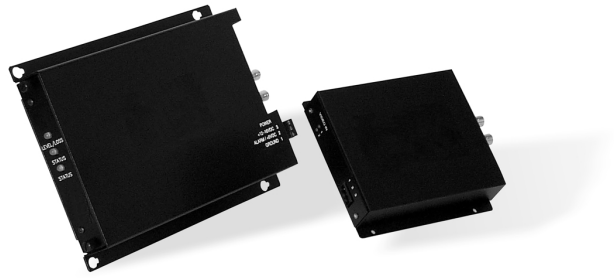

Model Number	Product Code	Description
V739T	7210	Surface-mount transmitter
V739T-R	7210-02	Rack-mount transmitter
V739R	7211	Surface-mount receiver
V739R-R	7211-02	Surface-mount receiver

Table 1: Models and Product Codes

V739 Series Fiber-Optic Bidirectional Video Transmission System for Vicoax® Control Systems

- **Designed for use with Vicoax and Vicoax II (enhanced) systems**
- **Full automatic optical gain control (AGC)**
- **Bidirectional**
- **Bicolor status LEDs**

The V739 fiber-optic bidirectional video system transmits video from the camera to the control station and digital control signals (PTZ functions) from the control station to the camera station over a single optical fiber. It is intended for use with Vicon's Vicoax or Vicoax II (enhanced) control systems. It can transmit monochrome and color video. Refer to Figure 1. See Table 1 for model variations.

The control signals are transmitted during the vertical blanking period of the video signal. In addition to video and control, the V739 provides for the transmission of response signals from the camera station to the control station. It also provides for transmission of embedded genlock sync if genlocking is a feature of the particular control system used.

No adjustment, calibration or alignment is required in the installation process or thereafter. Automatic gain control (AGC) guarantees a strong output signal.

The V739 series is specified for operation over 62.5 um cable. ST type connectors are standard.

The V739 also features more extensive LED diagnostics than ever before, with input/output indicators for video, command, response, genlock sync, and optical signal strength. Unique bicolor status LEDs indicate the strength of the optical signal and the presence of good video sync signal. The optical level LED indicates the strength of the incoming optical power. The video level LED indicates the status of the video sync signal.

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 rack mount versions occupy a single-width (1-inch) rack space. Model VOPPS-120HD power supply is available for use with the surface-mount modules. Rack-mount modules receive their power from the rack power supply.

OPTICAL CABLE RECOMMENDATIONS

Vicon recommends that a professional fiber company terminate and install the optical cable. The cable should meet the application requirements for physical properties, such as strength, weather-proofing, etc., and fiber size. 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 single-width rack-mount 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 19-inch instrument rack. Product Specification V052.

Model VOPPS-120HDC Power Supply, Product Code 5941: 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.

Fiber Optic Bidirectional Video Transmission System For TTL Communication

The fiber-optic link shall provide full duplex transmission of video signals over a single optical fiber. Input video signal shall be 1 V p-p composite video. The system bandwidth shall be 10 Hz to 10 MHz. Optical wavelength shall be 850 and/or 1300 nm. Maximum optical attenuation with 62.5-um cable shall be greater than 13 dB. Video signal-to-noise ratio shall be greater than 54 dB at 13 dB attenuation.

The transmitter and receiver shall be available in either standalone surface-mount modules or in rack-mount modules. Maximum dimensions of the surface-mount module shall not exceed 4.75 in. (121 mm) length; 4.125 in. (105 mm) width: 1.125 in. (29 mm) height. A card cage for the rack-mount units and power supplies shall be available as accessories.

The surface-mount system shall consist of Vicon model V739T transmitter and V739R receiver. The rack-mount system shall consist of Vicon model V739T-R transmitter and V739R-R receiver.

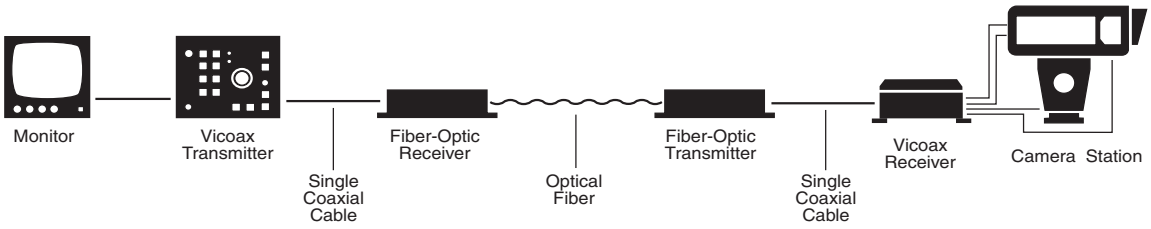

Figure 1: System Diagram

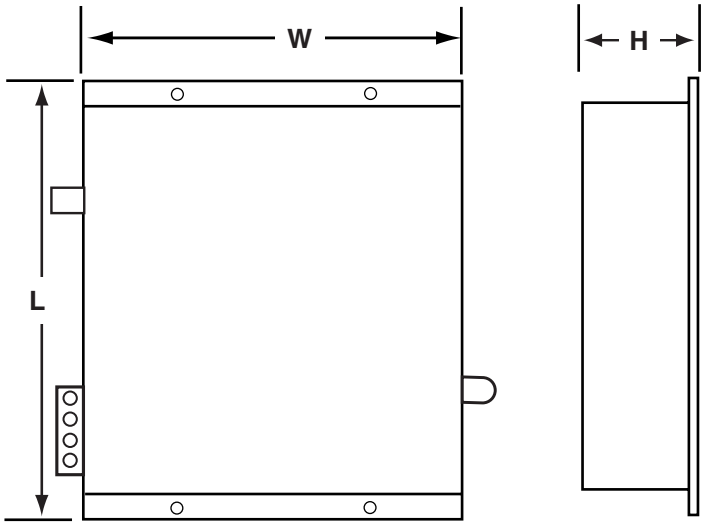

Figure 2: Outline Drawing

ELECTRICAL

Input Voltage: Surface-Mount Units: 12-16 VAC, 50/60 Hz or 12-16 VDC. Rack Mount Modules: 13.5-16 VDC.

Current Requirements: Transmitter: 300 mA. Receiver: 380 mA.

Power Consumption: Transmitter: 4.2 W. Receiver: 5.3 W.

Heat Equivalent: Transmitter: 0.024 btu/min (0.06 kg-cal/min). Receiver: 0.3 btu/min (0.08 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.

Radio Frequency Emissions Rating: FCC Class A.

Safety Standard: UL 1950.

VIDEO

Number ofChannels: 1.

Formats Supported: Monochrome: EIA and CCIR. Color: NTSC, PAL and SECAM.

System Bandwidth: 10 Hz to 10 MHz.

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

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

Video Input/Output Impedance: 75 ohms.

Output Gain: Unity.

Video Interconnection: Video devices to transmitter: ≤100 ft (30 m). Receiver to video devices: ≤100 ft (30 m). Belden No. 9259 recommended.

Horizontal Video Resolution: 800 TV lines.

Differential Phase: Less than 3°.

Differential Gain: Less than 3%.

Signal-to-Noise Ratio: Greater than 54 dB (0 dB loss).

DATA

Number of Channels: 1.

Data Formats All major formats.

Data Direction: Tx ← → Rx.

OPTICAL

Optical Fiber: 62.5 um standard.

Optical Wavelength: 850 and/or 1300 nm.

Maximum Optical Attenuation: 13 dB minimum.

Gain Control: Full automatic optical (OAGC).

Operating Distance: 3.2 mi (5.2 km). Note: Operating distance is approximate and will be affected by the type and number of splices in the fiber and by the exact type of fiber used.

Modulation Type: Digital Time Division Multiplexing (TDM).

CONTROLS, CONNECTORS AND INDICATORS

Alarm Disable: Removable jumper on receiver card.

Optical Fiber: ST type standard.

Power: Surface-mount modules: 4-pin detachable screw terminals. Rack-mount modules: from rack.

Video and Vicoax Control (Data): BNC.

Indicators: Video In/Out: bicolor LED, indicates good video signal. Optical (Level/Loss): bicolor LED, indicates good optical signal. Command In/Out: green LED indicates PTZ activity. Response In/Out: green LED, indicates response activity. Sync In/Out: green LED, indicates genlock activity.

MECHANICAL

Dimensions: See Table 2 and Figure 2.

Weight: See Table 2.

Shipping Information: See Table 2.

Construction: Aluminum.

Finish: Black semigloss paint.

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

ENVIRONMENTAL

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

Operating Humidity Range: Up to 90% relative, noncondensing.

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

Model	Unit Dimensions			Unit Weight lb (kg)	Shipping Dimensions			Shipping Weight lb (kg)	Shipping Volume ft³ (m³)
	Height in. (mm)	Width in. (mm)	Length in. (mm)		Height in. (mm)	Width in. (mm)	Length in. (mm)		
V739T Surface Mount	1.125 (29)	4.5 (114)	4.75 (121)	0.55 (0.25)	3.0 (76)	7.0 (178)	5.1 (130)	0.80 (0.36)	0.06 (0.0017)
V739R Surface Mount	1.125 (29)	4.5 (114)	4.75 (121)	0.50 (0.23)	3.0 (76)	7.0 (178)	5.1 (130)	0.75 (0.34)	0.06 (0.0017)
Rack-Mount Modules	Single width (1 in./25 mm) module occupies one card cag slot			0.76 (0.34)	1.0 (25.4)	5.25 (13.3)	9.75 (247.7)	0.92 (41)	0.03 (0.00085)

Table 2: Dimensions and Weights

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