



V732 Series Fiber-Optic Video/Data Transmission System for NOVA™ Control Systems

- Transmits NOVA RS-422, RS-232 and RS-485 data and video
- Duplex transmission of data signal
- Digital transmission of video
- User-configurable data format
- Unique bicolor status LEDs

The V732 system provides full duplex (two-way) transmission of RS-232, RS-485 and RS-422-level data signal. It is intended for use with Vicon's NOVA™ microcomputer-based control systems. Refer to Table 1 for a list of models.

Digital transmission of the video component along with a signal-to-noise ratio of >55 dB assures clean, noise-free video at the receiver. The V732 supports all major video formats including color, monochrome, NTSC, PAL and their many variations. Resolution of greater than 480 TV lines guarantees faithful reproduction of high-resolution closed circuit video images. Two-way data transmission accommodates the command/response requirement of the NOVA control system.

The use of state-of-the-art digital technology makes it possible to build in many diagnostic functions. The unit features bicolor status LEDs that indicate the strength of the optical signal, the presence of good video sync signal and data in and out displays. ATT type ST connectors are standard. These units are set up for 62.5-um cable.

The transmitter and receiver are both available in a compact surface-mount module or in rack-mount modules for use with the V515R-PS and V517R-PS card cage racks. The VOPPS-120HDC power supply is available for use with the surface-mount modules. Rack-mount modules are powered by the power supply built into the V515R-PS card cage rack or by the external V517E-PS if installed in the V517R-PS card cage rack.

Model Number	Product Code	Description
V732T	8058	Surface-mount transmitter
V732T-R	8058-02	Rack-mount transmitter
V732R	8059	Surface-mount receiver
V732R-R	8059-02	Rack-mount receiver

Table 1: Models and Product Codes

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. The fiber contractor will provide recommendations for exact cable type based on the details of the installation.

DATA CABLE RECOMMENDATIONS

The RS-422 data signal should be transmitted via shielded twisted-pair cable. Since the system provides two-way data communication, two twisted pairs will be required. Each pair must be individually shielded.

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.

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-120HDC Power Supply, Product Code 5914: Converts 120 VAC to 13.5 VAC. 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 Video/Data Transmission System for RS-422, RS-232 and RS-485 Communication

The fiber-optic link shall provide full duplex transmission of RS-232, RS-485 and RS-422 data signals. Input video signal shall be 1 V p-p composite video. The video bandwidth shall be 6 MHz; the data baud rate shall be 250 kB (RS-232) or 512 kB (RS-485 and RS-422). Optical wavelength shall be 850 or 1300 nm. Maximum optical attenuation with 62.5-um cable shall be 13 dB. Video signal-to-noise ratio shall be 55 dB minimum. The transmitter and the receiver shall be available in either standalone surface-mount modules or in rack-mount modules.

The surface-mount system shall consist of Vicon model V732T transmitter and V732R receiver. The rack-mount system shall be Vicon model V732T-R and V732R-R

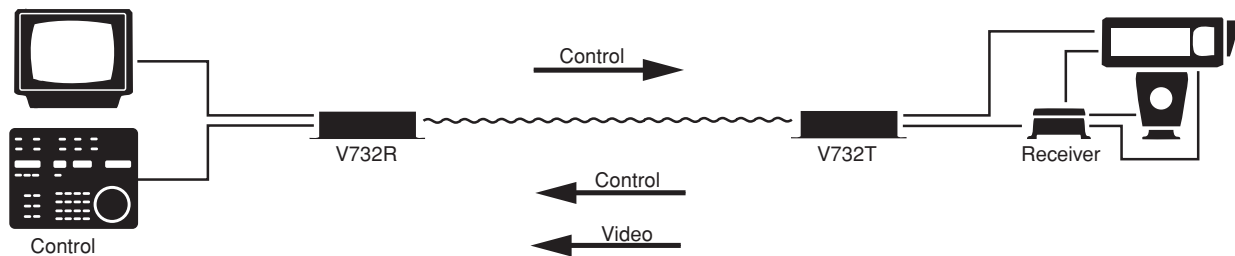


Figure 1: System Diagram

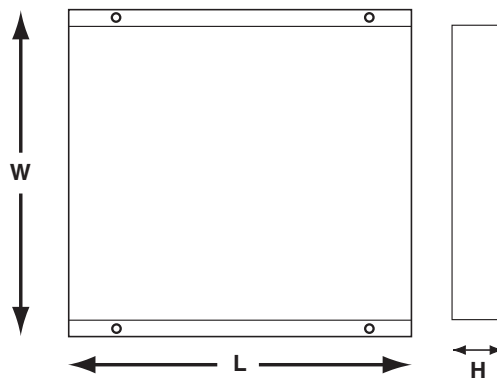


Figure 2: Outline Drawing

Technical Information

ELECTRICAL

Power Requirements: Surface Mount Transmitter: 24 VAC
±10%, 50/60 Hz or 12-16 VDC.
Surface Mount Receiver/Rack Mount
Module: 13.5-16 VDC.

Current Requirements: 450 mA.

Power Consumption: 6 W.

Heat Equivalent: 0.34 btu/min (0.09 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: UL1950.

**Radio Frequency
Emissions Rating:** FCC Class A.

VIDEO

**Number of
Video Channels:** 1.

Video Transmission: 8-bit digital.

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

Video Resolution: 480 TV lines.

Video Bandwidth: 6 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.

Signal-to-Noise Ratio: Greater than 55 dB (0 dB loss).

Differential Phase: 0.7°.

Differential Gain: 2%.

**Interconnection
Distance:** 100 ft (30 m).

DATA

**Number of
Data Channels:** 1.

Formats: RS-422 (NOVA); RS-232 (simplex and
full duplex) TTL; RS-485 (simplex and
full duplex) with 200 mV, 1 V and 2 V
offsets, forward relay operation.

Baud Rate: RS-232: 250 kbps.
RS-485: 512 kbps.
RS-422: 512 kbps.
TTL: 512 kbps.

Data Signal: RS-232 (simplex/duplex),
RS-485 (simplex/duplex) and
RS-422 level.

OPTICAL

Optical Fiber: 62.5 µm.

Optical Wavelength: 850/1300 nm.

Maximum

Optical Attenuation: 13 dB.

Operating Distance: 3.2 mi (5.2 km).

Note: Operating distance is approxi-
mate and will be affected by the type
and number of splices in the fiber and
the exact types of fiber used.

Gain Control: Optical automatic (OAGC).

CONTROLS, CONNECTORS AND INDICATORS

Data Format: 16-position rotary switch.

Alarm Disable: Jumper allows alarm output to be
disabled.

Diagnostic Indicators: Level/Loss™: bicolor LED.

Video: bicolor LED.

Data Input: bicolor LED.

Data Output: bicolor LED.

Enable Configuration: bicolor LED.

Video Connector: BNC.

Optical Connector: ST type.

Data Connector: 8-position detachable screw
terminals.

Power Connector: Standalone modules: 3-position
detachable screw terminals.
Rack-mount modules: plug directly
into card cage rack.

MECHANICAL

Dimensions: See Table 2 and Figure 2.

Weight: See Table 2.

Construction: Aluminum.

Finish: Black semigloss paint.

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

Shipping Information: See Table 2.

ENVIRONMENTAL

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

**Operating/Storage
Humidity:** Up to 95% relative, noncondensing.

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

Model	Unit Dimensions in. (mm)			Unit Weight lb (kg)	Shipping Dimensions in. (mm)			Shipping Weight lb (kg)	Shipping Volume ft³ (m³)
	Height (H)	Width (W)	Length* (L)		Height	Width	Length		
Surface Mount Transmitter	1.25 (30)	4.75 (121)	6.0 (152)	0.54 (0.24)	1.25 (31.75)	5.0 (127)	6.25 (158.75)	0.66 (0.30)	0.023 (0.0007)
Surface Mount Receiver	1.25 (30)	4.75 (121)	6.0 (152)	0.56 (0.25)	1.25 (31.75)	5.0 (127)	6.25 (158.75)	0.68 (0.31)	0.023 (0.0007)
Rack-Mount Receiver	Single width (1 in./25 mm) module occupies one card cage slot.			0.64 (0.29)	1.0 (25.4)	5.25 (133.4)	9.75 (247.7)	0.8 (0.36)	0.031 (0.001)

* Including connectors.

Table 2: Dimensions, Weights and Shipping Information



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