

V707 4-Channel Multimode Fiber Transmission System

- Four channels of one-way video
- One multimode fiber
- Digital multiplexing technology
- Color or monochrome
- Optical Automatic Gain Control
- On-screen and LED diagnostic indicators
- NTSC, PAL, and SECAM video formats
- Hot swappable rack cards
- Solid-state short-circuit protection

Vicon's V707 Fiber Transmission System represents a technological breakthrough in the simultaneous transmission of multiple full-frame, real-time video signals (color or monochrome) over one multimode fiber.

The four-channel V707 system features a 6-MHz-per-channel bandwidth, optical automatic gain control (OAGC), and various diagnostic indicators. It accepts analog baseband input signals and converts them to digital format for transmission, assuring high-quality video outputs at the receiver. The system is compatible with NTSC, PAL, or SECAM video formats and is compliant to various international EMC and product safety standards as noted.

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.

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.

Notes: SUPERSEDES PRODUCT SPECIFICATION V109-702

Model Number	Product Code	Function	Enclosure Type*	Fiber Size (µm)	No. of Fibers	Max. Atten. (dB)	Wavelength (nm)	Power Supply Model
V707T	8013	Transmitter	Standalone	62.5	1	13	1300	VOPPS-120HDC
V707T-R	8013-02	Transmitter	Rack	62.5	1	13	1300	Powered by rack
V707R	8014	Receiver	Standalone	62.5	1	13	1300	VOPPS-120HDC
V707R-R	8014-02	Receiver	Rack	62.5	1	13	1300	Powered by rack

*For exact dimensions, see the MECHANICAL section.

Table 1: Model Variations

**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 FIBER OPTIC VIDEO TRANSMISSION SYSTEM

- A. The fiber-optic link shall provide simplex transmission of video. Input video signal shall be 1 V p-p composite video. The video bandwidth shall be 6 MHz. Optical wavelength shall be 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 receiver shall be available in either standalone surface-mount modules or in rack-mount modules.
- B. The unit shall have the following mechanical specifications:
 - 1. **Mounting:** 4 No. 6 (3 or 3.5 mm) screws (standalone unit).
 - 2. **Dimensions:** Rack Modules
 Width: 1 slot, 1.0 in. (25 mm).
 Standalone Modules
 Height: 1.95-in. (50 mm).
 Width: 4.55-in. (116 mm).
 Length: 4.0-in. (102 mm).
 - 3. **Weight:** Rack Modules: 0.64 lb (0.29 kg).
 Standalone Modules: 1.5-lb (0.7 kg).
 - 4. **Construction:** Aluminum.
 - 5. **Finish:** Black semigloss paint.

The surface-mount system shall consist of Vicon model V707T transmitter and V707R receiver. The rack-mount system shall be Vicon model V707T-R transmitter and V707R-R Receiver.

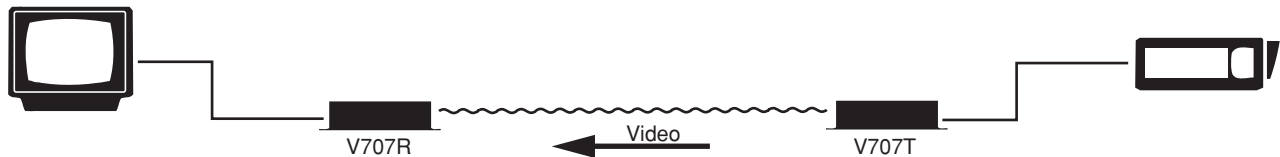


Figure 1: System Diagram

Technical Information

ELECTRICAL

Input Voltage: Standalone: 24 VAC 50/60 Hz or 13.5 - 16 VDC.
Rack Mount: 13.5 - 16 VDC.

Current Requirement: Standalone: 350 mA.
Rack Mount: 600 mA.

Power Consumption: Standalone: 5.0 W.
Rack Mount: 9.0 W.

Heat Equivalent: Surface Mount
0.28 btu/min (0.07 kg-cal/min).
Rack Mount
0.5 btu/min (0.13 kg-cal/min).
This represents the conversion of all input power to heat. The actual heat generated will be less.

Protection: Solid-state short circuit protection (no fuse required).

Rack Card Replacement: Cards may be removed and installed without powering-down the card cage (hot swappable).

Radio Frequency Emissions Rating: FCC Class A.

VIDEO SIGNAL

Number of Channels: 4.

Signal Direction: Tx → Rx.

Formats Supported: NTSC, PAL, SECAM.

Video Input Signal: 1.0 V p-p composite.

Input/Output Impedance: 75Ω.

Video Output Signal: 1.0 V p-p composite.

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

Video Bandwidth: 6 MHz.

Video Resolution: 480 TV lines.

Differential Phase: 0.7°.

Differential Gain: 2%.

VIDEO INTERCONNECTION

Recommended

Maximum Distance: ≤100 ft (30 m).

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

OPTICAL

Wavelength: 1300 nm.

Optical Budget: 13 dB.

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

Fiber Type: 62.5 μm.

Modulation Type: Digital.

Gain Control: Optical automatic (OAGC)

AGENCY COMPLIANCE AND MTBF

Emissions: FCC Part 15, ICES-003, AS/NZS 3548, EN55022.

Immunity: ENV50204.
EN61000-4-2, 3, 4, 5, 6, 11.

Safety: UL 1950, CAN/CSA 22.2, NO.950-95.

Laser Safety: 21CFR1040, EN 60825.

MTBF: >100,000 hours.

DIAGNOSTIC INDICATORS

Transmitter: Laser.
Video In (x4).

Receiver: Level/Loss.
Video Out (x4).

CONNECTORS AND INDICATORS

Optical: Type ST (FC/PC available).

Video: BNC.

Power Input: Removable screw terminal.

Level Loss: Bicolor LED.

Laser: Bicolor LED.

Video (1-4): Bicolor LED.

CONTROLS

Alarm Disable: Jumper allows alarm output to be disabled (rack card only).

MECHANICAL (RACK MODULES)

Width: 1 slot, 1.0 in. (25 mm).

Weight: 0.64 lb (0.29 kg).

Shipping Dimensions: Length: 9.9 in. (250 mm).
Width: 5.4 in. (140 mm).
Height: 1.1 in. (28 mm).

Shipping Volume: 0.034ft³ (0.001 m³).

Shipping Weight: 0.79 lb (0.36 kg).

Construction: Aluminum.

Finish: Black semigloss paint.

MECHANICAL (STANDALONE MODULES)

Dimensions: Length 4.0 in. (102 mm).
Width: 4.55 in (116 mm).
Height: 1.95 in. (50 mm).

Weight: 1.5 lb (0.7 kg).

Shipping Dimensions: Length: 10.5 in. (267 mm).
Width: 7.0 in. (178 mm).
Height: 2.0 in. (51 mm).

Shipping Volume: 0.085 ft³ (0.002 ft³).

Shipping Weight: 1.75 lb (0.80 kg).

Construction: Aluminum.

Finish: Black semigloss paint.

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

Technical Information

ENVIRONMENTAL

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

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

Operating Humidity Range: 0 to 95% relative noncondensing.

Storage Humidity Range: 0 to 95% relative, noncondensing.

