



PRODUCT INFORMATION

The leader in rugged fiber optic technology.

✓ Unconditional Lifetime Warranty

2012A-0118

RLH 64 Channel Video Mux System

MULTI-CHANNEL VIDEO OVER FIBER RACK SYSTEM



Introduction

The RLH Video Mux System is the flexible multi-port member of the Video Over Fiber family. Building on our extensive knowledge of fiber optic technology, this system offers high capacity in an EIA 19" rack mount chassis configuration.

**64 channels
1 fiber**

Perfect for multi-channel CCTV monitoring, these units can accept up to 9 modules to transmit up to 64 video channels, 32 bi-directional audio channels, and 32 contact closure channels over a single fiber. Each rack unit has redundant power supplies for maximum performance.

Plug and Play design ensures trouble-free installation and operation. Rack modules are power through the rack chassis. Typical installation utilizes the transmitter unit at the camera end of the link, connected via fiber optic cable, to the receiver unit at the monitoring end.

The 64 Channel Mux System is covered by our worry free, Unconditional Lifetime Warranty.



RLH Video Mux Rack Chassis

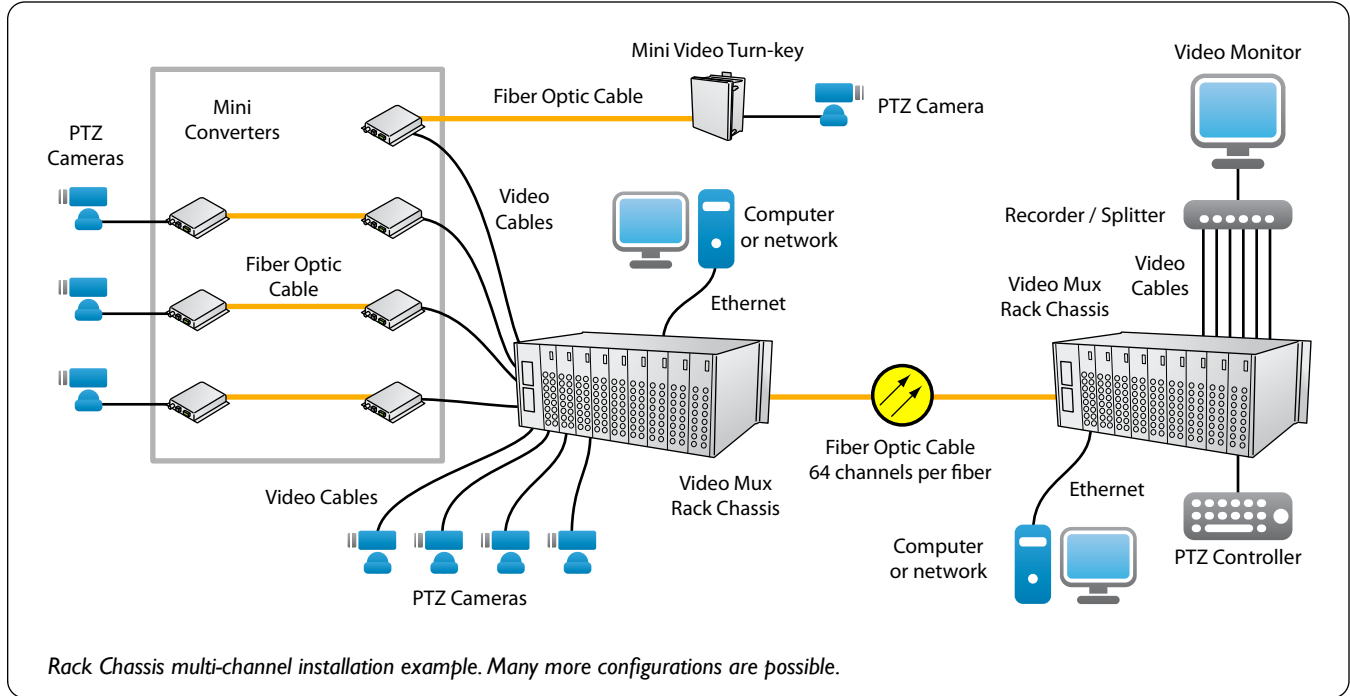


Key Features

EIA 19" 4RU Rack Chassis includes redundant power supplies	Powering options include 115/240VAC, 12VDC, 24VDC or 48VDC
Convenient LED Status monitoring	Rack chassis holds up to 9 video modules
Up to 64 video channels over a single fiber per rack	Up to 32 channels of bidirectional audio per rack
Up to 32 channels of dry contact closure per rack	High quality 10-bit video transmission
Supports any high resolution signal	Auto sensing NTSC/PAL/SECAM video compatibility
Large dynamic range, no video or fiber adjustments required	Available with ST, SC or FC fiber connectors
Available in Multi-mode (3km) or Single mode up to 74mi / 120km fiber range	Wide operating temperature range -40°F - 185°F (-40°C - 85°C)
PTZ data port is auto configuring RS232/422/485	Exclusive Unconditional Lifetime Warranty

Rack Chassis Video Mux Example

See part number matrix for more options.



Port options

Port options include Single Way and Bi-directional Data, Bidirectional Audio, Contact Closure, Ethernet 10/100 and Analog Telephone.

Applications

- ▶ Intelligent transportation systems
- ▶ Highway video monitoring and control systems
- ▶ Toll monitoring and control systems
- ▶ Closed circuit TV industry monitoring and control
- ▶ TV program switching channel transmission
- ▶ High-fidelity video conference systems
- ▶ Security monitoring and control systems

General Specifications

Transmission method	Amplitude modulated light via optical fiber
Fiber Type	Multimode: 850nm Single-mode: 1310/1550nm
Fiber Type / Distance	Multimode (62.5/125 μ m): 1.8 miles/3km Single-Mode (9/125 μ m): up to 74mi /120km (specify distance when ordering)
Fiber Connector Types	ST, SC or FC
Operating Temperature	-40°F to +185°F (-40°C to +85°C)
Operating Humidity	95% non-condensing
Operating Voltage	5VDC 2A via 115/240VAC, 12VDC, 24VDC or 48VDC power converter
Physical Dimensions	Standalone Mux: L7.75in. x W6.9in. x H2.0in. (197mm x 175mm x 51mm) Plug-in Rack Module: L7.75in. x W6.9in. x H2.0in. (197mm x 175mm x 51mm) Rack Chassis: W19in. (with rack ears) x D10.5in. x H7in. (483mm x 267mm x 178mm) (Standard EIA 19" rack mount 4RU)
Video Bandwidth	5MHz - 7.5MHz
Video Input/output Impedance	75 Ω , uses BNC connector
Differential Gain	(10% - 90% APL) DG<1% typical
Differential Phase	(10% - 90% APL) DG<0.7% typical
Automatic System Compatibility	NTSC, PAL SECAM
Weighted Signal to Noise Ratio	S/N \geq 95dB (weighted)
Audio Interface Port	Plug-in screw down terminal
Audio Input/Output Impedance	600 Ω (Balanced/Unbalanced)
Audio Input/Output Voltage	2Vpp (typical value)
Audio Bandwidth	10Hz - 20kHz
Audio Signal to Noise Ratio	S/N \geq 95dB (weighted)
Data Interface Port (PTZ)	Plug-in screw down terminal
Interface Signal Type	RS485 / RS422 / RS232 / Manchester (auto detecting). May be used for PTZ control or standard Data transmission
Data Rate	0 - 440Kbps
BER	\leq 10 ⁻⁹
Ethernet Interface Port	RJ45
Ethernet Duplex	Full duplex / half duplex
Supporting standards	IEEE 802.3, 10M, 10/100M auto negotiating
Phone Interface Port	RJ11
Phone Bandwidth	8kHz
Phone Functions	Supports caller I.D. and call forwarding
Contact Closure Port (ON/OFF switching)	Plug-in screw down terminal

Ordering Information

Check with your camera and PTZ manufacturer's requirements for the type of RS232/422/485 required (Single way or bi-directional) for use with their products prior to ordering.

Video Rack System

RLH - VR - **X** - 01

Powering Option

A = 115/240VAC
L = 12VDC
U = 24VDC
V = 48VDC

Example: RLH-VR-A-01

9 slot video rack system with dual 115/240VAC power

- ▶ Rack systems include dual redundant power supplies
- ▶ Order Video Mux modules separately

Video Mux Modules Part Number Matrix

RLH - VM **X** - **XX** **XX** - **X** **X** **X** **X** **X** **X** - 01

Number of Video Channels
1 to 8 (See Port Options)

Fiber Type
MM = Multimode, 2km range, Dual Fiber
MB = Multimode, 2km range, Bi-Di (SC Only)
S1 = Single Mode, 20km range, Dual Fiber
S2 = Single Mode, 20km range, Bi-Di
S3 = Single Mode, 40km range, Bi-Di
S4 = Single Mode, 60km range, Dual Fiber
S5 = Single Mode, 60km range, Bi-Di
S6 = Single Mode, 120km range, Dual Fiber

Fiber Connector Style
ST = ST Connector
SC = SC Connector
FC = FC Connector

Ports 1&2 Options
N = None
B = Bi-directional Data RS232, RS422, RS485
D = Single Way Data RS422 and RS485
A = Bi-directional Audio
E = Ethernet 10/100
T = Analog Telephone - FXO
U = Analog Telephone - FXS
S = Contact Closure

Example: RLH-VM6-MMST-EBANRR-01

Video mux module, 6 video channels, multimode fiber, ST connector
1 ethernet port, 1 bi-directional data port, 1 bidirectional audio port, rack mount module, video receiver module

Video TX/RX
T = Transmitter
R = Receiver

Module Type
A = Standalone - 115/240VAC power adapter
L = Standalone - 12VDC power adapter
U = Standalone - 24VDC power adapter
V = Standalone - 48VDC power adapter
R = Rack Module

Port 3 Option
Port 4 Option
Ports 3&4 Options
(Use None if less than 5 video channels)
N = None
B = Bi-directional Data RS232, RS422, RS485
D = Single Way Data RS422 and RS485
A = Bi-directional Audio
E = Ethernet 10/100
T = Analog Telephone - FXO
U = Analog Telephone - FXS
S = Contact Closure

- ▶ 115VAC to 5VDC power adapter included, other power supplies are ordered separately
- ▶ Order Video Rack System separately
- ▶ Please contact your RLH sales representative for pricing and delivery information

Warranty

RLH is recognized throughout the U.S. and offers the only **UNCONDITIONAL LIFETIME WARRANTY** in the telecommunications industry. We are very proud of our warranty which simply states that our Fiber Optic Link Assemblies are warranted to be free of defects in material and workmanship for the **LIFE OF THE PRODUCT**.

We can offer this warranty because:

- We believe our customers shouldn't have to incur additional costs due to failure or damage
- We engineer and manufacture our Fiber Optic Links in the USA, with total confidence in our quality
- We understand how safety and reliability impact the total cost of ownership
- We know that customer support extends beyond the initial sale, so **we stand behind our products**

RLH will replace any product, or part thereof, that fails **FOR ANY REASON**, provided the defective part is returned to RLH Freight prepaid. This warranty is **UNCONDITIONAL** and valid even when RLH Fiber Optic Link Assemblies have been abused or mishandled, where unauthorized repairs have been attempted or performed, or product has been damaged as a result of a natural disaster. Compare this warranty to our competitors and see how our warranty will reduce your costs and simplify your maintenance activities.

To make a warranty claim, or schedule repair or replacement of your RLH product, please contact us for an RMA number. You will be promptly assisted by one of our warranty specialists. All returns must have an RMA number before we can receive any items.

Technical Support

Normal technical support: (Mon - Fri 6am - 6pm PST)	Local (714) 532-1672 Toll Free (800) 877-1672 Toll Free (866) DO-FIBER
24/7 Technical support:	(714) 396-8982 (714) 457-5740

Contact Information

Corporate Headquarters:	RLH Industries, Inc. 936 N. Main Street Orange, CA 92867 USA
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RLH FIBER OPTIC LINK

RLH Industries, Inc. The Leader in Fiber Optic Telecom Isolation Technology

LIFETIME

UNCONDITIONAL WARRANTY

RLH INDUSTRIES, INC. FIBER OPTIC LINK assemblies are warranted to be free of defects in materials and workmanship for the life of the product. This lifetime warranty is effective for RLH products sold from February 2, 1988, to the present, with the exception of fiber optic cable assemblies which are warranted only to be free of defects in manufacturing and batteries, which carry a 5-year unconditional replacement warranty.

RLH Industries, Inc. will repair or replace any product, or part thereof, that fails for any reason, provided the defective part is returned to RLH, freight prepaid.

This warranty is UNCONDITIONAL and is valid even when RLH Fiber Optic Link assemblies have been abused or mishandled, where unauthorized repairs have been attempted or performed, or product has been damaged as a result of a natural disaster.

Authorized by:



J. RANDALL MEARS, Vice President, Engineering



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Please contact your RLH sales representative for pricing and delivery information.

Specifications subject to change without notice.