

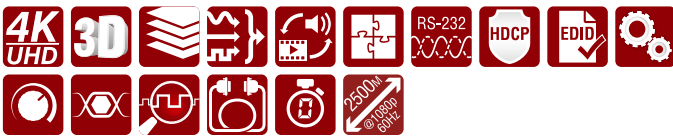
HDMI + Audio Signal Extender Over Single Fiber Cable



Lightware HDMI-3D-OPT-RX150RA optical receiver provides extension of uncompressed Full-HD video and audio with optional HDCP encryption plus USB HID* over one multimode fiber up to 2500 m. The unit offers a digital and an analog audio output, bi-directional RS-232 pass-through, HDCP compliance and works at all standard AV resolutions.

The interface's 9 Gbps bandwidth is capable of transmitting 1080p (@120Hz) video signals, video up to 4K pixel resolution (4K x 2K @30Hz), as well as video with full support of content protection (HDCP). HDMI-3D-OPT-RX150RA offers dual audio outputs: a digital S/PDIF audio and a symmetrical analog output with PHOENIX connectors.

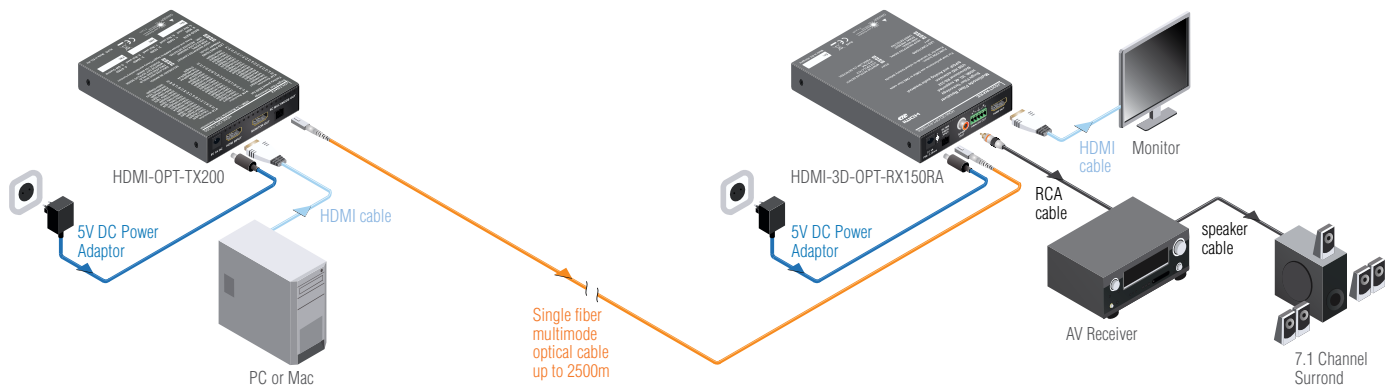
Part No: 9151 0015



Highlight Features

- Resolution up to 4K and supports any 3D formats
- HDMI receiver over single fiber cable
- Digital & analog audio output
- Audio de-embedding
- Adjustable analog audio settings
- Bi-directional RS-232, CEC
- HDCP compliant
- EDID transparent

Stand alone application



HDMI-3D-OPT-RX150RA

If the interface receives HDMI signal through the fiber the audio will pass-through to the HDMI output without any processing.

If the audio is encoded and it fits into the S/PDIF bandwidth (Stereo PCM (up to 48 kHz); Dolby Digital 2.1; Dolby Digital 5.1; Dolby Digital 7.1; DTS 2.1; DTS 5.1; DTS 7.1) the audio signal will be sent to the S/PDIF output as well in the encoded form.

If the audio signal isn't encoded (PCM) all the audio channels which comes in at the input port will go out on the HDMI output port and the first two channels will also be available at the analog and the S/PDIF outputs as well.

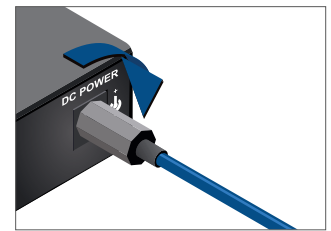
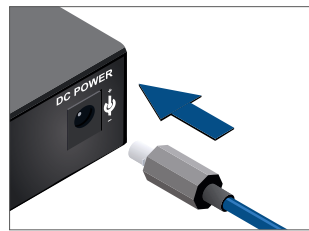
Single Fiber Technology makes the unit fully HDMI and HDCP compliant without the need of a second fiber cable or copper connections. To simplify cabling, the bi-directional communication - necessary for HDCP handshaking and USB transfer - is performed on the same fiber core that transmits the video signal. The receiver is configurable through the mini USB connector.

Intelligent HID Emulation* is provided for two devices with full transparency. The special HID devices including keyboard and mouse - are emulated by the extender and transparently transferred to the computer with the result that no drivers are required for the proper functionality, it's as easy as Plug & Play.

*USB HID: Human Interface Device such as keyboard, mouse, presenter or Smart Card.

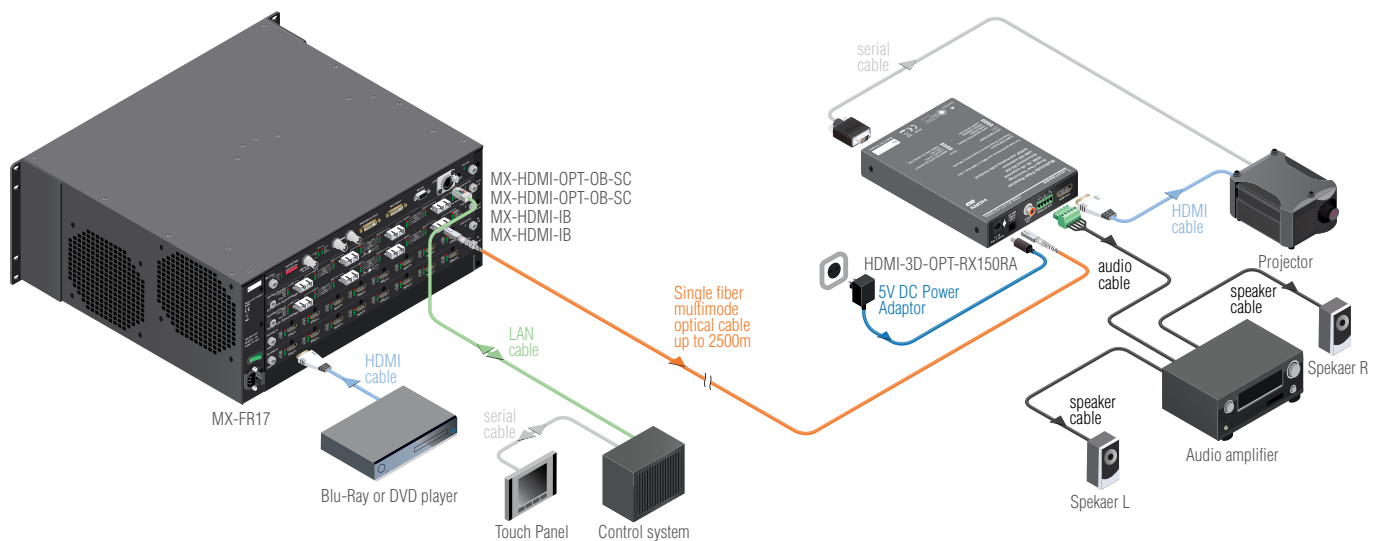
*USB HID (KVM) extension feature is under development, only available later.

Locking DC Plug



Twist 90° clockwise to lock

Integrated System Operation



Receiver Front and Rear View



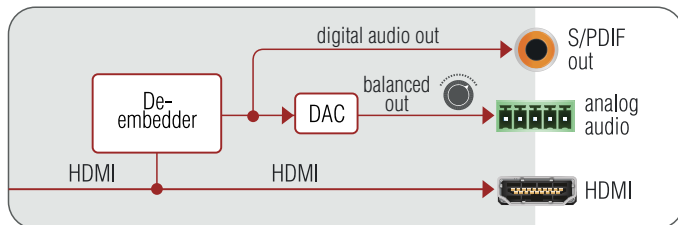
Applications

- Post production studios
- Control room
- Digital Signage
- Multiroom video
- Conference rooms, collaborative telepresence

Features

- HDMI 1.4 + Keyboard + Mouse fiber extender
- Up to 4K x 2K @30Hz or 1080p @60Hz
- HDCP 1.1 compliant extension over one multimode fiber
- 3D compliant
- 4K resolution can be achieved at lower frame rate (4096 x 2160 @30 Hz)
- Audio output: digital S/PDIF and symmetrical analog audio
- Volume, balance, bass and treble control
- Phase invert and de-emphasis option
- USB HID (Human Interface Device) only
- Bi-directional RS-232 pass-through
- Uncompressed video/audio up to 9 Gbps
- Single Fiber Technology
- Zero frame latency, no delay
- SC optical fiber connector
- Several status LEDs
- USB control
- Rack mounting options
- Locking DC connector

Port Diagram



Analog Audio Output

Volume:	-78 .. 0 dB
Bass:	0 .. 24 dB
Treble:	0 .. 6 dB
Balance:	0 .. 100%
Phase invert:	On/Off
De-emphasis:	On/Off

Maximum Extension Distances

	OM1 (62.5/125)	OM2 (50/125)	OM3 (50/125)	OM4 (50/125)
1080p@60Hz 24 bpp	250 m	600 m	1200 m	2500 m
1080p@60Hz 36 bpp	150 m	400 m	800 m	1300 m

Specifications

Data rate:	9 Gbps maximum
Resolution:	Up to 4Kx2K @30Hz or 1080p @120Hz or 720p/1080i @120Hz
EDID support:	Transparent
HDCP pass through:	Yes
RS-232 pass through:	Yes
Fiber:	50/125 SC Multimode (preferred) 62.5/125 SC Multimode
Laser wavelengths:	High speed lanes: 778; 800; 825; 850 nm Low speed lanes: 911; 980 nm
Laser class specifications:	Class 3R
Transmission distance: (using OM4 type fiber)	2500 m @ 1600x1200 60Hz 24bit 1300 m @ 1080p 60Hz 36bit Deep Color
Power:	Universal power adaptor, DC 5 V 2.5 A
Power consumption:	3,9 W (typ) 6,5 W (max)
Enclosure:	1 mm metal
Dimensions:	100,4 W x 131,9 D x 26 H mm
Weight:	430 g
Compliance:	CE
Warranty:	3 years

Connectors

Fiber input:	SC receptacle
HDMI output:	HDMI connector
USB HID (RX):	2 x USB-A female connector
Digital audio output:	S/PDIF (Digital)
Analog audio output:	5 pole PHOENIX connector
USB control:	Mini USB-B female connector
Serial port:	9-pole D-sub
Power:	Locking DC connector (2.5 / 5.5 mm)

Supported Audio Formats

Embedded audio	S/PDIF out	Unbalanced analog out
Multichannel PCM (max 8 channel, up to 192 kHz)	Stereo PCM (up to 48 kHz)	Stereo PCM (up to 48 kHz)
Dolby Digital 2.1	Dolby Digital 2.1	x
Dolby Digital 5.1	Dolby Digital 5.1	x
Dolby Digital 7.1	Dolby Digital 7.1	x
DTS 2.1	DTS 2.1	x
DTS 5.1	DTS 5.1	x
DTS 7.1	DTS 7.1	x
Dolby TrueHD (HBR)	x	x
DTS-HD (HBR)	x	x
DTS-HD Master Audio (HBR)	x	x
All other HDMI specified standards	x	x

HDMI-3D-OPT-RX150RA

Supplied Accessory



PSU-5VU Universal DC adaptor (Part No: 1180 0049)

Wall power adaptor with interchangeable plug for international use. Universal input: 100-240 V AC, 50-60 Hz.

Optional Accessories



Under desk mounting kit (Part No: 5240 0275)

The UD-kit makes it easy to mount a single device on any flat surface (e.g. furniture).



Under desk mounting kit double (Part No: 5240 0276)

The UD-kit double makes it easy to mount a single device or multiple devices on any flat surface (e.g. furniture).



Rack shelf (Part No: 5240 0269)

The 1U high rack shelf provides mounting holes for fastening two half-rack or four quarter-rack sized units.