

Analog/digital video and audio extension over multimode fiber

Highlight features

- Extends VGA, DVI and HDMI signals up to 2 km
- Accepts analog and digital audio signals
- Video + audio + RS-232 + USB KVM transmission over a single fiber
- HDCP compliant, bi-directional RS-232



Lightware's UMX-OPT-TX150R is an all-round, universal video and audio transmitter for ever-changing environments such as small board and conference rooms. The extender was designed to handle digital and analog signals for both video and audio e.g. VGA, DVI and HDMI 1.3 with analog stereo, 5.1 S/PDIF and even 7.1 HDMI embedded audio.

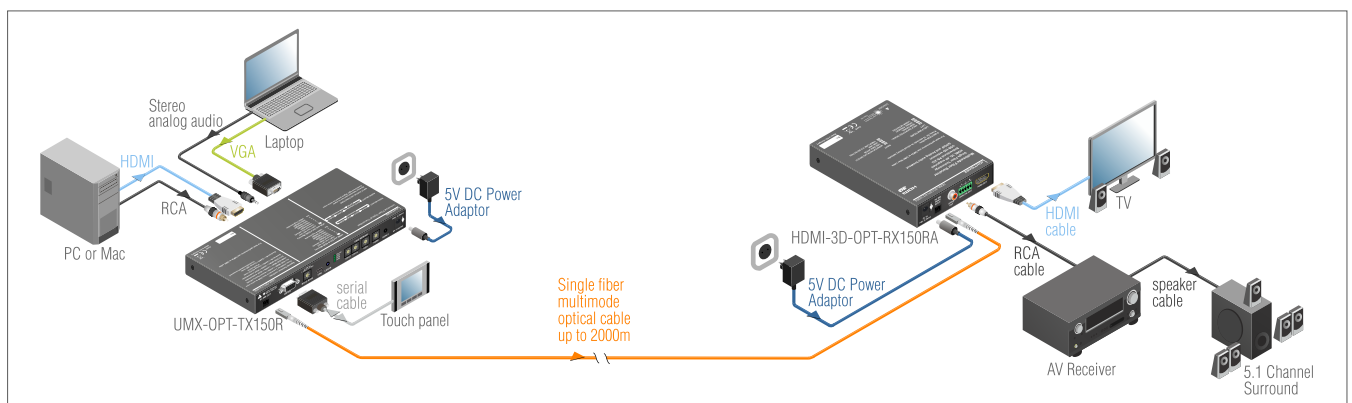
Analog signals are converted to digital formats with digital or digitized analog audio becoming embedded in the video stream. The UMX-OPT-TX150R handles HDCP encryption and has an HDCP enable/disable function.

Using factory, custom or transparent EDID emulation (separate rotary switches for VGA, DVI-A, DVI-D and HDMI inputs), the user can fix and lock EDID data on the transmitter's input connector. Advanced EDID Management forces the required resolution from any VGA or HDMI laptop and fixes the output format conforming to the system requirement.

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

*USB 2.0 HID: Human Interface Device such as keyboard, mouse or presenter and Smart Card.

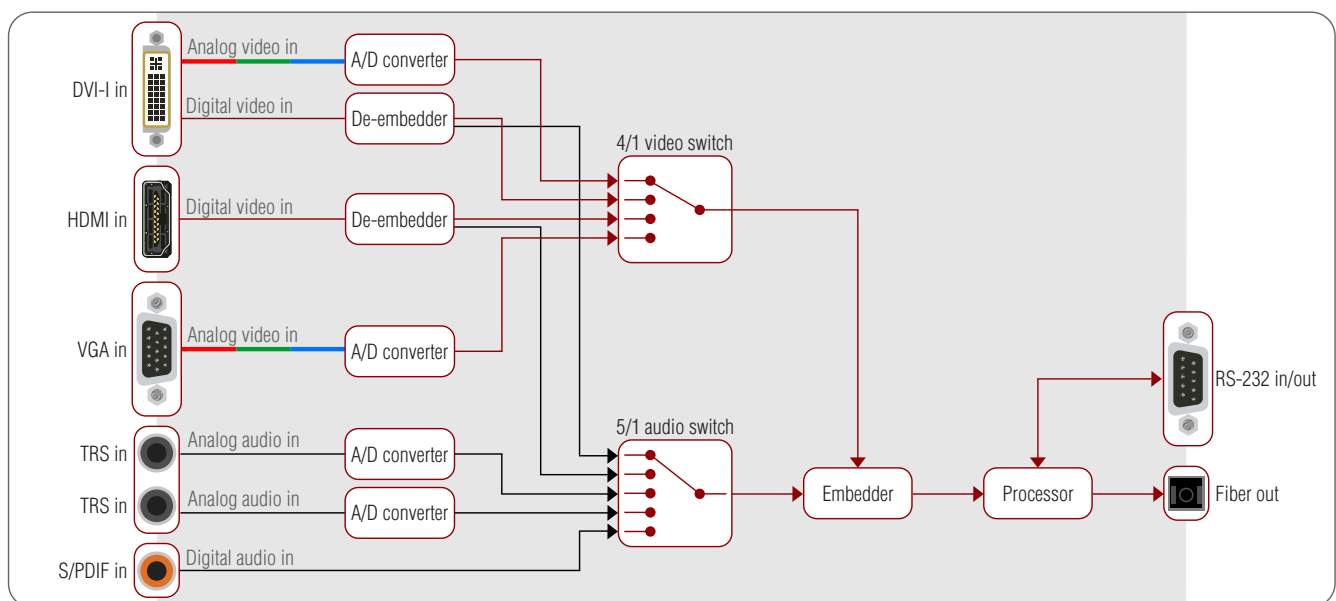
Standalone diagram



Control options available through RS-232: The UMX-OPT-TX150R can be controlled from either a touch controller or a control system. The transmitter has a RS-232 pass-through option which allows direct bi-directional communication between the touch controller and control system. For advanced users RS-232 baud rate can be manually configured with a rotary switch as well as with the control software.

Cross compatibility between all the devices in the product series is ensured thanks to Lightware's attentive design. The transmitter can be paired with any receiver without restriction. With Lightware's Hybrid Modular Matrix concept, it is even possible to connect the UMX-OPT-TX150R directly to the matrix router using an MX-HDMI-OPT or MX-DVI-OPT series input board.

Functional diagram



Front and rear view

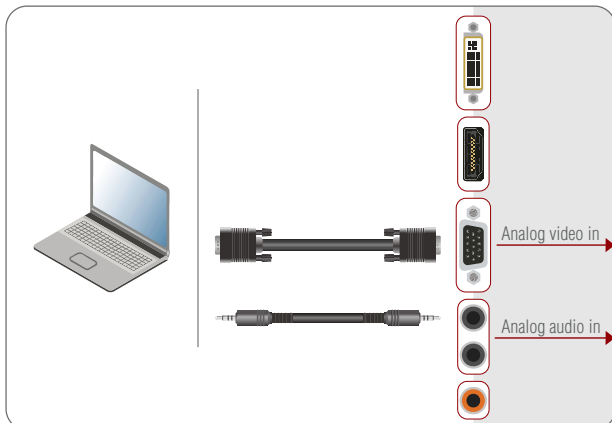


UMX-OPT-TX150R front view

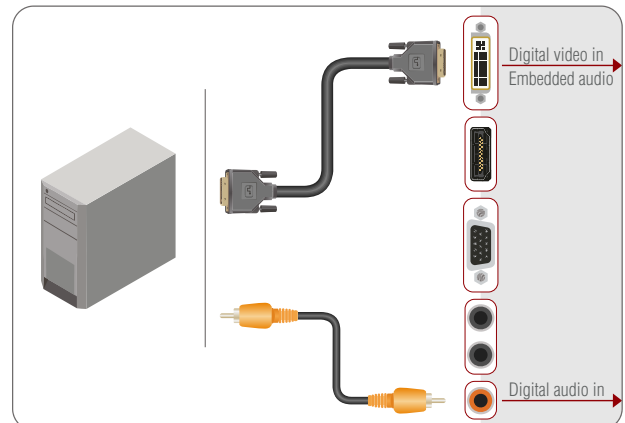


UMX-OPT-TX150R rear view

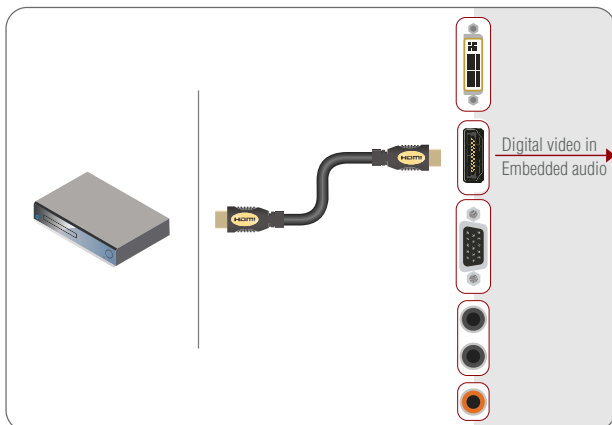
Input ports - solutions for various video and audio environment



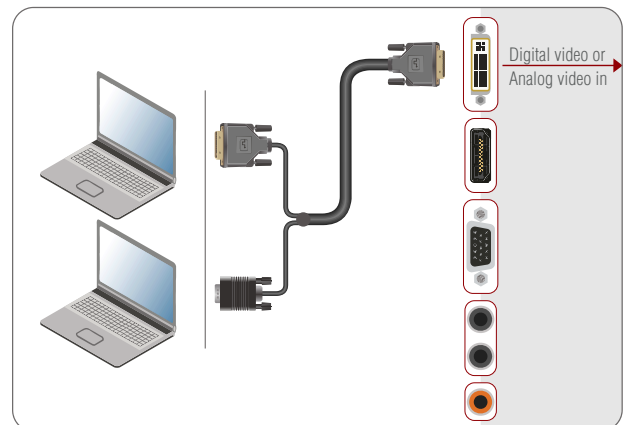
The laptop is connected with a VGA video cable and with a mini-jack audio cable to the transmitter. The analog video and audio signals are converted to digital format.



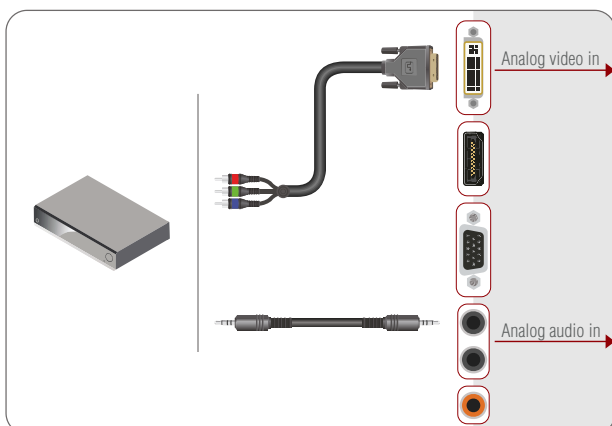
The PC is connected with a DVI video cable and an S/PDIF audio cable to the transmitter. The DVI video and digital audio is converted and embedded in an HDMI video stream.



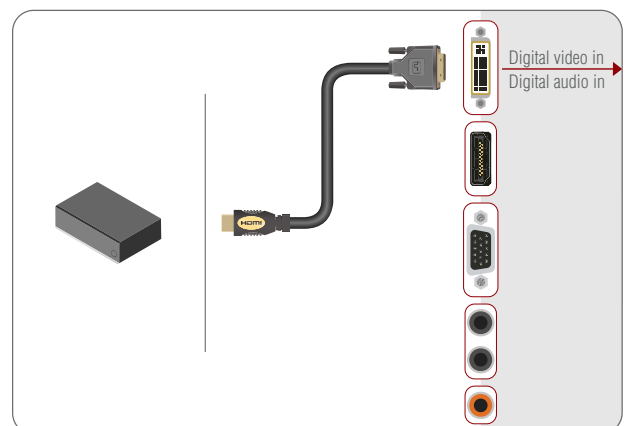
The blu-ray player is connected with an HDMI video cable to the transmitter. The HDMI video with the embedded audio is transmitted through the UMX-OPT-TX150R.



The two laptops are connected with a DVI breakout video cable. The VGA breakout connects to the first laptop's VGA output, the DVI breakout connects to the second laptop's DVI output. The analog video signal is converted to digital format and sent to the video and audio crosspoint as well as the digital DVI signal.



The DVD player is connected with an RCA to DVI video cable and a mini-jack audio cable to the input port. The analog video and audio signals are converted to digital format and sent to the video and audio crosspoint.



The set-top box is connected with an HDMI to DVI video cable to the input port. The HDMI video signal is sent through the UMX-OPT-TX150R.

Applications

- Executive boardrooms
- Conference rooms, collaborative telepresence
- Small classrooms
- Multiroom video and audio control
- Home theatre systems

Features

- Extends VGA, DVI and HDMI 1.3 signals (YCbCr, RGB formats)
- Accepts analog stereo, 5.1 S/PDIF and even 7.1 HDMI embedded audio signals
- HDCP compliant
- Connectors: DVI-I, HDMI and VGA for video, 2 x TRS for analog, 1x RCA for digital audio
- Autoswitch and autosync function for video and audio inputs with priority
- Auto select function for video and audio inputs
- Audio embedding
- Max fiber cable length of 2000 m (using OM3e type fiber)
- All analog signals are converted to digital formats
- Uncompressed video/audio up to 6.75 Gbps
- Input (video & audio) status LEDs
- Bidirectional RS-232 pass through
- Selectable RS-232 baud rates
- USB KVM signal receiver
- USB 2.0 HID (Human Interface Device) only
- RS-232 control
- USB control
- Zero latency, no delay
- SC optical fiber connector
- Easy, universal mounting
- Rack mounting options
- Locking DC connector

Specifications

Data rate:	6.75 Gbps (2.25 Gbps per color)
Resolution:	up to 1080p (HDTV) or 1920 x 1200 or 1600 x 1200 @ 60 Hz
Color depth:	24, 36 bits deep color
Digital audio formats:	stereo PCM, 5.1 Dolby Digital, 5.1 DTS
EDID emulation:	yes, Advanced EDID Management
EDID support:	256 byte Extended EDID
EDID memory:	4 x 5 factory preset, 4 x 4 user programmable
VGA to digital conversion:	no delay; 10 bit, 170 Mhz max analog frequency
HDCP pass-through:	yes
RS-232 pass-through:	yes
RS-232:	9600, 19200, 38400, 57600 Baud Rx,Tx (local or through fiber)(default: 57600)
USB HID devices:	Keyboard, mouse, presenter and Smart Card
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:	2000 m using OM3e / OM4 (preferred) type fiber
Front panel control:	yes
Power:	extender power adaptor (100 to 240 V AC, 50-60 Hz)(5 V DC, 1.5 A)
Power consumption:	3.5 W (typ) 5 W (max)
Enclosure:	half rack metal
Dimensions:	221 W x 100.4 D x 26 H mm
Weight:	650 g
Compliance:	CE
Warranty:	3 years

Connectors

Digital/analog video input:	DVI-I connector
Digital video input:	HDMI connector
Analog video input:	VGA connector
Analog audio input:	2 x 3.5 mm TRS connector (1/8" mini-jack)
Digital audio input:	S/PDIF (RCA)
Serial port:	9-pole D-sub
USB:	mini USB-B female connector
Fiber output:	SC receptacle
Power:	locking DC connector (2.35 / 5.5 mm)

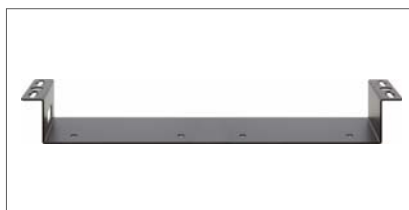
Supplied accessory



Universal DC adaptor

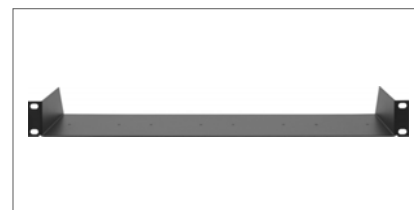
Wall power adaptor with interchangeable plug for international use. Universal input: 100-240 V AC, 50-60 Hz, output: 5V DC, 1.5 A.

Optional accessories



Under desk mounting kit double

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



Rack shelf

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