visual engineering
LIGHTWARE

Quick Start Guide

HDMI-OPT-RX100, HDMI-OPT-RX100R,
HDMI-OPT-RX200R
HDMI-OPT-TX100, HDMI-OPT-TX100R,
HDMI-OPT-TX200R

Important safety instructions

Please read and keep the information in the attached safety instructions supplied with the product before start using the device.

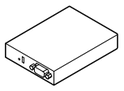
The extenders are Class 3R laser products.

INVISIBLE LASER RADIATION
AVOID DIRECT EYE EXPOSURE
CLASS 3R LASER PRODUCT
Radiated wavelengths:
778 nm, 800 nm, 825 nm, 850 nm, 911 nm, 980 nm
Output power <= 1 mW
Classified by EN 60825-1:2008

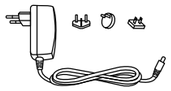
Introduction

HDMI-OPT-TX200R, TX100R, TX100 and HDMI-OPT-RX200R, RX100R and RX100 are HDMI over Multimode Fiber Cable extenders. Deep color video signals of up to 2048x1080@60Hz resolution can be transmitted through 2500 meters of high quality fiber cables.

Box contents



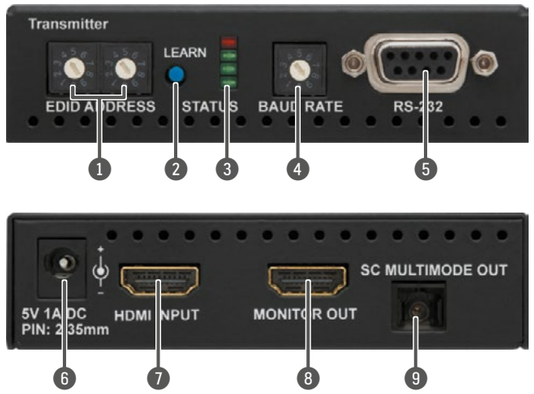
Extender unit



5V DC power adaptor
with interchangeable plugs

Safety and warranty info,
Quick Start Guide

Front and rear views - Transmitter



Legend - Transmitter

1	**EDID rotary switches**	The rotary switches select one of the EDID memory addresses.
2	**Learn button**	Stores the EDID of the display device attached to the output in the selected memory address, or toggle LED functions.
3	**Status LEDs**	The LEDs give feedback about the state of units and video signal.
4	**BAUD RATE rotary switch***	The rotary switch selects one of 5 speeds of the serial communication (#0..#4) or the Software Control mode (#9).
5	**RS-232 port***	9-pole D-sub female connector. Connect a serial cable between the transmitter unit and the desired serial device.
6	**DC 5V input**	Connect the output of the supplied 5V DC power adaptor.
7	**HDMI input**	Connect one HDMI cable between the HDMI source and the transmitter unit.
8	**Monitor output****	Connect one HDMI cable between the local display device and the transmitter unit.
9	**SC fiber output**	Connect a multimode single fiber optical cable between the transmitter unit and the receiver unit (or a Lightware Hybrid Modular Matrix equipped with optical input card).

* Only on HDMI-OPT-TX200R and TX100R devices

** Only on HDMI-OPT-TX200R device

Status LEDs

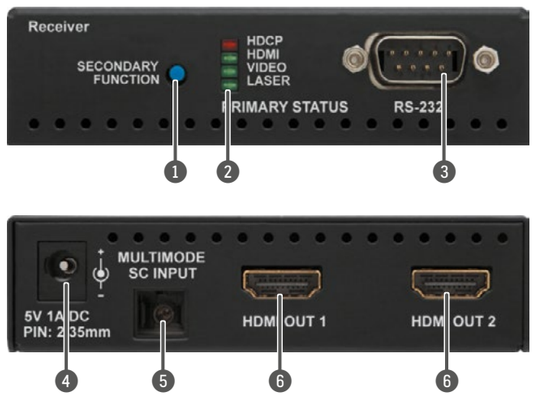
The LEDs have two working modes: In Primary (solid) mode the LEDs light continuously and give information about the incoming signal and the connection. In Secondary (blinking) mode the LEDs blink and give information about EDID management and outgoing connections. The modes can be toggled by pressing the LEARN button.

LED1
LED2
LED3
LED4

LED states

	Primary function (Solid) on TX and RX	Secondary function (Blinking) on TX	Secondary function (Blinking) on RX
LED1	Video input signal is encrypted with HDCP	Selected EDID is invalid.	-
LED2	HDMI signal is present on the input port.	Selected and emulated EDID is valid.	-
LED3	Valid video clock signal is present on the input port (DVI or HDMI).	Hotplug signal of a connected display (sink) device is detected.	Hotplug signal of a connected display device is detected on OUT1.
LED4	The fiber connection is established with the connected extender.	Source is connected and 5V signal is detected on pin 18.	Hotplug signal of a connected display device is detected on OUT2.

Front and rear views - Receiver

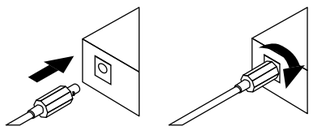


Legend - Receiver

1	**Secondary function button**	Toggles the LED functions between Primary (solid) and Secondary (Blinking).
2	**Status LEDs**	The LEDs give feedback about the state of units and video signal.
3	**RS-232 port***	9-pole D-sub female connector. Connect a serial cable between the transmitter unit and the desired serial device.
4	**DC 5V input**	Connect the output of the supplied 5V DC power adaptor.
5	**SC fiber input**	Connect a multimode single fiber optical cable between the receiver and the transmitter (or a Lightware Hybrid Modular Matrix equipped with optical output card).
6	**HDMI output(s)**	Connect one HDMI cable between the receiver and the display device.

* Only on HDMI-OPT-RX200R and RX100R devices

Locking DC plug



Twist 90° clockwise to lock.

Installation - Standalone application

1. Connect the source (e.g. a Blu-ray player) to the HDMI INPUT connector of the transmitter.
2. Connect a local display to the MONITOR OUT connector (optional) to the transmitter.
3. Remove the dust cap from the SC connectors.
4. Connect the receiver to the SC MULTIMODE OUT connector of the transmitter with a multimode fiber cable.
5. Optionally connect (a) serial device(s) to the RS-232 receptacle(s) on the extender(s).
6. Connect the desired sink device(s) to the HDMI output connector(s) of the receiver.
7. Firstly connect and lock the plug of the adaptors to the extenders and then to the socket.
8. Select the EDID to emulate depending on the desired display resolution.

Connect to the computer to use Lightware's Advanced EDID Management

1. Turn the BAUD RATE rotary switch to the #9 (SW Control) position.
2. Connect the device to the computer by a straight (male - female) serial cable.
3. Start Lightware Device Controller Software to access advanced settings.

RS-232 extension mode – serial baud rate setup

0: 9600	1: 14400	2: 19200	3: 38400	4: 57600
5: Not used	6: Not used	7: Not used	8: Not used	9: SW control

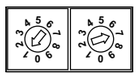
Turn the BAUD RATE rotary switch to the desired position (0..4) to select the speed:

EDID memory (Transmitter)

- Address #00: transparent EDID, coming via the fiber connection (e.g. from a receiver).
- Address #01..#50: factory preset EDIDs - supporting various embedded audio fomats. #49 contains the Lightware Universal EDID.
- Address #51..#98: user programmable EDID memory.
- Address #99: the EDID copied from the last attached sink of local MONITOR OUT.

Selecting and EDID

1. Turn the EDID ADDRESS rotary switches to the desired position. Use a flat head screwdriver to change the address. The left switch sets the tens value, the right switch gives the ones value of the EDID.



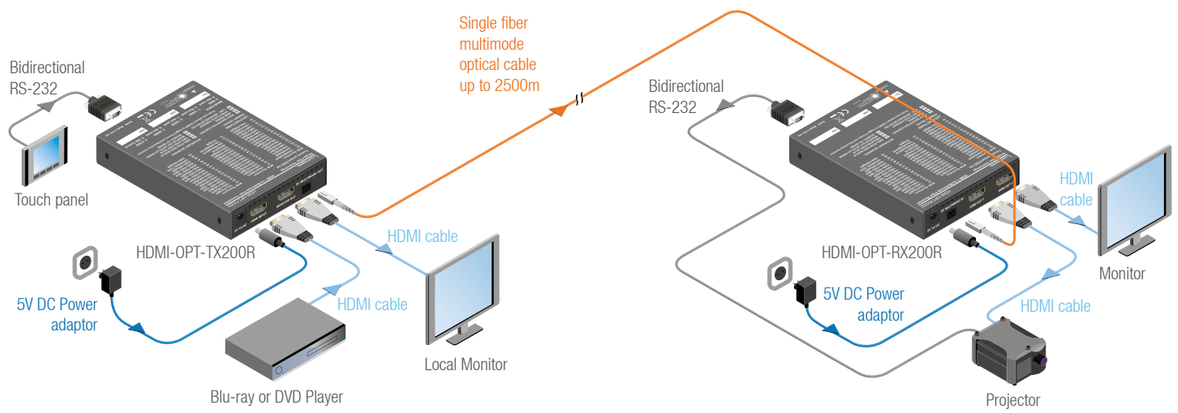
Avoid the use of keys, coins, knives and other sharp objects.

2. The EDID Status LEDs provide feedback in SECONDARY (BLINKING) mode.
3. Now the selected EDID is reported at the HDMI INPUT.

Learning EDID

1. To see EDID status, check if the Status LEDs are in SECONDARY (BLINKING) mode,
2. Turn the EDID ADDRESS rotary switches to the desired position, where you want to store the attached display's EDID from the MONITOR OUT (addresses #51..#99).
3. Connect the sink device to the MONITOR OUT.
4. Press and hold the LEARN button for approximately 2 seconds.
5. The EDID Status LEDs provide feedback in SECONDARY (BLINKING) mode:
   - Red blinking: the learn process failed from DDC OUT.
   - Green blinking: the learn process was successful from DDC OUT.

Typical standalone application



Further information

The document is valid with the following firmware versions: 1.3.2 for RX and 1.7.0 for TX.
The User's manual of this appliance is available at www.lightware.eu.
See the Downloads section on the website of the product.

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Doc. ver.: 2.0
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