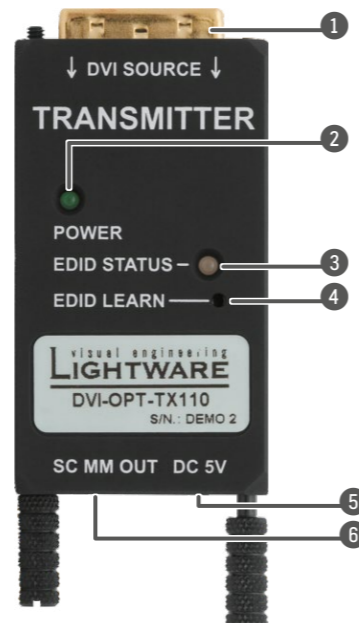




Quick Start Guide

DVI-OPT-RX110
DVI-OPT-TX110

Top View - Transmitter



Legend - Transmitter

- ① **DVI input** Connect to a DVI source for transmitting a DVI signal or connect to a sink device for learning the EDID; see the Learning an EDID section.
- ② **Power LED** The LED lights green if the power supply is sufficient (DVI or external adaptor supply).
- ③ **EDID LED** Three-colored LED displays EDID status. See legend for indications.
- ④ **Learn button** Press the button for 2 seconds to activate **Learn** mode. Press for 10 seconds to restore factory default EDID.
- ⑤ **Power connector** Barrel plug receptacle for external power adaptor.
- ⑥ **Fiber connector** SC type receptacle for multimode fiber output.

ⓘ After powering on the TX110 unit shows its three digit firmware version with red, green and orange blinks (FW 1.1.6 is: 1x red, 1x green, 6x orange).

Learning an EDID (Transmitter)

1. Plug in the power adaptor to an electrical outlet, or plug in the enclosed USB power cable to an USB connector, and then connect the DC cable to the transmitter.
2. The power and the EDID state LEDs light up.
3. Press and hold down the LEARN button for two seconds. The EDID state LED goes dark, and then lights up orange to indicate that learn mode is activated.
4. Connect the transmitter to a display device; the learn mode is active for 10 seconds.
5. The transmitter reads the EDID from the display device. Do not disconnect the device while it lights orange (approximately 10 seconds).
6. Check if the learning succeeded:
 - a. If the learning process was successful, the EDID state LED blinks slowly green for 8 seconds. The stored EDID is changed.
 - b. If the learning process failed, the EDID state LED blinks slowly red for 8 seconds. The previously stored EDID remains in memory.
 - c. The EDID state LED changes continuous green or red depending on the validity of the stored EDID.
7. Disconnect the transmitter (if still connected) and the power supply. The stored EDID remains in memory until it is overwritten. The unit is ready to be used for DVI signal extension.

Important Safety Instructions

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

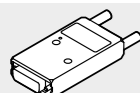
ⓘ The extenders are Class 3R laser products.



Introduction

DVI-OPT-TX110 and DVI-OPT-RX110 pair is a DVI to fiber transmitter / receiver set for up to 2500 m distance transmission. Using Single Fiber Technology the DVI-D signal is transmitted over only one multimode 50/125 fiber core. Sources and display devices are galvanically isolated against ground loops and hum effects, and no delay occurs in the signal, the video image is transported without any frame latency.

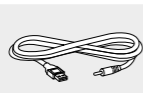
Box Contents



Extender unit



5V DC power adaptor with interchangeable plugs

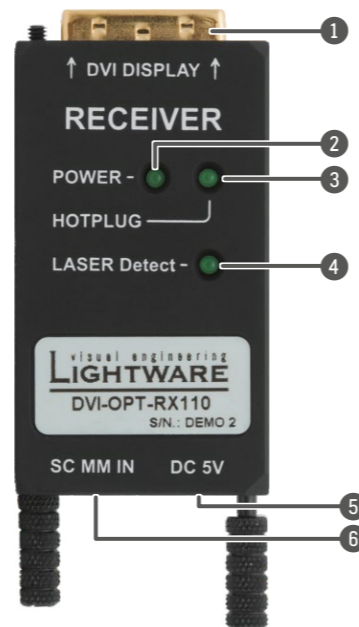


USB cable with 1.35/3.5 mm plug



Safety and warranty info, Quick Start Guide

Top View - Receiver



Legend - Receiver

- ① **DVI output** Connect to DVI display.
- ② **Power LED** Lights green if the unit is powered on.
- ③ **Hotplug LED** Indicates that the display device is connected correctly.
- ④ **Laser LED** Green light indicates that the laser is properly detected on the optical input.
- ⑤ **Power connector** Barrel plug receptacle for external power adaptor.
- ⑥ **Fiber connector** SC type receptacle for multimode fiber input.

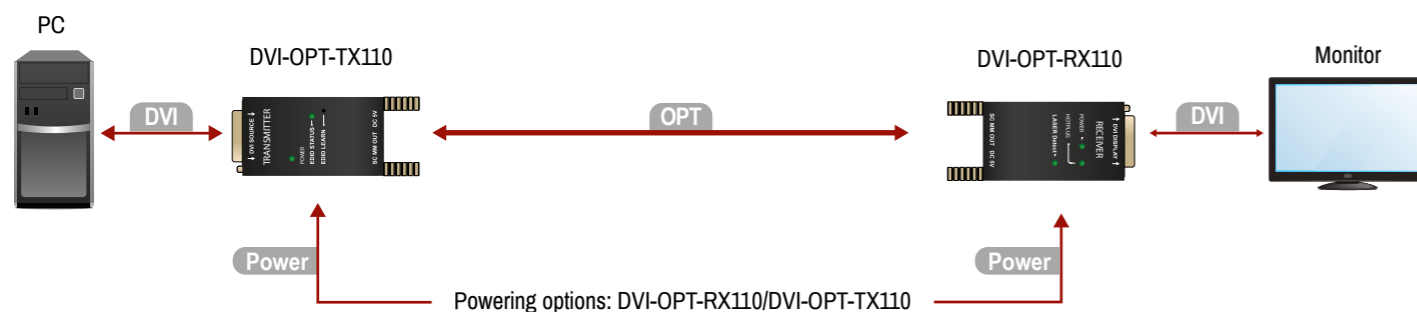
Using the LEARN button (Transmitter)

- When the button is pressed the EDID state LED turns off to indicate the button press.
- If the button is released sooner than 2 seconds, the press will be ignored.
- If the button is pressed for more than 2 seconds, the EDID learn mode gets activated for a period of 10 seconds.
- If the button is pressed for more than 10 seconds and the unit is not connected to a display device, the factory default EDID will be restored.

EDID status LED legend (Transmitter)

LED light		Meaning
	GREEN continuous	EDID valid
	RED continuous	EDID invalid
	ORANGE continuous	EDID learn mode active
	GREEN blinking	EDID learn success
	RED blinking	EDID learn failed
	ORANGE fast blinking	Reloading factory EDID
	ORANGE slow blinking	Laser module failure

Connecting Steps



- ① **Power adaptor**
- ② **USB cable**
- ③ **DVI connector (via +5V pin)**

- OPT** Connect a multimode SC fiber cable to the SC MM IN connector on the RX110 unit.
- DVI** Connect the receiver to the DVI sink (e.g. monitor).
- Power** Power on the DVI sink (monitor).
- OPT** Connect the other end of the multimode SC fiber cable to the SC MM OUT connector on the transmitter (TX110) unit.
- DVI** Connect the transmitter to a DVI source (e.g. computer).
- Power** Power on the DVI source (computer). It reads the EDID from the transmitter, and outputs the video signal according to the set resolution.

Check the LEDs on the transmitter:

- a. If both the power LED and the EDID status LEDs are green, the transmitter is ready to use.
- b. If the power LED does not light up, the DVI source does not send enough power through the DVI connector, so the external power adaptor or the special USB power cable needs to be connected to the transmitter.
- c. If the EDID state LED lights red, an EDID has to be learned.

Further Information

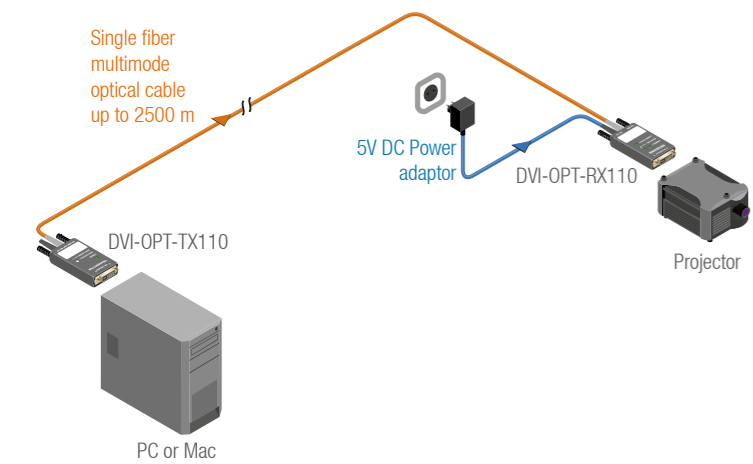
The document is valid with the following firmware version: 1.1.6
The Product brief and further information of this appliance is available on www.lightware.com.
See the [Downloads](#) section on the website of the product.

Contact us
sales@lightware.com
+36 1 255 3800

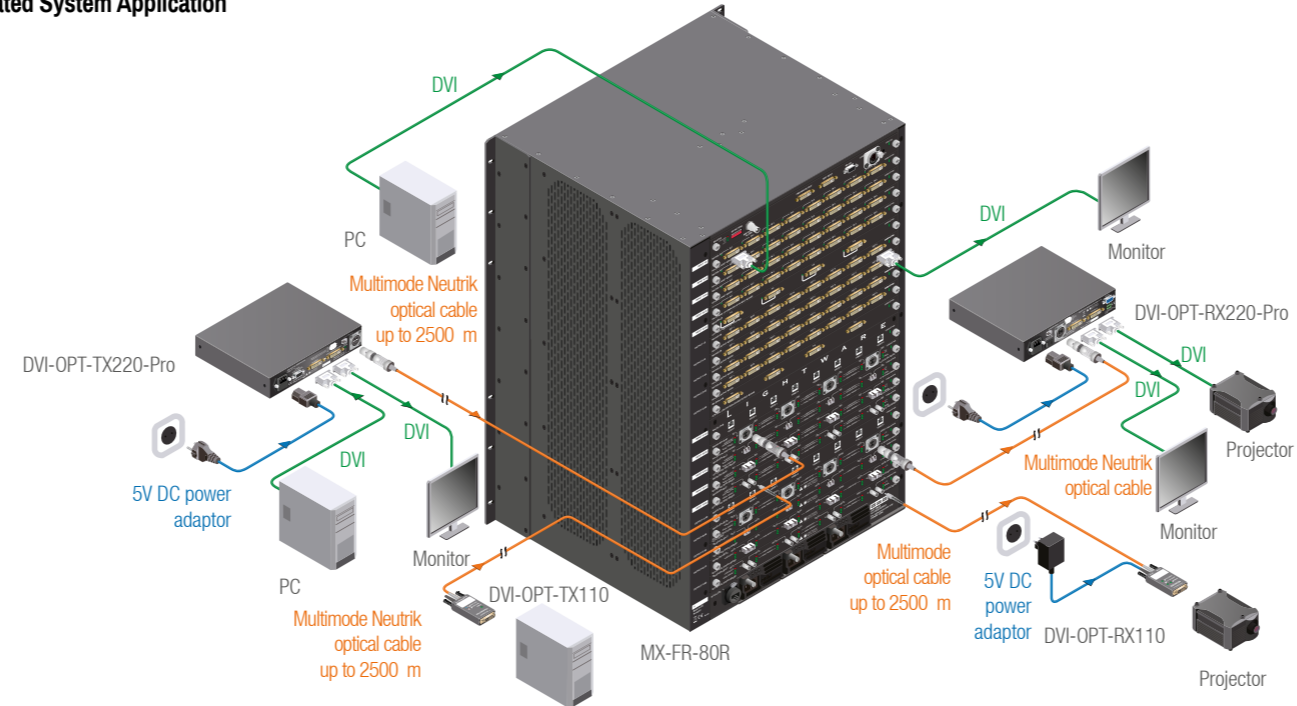
support@lightware.com
+36 1 255 3810

Lightware Visual Engineering LLC.
Péterdy 15, Budapest H-1071, Hungary

Typical Standalone Application



Integrated System Application



Restoring the Factory Default EDID (Transmitter)

1. Power up the transmitter by
 - a. using one of the external power supply
 - b. connecting it to a DVI source.
2. Press and keep the LEARN button pressed. The EDID state LED goes dark for two seconds, and then turns continuous orange to indicate that learn mode is activated. (Do not connect the unit to a display device.)
3. Keep the button pressed until the LED starts to blink orange (after approximately 10 seconds). Five blinks indicate the EDID restore process.
4. After the restore process is finished, the LED blinks slowly green for 8 seconds. The stored EDID is changed back to factory default (1920x1200@59.55Hz).
5. The unit is ready to be used for DVI signal extension.

Troubleshooting

- Some DVI sources may not supply enough power to the transmitter. Use one of the external power supply methods in this case.
- If the image is noisy make sure that the fiber cable plugs are clean.

Specification

General

Compliance.....	CE
EMI / EMC	EN 55024 / EN 55032
Cooling.....	passive
Weight (DVI-OPT-TX110 / DVI-OPT-RX110).....	200g / 205g
Size.....	100.4 mm x 67.6 mm x 26 mm
Material	steel
Warranty	3 years

Power

Power supply	external power adaptor
Power adaptor	(100 - 240 V AC, 50/60 Hz)(5V DC, 1 A)
Power connector.....	1.35 / 3.5 mm barrel
Power consumption (DVI-OPT-TX110 / DVI-OPT-RX110)	1.4 W / 0.8 W

Connectors

DVI-OPT-TX110 input.....	24-pole DVI-I
DVI-OPT-TX110 output.....	SC simplex
DVI-OPT-RX110 input	SC simplex
DVI-OPT-RX110 output	24-pole DVI-I

Video Signal

Supported video signal.....	DVI-D
Maximum resolution	1920 x 1200 or 2048 x 1080 pixel
Data rate	1.65 Gbps/ color
Video delay	none (0 frame)
EDID emulation.....	Yes, with LEARN button
EDID memory	1 pc user programmable EDID
Factory EDID	1920x1200@59.55Hz

Optical

Optical cable	multimode, 50/125
Optical connector.....	SC
Laser class specification.....	Class 3R
Laser wavelengths.....	4 channel: 778; 800; 825; 850 nm
DVI-OPT-TX100 output OMA*	-6.25 dBm (max.)
DVI-OPT-RX100 OMA* sensitivity	-14.25 dBm (max.)
Maximum transmission distance	2500m (using OM4 type optical cable)

*Optical Modulation Amplitude

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