

TPS (HDBaseT[™]) Switcher and Transmitter for DisplayPort, HDMI and DVI with Local Monitor Out





Part No: 9154 0007



Highlight features

- 4K/UHD (30Hz RGB 4:4:4, 60Hz YCbCr 4:2:0) and 3D capabilities
- Extends DVI, HDMI or DisplayPort + Audio + Ethernet + RS-232 + IR + GPIO over a single CAT5e (or higher class) cable up to a 170 m distance*
- Event Manager
- 10/100 Ethernet extension
- Bi-directional RS-232 and IR
- GPIO control port
- Embeds analog audio
 *Depends on cable category and quality

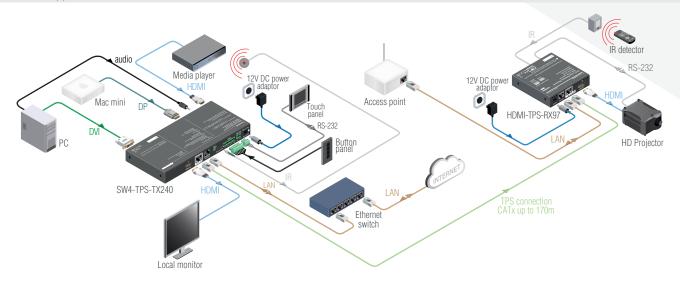
SW4-TPS-TX240 is a flagship model in the Lightware TPS (HDBaseT™ Transmitter) product family. The device can transmit universal video, audio and control up to a 170 meter distance over a single CAT cable in dynamically changing environments such as small board rooms and classrooms. The extender was designed to handle HDMI1.4 and DP1.1 digital video signals and analog stereo audio from local inputs or HDMI or DP Embedded Audio up to eight Channel PCM or HBR audio. Analog audio is converted into digital format. The device has a local HDMI video output. The video and the Embedded Audio of the local output is the same as the one transmitted via TPS link. The SW4-TPS-TX240 handles HDCP encryption. Using the factory, custom or transparent EDID emulation the user can fix and lock EDID data on each input connector. Advanced EDID Management forces the required resolution from any video source and fixes the output format conforming to the system requirements. The unit offers bi-directional and transparent IR, RS232 and Ethernet transmission. Furthermore the RS232 and IR connection supports command injection. Remote powering is available through the single CAT 5e - CAT 7 cable, but local power supply can also be used. All devices can be mounted on a rack shelf or used standalone formats. SW4-TPS-TX240 is compatible with both the HDBaseT[™] extenders and matrix switchers.

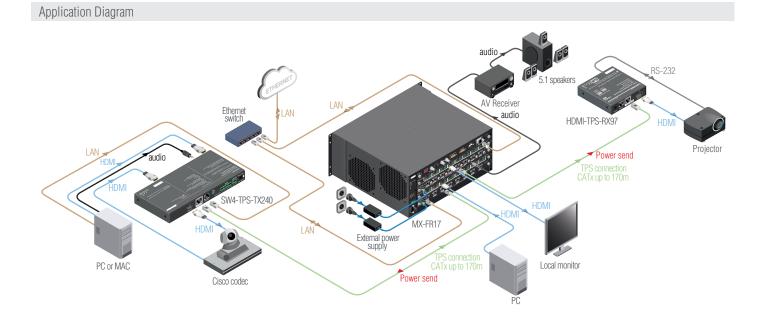
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1

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Standalone Application





Transmitter Front and Back View PIN: 2.1mm GPIO **RS-232** ♦ TPS OUT (PoE) HDMI OUT IR IN IR OUT 2 3 4 6 7 ± TX RX 12V 1A DC Ethernet -AUDIO VIDEO AUDIO VIDEO AUDIO VIDEO VIDEO AUDIO HDCP RESET Au AUDIO VIDEO SAUDIOIN SELECT AUDIO SELECT SHOW ME 1 DPIN HDMI IN HDMI IN OVI-D IN SW4-TPS-TX240

visual engineering

Event Manager

The Event Manager is a completely new feature of Lightware's UMX-TPS extender family. It's available through the Lightware Device Controller and can be configured to detect LW3 protocol CHANGE messages. The Event Manager was developed to handle tasks from the most simple; like displaying internal events on GPIO ports, and controlling the extender via GPIO inputs instead of front panel pushbuttons; to expert ones like controlling the rolling shutter, the air conditioning system or the lights based on any condition changes on the media ports, such as a new source being connected or removed. The Event Manager makes the UMX-TPS extender family an expert solution in a wider range of applications.

Event Manager Wizard

Assigning an action to a condition is quick and easy with the Event Manager's smart Wizard function. The user can choose from the given port options in the dropdown menu and also add expressions to it.

Li	GHTWARE UMX-TPS-TX140		Drosspoint	1 roo	👝 Control	Q ^O Settings		
	B F5-232 MM GPI0 C.1 Ethernet C Infra Events							
	Export Import Load factory defaults 11-C13 111-C20 Show advanced expressions							
Γ	Event1 enabled Edit Cle	ear						
E		detected © 0 times	DELAY No delay		non itch next video inp		performed O 0 times	Test
Г	Event2 enabled Edit Cle	*6/						
E		detected O 0 times	DELAY No delay		NON Itch video input 11		performed ^ 0 times	Test
Г	Event3 enabled Edit Cle	897						
E		detected C 1 times	DELAY No delay		CPIO output state		performed O times	Test
Г	Event4 @ enabled Edit Cle	E0/						
Б		detected ^ 0 times	DELAY No delay		n on Id RS-232 messag P1		performed ^(*) 0 times	Test
	Event5 9 enabled Edit Cle	ear						
		detected 0 0 times	DELAY No delay		non pty action		performed ^ 0 times	Test
	Event6 enabled Edit Cle	ear						

The Events menu contains 20 separately configurable Events

CONDITION	ACTION
Video signal is detected on I1 IMEDIA/VIDEO/11.SignalPresent=1	Switch video input I1 to output 01 /MEDU/V/DEO/XP.switch=11.01
Wizard Advanced Link	Wizard Advanced Link
Category	Category
Video ·	Video ·
Expression	Expression
Signal is detected on a port.	Switch input to output *
Port	Input Output
	11 • 01 •
	n an
	12
	13
Clear Apply	Clear Apply
	15
CONDITION TEST	IG ACTION TEST
Counter: 0 times Reset No de	Counter 0 times Reset

The Event Wizard makes the setup easy with simple dropdown options

12 enabled ? Clear Event2	
CONDITION	ACTION
Video signal is detected on 11 /MEDIA/VIDEO/11.SignalFresent=1	Switch video input I1 to output 01 /MEDIA/VIDEO/XP_switch=I1:01
Wizard Advanced Link	Wizard Advanced Link
Category	Category
Video -	Video -
Expression	Expression
Signal is detected on a port	Switch input to output
(Select one)	Input Output
Signal is detected on a port	11 - 01 -
Signal is not detected on a port	
Signal type changes to DVI	
Signal type changes to HDMI	
Signal type changes to Undefined (no signal)	Clear Apply
CONDITION TEST	ACTION TEST
Counter: 0 times Reset No delay	Counter: 0 times Reset
detected No delay	0 min 0 sec performed Test action

There are many default Expressions available to choose from

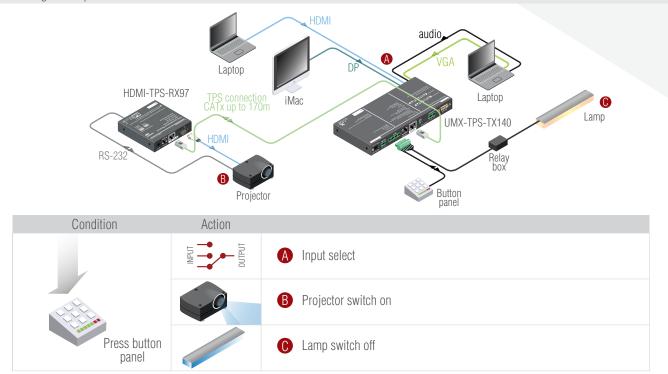
1 *	522 111 GRO 13 Ellevel 🖓 Mile 🛄 Event					
Dep	et import Load factory defaults [1]-[3] [1]-[3]				Show adva	inced expressio
	Event - analysis Edit Clear					
	CONDITION Designed	detected ^ 0 times	Simple delay On Sa	ACTION Switch next sides input to subject	peformed *	141
	Frent Featured Edit Clear					
	CONDITION Video signal is detected on IT	detected " 6 times	DELLAR Continuously exists for Om 10s	ACTION Switch video input II to output 01	petonol *	Test
	Event centred Edit Clear					
	Concerner Empty candition	detected " 0 times	DELAY No feloy	ACTION Engry action	peformed *	144
	Event i endied Edit Char					
	Concernant GPID state changes to High' on P1	detected * 1 times	BELAY Simple delay: On 1a	ACTION Develop EDIO F1 to E1	performed *	Test
	Event Panaliel Edit Char					
	CONDITION Video signal is detected on (3	detected " 0 times	DELAY Still exists after line fits	ACTION Toggie DPIC output state on P1	peformad * Etimes	144
	CONDITION Empty condition	detected " Etimes	BELAT No delay	ACTON Ongry action	performed * Etimes	Test
	Event rended Edit Clear					
	covernow	detected 1	DELAY.	ACTION	peformed * In	

Green lines show which Event is configured and active, the rest stay grey

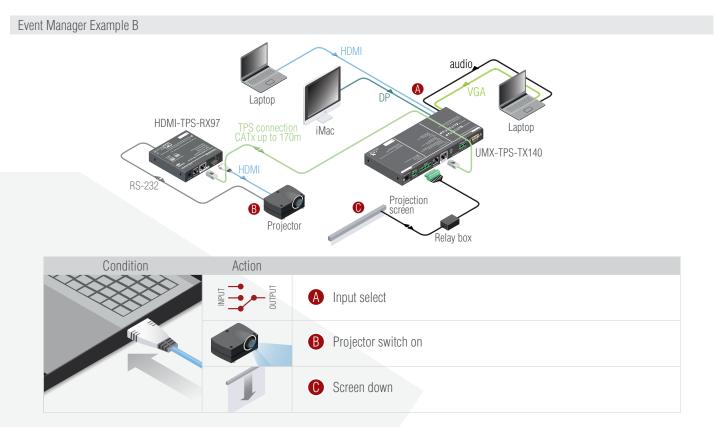


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Event Manager Example A

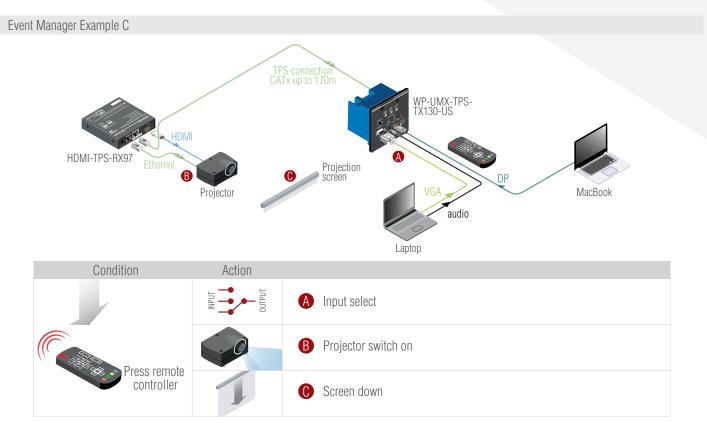


With a connected button panel trough the GPIO port the UMX-TPS-TX140 can be controlled from a remote location, input swithcing is available even if the transmitter mounted underdesk. In the example above there are three actions followed by a condition. When an input selector button is pressed on the remote button panel, the input port is switched to the selected one, the lamp switches off, and the projector turns on as well.



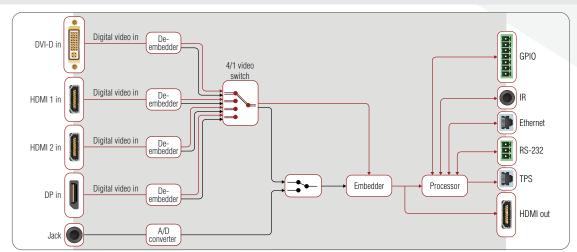
The projector and the rolling screen (through the Relay box) are connected to the UMX-TPS-TX140. When the user connects a laptop through HDMI to the transmitter the connected input is selected automatically the screen goes down and the projector turns on to display the connected source.

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A MacBook with DisplayPort and another laptop with VGA and analog audio are connected to the WP-UMX-TPS-TX130-US wallplate which means there are two audio signals and two video signals connected. With a remote controller via IR these inputs can be switched. For example the analog audio of the Laptop can be mixed with the DisplayPort video of the MacBook. The Event Manager helps the user to assign actions like rolling the screen down and switch the projector on when the desired input is selected.

Port Diagram



Compatibility Products

- MX Modular Matrix Frames with MX-TPS-IB or MX-TPS2-IB
- MODEX TPS Family
- DVI-HDCP-TPS-RX95
- HDMI-TPS-RX95
- HDMI-TPS-RX96
- HDMI-TPS-RX97
- TPS-PI-1P1
- MMX6x2-HT200
- MMX6x2-HT210
- MMX6x2-HT220

Applications

- Small classrooms
- Conference rooms, meeting rooms
- Control rooms
- Home cinemas

Features

- 4K/UHD (30Hz RGB 4:4:4, 60Hz YCbCr 4:2:0) and 3D capabilities
- Extends HDMI1.4 + Audio + Ethernet + RS-232 + IR + GPIO over a single CAT5e-CAT7e cable up to 170 m distance*
- Audio and video connectors: HDMI (input), HDMI (local output), Stereo jack
- Advanced EDID Manager
- Event Manager
- 10/100 Ethernet extension
- Bi-directional RS-232 and IR
- GPIO control port
- HDCP compliant, CEC
- Embeds analog audio *Depends on cable category and quality

Analog Audio Input

Volume:	-96 0 dB	
Balance:	0100%	
• • •		

Specifications

Resolution:

Digital audio formats: Input cable equalization: EDID emulation: EDID memory: HDCP pass-through: RS-232 pass-through:

RS-232 (control option): Local power: Power over TPS:

Power consumption: Enclosure: Dimensions: Compliance: Warranty: Yes, Advanced EDID Management 120 factory preset, 15 user programmable Yes Yes, configurable 9600, 19200, 38400, 57600, 115200 Baud Rx,Tx (local or through CATx)(default: 57600) Universal power adaptor, DC 12V 2.5A DC 48V 1 A 8W (typ) 1 mm metal 221 W x 100.4 D x 26 H mm CE 3 years

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Up to 4K UHD 3840×2160@30Hz,

Automatic max 20 m

1600x1200@60Hz, FullHD 1920x1080@60Hz

and DTS-HD Master Audio 7.1 formats

Supports up to 8 channel PCM, Dolby TrueHD

Connectors

Digital video input:	HDMI connector, DVI-D connector, DisplayPort
Digital video output:	HDMI connector
Audio input:	3.5 mm stereo jack
Ethernet:	1 x RJ45
GPIO:	8-pole PHOENIX
IR:	3.5 mm jack
TPS output:	1 x RJ45
Serial port:	3-pole PHOENIX
Power:	Locking DC connector (2.1 / 5.5 mm)

6

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Supplied Accessories



PSU-12VU Universal DC adaptor (Part No: 1180 0098) Wall power adaptor with interchangeable plug for international use. Universal input: 100-240 V AC, 50-60 Hz, output: 12 V DC, 2.5 A

Optional Accessories



Under desk mounting kit double (Part No: 5240 0276) The UD-kit double makes it easy to mount multiple devices on any flat surface (e.g. furniture).



IR emitter and IR eye (Part No: 1374 0003 TX, 1374 0002 RX) IR emitter is supplied with TPS-TX, IR eye is supplied with TPS-RX units. Needed for IR extension.



Rack shelf (Part No: 5240 0935)

1U high rack shelf provides mounting holes for fastening four quarter-rack sized units. Pocket sized devices can also be fastened on the shelf.

