

## HDBaseT™ Receiver with Relay Modules and Balanced Audio Out



Part No: 9154 0070



This dual relay capable HDBaseT™ compatible TPS receiver has one PoE capable TPS input and one HDMI output, and features audio de-embedding.

The unit is HDCP compliant and has 4K/UHD and 3D capabilities. The HDMI audio is de-embedded to the balanced audio output via a Phoenix (Euroblock) connector, the audio port has volume control. The built-in Event Manager feature provides the necessary control in a less complex application environment. Both the Event Manager feature and the dual relay module of the device are configurable via the freely available Lightware Device Controller software. USB, RS-232, IR (in and out) and Ethernet ports provide further connection options for control.

### Highlight Features

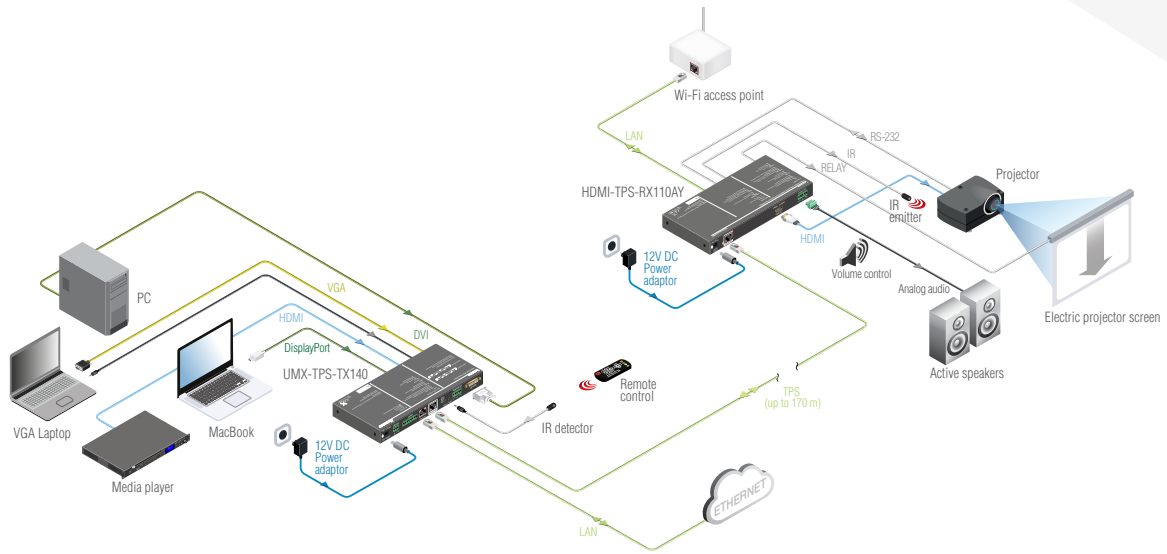
- HDMI 1.4 TPS receiver with audio de-embedding capability
- Up to 170m transmission distance over TPS\*
- 4K/UHD (30Hz RGB 4:4:4, 60Hz YCbCr 4:2:0) and 3D capabilities
- Fully HDCP compliant
- Balanced analog audio output for audio deembedding
- Audio volume control
- 2x Relay modules
- Event Manager
- PoE remote power capable
- RS-232, IR, Ethernet extension

### Advanced Control Features:

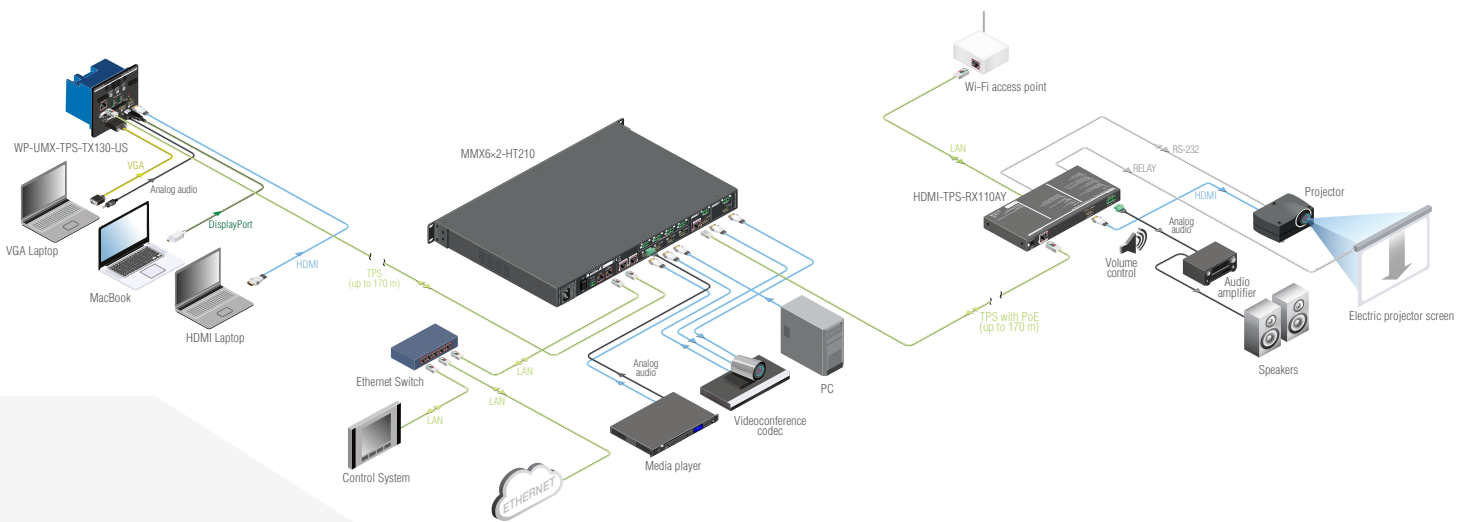
- Support RS-232 protocol for communication and control of third party devices like VC codecs. This allows the Cisco Room Kit login on RS-232–USB connection
- Support to receive CEC commands for control of displays and Lightware Event Manager to automate room actions
- Support to send CEC commands on HDMI ports for control of other devices
- Support true Infrared messages using HEX codes to control TVs, media players and other devices with IR emitters
- 100 available event slots in 'Plus' extenders

\*Depends on cable category and quality

## Standalone Application Diagram



## Application Diagram



## Event Manager

The Event Manager is a smart, built-in feature in the Lightware HDBaseT compatible TPS extender family, the MODEX line and in some select matrix switchers like the MMX6x2-HT series units. The feature is available through the freely downloadable Lightware Device Controller software.

The Event Manager was developed to handle tasks from the most simple 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.

Event Manager application is continuously updated with additional features via firmware upgrades: a delay can be added between the condition and the action and more actions can be triggered by a single condition change. With the help of the 'condition count' and 'action test' features, the predefined settings can be tested before going live. The system can recognize infrared commands which can also be set as conditions, and commands can also be sent via Ethernet.

### Event Manager Wizard

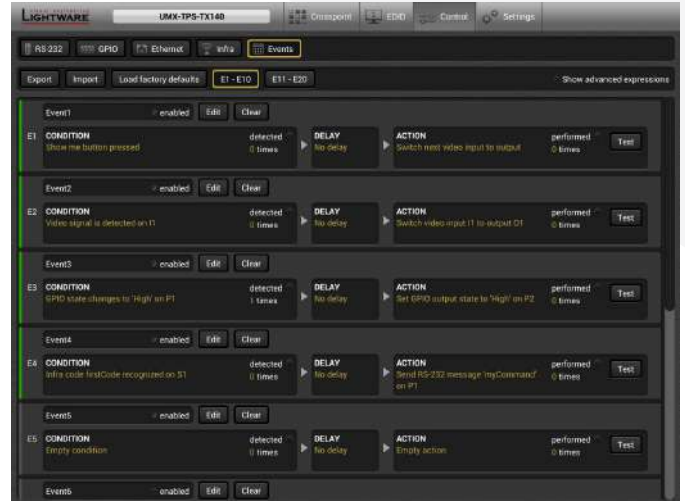
Assigning an action to a condition is quick and easy with the Wizard function of Event Manager.

The most typical examples of the currently selectable conditions and actions within the Event Manager Wizard are the following:

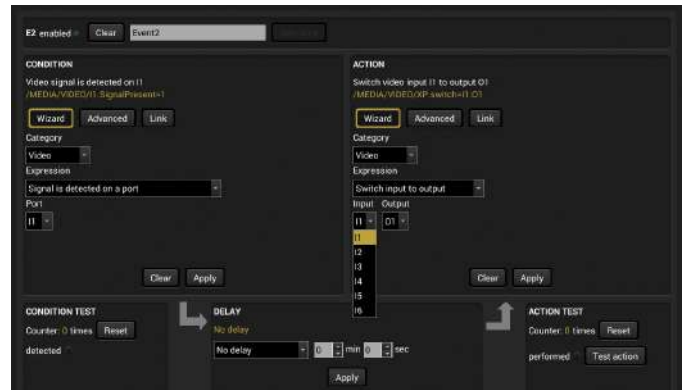
Conditions	
Video	Signal is detected on a port
Video	Signal is not detected on a port
Audio	Signal is detected on a port
Audio	Signal is not detected on a port
Audio	Signal type changes to 2 CH PCM
Audio	Signal type changes to Multichannel PCM or Compressed
Audio	Signal type changes to Undefined (no signal)
IR	Infra code recognized
General	TPS link state changes to Connected
General	TPS link state changes to Disconnected

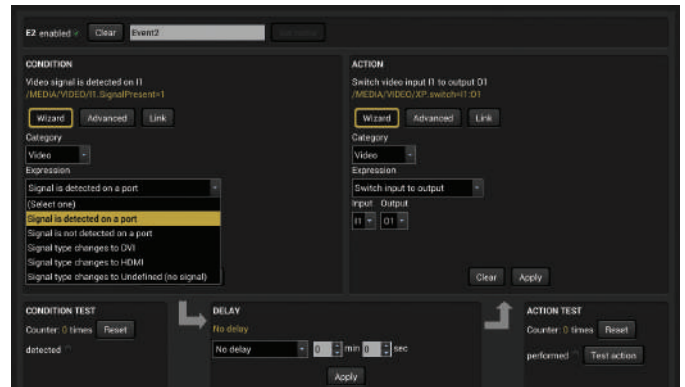
Actions	
Ethernet	Send TCP command
Ethernet	Send UDP command
R232	Send RS232 message
EDID	Switch EDID
Audio	Set audio volume
Audio	Mute output
Audio	Unmute output
Audio	Increase/decrease volume
Relay	Close connection
Relay	Open connection
Relay	Toggle connection



The Events menu contains separately configurable Events



The Event Wizard makes the setup easy with simple dropdown options

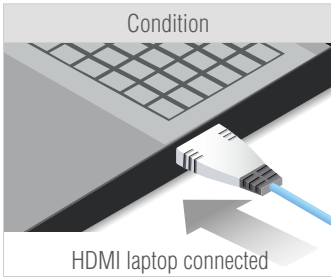
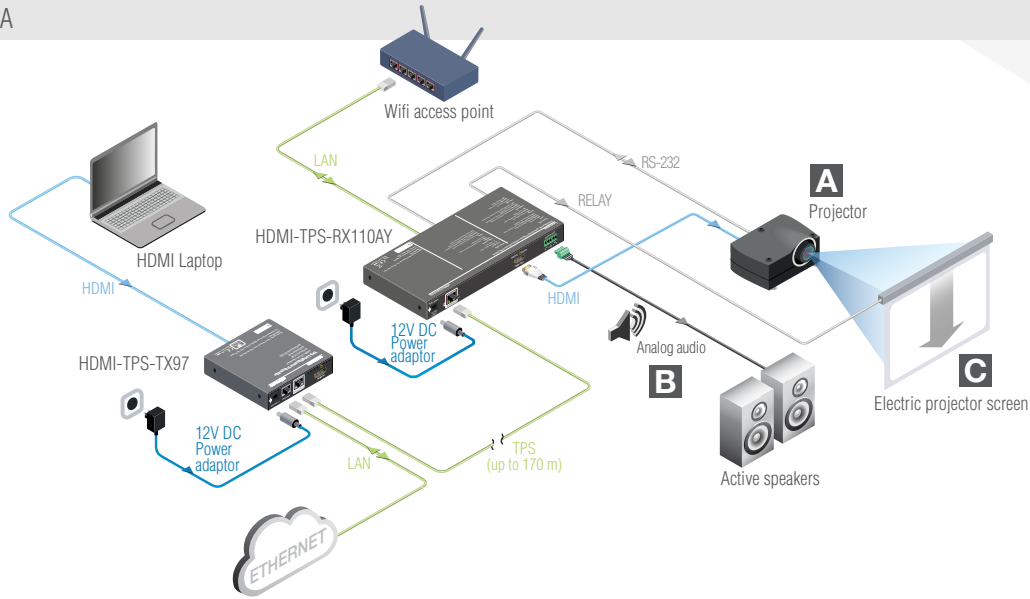


There are many default Expressions available to choose from



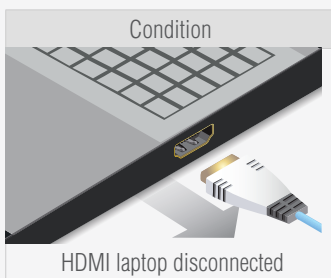
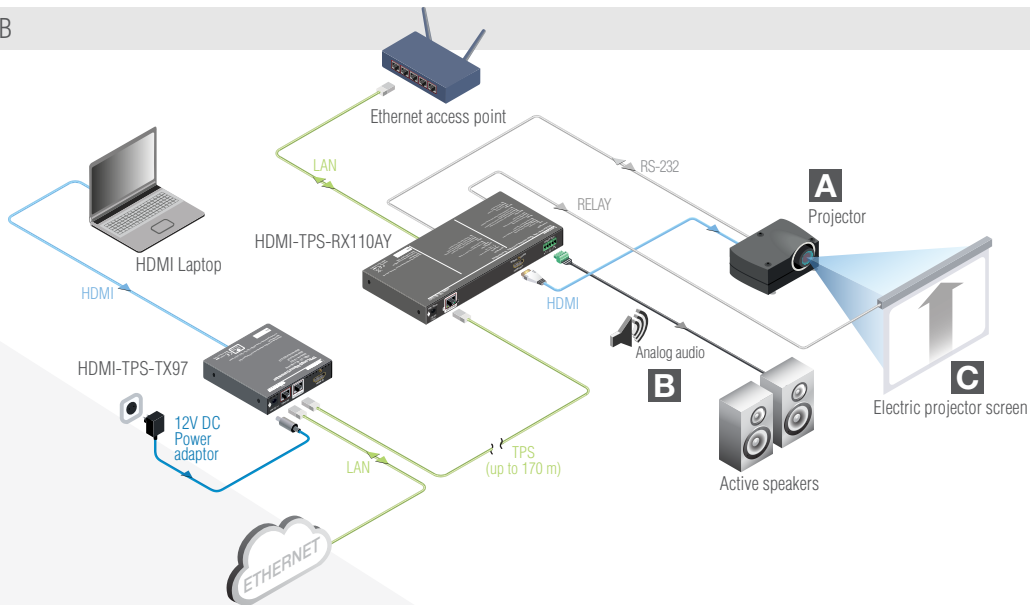
Green lines show which Event is configured and active, the rest stays grey

## Event Example A



Condition	Action
	<b>A</b> Switch the projector on over RS-232
	<b>B</b> Unmute analog audio out and adjust volume
	<b>C</b> Roll down electric projection screen connected to the relay modules

## Event Example B



Condition	Action
	<b>A</b> Switch the projector off over RS-232
	<b>B</b> Mute analog audio out
	<b>C</b> Roll up electric projection screen connected to the relay modules

## Applications

- Classrooms
- Meeting and conference rooms
- Control room
- Home cinema

## Features

- HDMI 1.4 TPS receiver with audio de-embedding capability
- 4K/UHD (30Hz RGB 4:4:4, 60Hz YCbCr 4:2:0) and 3D capabilities
- Extends HDMI + Ethernet + RS-232 + IR over a single CAT5e-CAT7e cable up to 170 m distance\*
- Audio and video connectors: HDMI output, Balanced 5 pole Phoenix analog audio output
- Analog audio volume control
- Embedded 7.1 HBR audio support
- Local or remote powered through TPS connection (PoE)
- 2x 30V/1A relay modules
- Event Manager
- Intuitive Control Software
- 10/100 Ethernet transmission
- Bi-directional RS-232 and IR extension
- IR and RS-232 connection supports command injection
- HDCP compliant
- Transparent CEC transmission
- Advanced EDID Management
- HDBaseT™ compatibility
- No signal latency
- Frame detector

\*Depends on cable category and quality

## Compatible products

- MX Modular matrix frames - MX-TPS/TPS2-OB
- 25G Modular matrix frames - 25G-TPS2-OB
- Standalone TPS matrix frames – MMX6x2-HT series
- TPS Transmitters:
  - HDMI-TPS-TX95/97
  - DVI-HDCP-TPS-TX95/97
  - UMX-TPS-TX100 series
  - WP-UMX-TPS-TX100 series
  - SW4-TPS-TX240
  - HDMI-TPS-TX200 series
  - DP-TPS-TX200 series
- Single port standalone TPS power injector – TPS-PI-1P1

## Specification

Resolution:	Up to 4K UHD 3840x2160@30Hz, 1600x-1200@60Hz, FullHD 1920x1080@60Hz
Digital audio formats:	Supports up to 8 channel PCM, Dolby TrueHD and DTS-HD Master Audio 7.1 formats
Input cable equalization:	Automatic max 170 m*
EDID emulation:	Yes, Advanced EDID Management
EDID memory:	120 factory preset, 15 user programmable
HDCP pass through:	Yes
RS-232 pass-through:	Yes, configurable
RS-232 (control option):	9600, 19200, 38400, 57600, 115200 Baud Rx,Tx (local or through TPS)(default: 57600)
Local power:	2-pole, DC 12V, 1A
Power over TPS:	DC 48V, 0.3A
Power consumption:	10W
Dimensions:	221 W x 100.4 D x 26 H mm
Enclosure:	1 mm metal
Weight:	610 g / product
Compliance:	CE
Warranty:	3 years

\*Depends on cable category and quality

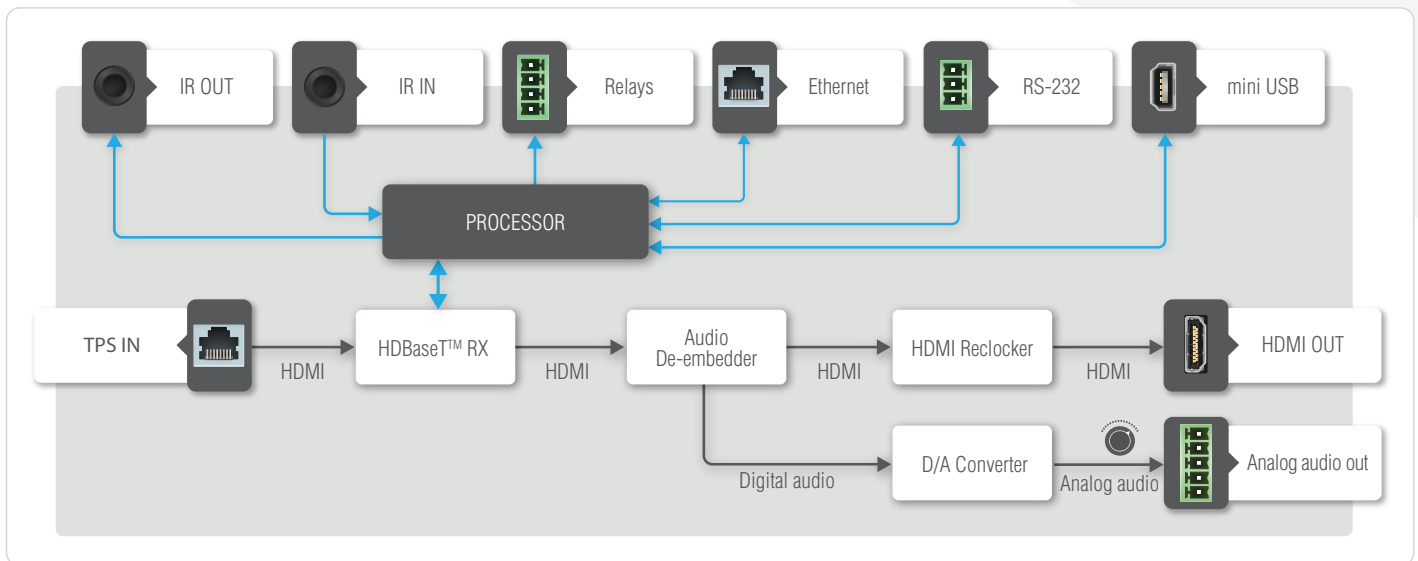
## Connectors

Digital video output:	HDMI connector
Balanced audio output:	5-pole Phoenix (Euroblock) connector
Ethernet:	1 x RJ45
IR in and out:	3.5mm jack
TPS input:	1 x RJ45
Relays:	2-pole Phoenix (Euroblock) connector
Serial port:	3-pole Phoenix (Euroblock)
Power:	Locking DC connector (2.1 / 5.5 mm)

## Analog audio output

Volume:	-57 .. 0 dB
Mute function:	yes
Balance:	-100 .. 0 .. 100%

## Port Diagram



## Max Cable Lengths with the Available Operation Modes

Resolution	Pixel Clock Rate	Cable Lengths (Auto / LR Link Mode)		
		CAT5e AWG24	CAT7 AWG26**	CAT7 AWG23
1024x768@60Hz	65 MHz	100 m / 130 m*	90 m / 120 m*	120 m / 170 m*
1280x720p@60Hz	73,8 MHz	100 m / 130 m*	90 m / 120 m*	120 m / 170 m*
1920x1080p@60Hz / 24bpp	148,5 MHz	100 m / 130 m*	90 m / 120 m*	120 m / 170 m*
1920x1200@60Hz	152,9 MHz	100 m / NA*	90 m / NA*	120 m / NA*
1600x1200@60Hz	162 MHz	100 m / NA*	90 m / NA*	120 m / NA*
1920x1080@60Hz / 36bpp	223,6 MHz	70 m / NA*	70 m / NA*	100 m / NA*
3840x2160@30Hz UHD	297 MHz	70 m / NA*	70 m / NA*	100 m / NA*
4096x2160@30Hz 4K	297 MHz	70 m / NA*	70 m / NA*	100 m / NA*

\* with Long reach operation mode which supports pixel clock frequencies up to 148,5 MHz.

\*\* when remote powering is used with AWG26 cables, distances are 20% shorter.

## 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



### 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.

## Optional Accessories



### 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.



### 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).