UMX-HDMI-140-Plus

UMX Series Switcher for VGA, DVI-I, HDMI and DisplayPort with Audio Embedding

Part No: **9156 0003**

UMX-HDMI-140-Plus switches universal 4K video and audio to a HDMI output port. This device was designed for digital and analog video and audio signals: VGA, YPrPb, DVI, HDMI 1.4 and DP 1.1 with analog stereo audio from local inputs or embedded 7.1 HBR audio. The unit can also handle HDCP encryption. Analog signals (both audio and video) are converted into digital format. 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 the system requirements.

Applications
- Small meeting rooms
- Huddle rooms
- Home cinema

Features
- 4K/UHD (30Hz RGB 4:4:4, 60Hz YCbCr 4:2:0) and 3D capabilities
- Switches DVI, HDMI, VGA or DisplayPort to a HDMI output port
- Video inputs: VGA, HDMI, DisplayPort, DVI-I
- Audio inputs: Stereo jack in, 5-pole Phoenix connector for balanced audio in
- Stereo jack, PHOENIX 1x5 pole
- Embedded 7.1 HBR audio support
- Autoselect mode: video and audio priority modes
- Intuitive Control Software
- GPIO control port
- HDCP compliant
- Audio embedding
- Built-in Event Manager feature
- Advanced EDID management
- No signal latency
- Frame detector
- Support to send raw Infrared messages (Pronto HEX codes) to control TVs, Blurays, etc with connected IR emitters
- Support to send CEC messages to control TVs, Blurays etc which are conencted on HDMI ports
- Support to recognize incoming CEC messages in Event Manager and trigger custom actions
- Support to recognize incoming RS-232 messages to integrate with 3rd party devices like VC codecs
- Increased number of Events to 100

* For UHD resolutions: maximum HDMI cable length on output varies from 5 meters to 20 meters depending on cable quality and connected UHD display's equalization.

UMX-HDMI-140-Plus

Specification

Resolution:	Up to 4K/UHD* 3840×2160@30Hz, 1600x1200@60Hz, FullHD 1920x1080@60Hz
Digital audio formats:	Digital audio formats: Supports up to 8 channel PCM, Dolby TrueHD and DTS-HD Master Audio 7.1 formats
Input cable equalization:	Automatic max 20 m
EDID emulation:	Advanced EDID Management
EDID memory:	119 factory preset, 15 user programmable
VGA to digital conversion:	0 microseconds delay
HDCP pass-through:	Yes
RS-232 (control option):	9600, 19200, 38400, 57600, 115200 bps (default: 57600)
Local power:	Universal power adaptor
Power:	Universal power adaptor, DC 12V 2A
Power consumption:	8W (max)
Enclosure:	1 mm metal
Dimensions:	221 W x 100.4 D x 26 H mm
Net weight:	607 g
Compliance:	CE
Warranty:	3 years

* For UHD resolutions: maximum HDMI cable length on output varies from 5 meters to 20 meters depending on cable quality and connected UHD display's equalization.
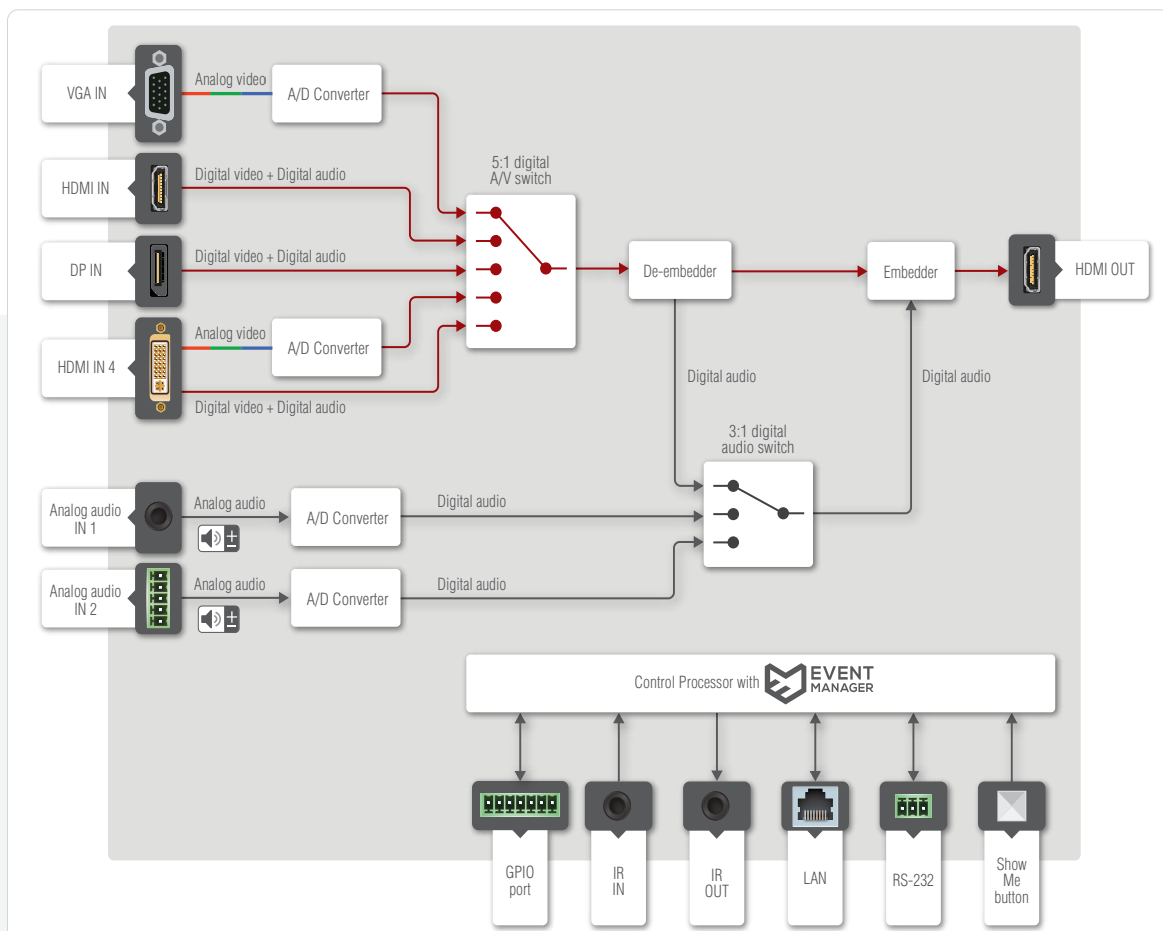
Connectors

Digital video inputs:	HDMI connector, DVI connector, DisplayPort
Analog video inputs:	VGA connector
Audio inputs:	Stereo jack, 5-pole Phoenix
Ethernet:	RJ45
Control:	7 x GPIO, IR
Serial port:	3-pole Phoenix
Power:	Locking DC connector (2.1 / 5.5 mm)

Analog Audio Input

Volume:	-96 .. 0 dB
Balance:	-100 .. 0 .. 100%

Port Diagram

Peterdy 15, Budapest H-1071, Hungary   +36 1 255 3800   sales@lightware.com   www.lightware.com

visual engineering
LIGHTWARE

Cisco Room
Integration

ETHERNET

Cisco **Webex Room Kit**

Display

Display

VC Room PC

Corporate Video

Apple TV

	CATx
	HDMI
	DisplayPort
	USB-C
	RS-232
	DVI
	GPIO

Table box

Left **lamp**

Right **lamp**

Relay

MMX8x4-**HT420M**

UMX-TPS-**TX140-Plus**

MacBook

Cisco **Touch 10**
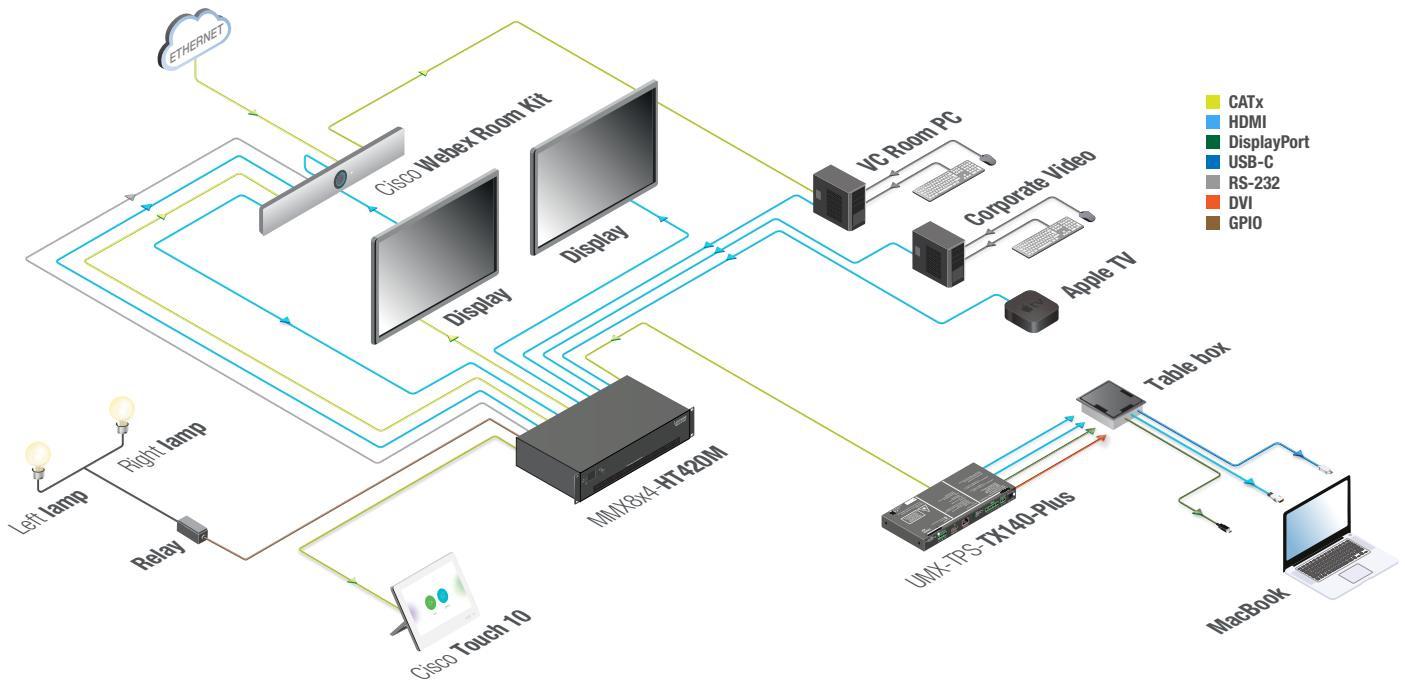
MMX8x4-HT420M and **UMX-TPS-TX140-Plus** with **Event Manager**

UMX-HDMI-140-Plus

LIGHTWARE
visual engineering
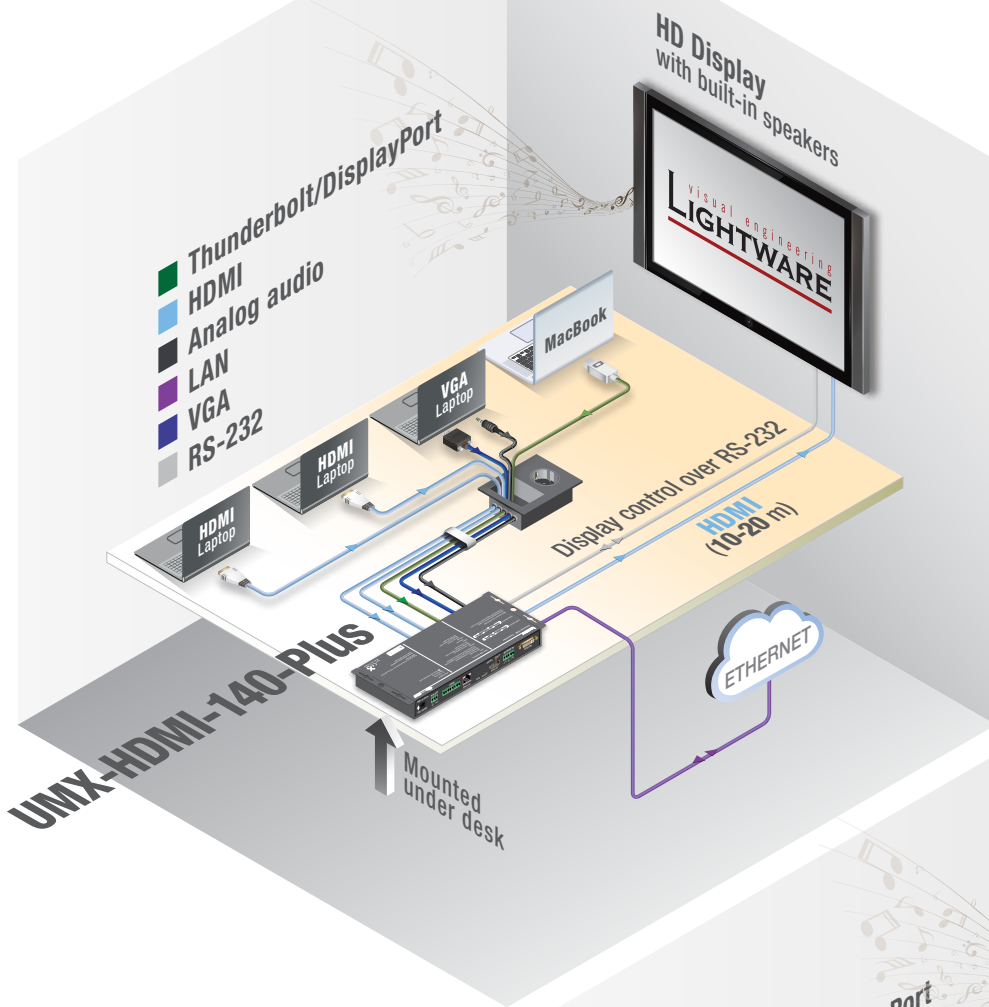
Huddle room
Application

HD Display
with built-in speakers

Thunderbolt/DisplayPort
HDMI
Analog audio
LAN
VGA
RS-232

MacBook

VGA Laptop

HDMI Laptop

HDMI Laptop

Display control over RS-232

HDMI (10-20 m)

UMX-HDMI-140-Plus

ETHERNET

Mounted under desk

Huddle room
with
speakers

HD Display

Thunderbolt/DisplayPort
HDMI
Analog audio
LAN
VGA
RS-232

Active speakers

MacBook

VGA Laptop

HDMI Laptop

HDMI Laptop

Display control over RS-232

Power over HDMI (up to 20 m)

UMX-HDMI-140-Plus

HDMI-4K De-embedder

ETHERNET

Mounted under desk

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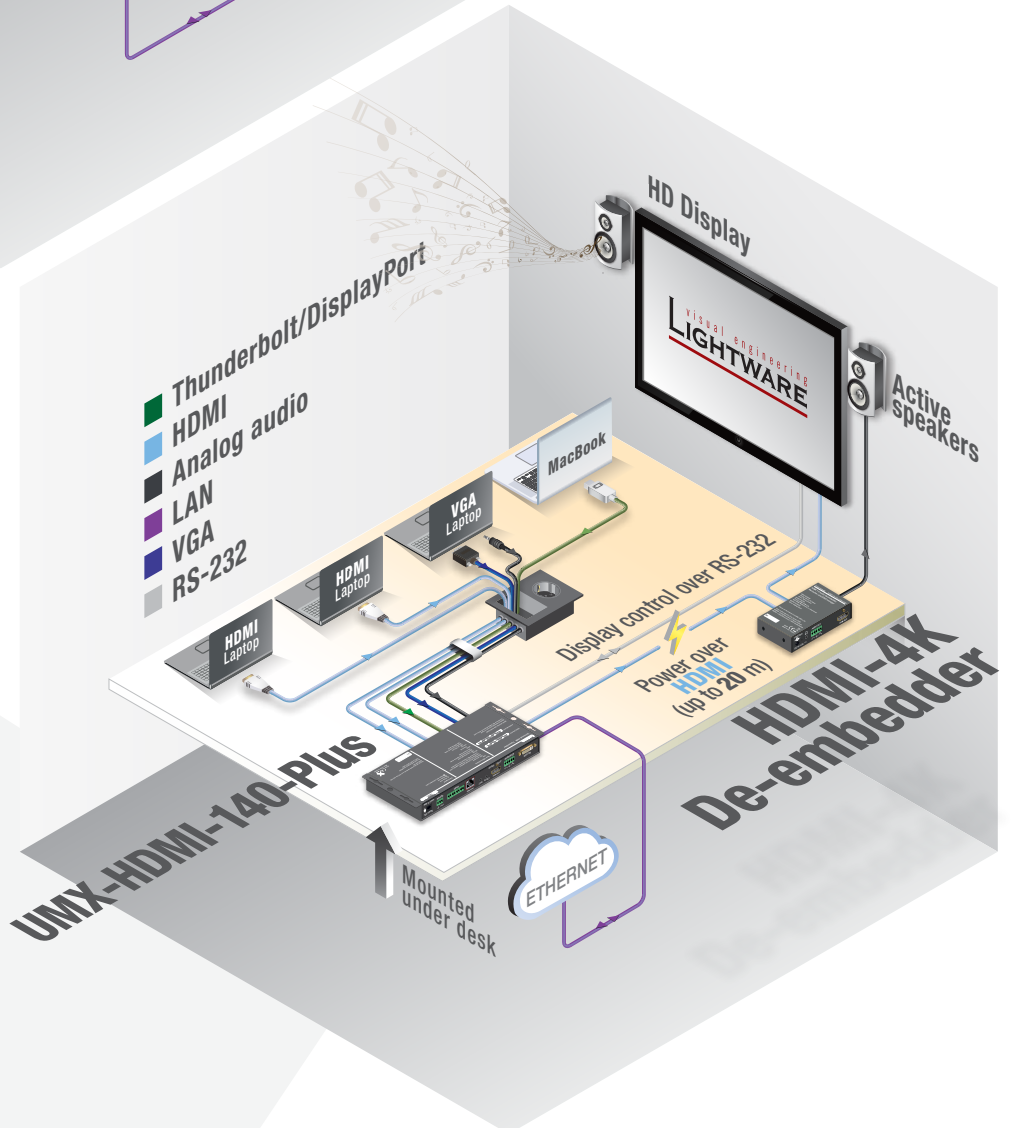
HDMI signal extension up to 40 m

Collaboration
with **room ceiling mounted projector**

HDMI-Extender

HD Display

Power over
HDMI
(up to 40 m)

MacBook

VGA
Laptop

HDMI
Laptop

HDMI
Laptop

ETHERNET

UMX-HDMI-140-Plus

Mounted
under desk

Thunderbolt/DisplayPort
- Thunderbolt/DisplayPort
- HDMI
- Analog audio
- LAN
- VGA

Thunderbolt/DisplayPort
- Thunderbolt/DisplayPort
- HDMI
- Analog audio
- LAN
- VGA

MacBook

VGA
Laptop

HDMI
Laptop

HDMI
Laptop

HDMI (10-20 m)

Videoconference
Codec

Active
speakers

ETHERNET

UMX-HDMI-140-Plus

Mounted
under desk

VC room
Application

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 MMX4x2 series and UMX-HDMI-140-Plus 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

| Actions	
Video	Switch an input to the output
Video	Enable autoselect on output
Ethernet	Send TCP command
Ethernet	Send UDP command
R232	Send RS-232 message
EDID	Switch EDID
Audio	Set audio volume
Audio	Increase/decrease volume
Audio	Mute output
Audio	Unmute output
GPIO	Set to high/low level
GPIO	Toggle state
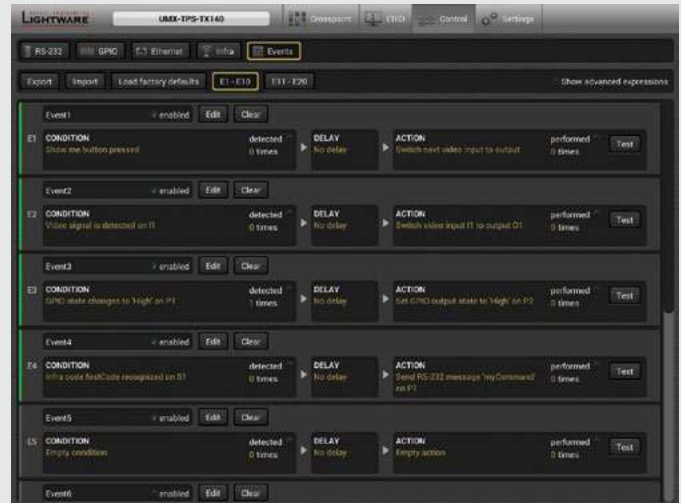
The Events menu contains separately configurable Events
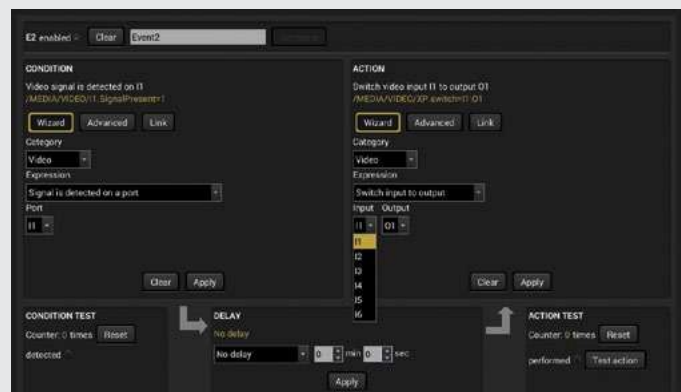
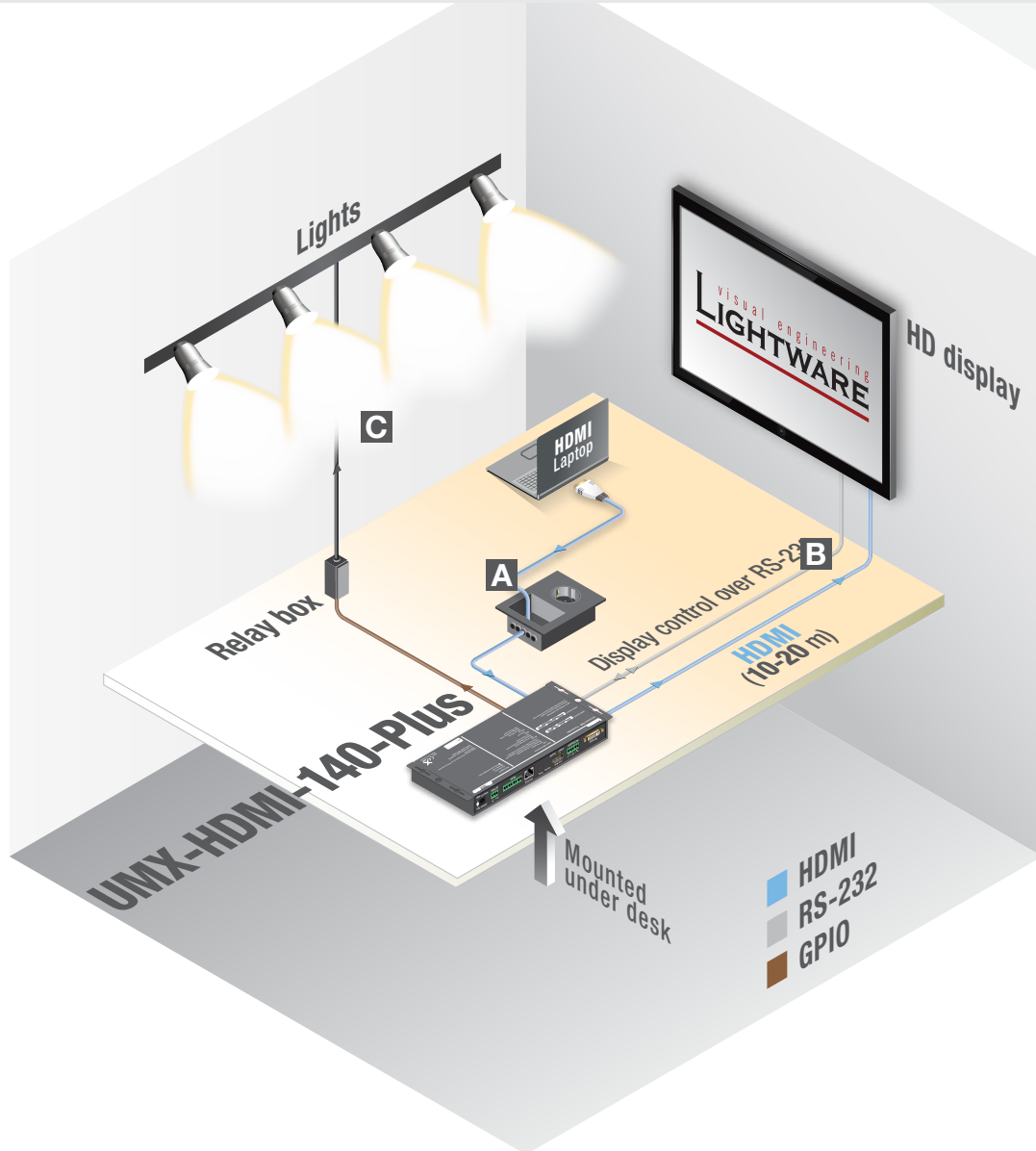The Event Wizard makes the setup easy with simple dropdown options
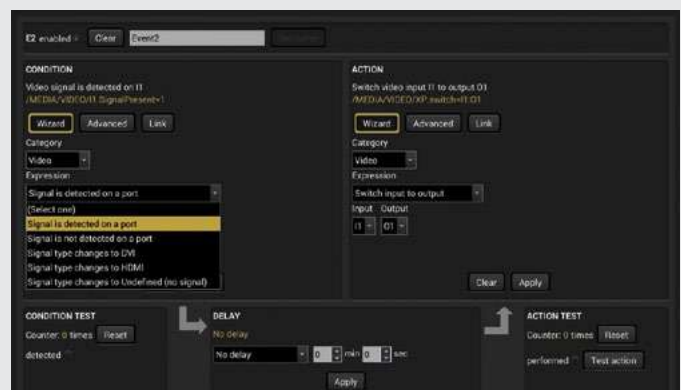
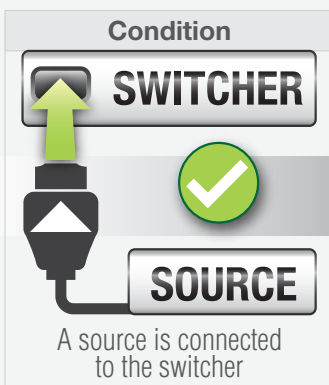There are many default Expressions available to choose from
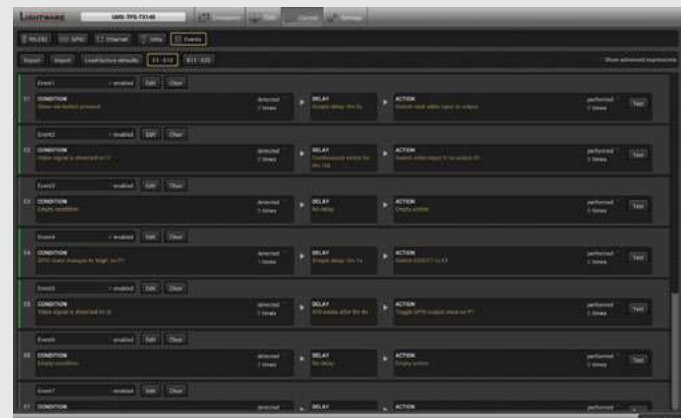
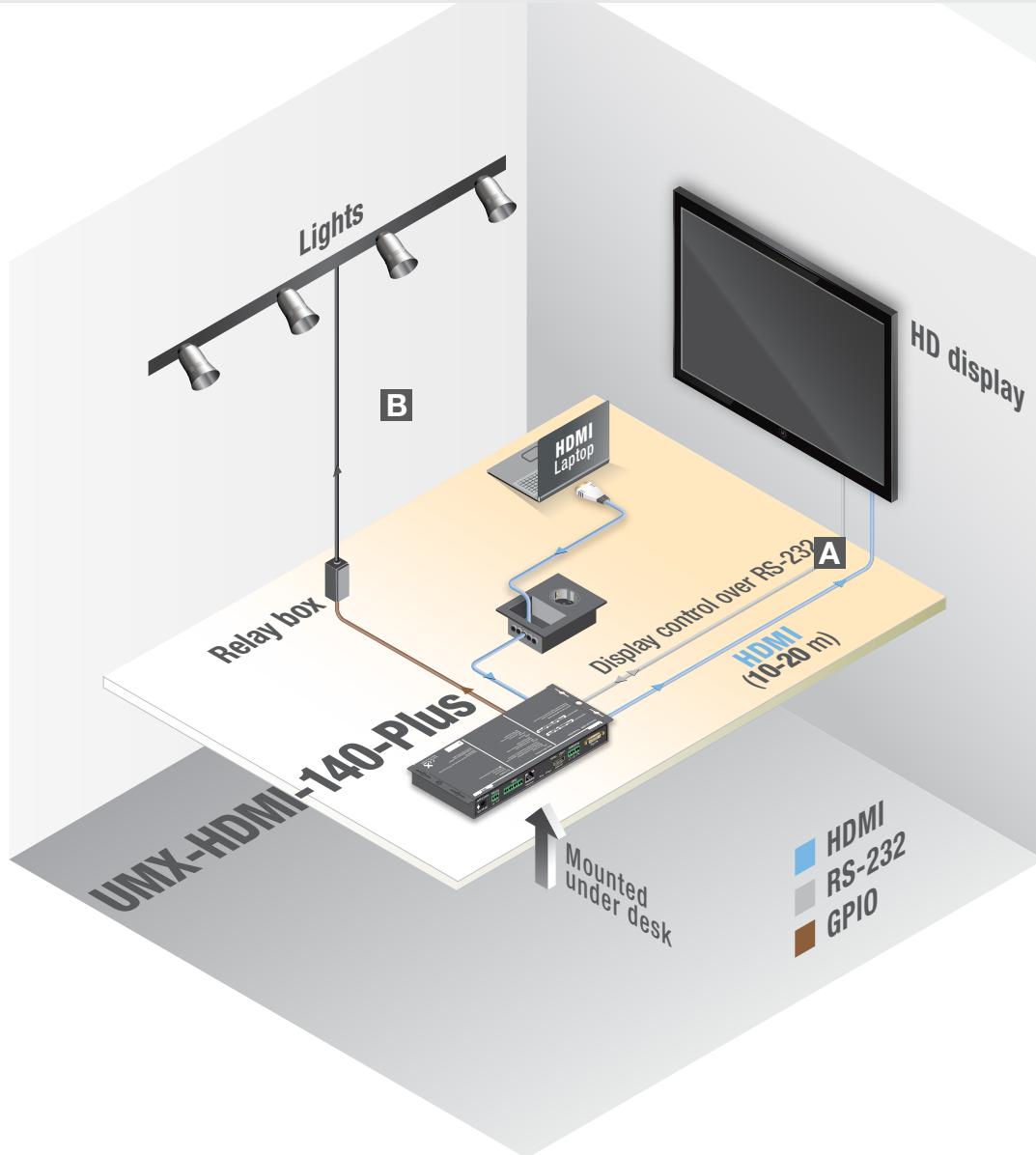Green lines show which Event is configured and active, the rest stays grey

UMX-HDMI-140-Plus

Event Example 1

If a source is connected to the device, then the display turns on, the associated input will be switched to the output display and the lights turn on.

Condition		Action	
SWITCHER ✔ **SOURCE** A source is connected to the switcher	OUT ◀ OUT	**A**	Switches the selected input to the output (autoselect)
	ON ◀	**B**	Switches on the display via RS-232
	💡 ◀ ⏻	**C**	Switches the lights on (over GPIO controlled relay)

Event Example 2

Lights

B

HDMI
Laptop

HD display

Relay box

Display control over RS-232

A

HDMI
(10-20 m)

UMX-HDMI-140-Plus

Mounted
under desk

- HDMI
- RS-232
- GPIO
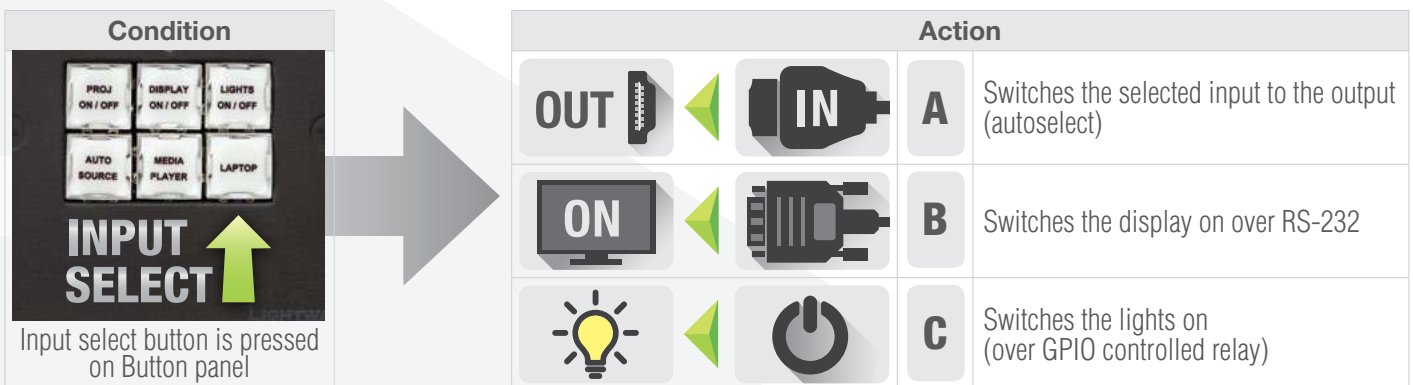
All sources are being disconnected from the switcher. The switcher is waiting for new input signal to appear.
If no signal appears after a given time it switches the display and the lights off.

Condition	Action	
SWITCHER ❌ **SOURCE**	OFF ◀	**A** Switches the display off over RS-232
All sources are being disconnected from the switcher	💡 ◀ ⏻	**B** Switches the lights off (over GPIO controlled relay)
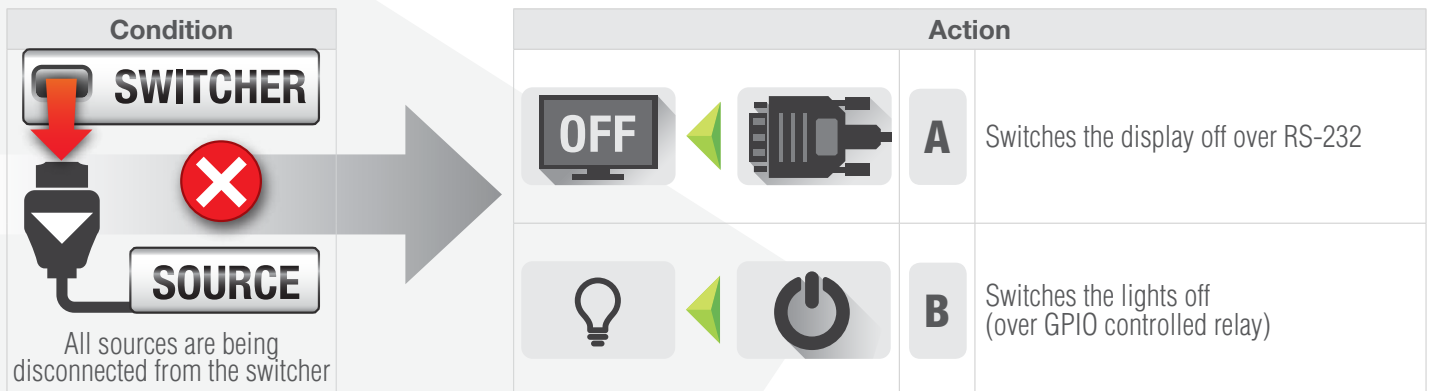
UMX-HDMI-140-Plus

Event Example 3
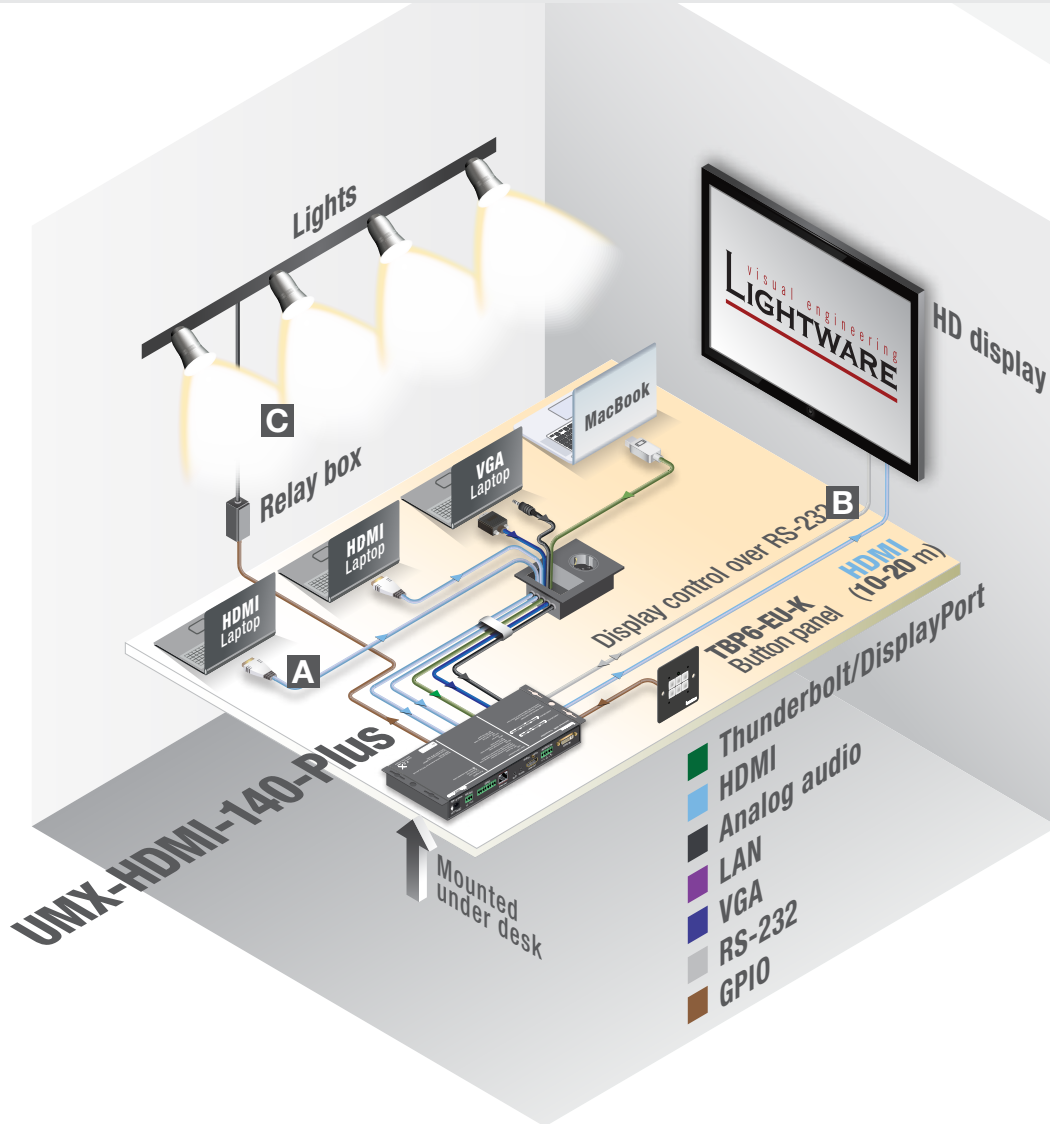
With a button panel connected through the GPIO port, the UMX-HDMI-140-Plus can be controlled from a remote location. Input switching is available even if the transmitter is mounted under desk. In the example above there are three actions followed by a condition. When an input select button is pressed on the remote button panel, the selected input port is switched to the output, the display turns on, and the lights switch on.

Condition	Action		
INPUT SELECT — Input select button is pressed on Button panel	OUT ◄ IN	A	Switches the selected input to the output (autoselect)
	ON ◄	B	Switches the display on over RS-232
	💡 ◄ ⏻	C	Switches the lights on (over GPIO controlled relay)

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 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).

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.