HDMI/USB-C KVM Extender Kit HDBT, 4K/60 Operation Manual

(500452)

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1. Safety Precautions

To ensure the best performance from the product, please read all instructions carefully before using the device. Save this manual for future reference.

- Follow basic safety precautions to reduce the risk of fire, electrical shock, and injury.
- Do not dismantle the housing or modify the module. It may result in electrical shock or burns.
- Do not open or remove the housing of the device as you may be exposed to dangerous voltage or other hazards.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture and do not install this product near water. Keep the product away from liquids.
- Spillage into the housing may result in fire, electrical shock, or equipment damage. If an object or liquid falls or spills on the housing, unplug the module immediately.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.
- Using supplies or parts not meeting the product specifications may cause damage, deterioration or malfunction.
- Refer all servicing to qualified service personnel.
- Install the device in a place with adequate ventilation to avoid damage caused by overheat.
- Unplug the power when left unused for a long period of time.
- Information on disposal of devices: do not burn or mix with general household waste, please treat them as normal electrical waste.

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2. Introduction

The MuxLab HDMI/USB-C KVM Extender Kit HDBT, 4K/60 (500452) allows one HDMI channel and one USB2.0 channel to be transmitted over distances of up to 131ft (40m) at 4K@60Hz (4:4:4) resolution, or 230ft (70m) at resolutions up to 1080p via one (1) Cat 6/6a/7 unshielded twisted pair cable in a point-to-point configuration.

The MuxLab HDMI/USB-C KVM Extender Kit HDBT, 4K/60 includes one (1) transmitter and one (1) receiver. The transmitter is a wall plate HDBT 2x1 switcher with HDMI and USB-C input. It features a US one-gang enclosure for Decora-style wall plate openings. The USB-C input provides an ideal AV interface for connecting with new Apple notebooks and Windows® PCs as well as smartphones and tablets. The Transmitter is remotely powered by the Receiver via PoC. The Receiver features a 1x2 USB2.0 hub for transferring USB2.0 data transmissions and has analog audio output.

3. Features

- Compliant with HDMI 2.0b, HDCP 2.2 and DisplayPort 1.2a
- Supports 18Gbps video bandwidth
- 4K @ 60Hz (4:4:4) to distances of up to 131ft (40m) over single Cat6/6a/7 cable
- 1080p @ 60Hz to distances of up to 230ft (70m) over single Cat6/6a/7 cable
- Supports all digital audio modes
- Supports HDMI and USB-C input
- USB2.0 extension with Receiver
- Input signal selection supports automatic or manual mode
- USB-C charging port

4. Package Contents

- One (1) HDMI/USB-C KVM Extender Kit HDBT, 4K/60 Transmitter
- One (1) HDMI/USB-C KVM Extender Kit HDBT, 4K/60 Receiver
- One (1) Power supply
- Two (2) Wall Mount Brackets
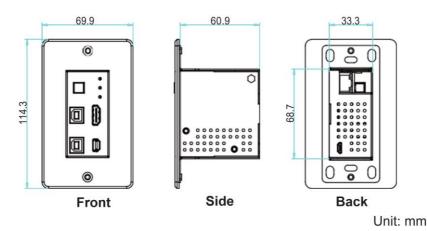- One (1) User manual (available via download)

Notes：Confirm that the product and accessories are all included. If not, please contact the supplier from which you purchased the unit.

5. Specifications

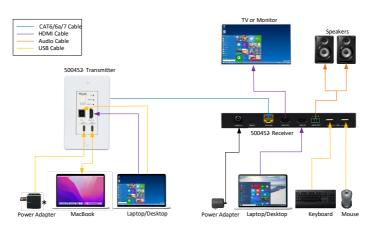|	
HDMI Compliance	HDMI 2.0b, DisplayPort 1.2a
HDCP Compliance	HDCP 2.2
Video Bandwidth	18 Gbps
Video Resolution	4096×2160@24/25/30/50/60Hz, 3840×2160@24/25/30/50/60Hz, 2048x1080p@23.98/24/25/29.97/30/50/59.94/60Hz, 1080i@50/59.94/60Hz, 720p@50/59.94/60Hz, 576p, 576i, 480p, 480i
Color Space	RGB, YCbCr 4:4:4, YCbCr 4:2:2, YUV 4:2:0
Color Depth	8/10/12-bit
HDR	HDR10, HDR10+
HDMI Audio Formats	Dolby Atmos, TrueHD, Digital+, Digital; DTS X, HD Master Audio, HD High Resolution Audio, 5.1; PCM 2-8Ch
Transmission Distance	Max distance (1080p): 230ft / 70m over CAT6/6a/7 Max distance (4K): 131ft / 40m over CAT6/6a/7
ESD Protection	Human body model — ±8kV (Air-gap discharge) & ±4kV (Contact discharge)

Connectors (Transmitter)	Inputs: 1x HDMI Type A [19-pin female]
	            1x USB-C
	Outputs: 1x HDBaseT Out [RJ45, 8-pin female]
	            1x USB-C (only for charging)
	Control: 1x USB-B [Micro USB, Update port]

Connectors (Receiver)	Inputs: 1x HDMI IN [Type A, 19-pin female]
	            1x HDBaseT IN [RJ45, 8-pin female]
	Outputs: 1x HDMI OUT [Type A, 19-pin female]
	            1x AUDIO OUT [Phoenix jack]
	Control: 2x USB [USB A TYPE]
	            1x FW [Micro USB, Update port]

Power Supply	Receiver: One (1) 110-240V/24VDC Power supply with interchangeable blades Transmitter: Powered by the Receiver via PoC (Note: only one power supply is required if USB devices are being powered)
Housing	Metal Enclosure
Dimensions (WxDxH)	Wall plate: 1.31" x 2.58" x 2.70" (33.3mm x 65.7mm x 68.7mm) Faceplate: 2.75" x 0.11" x 4.5" (69.9mm x 3mm x 114.3mm) Receiver: 7.87" x 3.85" x 0.90" (200mm x 98mm x 23mm)
Weight	Wall plate: 0.43 lbs (0.196 kg) Receiver: 1.12 lbs (0.511 kg)
Shipping Weight	2.67 lbs (1.21 kg)
Warranty	2 years
Order Information	500452 HDMI/USB-C KVM Extender Kit HDBT, 4K/60 (UPC: 627699004524)

6. Product Dimensions

Unit: mm

7. Typical Application

Applications include KMV commercial and residential AV systems, classroom projector systems, digital signage, boardroom systems and collaborative PC systems,
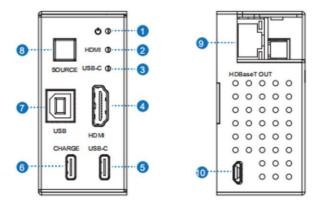
Typical Application Diagram

(*) The TX is PoC powered by the RX. However an optional power supply may be used if connected USB devices do not have their own power supply and must be powered via the TX USB port.
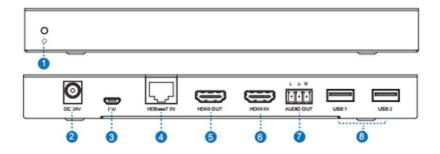
8. Operation Controls and Functions

8.1 Transmitter Panel

No.	Name	Function Description
1	Power LED	The power LED indicator will illuminate in green when the product is powered on, and red when the product is on standby.
2	HDMI LED	When the HDMI input port is active and the HDMI signal is detected, the HDMI LED will illuminate in green.
3	USB-C LED	When the USB-C input port is active and USB-C signal is detected, the USB-C LED will illuminate in green.
4	HDMI port	HDMI input port, connect to HDMI source device.
5	USB-C port	(1) USB-C signal input port. (2) Charging port for devices with USB-C port.
6	CHARGE port	Connect this port to power supply, then the USB-C port will power the connected device.
7	USB-B port	Connect to the computer's USB port.
8	SOURCE button	Used to switch HDMI / USB-C input signal.
9	HDBaseT OUT	Connect to the HDBaseT IN port of Receiver with a CAT6/6a/7 cable.
10	Micro-USB	Firmware update port.

8.2 Reciver Panel

No.	Name	Function Description
1	Power LED	When the product is powered on, the Power LED indicator will turn on.
2	DC 24V	DC 24V power supply connector.
3	FW	Firmware update port.
4	HDBaseT IN	Connect to the HDBaseT OUT port of Transmitter with a CAT6/6a/7 cable.
5	HDMI OUT	HDMI output port, connect to HDMI display device.
6	HDMI IN	HDMI input port, connect to HDMI source device.
7	AUDIO OUT	Analog audio output port.
8	USB port	Two USB ports for KVM function.

Note:

The transmitter supports automatic/manual mode for source signal input. In manual switching mode, press the SOURCE button to select HDMI/ USB-C input source.

In automatic switching mode, the last connected or the currently connected source signal will be selected automatically; When both HDMI and USB-C ports are connected to active signal, HDMI signal input is preferred; When both HDMI and USB-C ports are not connected to active signal, it will switch to the source signal of the Receiver.

9. Troubleshooting

The following table describes some of the symptoms and possible solutions regarding the HDMI/USB-C KVM Extender Kit HDBT, 4K/60.

symptom	Probable cause	Possible solution
No Image	• No power or wrong power supply	Check power connections
	• UTP Cable	Check the UTP Cable
	• HDMI or USB-C cable	Chexk the HDMI and USB-C cables
	• Synchronization	Check UTP Cable length.
Flickering Image	• Synchronization	Check UTP Cable Length
		Check the HDMI and USB-C Cables
Choppy sound	• Synchronization	Check UTP Cable Length
USB not working but video OK	• USB Cable	Check USB Cable

If you still cannot diagnose the problem, please call MuxLab Customer Technical Support at 877-689-5228 (toll-free in North America) or (+1) 514-905-0588 (International).

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