

5K30Hz HDBT 3.0 Box to Box Extender Kit

EX-40-KVM-5K

WyreStorm®

Quickstart Guide

💡 WyreStorm recommends reading through this document in its entirety to become familiar with the product's features prior to starting the installation process.

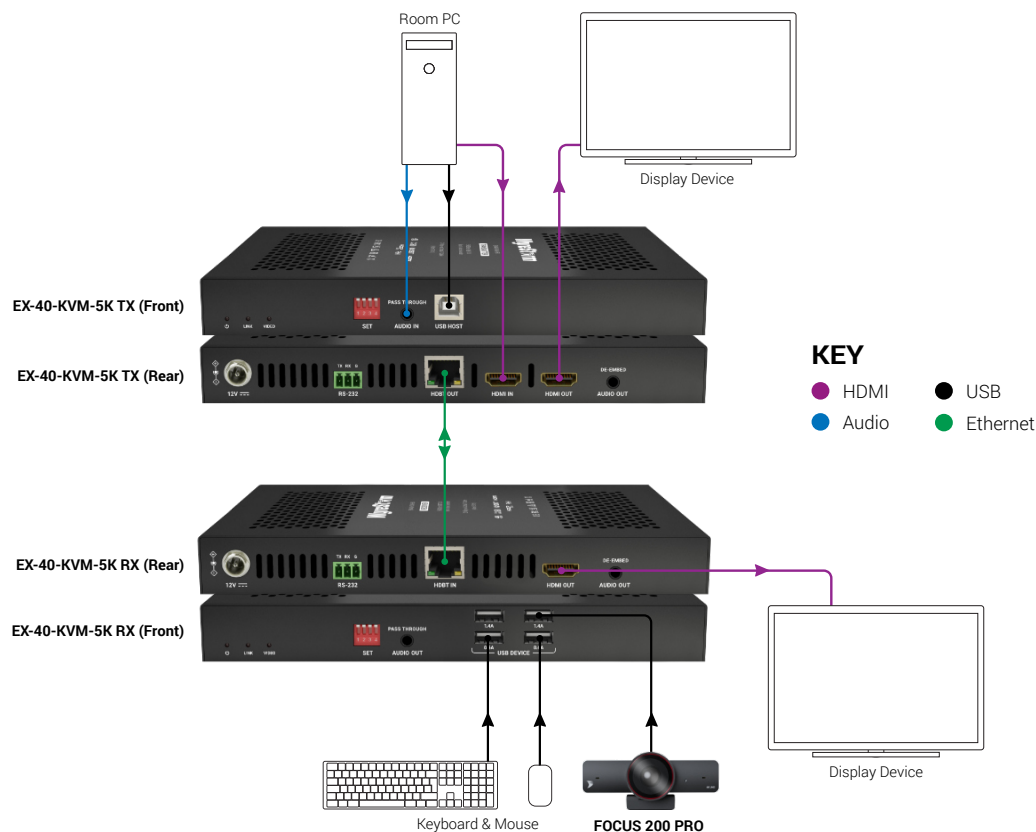
⚠️ IMPORTANT! Installation Requirements

- Read through the [Wiring and Connections](#) section for important wiring guidelines before creating or choosing premade cables.
- While these products support CEC for the HDMI outputs, WyreStorm cannot guarantee compatibility with all forms of CEC communication.
- Visit the product pages to download the latest firmware, document version, additional documentation, and configuration tools.

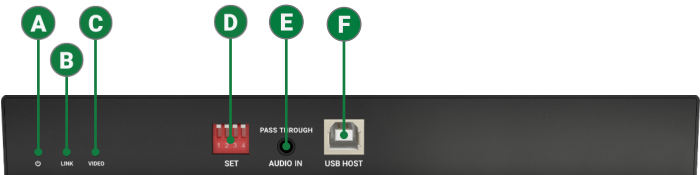
In the Box

- 1x EX-40-KVM-5K Transmitter
- 1x EX-40-KVM-5K Receiver
- 1x DC 12V 3A (US/EU/UK/AU)
- 2x 3-pin Phoenix Connectors
- 8x Mounting Brackets (with Screws)
- 1x USB2.0 Type-A to Type-B cable
- 1x Quickstart Guide (This Document)

Basic Wiring Diagram

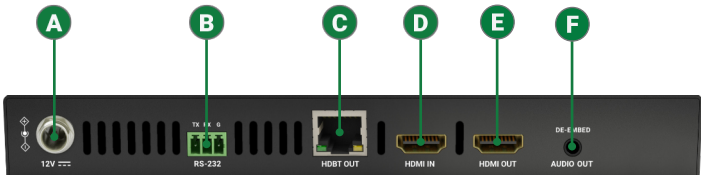


EX-40-KVM-5K Transmitter (Front)



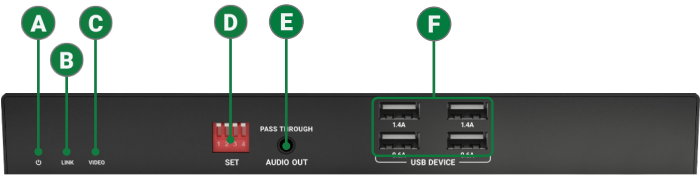
A Power LED	Solid: The unit is powered On Off: The unit is powered Off
B Link LED	On: HDBT link is normal Off: No HDBT link or link error
C Video LED	On: HDMI input signal is active Off: No HDMI signal or input signal is inactive
D Set	4-Pin DIP Switch for settings of RS232 working mode (RS232 pass-through, Valens firmware upgrade and MCU firmware upgrade). For more information, see "DIP Switch Settings" section.
E AUDIO IN (Pass Through)	Connect to an audio source for audio pass-through from transmitter to receiver
F USB HOST	USB 2.0 Type-B port. Connect to a USB host device (e.g., PC).

EX-40-KVM-5K Transmitter (Rear)



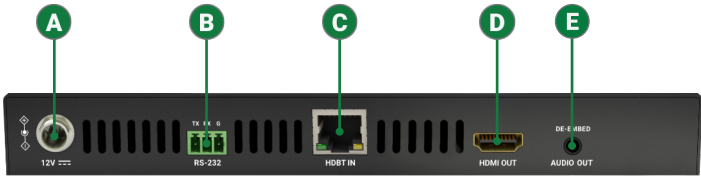
A Power	Connect to the power adapter provided. With one-way PoH function supported, one power adapter is needed to connect to the receiver to power both units.
B RS-232	Connect to a RS232 device for bi-directional RS232 pass-through or firmware upgrade
C HDBT Output	Connect to the HDBT In port of the receiver
D HDMI Input	Connect to an HDMI source device
E HDMI Output	Connect to an HDMI display device for HDMI signal loop-out
F AUDIO OUT (De-embed)	Connect to an audio receiver (e.g., speaker) for audio de-embedding output.

EX-40-KVM-5K Receiver (Front)



A Power LED	Solid: The unit is powered On Off: The unit is powered Off
B Link LED	On: HDBT link is normal Off: No HDBT link or link error
C Video LED	On: HDMI input signal is active Off: No HDMI signal or input signal is inactive
D Set	4-Pin DIP Switch for settings of RS232 working mode (RS232 pass-through, Valens firmware upgrade and MCU firmware upgrade). For more information, see "DIP Switch Settings" section.
E AUDIO OUT (Pass Through)	Connect to an audio receiver for audio pass-through from transmitter to receiver
F USB Device	USB 2.0 Type-A port. Connect to USB devices (e.g., keyboard, mouse, USB camera, USB flash drive, etc.). Note: USB ports support the USB 2.0 standard with a maximum of 1.4A for the top two ports and 0.6A on the bottom two ports. Before connecting a USB 3.0 device, confirm the compatibility with USB 2.0.

EX-40-KVM-5K Receiver (Rear)



A Power	Connect to the power adapter provided. With one-way PoH function supported, one power adapter is needed to connect to the receiver to power both units.
B RS-232	Connect to a RS232 device for bi-directional RS232 pass-through or firmware upgrade
C HDBT Input	Connect to the HDBT Out port of the transmitter
D HDMI Output	Connect to an HDMI display device
E AUDIO OUT (De-embed)	Connect to an audio receiver (e.g., speaker) for audio de-embedding output

Wiring and Connections

WyreStorm recommends that all wiring for the installation is run and terminated prior to making connections to the switcher. Read through this section in its entirety before running or terminating any wires to ensure proper operation and to avoid damaging the equipment.

⚠ IMPORTANT! Wiring Guidelines

- The use of patch panels, wall plates, cable extenders, kinks in cables, and electrical or environmental interference will have an adverse effect on signal transmission which may limit performance. Steps should be taken to minimize or remove these factors completely during installation for best results.
- WyreStorm recommends the use of shielded category cable to minimize signal noise and interference.
- WyreStorm recommends using pre-terminated HDMI cables due to the complexity of these connector types. Using pre-terminated cables will ensure that these connections are accurate and will not interfere with the performance of the product.

Cat6a/7 Cable Performance Guide



WyreStorm recommends the use of shielded cable to minimize signal noise and interference

Communication Connections

RS-232 Wiring

The EX-40-KVM-5K uses a 3-pin RS-232 with no hardware flow control. Most control systems and computers are DTE where pin 2 is RX, this can vary from device to device. Refer to the documentation for the connected device for pin functionally to ensure that the correct connections can be made.

3-Pin Phoenix

WyreStorm Connector		3rd Party Device
Pin 1 TX (Transmit)	---> To --->	RX (Receive)
Pin 2 RX (Receive)	---> To --->	TX (Transmit)
Pin 3 G (Ground)	---> To --->	G (Ground)

Troubleshooting

No or Poor Quality Picture (snow or noisy image)

- Verify that the HDMI inputs and HDMI output connections are not loose and are functioning property.
- Verify that the output resolution of the source and display is supported by this extender.
- Configure EDID Settings to a lower resolution.
- If transmitting 5K, verify that the HDMI cables used are 5K rated.

Specifications

Audio and Video			
Inputs	Transmitter: 1x HDMI In: 19-pin Type A 1x Audio In 1x USB 2.0 type-B (Host) Receiver: 1x HDBaseT In: RJ45 4x USB 2.0 type-A (Devices)		
Outputs	Transmitter: 1x HDBT Out: RJ45 1x HDMI Out: 19-pin Type A 1x Audio Out Receiver: 1x HDMI Out: 19-pin Type A 1x Audio Out (Pass-through) 1x Audio Out (De-embed)		
Output Video Encoding	18Gbps		
Audio Formats	HDMI & HDBaseT: Fully supports audio formats in HDMI 2.0 specification, including PCM 2.0/5.1/7.1, Dolby TrueHD, Dolby Atmos, DTS-HD Master Audio and DTS:X; Audio pass through & Audio de-embedding: PCM 2.0ch only		
Transmission Distance	Cat 5e/6 (UTP):	60m/197ft	1080p@60Hz 4:4:4 4K@30Hz 4:4:4
		40m/131ft	4K@60Hz 4:4:4
	Cat 6A/7 (U/FTP, F/FTP or S/FTP):	70m/230ft	1080p@60Hz 4:4:4 4K@30Hz 4:4:4
		40m/131ft	4K@60Hz 4:4:4
Video Resolutions (Max)	SMPTE: 1280x720p @60Hz, 1920x1080i @60Hz, 1920x1080p @240Hz, 3840x2160 @60Hz, 3840x2160 @120Hz (YUV420), 4096x2160 @60Hz, 4096x2160 @120Hz (YUV420), 5120x1440 @60Hz, 5120x2160 @30Hz VESA: 800x600@60Hz, 1024x768@60Hz, 1280x768@60Hz, 1280x800@60Hz, 1280x960@60Hz, 1280x1024@60Hz, 1360x768@60Hz, 1366x768@60Hz, 1400x1050@60Hz, 1440x900@60Hz, 1600x900@60Hz, 1600x1200@60Hz, 1680x1050@60Hz, 1920x1200@144Hz, 2560x1440@144Hz, 2560x1600 @60Hz, 2560x1600 @120Hz(YUV420), 3440x1440 @100Hz 3840x1080@100Hz 3840x 1440@60Hz		
Data Rate	HDMI & HDBT: Up to 18Gbps USB 2.0: Up to 350Mbps		
Supported Standards	DCI (4096x2160) RGB HDR HDR10 Dolby Vision HLG BT.2020 CEC HDBT 3.0		
Maximum Pixel Clock	600MHz		
Power			
Power Supply	12V		
Power Consumption	18.96W		
Environmental			
Operating Temperature	0 to + 45°C (32 to + 113 °F), 10% to 90%, non-condensing		
Storage Temperature	-20 to +70°C (-4 to + 158 °F), 10% to 90%, non-condensing		
ESD Protection	Human-body Model: ±8kV (Air-gap discharge)/ ±4kV (Contact discharge)		
Dimensions and Weight			
Height	25mm/0.98in		
Width	215mm/8.46in		
Depth	120mm/4.72in		
Weight	1.709kg/3.77lb		
Safety and Emission	CE FCC RoHS RCM EAC UKCA		

Note: WyreStorm reserves the right to change product specification, appearance or dimensions of this product at any time without prior notice.

Warranty Information

WyreStorm Technologies ProAV Corporation warrants that its products to be free from defects in material and workmanship under normal use for a period of five (5) years from the date of purchase. Refer to the Product Warranty page on wyrestorm.com for more details on our limited product warranty.

