

Specification

KEX-HBT3-S(H/D)90P		Transmitter Unit (PSE)	Receiver Unit (PD)
Maximum Resolution		4096 x 2160 @60Hz (4:4:4)	
		3840 x 2160 @60Hz (4:4:4)	
Video Extension	Main	Video Input x 1	Video Output x 1
	AUX	HDMI 2.0 Out x 1 (Local or Video Return)	HDMI Input x 1 (720P Video Return)
Link Port		RJ45 x 1 (Cat6a/7)	
Extension Distance		70 ~ 90m @ 4K60Hz (4:4:4)	
USB 2.0 Extension		USB-B x 1 (To Host)	USB-A x 3 (Front)
		USB-A x 3 (Local)	USB-A x 1 (Rear)
Serial Extension		RJ11 x 1	
Audio Extension		3.5mm Audio Input x 1	3.5mm Audio Output x 1
		3.5mm MIC Output x 1	3.5mm MIC Input x 1
Push Buttons		Audio Embed x 1	Audio Embed x 1
		Video Mode x 1	Audio Extract x 1
LED Indicators		Audio Embed x 1	Audio Embed x 1
		Video Mode x 1	Audio Extract x 1
Power Consumption		Total 15W (48V, 315mA for PoH TX-to-RX) (Non-PoH Models: Both Units connect to DC 12V)	
H x W x D (mm)		30 x 110 x 135	
Operating Environment		Temperature 0 ~ 50°C, Humidity 0 ~ 80%	
Storage Temperature		-20 ~ 60°C	

Installation



WARNING

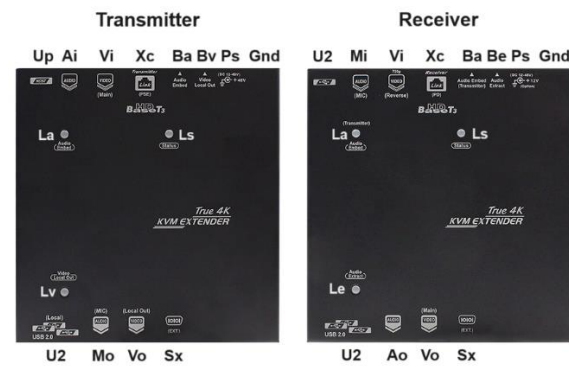
- Ensure all devices are powered off before connecting to the Unit.
- Make sure all devices you are connecting are properly grounded.

1. Use a Cat6a/7 cable to connect the transmitter & receiver.
2. Use an HDMI 2.0 cable to connect the source device to the HDMI input [Vi] port on the transmitter unit. Connect the stereo audio I/O to 3.5mm audio jacks (if necessary).
3. Use an HDMI 2.0 cable for connection between display and the HDMI output port on the receiver unit. Connect the stereo audio I/O to 3.5mm audio jacks (if necessary).
4. Apply proper power to the units, then power on the attached source and devices.

NOTE: If users encounter no video display in computer connection:

1. Make sure the devices' cables are correctly and firmly attached.
2. Set your display device's input source as HDMI 2.0 (DP if using DP Model).
3. Check the PC BIOS configuration about the video output setting.
4. Connect your computer to the display directly to check if the video signal gets through.

Product Description



Vi	Vo	Video Extension	[Vi] Connects to Local 4K Video Source [Vo] Connects to Remote 4K/8K Display
Vi	Vi	Video Input (Reverse)	[Vi] Connects to Remote 720P HDMI Source (Video Return)
Vo	Vo	Video Output (Local)	[Vo] Connects to Local Display (Local Console / Video Return)
Bv	Bv	Video Mode Button	Press & Hold for 2 Secs to Switch Between Local Console Mode & Video Return Mode
Lv	Lv	Video Mode LED	Emit Green in Local Console Mode
Ai	Ao	Audio Extension	Speaker Input [Ai] Connects to PC's Speaker Out Speaker Output [Ao] Connects to an Active Speaker
Mo	Mi	Microphone Extension	MIC Input [Mi] Connects to an Active Microphone MIC Output [Mo] Connects to PC's Microphone Input
Ba	Ba	Audio Embed Button	Press & Hold for 2 Secs to Turn On/Off Audio Embed
Be	Be	Audio Extract Button	Press & Hold for 2 Secs to Turn On/Off Audio Extract
La	La	Audio Embed LED	Emit Yellow in Audio Embed Mode
Le	Le	Audio Extract Mode	Emit Yellow in Audio Extract Mode
Up	U2	USB 2.0 Extension	USB-B [Up] Connects to PC (USB Host), USB-A [U2] Connects to Device (KB/MS/Storage)
U2	U2	Local USB 2.0	USB-A [U2] Connects to Device (KB/MS/Storage)
Ps	Ps	Transmitter Power	Connects to 48V DC (Non-PoH Models use 12V DC)
Ps	Ps	Receiver Power*	Connects to Optional 12V DC (similar to Non-PoH Models)
Sx	Sx	Serial Extension**	[Sx] Connects to Serial Host or Serial Device
Ls	Ls	Status LED	See LED Indicators
Xc	Xc	RJ-45 Jack (Link Port)	Use a Cat6a/7 Cable for Connection Between 2 Units
Gnd	Gnd	Ground Terminal	Connects to Proper Ground

* Optional 12V DC Input (RX Power Adapter not included) reserved in case PoH fails, may take up to 48V DC

** Use RJ11-to-DB9 and DB9-to-USB Adapter if necessary

Features

- Enables reliable local and 70 ~ 90m* remote access to a 4K60 HDMI 2.0/DisplayPort computer or a/v source via a Cat6a/7 cable.
- Uncompressed True 4K HDMI 2.0/DisplayPort extension enabled by HDBaseT 3.0 Technology.
- HDMI 2.0/DisplayPort video supports most popular resolutions up to 4K@60Hz (4:4:4), and equivalent-bandwidth resolutions such as 8K@30Hz (4:2:0).
- HDCP 2.2 and HDCP 1.4 compliance.
- Local Console Mode with HDMI 2.0 and USB 2.0 provides a local KVM console to the computer.
- Video Return Mode** allows an auxiliary 720p video from the Receiver.
- USB 2.0 extension supports keyboard, mouse, USB storage and camera.
- Serial extension allows for extensive RS-232 control applications.
- CEC pass-through allows easy control.
- Audio embedding allows users to insert informative audio content into the HDMI/DisplayPort signal.
- Audio extracting enables easy connection to an analog audio amplifier.
- Audio Embed Controls on both sides allow versatile audio applications.
- HDMI Audio Return Channel support facilitates audio applications.
- PoH (Power over HDBaseT) allows the Transmitter to supply power to the Receiver

Package Contents

- 1 x Transmitter Unit
- 1 x Receiver Unit
- 1 x Power Adapter (Only 1 power adapter is included in PoH Models)
- 1 x USB A-B Cable (for USB Host)
- 2 x Serial Adapter
- 1 x User Manual
- 2 x Foot Pad Set
- 2 x Mounting Bracket Set

* Video Extension Distance Depends on Cable Quality. Use High Quality HDBaseT 3.0 Premium Certified Cable for Optimum Result.

** Video Return Mode and other upstream extensions (e.g., USB 2.0 and Serial) share the available upstream bandwidth. If Video Return Mode is enabled, it may affect the performance of other extensions, and media playback (e.g., playing of audio/video file from an extended USB drive) should be avoided.

User Manual

HDBT HDBaseT 3.0

4K 60Hz 4:4:4 HDBaseT Extender with Local Out, Audio Embedding/Extracting, RS-232 & USB 2.0 Extension, PoH



KEX-HBT3-SH90P and KEX-HBT3-SD90P User Manual

Product Family					
Model	Video Ext	PoH (TX to RX)	IR Ext	USB Ext	Serial Ext
KEX-HBT3-SH90	HDMI 2.0	-	-	Yes	Yes
KEX-HBT3-SH90P	HDMI 2.0	Yes	-		
KEX-HBT3-SD90P	DisplayPort	Yes	-		



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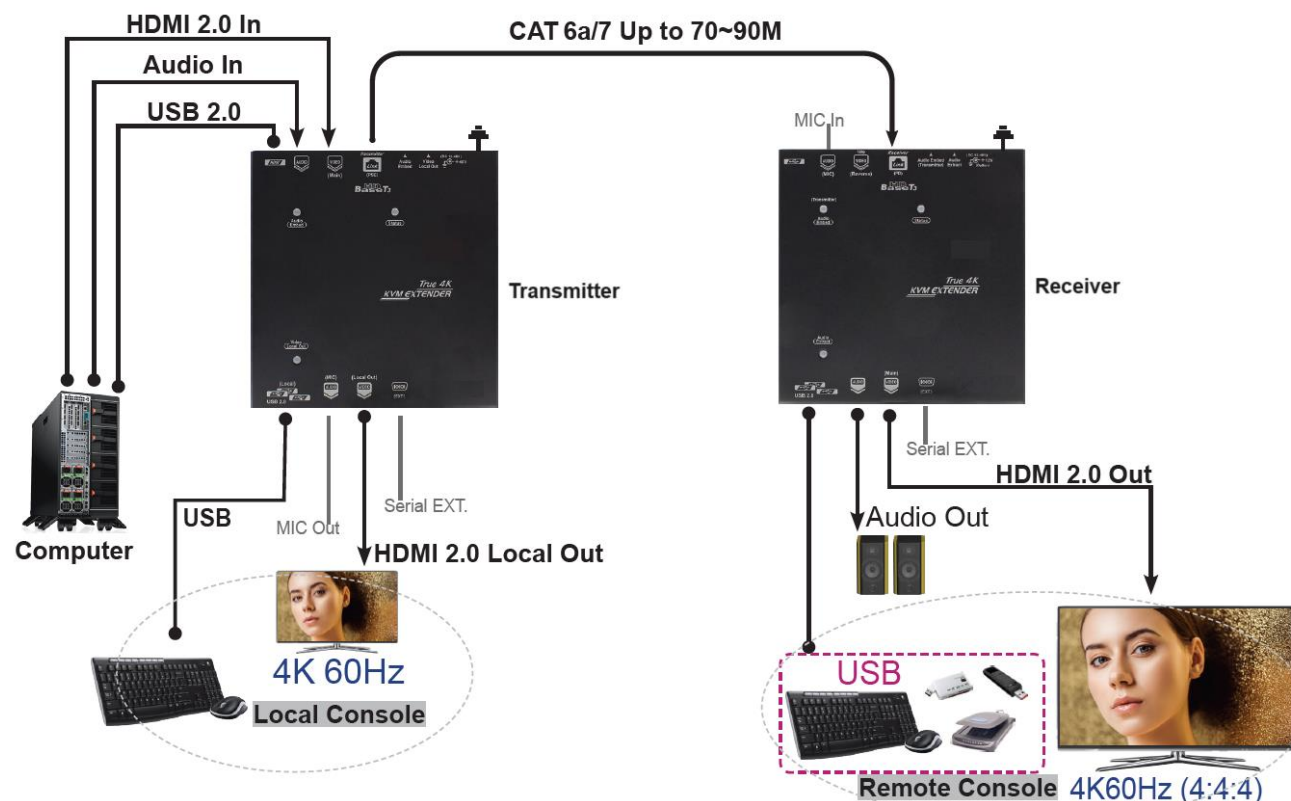
■ The final specification is based on the actual product.
■ Features and functions may be added or changed after the manual was written. Please visit our website to download the latest version of manual for reference.

RXN-HBT3-R01P.1



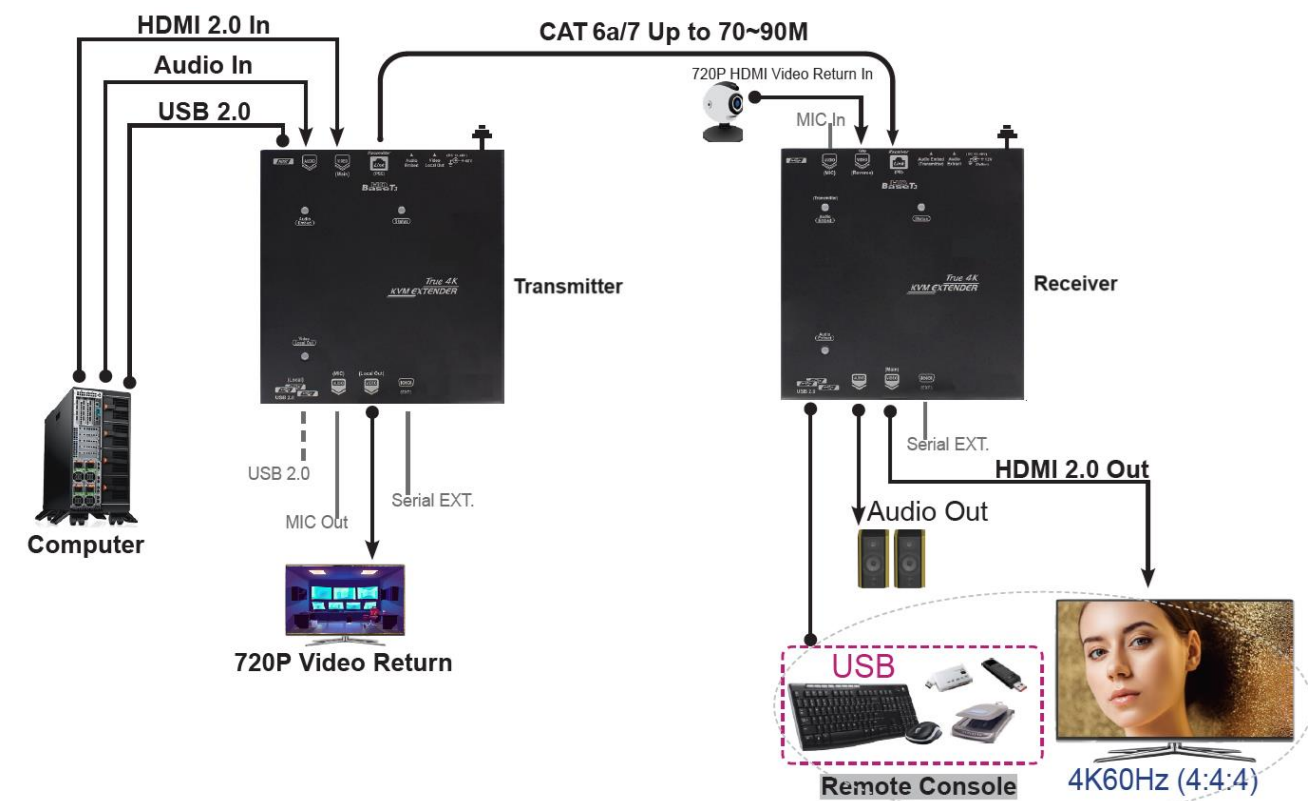
Connection Diagram

(Local Console Application)



Connection Diagram

(Video Return Application)



LED Indicators

System LED [Ls]	
Transmitter Unit	No Connection : Green Link OK : Blue (HDCP Video: Purple)
Receiver Unit	No Connection : Red Link OK : Blue (HDCP Video: Purple)

Video Mode LED [Lv]	
Local Console Mode	Emit Green
Video Return Mode	Off (Default)

Audio Embed LED [La]	
Audio Embed On	Emit Yellow
Audio Embed Off	Off (Default)

Audio Extract LED [Le]	
Audio Extract On	Emit Yellow
Audio Extract Off	Off (Default)

Local Console Mode & Video Return Mode

Status	
Local Console Mode	Local HDMI Output [Vo] duplicates the Transmitter's Video Input [Vi] & supports up to 4K 60Hz (4:4:4) resolution
Video Return Mode	Local HDMI Output [Vo] displays the Receiver's Video Input [Vi] & supports up to 720p resolution

* Press & Hold Video Mode Button [Bv] for 2 secs to toggle between Video Modes

** Video Return Mode and other upstream extensions (e.g., USB 2.0 and Serial) share the available upstream bandwidth. If the Video Return Mode is enabled, it may affect the performance of other extensions, and media playback (e.g., playing of audio/video file from an extended USB drive) should be avoided.

Audio Modes

Users can switch audio embedding or audio extraction On/Off to enable the following three audio modes.

Audio Modes	Audio Embed*	Audio Extract**	Audio Source for Receiver's Audio Outputs	
			Video Out [Vo]	Audio Out [Ao]
1. Independent Transmission	OFF	OFF	Video In [Vi]	Audio In [Ai]
2. Audio Embed Mode	ON	ON or OFF	Audio In [Ai]	Audio In [Ai]
3. Audio Extract Mode	OFF	ON	Video In [Vi]	Video In [Vi]

Audio Modes	Status
Independent Transmission	Native HDMI/DP Audio Extends to The Receiver's HDMI/DP (Vi ^{TX} → Vo ^{RX}) 3.5mm Audio Extends to The Receiver's Audio Output (Ai ^{TX} → Ao ^{RX})
Audio Embed Mode	3.5mm Audio Extends to The Receiver's Video (Ai ^{TX} → Vo ^{RX}) 3.5mm Audio Also Extends to The Receiver's Audio Output (Ai ^{TX} → Ao ^{RX})
Audio Extract Mode	Native HDMI/DP Audio Extends to The Receiver's HDMI/DP (Vi ^{TX} → Vo ^{RX}) Native HDMI/DP Audio Extends to The Receiver's Audio Output (Vi ^{TX} → Ao ^{RX})

* Press & Hold Audio Embed Button [Ba] for 2 Secs to Turn On/Off Audio Embed

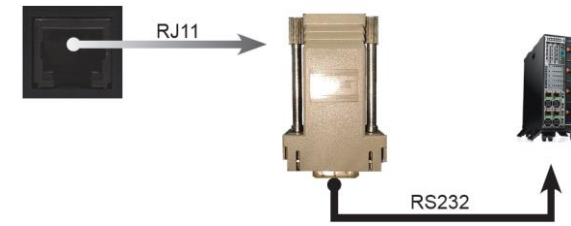
** Press & Hold Audio Extract Button [Be] for 2 Secs to Turn On/Off Audio Extract

***When Audio Embed / Video Return Functions' Status is Changed, **Re-Powering of the Units are Required.**

Serial Extension

1. RJ-11 with DB9 Adaptor (Recommended) :

User may use the RJ11-to-DB9 adaptor to convert the RJ-11 connector to a standard RS-232 (DB9) connector. This allows serial control extension via either a computer or a central control unit.

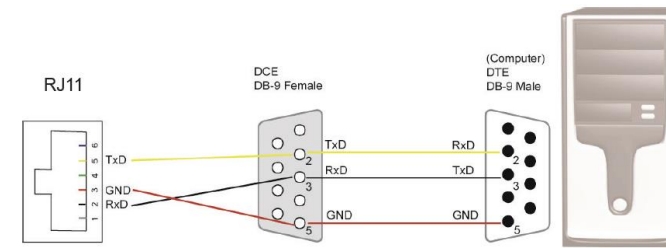


RS232-to-USB Converter

User may purchase a RS232-to-USB converter to connect to the computer that has no COM port (for example, a laptop).

2. RJ-11 Hard-Wiring :

Experienced user may connect the serial extension to a central control panel or unit by hard-wiring the RJ-11 cable. The following is the pinout definition of the serial extension connector.



Limited Warranty

IN NO EVENT SHALL THE DIRECT VENDOR'S LIABILITY FOR DIRECT OR INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS, LOSS OF BUSINESS, OR FINANCIAL LOSS CAUSED BY THE USE OF THE PRODUCT EXCEED THE PRICE PAID FOR THE PRODUCT.

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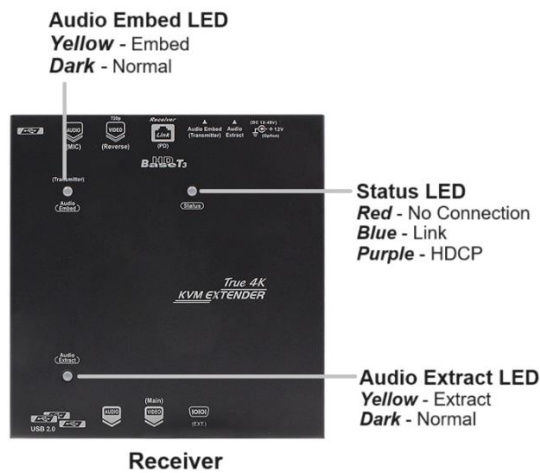
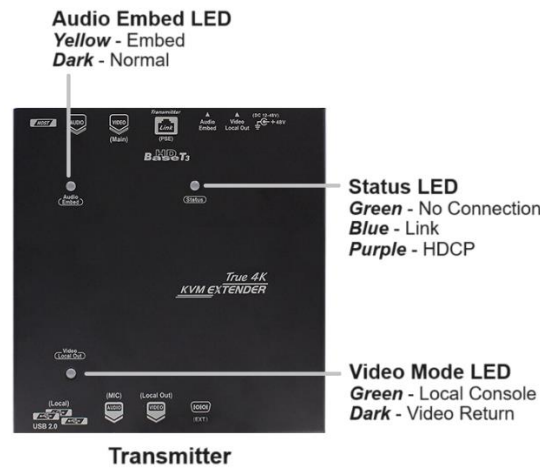
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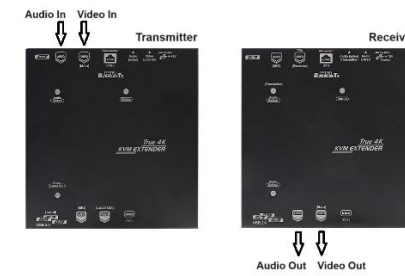
RECOMMENDATION

Grounding

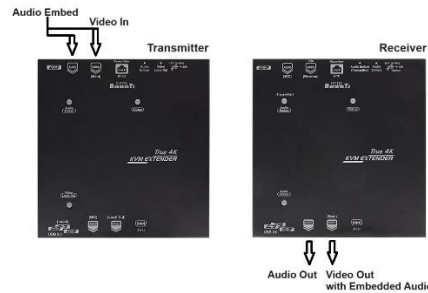
While using the HDBaseT product, the high-speed digital application may be sensitive to the environment. We strongly recommend grounding.



Independent Transmission



Audio Embed



Audio Extract

