



4K HDR HDMI 2.0 & USB 2.0 Extender Over HDBaseT with RS-232 & IR User Reference Guide



P/N: CE-H23411-S1

Introduction

The *4K HDR HDMI 2.0 & USB 2.0 Extender Over HDBaseT with RS-232 & IR* extends HDMI transmission distance up to 330ft (100m) at 1080p or 230ft (70m) at 4K over an economical CAT5e/6 cable. Plus, bi-directional extension of IR, RS232 and USB 2.0 for advanced and interactive applications.

Features and Benefits

- Supports video resolutions up to 4Kx2K @60Hz (4:4:4 8bit) or HDR 4Kx2K @60Hz (4:2:0 10bit) to deliver crystal clear images
- 7.1 Digital sound capabilities as well as uncompressed LPCM and compressed DTS-HD & Dolby True HD for a state-of-the-art entertainment experience
- PoC (Power over Cable) feature, only one power adapter is required to power both the transmitter and receiver units
- Bi-directional IR sensors allow you to remotely control the HDMI source device from the remote display side or control the remote display from the source device side
- Supports 3D, CEC, HDMI 2.0 and HDCP 2.2 protocols. Bandwidth up to 18Gb/s
- ARC feature allows you to free the audio from on-demand content within a Smart TV with ARC
- Premium metal housing with ventilation panels improve heat dissipation for enhanced safety and stability
- Built-in phoenix connector for RS232 control signal transmission or firmware update. Included mounting ears for easy installation

Specifications

Compliance	HDMI 2.0a / HDCP 2.2
Resolution	HDR 4Kx2K @60Hz (4:2:0 10bit) / 4Kx2K@60Hz (4:4:4 8bit)
Audio	LPCM, DTS-HD and Dolby True HD (7.1CH)
Transmission Distance	HDR 4Kx2K @60Hz: Up to 70m 1080p @60Hz: Up to 100m
IR Signal Frequency	20KHz to 60KHz
Connectors	<p><u>TX:</u> 1x 19-pin HDMI Type-A, Female 1x 3.5mm audio jack (Stereo) 1x 3.5mm IR Blaster 1x 3.5mm IR Receiver 1x 9-pin USB Type-A, Female (Device) 1x Micro USB, Female (Host) 1x Dip switch 1x 3-pin phoenix connector (RS-232) 3x LED indicator (Power/Link/Signal) 1x 8-pin RJ45 1x Power jack</p> <p><u>RX:</u> 1x 19-pin HDMI Type-A, Female 1x 3.5mm audio jack (Stereo) 1x S/PDIF output 1x 3.5mm IR Blaster 1x 3.5mm IR Receiver 1x 9-pin USB Type-A, Female (Device) 1x Micro USB, Female (Host) 1x Dip switch 1x 3-pin phoenix connector (RS-232) 3x LED indicator (Power/Link/Signal) 1x 8-pin RJ45 1x Power jack</p>
Housing Material	Metal
Power Adapter	Input: AC 100-240V/ 50~60Hz Output: DC 24V / 1A

Package Contents

- 4K HDR HDMI 2.0 & USB 2.0 Extender (TX & RX)
- Power adapter
- IR blaster extension cable & IR receiver extension cable
- Mounting ears & Screw kit
- Terminal block
- User Reference Guide

Layout

Note: With PoC technology, only one power adapter is needed to power both the Transmitter and Receiver.

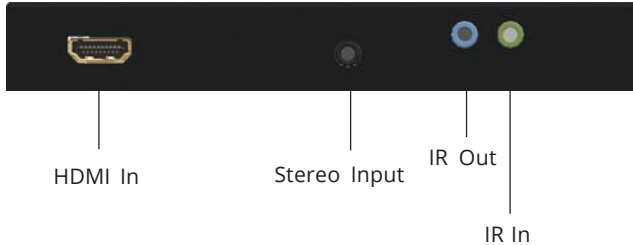


Figure 1: Transmitter (TX) - front

- **HDMI In:** Connect your HDMI source here with an HDMI cable (cable not included)
- **Stereo Input:** Provides a channel to extend an external analog audio to receiver over HDBaseT
- **IR Out:** Infrared 3.5mm socket. Plug IR Blaster extension cable here. See instructions on page 8.
- **IR In:** Infrared 3.5mm socket. Plug IR Receiver extension cable here. See instructions on page 8.

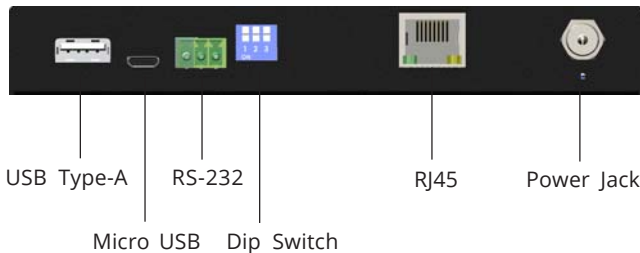


Figure 2: Transmitter (TX) - rear

- **USB Type-A:** Connect to USB Device
- **Micro USB:** Connect to USB Host
- **Phoenix connector (RS232):** Connect to the included terminal block and RS-232 connector (not included), then connect to a serial port device or computer for data transferring
- **Dip Switch:** Refer to below table for configuration
 - ON: In lower position
 - OFF: In upper position

DIP Switch Position			Description
Pin 1 (option 1)	TX	On (default)	Connect Micro USB port to USB Host
	RX	OFF (default)	Connect USB device to Type-A port
Pin 1 (option 2)	TX	OFF	Connect USB device to Type-A port
	RX	ON	Connect Micro USB port to USB Host
Pin 2 & 3	Pin 2 (TX & RX)	Pin 3 (TX & RX)	
	ON	ON	HDBaseT firmware update
	ON	OFF	HDBaseT monitor mode
	OFF	ON	System firmware update
	OFF (default)	OFF (default)	HDMI extender mode

- **RJ45 (HDBT Out):** Connect the Cat5e/6 cable
- **Power Jack:** Connect the included 24V DC power adapter here (or the Receiver's power jack)

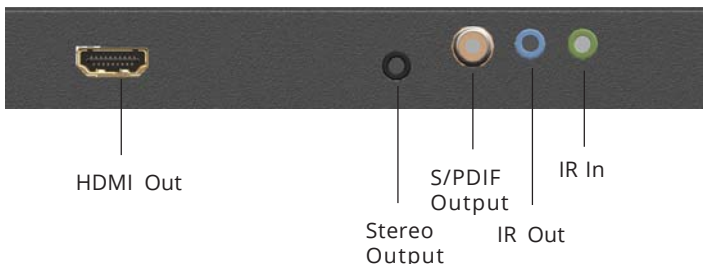


Figure 3: Receiver (RX) - front

- **HDMI Out:** Connect your HDMI display with an HDMI cable (cable not included)
- **Stereo Output:** External analog audio output from transmitter over HDBaseT
- **S/PDIF Output:** Local ARC output
- **IR Out:** Infrared 3.5mm socket. Plug [IR Blaster](#) extension cable here. See instructions on page 8.
- **IR In:** Infrared 3.5mm socket. Plug [IR Receiver](#) extension cable here. See instructions on page 8.

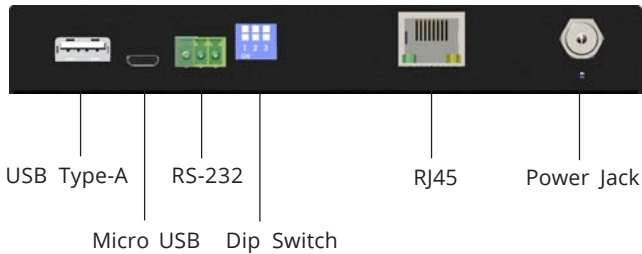


Figure 4: Receiver (RX) - rear

- **USB Type-A:** Connect to USB Device
- **Micro USB:** Connect to USB Host
- **Phoenix connector (RS232):** Connect to the included terminal block and RS-232 connector (not included), then connect to a serial port device or computer for data transferring
- **Dip Switch:** Refer to the table on page 5 for details.
- **RJ45 (HDBT In):** Connect the Cat5e/6 cable
- **Power Jack:** Connect the included 24V DC power adapter here (or the Transmitter's power jack)

RS-232 Wire Connection

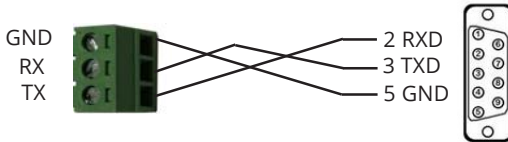
1. Insert the included terminal block to **Phoenix connector**.



Figure 5

2. Connect the wires (not included) to the included Terminal Block and the RS232 connector as below diagram.

- Via pin to pin (Parallel) connector or cable:



- Via null connector or cable:

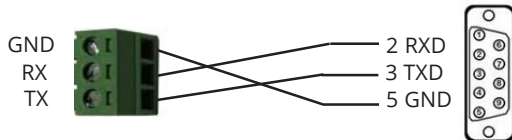


Figure 6

IR Extenders (20~60kHz IR devices supported)



Figure 7: IR Blaster cable
(Connect to IR Out)



Figure 8: IR Receiver cable
(Connect to IR In)

- **IR Blaster cable:** Plug into the Transmitter's or Receiver's IR Out to emit IR signals
- **IR Receiver cable:** Plug into the Receiver's or Transmitter's IR In to receive IR signals

Control your media player (such as DVD) at the TV side using the media player's remote controller

- Plug the **IR Receiver** cable to the **Receiver's IR In** port
- Plug the **IR Blaster** cable to the **Transmitter's IR Out** port.

Control your TV at the media player side using the TV's remote controller

- Plug the **IR Receiver** cable to the **Transmitter's IR In** port.
- Plug the **IR Blaster** cable to the **Receiver's IR Out** port.

Important Note: Incorrect placement of IR Receiver and IR Blaster cables may result in cable failures. Please check carefully before plugging in the IR cables to proper IR sockets.

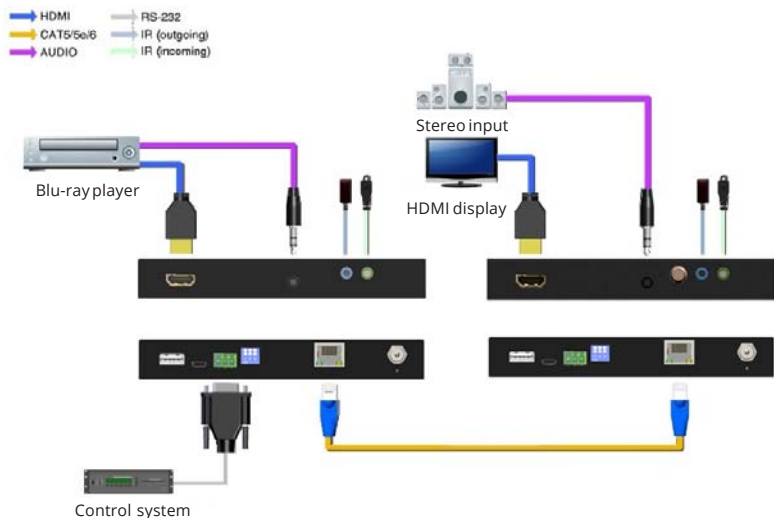
Hardware Installation

Note: To achieve optimal performance, a shielded 100% copper wire CAT6/7 cable is recommended.

1. Power off all devices including your HDMI source and display.
2. Connect your HDMI source to the Transmitter's **HDMI IN** connector with an HDMI cable (not included).
3. Optional: Connect the IR Receiver or Blaster extension cable according to the instructions on page 8.
4. Connect USB Host/Device to both TX and RX units.
5. Connect audio source to TX and audio receiver/speaker to RX unit.
6. Connect your HDMI display to the Receiver's **HDMI OUT** connector with a HDMI cable (not included).
7. Optional: Connect the IR Receiver or Blaster extension cable according to the instructions on page 8.
8. Connect and link the Transmitter and Receiver by a CAT5e/6 cable.
9. Plug the included power adapter into the Transmitter's or Receiver's **Power Jack**, then plug the power adapter into a reliable power outlet. (*Note:* It's recommended to connect it to the Transmitter)
10. Power on your HDMI device and HDMI display.
11. The HDMI Extender is ready for use.

Application

Extends HDMI signals such as game consoles, DVD players or computers up to 100m (330ft). Equipped with bi-directional IR pass-through path, RS-232 serial port control and USB 2.0, offers the convenient path for interactive applications, such as touch panels. Makes it a great solution for digital signage with long distance A/V transmission.



* When using the remote control, please make sure its distance to the IR Receiver extension cable is within 5m (16.4ft) and without obstructions.

Figure 9: Application

Technical Support and Warranty

QUESTIONS? SIIG's **Online Support** has answers! Simply visit our web site at www.siig.com and click **Support**. Our online support database is updated daily with new drivers and solutions. Answers to your questions could be just a few clicks away. You can also submit questions online and a technical support analyst will promptly respond.

SIIG offers a 3-year manufacturer warranty with this product. This warranty covers the original purchaser and guarantees the product to be free of any defects in materials or workmanship for three (3) years from the date of purchase of the product. This warranty is not transferable and is available only to the original purchaser of the product.

SIIG will, at our discretion, repair or replace (with an identical product or product having similar features and functionality) the product if defective in materials or workmanship. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. Please see our web site for more warranty details.

If you encounter any problems with this product, please follow the procedures below.

A) If it is within the store's return policy period, please return the product to the store where you purchased it.

B) If your purchase has passed the store's return policy period, please follow these steps to have the product repaired or replaced.

Step 1: Submit your RMA request. Go to www.siig.com, click **Support**, then **Request A Product Replacement** to submit a request to **SIIG RMA** or fax a request to 510-657-5962. Your RMA request will be processed, if the product is determined to be defective, an RMA number will be issued.

Step 2: After obtaining an RMA number, ship the product.

- Properly pack the product for shipping. All software, cable(s) and any other accessories that came with the original package must be included
- Include a copy of your original sales receipt inside the package with date of purchase and place of purchase circled and clearly visible
- Clearly write your RMA number on the top of the returned package. SIIG will refuse to accept any shipping package, and will not be responsible for a product returned without an RMA number posted on the outside of the shipping carton
- You are responsible for the cost of shipping to SIIG. Ship the product to the following address:

SIIG, Inc.
6078 Stewart Avenue
Fremont, CA 94538-3152, USA
RMA #: _____

- SIIG will ship the repaired or replaced product via Ground in the U.S. and International Economy outside of the U.S. at no cost to the customer

About SIIG, Inc.

Founded in 1985, SIIG, Inc. is a leading manufacturer of IT connectivity solutions (including Serial ATA and Ultra ATA Controllers, FireWire, USB, and legacy I/O adapters) that bridge the connection between Desktop/ Notebook systems and external peripherals. SIIG continues to grow by adding A/V and Digital Signage connectivity solutions to our extensive portfolio. All centered around the distribution and switching of A/V signals over CAT5/6, these products include matrix switches, distribution amplifiers, extenders, converters, splitters, cabling, and more.

SIIG is the premier one-stop source of upgrades and is committed to providing high quality products while keeping economical and competitive prices. High-quality control standards are evident by one of the lowest defective return rates in the industry. Our products offer comprehensive user manuals, user-friendly features, and are backed by an extensive manufacturer warranty.

SIIG products can be found in many computer retail stores, mail order catalogs, and e-commerce sites in the Americas, as well as through major distributors, system integrators, VARs and e-commerce sites.

PRODUCT NAME

4K HDR HDMI 2.0 & USB 2.0 Extender Over HDBaseT
with RS-232 & IR

FCC RULES: TESTED TO COMPLY WITH FCC PART 15, CLASS
B OPERATING ENVIRONMENT: FOR HOME OR OFFICE USE

FCC COMPLIANCE STATEMENT:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

THE PARTY RESPONSIBLE FOR PRODUCT COMPLIANCE

SIIG, Inc.
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Fremont, CA 94538-3152, USA
Phone: 510-657-8688

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