

HDMI Extender over Single CAT5/6 with IR/ RS-232 & Auto EDID Quick Installation Guide

Introduction

The *HDMI Extender over Single CAT5/6 with IR/RS-232 & Audio EDID* supports is equipped with bi-directional IR pass-through path and RS-232 serial port control.

These bonus features allow users to boost IR control distance up to 100m (330ft) and makes IR control possible through a single Cat5/5e/6 cable.

Features and Benefits

- HDMI & HDCP compatible
- Supports HDMI Deep Color & full 3D
- Supports video solution up to 1080p at 60Hz
- Extends HDMI signals up to 60m (200ft) from the HDMI source at HD 1080i or 720p 24-bit
- Extends HDMI signals up to 40m (130ft) from the HDMI source at Full HD 1080p 24-bit
- Supports uncompressed 7.1-channel or stereo digital audio
- Supports full frequency IR signal from 20KHz to 60KHz
- Full Duplex RS-232 control up to 115,200 bps
- Auto EDID learning feature

Package Contents

- *HDMI Extender over Single CAT5/6 with IR/RS-232 & Audio EDID kit (Tx & Rx units)*
- 2x Power adapter
- IR blaster extension cable
- IR receiver extension cable
- Quick installation guide

Layout

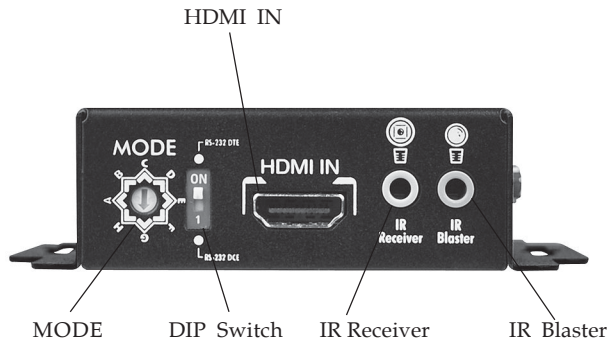


Figure 1: Transmitter Front Panel

- **Mode**

A = EDID Full-HD (1080p@60)-24bit 2D video & 7.1ch audio

B = EDID Full-HD (1080p@60)-24bit 2D video & 2ch audio

C = EDID Full-HD (1080p@60)-24bit 3D video & 7.1ch audio

D = EDID Full-HD (1080p@60)-24bit 3D video & 2ch audio

E = EDID HD (1080p@30) (1080i@60) (720p@60)-24bit 2D video & 7.1ch audio

F = EDID HD (1080p@30) (1080i@30) (720P@60)-24bit 2D video & 2ch audio

G = EDID Full-HD (1080p@60)-36bit 2D video & 7.1ch audio

H = Auto EDID leaning

- **DIP Switch:** Sets RS-232 serial communication mode.
- **HDMI IN:** Connects to an HDMI source with an HDMI male-male cable.
- **IR Receiver:** 3.5mm socket for plugging in the IR receiver extension cable.
- **IR Blaster:** 3.5mm socket for plugging in the IR blaster extension cable.

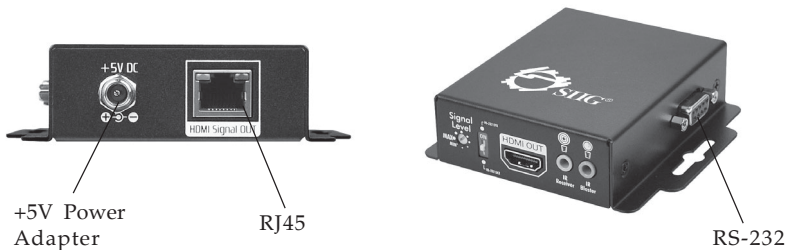


Figure 2: Transmitter Rear Panel

- **+5V Power Adapter:** Connects to 5V DC Power supply.
- **RJ45:** Plug in a Cat5/5e/6 cable to be linked to the receiver.
- **RS-232:** Connects to PC serial port with a DB-9 Male-Male cable.

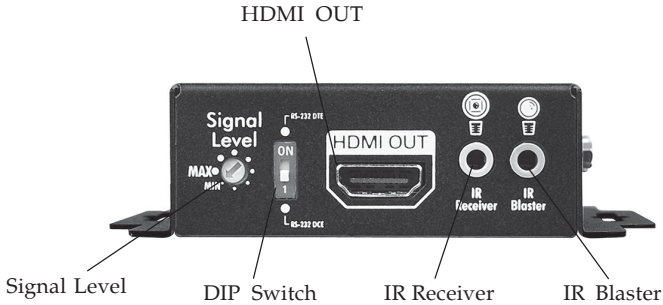


Figure 3: Receiver Front Panel

- **Signal Level:** Adjusts the equalization of the HDMI signals for the best picture/sound quality. Turn the rotary dial from Min (weakest) to Max (strongest) until the audio/video is playing normally.
- **DIP Switch:** Sets RS-232 serial communication mode.
- **HDMI OUT:** Connects to an HDMI display with an HDMI male-male cable.
- **IR Receiver:** 3.5mm socket for plugging in the IR receiver extension cable.
- **IR Blaster:** 3.5mm socket for plugging in the IR blaster extension cable.



Figure 4: Receiver Rear Panel

- **+5V Power Adapter:** Connects to 5V DC power supply.
- **RJ45:** Plug in a Cat5/5e/6 cable to be linked to the transmitter.

DIP Switch Position	Description
TX & RX	
ON [↑]	<i>TxD: The 2nd pin of RS-232, which is in charge of receiving data RxD: The 3rd pin of RS-232, which is in charge of sending data</i>
OFF [↓]	<i>TxD: The 3rd pin of RS-232, which is in charge of receiving data RxD: The 2nd pin of RS-232, which is in charge of sending data</i>

- **RS-232:** Connects to serial port device with a DB-9 male-male cable.

IR Extenders



Figure 5: IR Blaster



Figure 6: IR Receiver

- **IR Blaster:** Plug in the IR blaster to emit all IR command signals received from the IR receiver from the other end to control the devices corresponding to the IR signals.
- **IR Receiver:** plug in the IR receiver to receive all IR command signals from the IR remote controls of the corresponding devices

Note: Incorrect placement of IR Blaster and Receiver may result in the failure of the IR extenders. Please check carefully before plugging in the IR extender to the respective IR sockets.

Specification of IR Earphone Jack

- 1. IR Signal [20-60kHz]
- 2. Grounding



Figure 7: IR Blaster

- 1. IR Signal [20-60kHz]
- 2. Grounding
- 3. Power

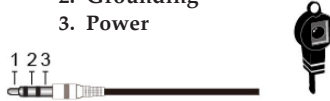


Figure 8: IR Receiver

Note: You can buy any IR extension cable that meet the specification of the IR sockets if necessary for replacement use. However, IR cables longer than 2m (6-ft) may not work.

Application Diagram

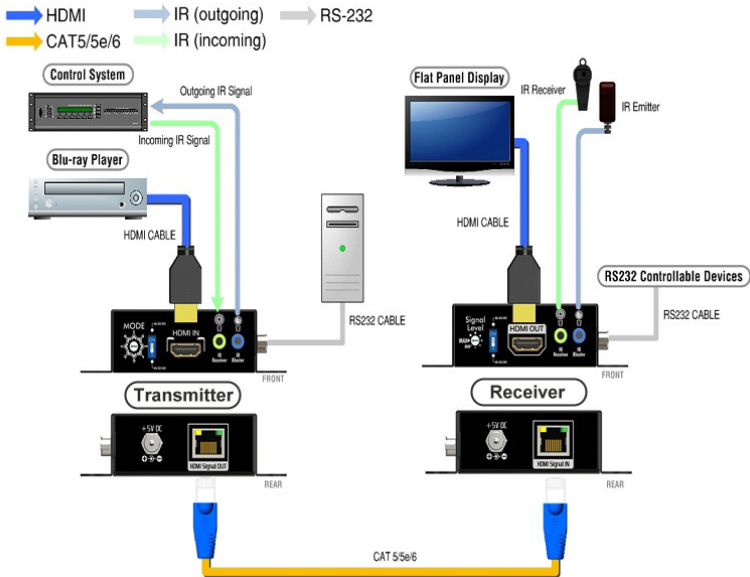


Figure 9: Application diagram

Hardware Installation

1. Power off all devices, including the source HDMI device and display.
2. Connect your HDMI source (such as a Bluray Disc player) to the transmitter's **HDMI IN** connector.
3. Connect the RS-232 cable (not included) to the transmitter's RS-232 connector.
4. Connect the IR cable to the transmitter's IR connector. Use the appropriate IR cable and socket depending on the desired IR direction.
5. Connect your HDMI display (such as a LCD TV) to the receiver's **HDMI OUT** connector.
6. Connect your Cat5/5e/6 LAN cable (do not use crosscover LAN cable) between the transmitter and receiver. Make sure the cable is securely connected and not loose.
7. Connect the RS-232 cable (not included) to the receiver's RS-232 connector.
8. Connect the IR cable to the receiver's IR connector. Use the appropriate IR cable and socket depending on the desired IR direction.
9. Plug one of the included power adapters into to the **+5V DC** power jack of the transmitter, plug the second power adapter into the **+5V DC** power jack of the receiver, then plug both power adapters into reliable power sources.
10. If you see flickering or blinking image on the display, please adjust the **Signal level** switch to improve the cable equalization. MAX stands for the strongest HDMI signal level for short transmission length. Please adjust the signal level from MIN to MAX and stop turning the rotary switch whenever the audio/video is playing normally. Inappropriate signal level setting may cause overpowering issue that would shorten the product life significantly!

Note:

1. When adjusting the signal level on the receiver unit, please dial the rotary control switch from MIN to MAX and stop turning the rotary control whenever the audio/video is playing normally. Inappropriate signal level setting may cause overpowering issue that would shorten the product life significantly!
2. Inserting the IR blaster and IR receiver into the wrong 3.5mm infrared sockets may result in the failure of the IR extenders. Please check carefully before plugging in the IR extender to the respective IR sockets.
3. If the DVI or HDMI device requires EDID information from the connected display, please use EDID Reader/Writer to retrieve and provide DVI or HDMI display EDID information.
4. All HDMI over CAT5 transmission distances are measured using Belden 1583A Cat5e 125MHz UTP cable and ASTRODESIGN Video Signal Generator VG-859C & VG-870B.
5. The transmission length is largely affected by the type of Cat5/5e/6 cables, the type of HDMI sources, and the type of HDMI display. The testing result shows solid UTP cables can transmit longer signals than stranded UTP cables. Shielded STP cables are better suited than unshielded UTP cables. For long extension applications, solid UTP/STP cables are the only viable choice.
6. EIA/TIA-568-B termination (T568B) for Cat5/5e/6 cables is recommended for better performance.
7. To reduce EMI interference over long distances, always use shielded STP Cat5/5e/6 cabling.

8. Use high quality Cat5/5e/6 cable, especially over longer transmission distances. For resolution greater than 1080i or 1280x1024, a CAT6 cable is recommended.
9. If your HDMI display has multiple HDMI inputs, it is found that the first HDMI input [HDMI input #1] generally can produce better transmission performance among all HDMI inputs.

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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.

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.
- 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 most products are backed by a lifetime 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, and VARs.

PRODUCT NAME

HDMI Extender over Single CAT5/6 with IR/RS-232 & Auto EDID

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.
6078 Stewart Avenue
Fremont, CA 94538-3152, USA
Phone: 510-657-8688

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