HDMI Extender over Single CAT5/6 with 3DTV & Bi-Directional IR Support Quick Installation Guide

Introduction

The *HDMI Extender over Single CAT5/6 with 3DTV & Bi-Directional Support* will extend HDMI 1.4 and bi-directional IR signals over one CAT5e/6 cable.

Key Features and Benefits

- HDMI 1.4a & HDCP 1.1 compliant
- Supports uncompressed 7.1 digital, DTS-HD and Dolby True HD high bit rate audio
- Transmission:

  - 720p/1080i (HD @ 24-bit): up to 200ft (CAT6)

  - 1080p (full HD @ 24-bit): up to 130ft (CAT6)

  - 1080p (full HD @ 36-bit): up to 65ft (CAT6)

Package Contents

- *HDMI Extender over Single CAT5/6 with 3DTV & Bi-Directional Support* kit (Tx & Rx units)
- 2x Power adapters
- IR Blaster extention cable
- IR Receiver extension cable
- Quick installation guide

Layout

Figure 1: Transmitter - Tx (front & back)

- **HDMI IN:** Connect to a HDMI source with a HDMI M-M cable.
- **+5V DC Power Adapter:** Connect to 5V DC power supply.

- **Mode**:

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

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

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

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

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

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

  6 = EDID Full-HD (1080p@60) - 36bit 3D video & 2ch audio

  7 = EDID learning mode*
- **IR Receiver:** Infrared 3.5mm socket for plugging in the extension cable of IR receiver.
- **IR Blaster:** Infrared 3.5mm socket for plugging in the extension cable of IR blaster.
- **RJ45:** Plug in a CAT5/5e/6 cable that needs to be linked to the receiver.

***Note**: If the default EDID setting doesn't work with your display, see **EDID Learning** on page 8 for instructions.

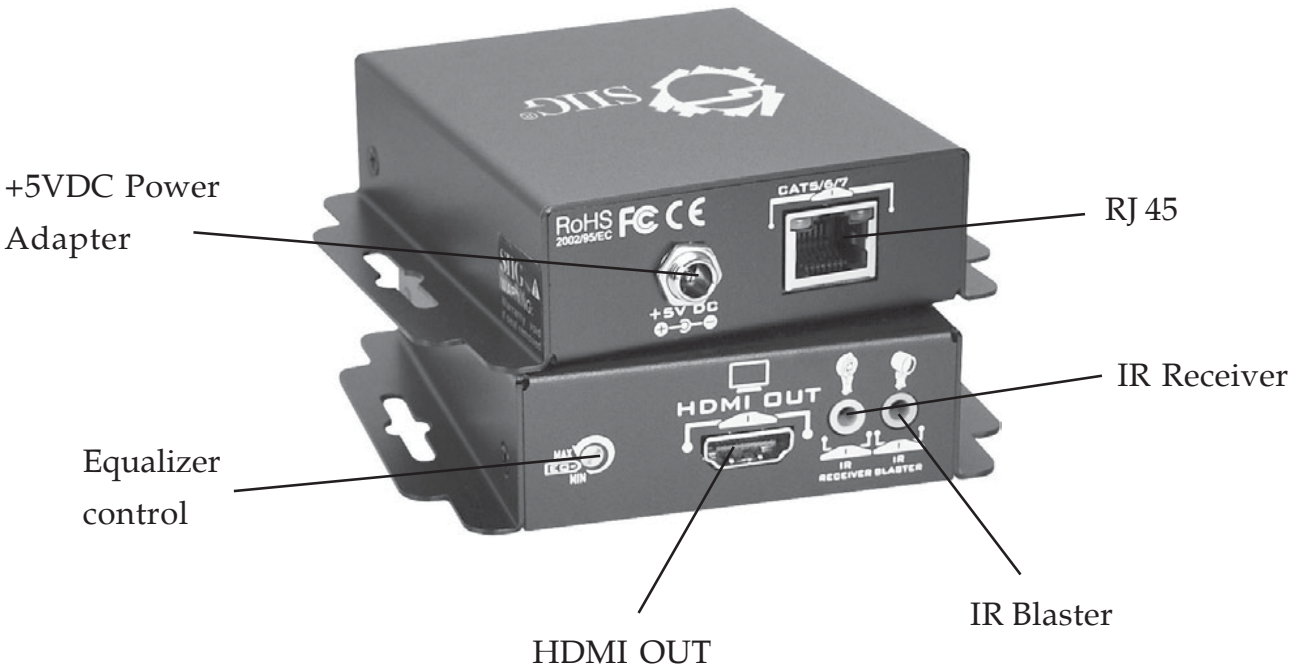

Figure 2: Receiver - Rx (front & back)

- **+5VDC Power Adapter:** Connect to 5V DC power supply.
- **RJ45:** Plug in a CAT5/5e/6 cable that needs to be linked to the transmitter.
- **HDMI OUT:** Connect to a HDMI display with a HDMI male-male cable.

- **IR Receiver:** Infrared 3.5mm socket for plugging in the extension cable of IR receiver.
- **IR Blaster:** Infrared 3.5mm socket for plugging in the extension cable of IR blaster.
- **Equalizer control:** Adjust the 8-level equalization control to the received HDMI signals. The HDMI signal level varies from minimum to maximum for respective transmission length from longest possible range to short distance. Please adjust the signal level from minimum to maximum 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.

IR Extenders

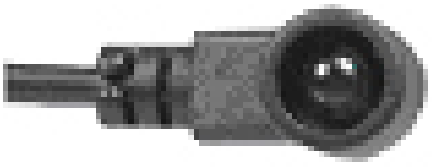

Figure 3: IR Blaster

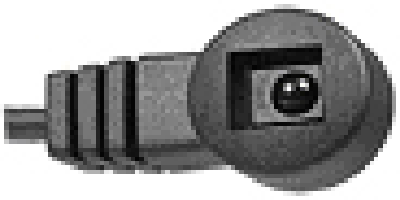

Figure 4: IR Receiver

- **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 IR Receiver may result in the failure of the IR extenders. Please check carefully before plugging in the IR extender to the respective IR sockets.

Hardware Installation

1. Power off all devices, including the source HDMI device and display.
2. Connect your HDMI source (such as a Blu-ray player) to the transmitter's **HDMI IN** connector.

3. Connect the IR cable to the transmitter's IR connector. Use the appropriate IR cable and socket depending on the desired IR direction.
4. Connect your HDMI display (such as a LCD TV) to the receiver's **HDMI OUT** connector.
5. Connect your CAT5/5e/6 LAN cable between the transmitter and receiver. Make sure the cable is securely connected and not loose.
6. Connect the IR cable to the receiver's IR connector. Use the appropriate IR cable and socket depending on the desired IR direction.
7. Plug one of the included power adapters into 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.
8. If a flickering or blinking image is seen, adjust the receiving unit's **Equalizer control** to improve the image.

EDID Learning

EDID is used to transmit the make, model and characteristics of a monitor to the display adapter in the computer. It also used by an HDTV to identify it's maximum resolution to the DVD player, A/V receiver or video processor.

1. Power off the transmitter, see **Figure 1**. Disconnect the CAT5/5e/6 between the receiver and transmitter.
2. Connect an HDMI cable from the **HDMI IN** connector to the display's HDMI connector. *Do not connect the HDMI source device at this time*.
3. Set the **Mode** on the transmitter at 7.
4. Power on the transmitter. The LED on the **HDMI Signal OUT** see **Figure 2**, will dim and light again, which indicates the EDID learning process is finished.
5. Turn the **Mode** dial clockwise from 7 to 0 or 1. Don't let the rotary arrow passes through 6, which will erase the EDID just learned and restore to default EDID.

6. Unplug the HDMI cable from the display and follow the instruction in Hardware Installation to set it up.

Note:

1. When adjusting the signal level on the receiver, please dial the equalizer control switch from minimum to maximum 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.
2. EIA/TIA-568-B termination (T568B) for Cat-5/5e/6 cables is recommended for better performance.

3. Wrongly insert IR blaster and IR receiver to 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.
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. To reduce the interference among the unshielded twisted pairs of wires in Cat-5/5e/6 cable, one can use shielded STP cables to improve EMI problems, which is worsen in long transmission.
6. 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.

7. The transmission length is largely affected by the type of Cat-5/5e/6 cables, the type of HDMI sources, and the type of HDMI display. The testing result shows solid UTP cables (usually in the form of 300m [1,000ft] bulk cables) can transmit a lot longer signals than stranded UTP cables (usually in the form of fixed length patch cords). Shielded STP cables are better suited than unshielded UTP cables. A solid UTP Cat-5e cable shows longer transmission range than stranded STP Cat-6 cable. For long extension applications, solid UTP/STP cables are the only viable choice.
8. Because the quality of the CAT5/6 cables has the major effect on how long the transmission limit can achieve and how good is the received picture quality, the actual transmission range is subject to one's choice of Cat-5/5e/6 cables. For desired resolutions greater than 1080i or 1280x1024, a Cat-6 cable is recommended.

Blank Page

Blank Page

Blank Page

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 from.

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

Step 1: Submit your RMA request.

Go to **www.siig.com**, click **Support**, then **RMA** 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 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. SIIG products offer comprehensive user manuals, many user-friendly features, and are backed by an extensive manufacturer warranty. High quality control standards are evident by the overall ease of installation and compatibility of our products, as well as one of the lowest defective return rates in the industry. SIIG products can be found in computer retail stores, mail order catalogs, through major distributors, system integrators, and VARs in the Americas and the UK, and through e-commerce sites.

PRODUCT NAME

HDMI Extender over Single CAT5e/6 with 3DTV & Bi-Directional IR Support

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

June, 2011