

HDMI® over Cat 5e/6 Extender - 50m

ST121SHD50



*actual product may vary from photos

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FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Product Diagram

Top View

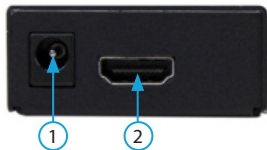


1. LED Indicator
2. EDID Copy Button

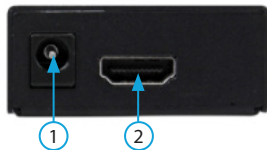


1. LED Indicator
2. EQ Selector

Rear View

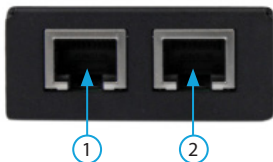


1. Power Jack
2. HDMI In

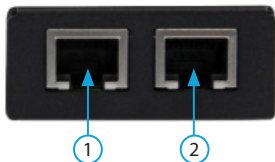


1. Power Jack
2. HDMI Out

Front View



1. LINK OUT A (RJ-45 Connector)
2. LINK OUT B (RJ-45 Connector)



1. LINK IN A (RJ-45 Connector)
2. LINK IN B (RJ-45 Connector)

Introduction

The ST121SHD50 HDMI® over CAT5e/6 Video Extender kit lets you extend HDMI® video and audio up to 165 feet (50 Meters)(1080i) over 2 CAT5e Ethernet cables, or up to 130 Feet (40 Meters)(1080p) over 2 CAT6 Ethernet cables. For added versatility both the Transmitter and Receiver can be powered by the same single power source using Power Over Cable (POC).

With support for resolutions up to 1920x1080 and the accompanying digital audio, this HDMI® extender is a plug-and-play solution that can easily be installed using new or existing Ethernet infrastructure wiring.

Backed by a StarTech.com 2-year warranty and free lifetime technical support.

Packaging Contents

- 1x HDMI over CAT5e/6 UTP transmitter
- 1x HDMI over CAT5e/6 UTP receiver
- 1x universal power adapter (NA / EU / UK / AU)
- 2x mounting brackets
- 2x foot pad set
- 1x instruction manual

System Requirements

- HDMI® enabled video source device (i.e. computer, Blu-ray Player)
- HDMI® enabled display device (i.e. television, projector)
- Available AC electrical outlet for either the transmitter or receiver
- HDMI® cables for Receiver and Transmitter

LED Indicator

Status	Transmitter
DVI EDID content configured	*Emit blue with green flashing twice
HDMI EDID content configured	*Emit blue with green flashing three times
HDCP syncing	**Purple
Status	Receiver
Video Linking	***Steady Blue
Video unlinking	Steady Red

*It is suggested replacing cables with better quality ones if the LED emits blue without video displaying.

**The emitting period of purple LED depends on connected device.

***The LED emits steady blue indicating that the video signal is detected by Receiver.

Installation

Preparing Your Site

1. Determine where the local video source (i.e. computer, Blu-ray Player) will be located and set up the device.
2. Determine where the remote display will be located and place/ mount the display appropriately.

NOTE: This HDMI® extender kit features Power over cable, allowing both the Transmitter and Receiver to be powered from a single power source that can be connected at either end of the connection. Please ensure that either the Transmitter or the Receiver Unit is situated near an available AC electrical outlet. Make sure all devices are turned off before beginning installation.

Hardware Installation

1. Install Transmitter Unit
 - a) Position the Transmitter Unit near the video source (i.e. Computer, Blu-ray Player).
 - b) Connect an HDMI® cable from the video source device (i.e. computer, Blu-ray Player) to the "HDMI® IN" on the Transmitter Unit.
 - c) **(Optional)** If you've chosen to power the kit from the Transmitter side, connect the provided power supply.
2. Install RJ45 terminated Cat5e/6 Ethernet Cables
 - a) Connect an RJ45 terminated Cat5e/6 Ethernet cable (not included) to the LINK OUT A (RJ-45 connector) on the Transmitter unit.
 - b) Connect another RJ45 terminated Cat5e/6 Ethernet cable (not included) to the LINK OUT B (RJ-45 connector) on the Transmitter unit.

NOTE:

If you are using surface cabling, ensure you have enough Category 5e unshielded twisted pair (UTP) network cabling to connect the Host Unit to the Remote Unit's location, and that each end is terminated with a RJ45 connector. The cabling should not go through any networking equipment (i.e. router, switch).

OR

If you are using premises cabling, ensure that the Category 5 unshielded twisted pair (UTP) network cabling between the Host Unit and the Remote Unit has been properly terminated in a wall outlet in each location and there is a patch cable long enough to connect the Remote Unit and the Host Unit to their respective outlets. The cabling should not go through any networking equipment (i.e. router, switch).

- c) Connect the other end of the Cat5e/6 cable (from LINK OUT A) to the LINK IN A (RJ-45 connector) on the Receiver Unit.
- d) Connect the other end of the Cat5e/6 cable (from LINK OUT B) to the LINK IN B (RJ-45 connector) on the Receiver Unit.

NOTE: If using Cat6 cables, extension distance is limited to 40m (130 ft)

3. Install Receiver Unit

- a) Position the Receiver Unit near the video display (i.e. television, projector).
- b) Connect the video source to the HDMI® OUT on the Receiver Unit using an HDMI® cable.
- c) **(Optional)** If you've chosen to power the kit from the Receiver side, connect the provided power supply.

4. Your source video image will now appear on the remote video display.

Operation

Video Adjustment (Receiver Unit Only)

This function allows adjustments in sharpness of the video image for better clarity. If necessary, adjust the EQ Selector at the Receiver Unit to compensate cable length. Turn the EQ Selector one notch at one time and wait for 10~12 sec. For HDMI cable length (Rx-to-monitor) less than 8 meters, the selector position is around 0~7 (depends on video resolution). For HDMI cable length (Rx-to-monitor) greater than 8 meters, the selector position is around 8, 9, A~F (depends on video resolution). For example, if using a 1.8M (or 3.0M) HDMI cable, a CAT5 cable and a display with resolution of Full HD (1920 x 1080), you may adjust video according to its CAT5 cable length as following.

CAT5 Cable Length	EQ Selector Position
0M~15M	0,1
15M~25M	1,2
25M~30M	2,3

The following is the test result while using different types of CATx cables

Cable Type	Resolution	Cable Length (max.)
CAT6	1080i	50M
	1080p	40M
CAT5 (solid)	1080i	50M
	1080p	20M
CAT5 (stranded)	1080i	40M
	1080p	16M

EDID Configuration

If you are experiencing poor resolution or inconsistent audio or video output, you can specify EDID settings or copy EDID settings using the EDID button.

Auto EDID Configuration

The Transmitter can automatically copy EDID settings from the connected display. In order for this function to work both Link Out A and Link Out B Ports on the Transmitter need to be connected to the Link In A and Link In B Ports of the Receiver via Cat5e/Cat6 Cables.

1. Connect a Cat5e/Cat6 Cable (sold separately) to the Link Out A port on the Transmitter.
2. Connect the other end of the Cat5e/Cat6 Cable to the Link In A Port on the Receiver.
3. Connect a Cat5e/Cat6 Cable to the Link Out B Port on the Transmitter.
4. Connect the other end of the Cat5e/Cat6 Cable to the Link In B Port on the Receiver.
5. Connect an HDMI Cable to the Video Out Port on the Receiver.
6. Connect the other end of the HDMI Cable to the HDMI port on the Display.

Manual EDID Configuration (EDID Copy / EDID Ghost)

1. Connect a Cat5e/Cat6 Cable (sold separately) to the Link Out A port on the Transmitter.
2. Connect the other end of the Cat5e/Cat6 Cable to the Link In A Port on the Receiver.
3. Connect the Universal Power Adapter to the Power Jack on either the Transmitter or Receiver and the other end into a power supply to power on the unit.
4. Connect an HDMI Cable to the Video Out Port on the Receiver.
5. Connect the other end of the HDMI Cable to the HDMI port on the Display.

6. On the Transmitter, press the EDID Copy button. Release the EDID Copy button once the LED Indicator flashes green. The LED Indicator will flash green, red and blue, indicating that the copy was successful.
7. If the LED Indicator flashes red:
 - The display is may not be properly connected to the Video Out Port on the Receiver.
 - The display is may not be powered On.
 - The display's EDID data may not be compatible with the Receiver. Connect a different display.
8. Correct the issue and repeat Step 3 to 4 until the LED flashes green & red and then blue.

EDID Factory Default Setting

To avoid confusion in which EDID information has been copied or for more purposes, this function enables to reset the state to factory default.

1. Follow the instructions in the [Hardware Installation](#) section to connect the Transmitter to the Receiver.
2. On the Transmitter, press the EDID Copy button. Release the EDID Copy button once the LED Indicator flashes red. The LED Indicator will flash green and red indicating that the EDID settings were reset to the factory default settings.

DDC Pass Mode

Press the button for more than 15 sec. and release right after the LED flashes green. The LED lights blue indicating setting successfully. To exit this mode, follow "EDID Factory Default Setting" steps.

Technical Support

StarTech.com's lifetime technical support is an integral part of our commitment to provide industry-leading solutions. If you ever need help with your product, visit www.startech.com/support and access our comprehensive selection of online tools, documentation, and downloads.

For the latest drivers/software, please visit www.startech.com/downloads

Warranty Information

This product is backed by a two year warranty.

In addition, StarTech.com warrants its products against defects in materials and workmanship for the periods noted, following the initial date of purchase. During this period, the products may be returned for repair, or replacement with equivalent products at our discretion. The warranty covers parts and labor costs only. StarTech.com does not warrant its products from defects or damages arising from misuse, abuse, alteration, or normal wear and tear.

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