



HDMI-EXT-1101C-SET

HDMI 1.3 over Single CAT5 Direct Plug-in Extender

User Manual



Made in Taiwan



Safety and Notice

The **HDMI-EXT-1101C-SET HDMI 1.3 over Single CAT5 Direct Plug-in Extender** has been tested for conformance to safety regulations and requirements, and has been certified for international use. However, like all electronic equipments, the HDMI-EXT-1101C-SET should be used with care. Please read and follow the safety instructions to protect yourself from possible injury and to minimize the risk of damage to the unit.

- Follow all instructions and warnings marked on this unit.
- Do not attempt to service this unit yourself, except where explained in this manual.
- Provide proper ventilation and air circulation and do not use near water.
- Keep objects that might damage the device and assure that the placement of this unit is on a stable surface.
- Use only the power adapter and power cords and connection cables designed for this unit.
- Do not use liquid or aerosol cleaners to clean this unit. Always unplug the power to the device before cleaning.



The **HDMI-EXT-1101C-SET HDMI 1.3 over Single CAT5 Direct Plug-in Extender** boosts up your HDMI transmission distance up to 25m (80ft) in HDTV 720p / 1080i format. With only one low cost Cat-5e/6/7 cable, users can readily extend HDTV sources from DVD players, Blu-ray Disc player, PS3, PC, and any other kinds of sources compliant with TMDS to remote HDMI display such as HDTV, LCD PC monitors, or projectors. This cost effective flexibility makes HDCP compliant DVD players or PS3 transmit high quality video and audio at a greater distance and the minimal cost.

The HDMI-EXT-1101C-SET includes two units: HDMI-EXT-0101C-TX as the transmitting unit and HDMI-EXT-1111C-RX as the receiving unit. The transmitting unit is used to transfer the audio/video signals through only one low cost Cat-5e/6/7 cable. The transmission distance between the sending and receiving units can be up to 25m (80ft) under HD resolution (720p or 1080i) or 15m (50ft) under Full HD resolution (1080p). With direct plug-in to the HDTV, users do not need to have to find a power outlet for the traditional HDMI over CAT5 receiver and can save an HDMI cable with ease of use.

Features

- State-of-the-art Silicon Image (founder of HDMI) chipset embedded for utmost compatibility and reliability
- HDMI 1.3c compliant
- Extends the transmission distance up to 25m (80ft) from the sources under 1080i or 720p
- Extends the transmission distance up to 15m (50ft) from the sources under 1080p
- HDCP compliant
- Pure unaltered uncompressed 7.1ch digital HDMI over CAT5/6 cable transmission
- Wall mounting housing design on TX and direct plug-in on RX for easy and robust installation
- Perfectly integrated with other HDMI over CAT5 series products

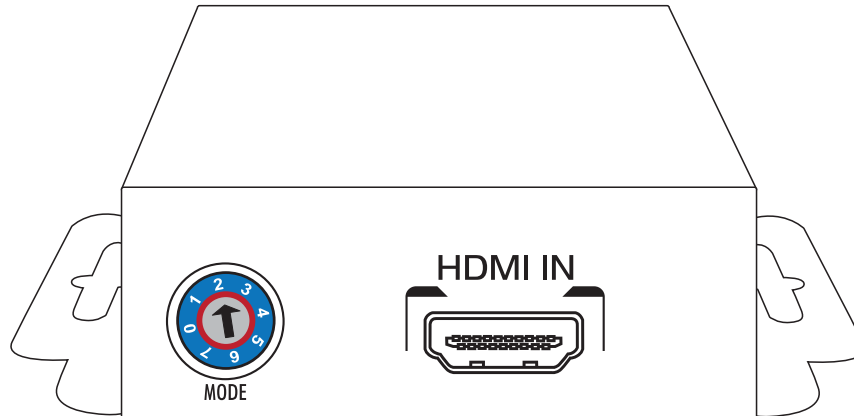


The length depends on the characteristics and quality of the cables. Higher resolutions and longer transmission distances require low skew cables (<25ns/100m) for best performance. Unshielded CAT6 with metal RJ-45 connectors is recommended.

Specifications & Package Contents

Model Name		HDMI-EXT-1101C-SET	
Technical		HDMI-EXT-0101C-TX	HDMI-EXT-1111C-RX
Role of usage		Transmitter [TX]	Receiver [RX]
HDMI compliance		HDMI 1.3c	
HDCP compliance		Yes	
Video bandwidth		Single-link 225MHz [6.75Gbps]	
Video support		480i / 480p / 720p / 1080i / 1080p60 up to 36-bit color	
HDMI over UTP transmission [24-bit]		Full HD (1080p) — 15m (50ft) [CAT5e] / 18m (65ft) [CAT6] HD (720p/1080i) — 25m (80ft) [CAT5e] / 30m (100ft) [CAT6]	
Audio support		Surround sound (up to 7.1ch) or stereo digital audio	
Input TMDS signal		1.2 Volts [peak-to-peak]	
Input DDC signal		5 Volts [peak-to-peak, TTL]	
ESD protection		[1] Human body — ±19kV [air-gap discharge] & ±12kV [contact discharge] [2] Core chipset — ±8kV	
PCB stack-up		4-layer board [impedance control — differential 100Ω; single 50Ω]	
Input		1x HDMI	1x RJ-45
Output		1x RJ-45	1x HDMI
HDMI connector		Type A [19-pin female]	Type A [19-pin male]
RJ-45 connector		WE/SS 8P8C with 2 LED indicators	
Rotary control switch		Mode selection	None
Mechanical		HDMI-EXT-0101C-TX	HDMI-EXT-1111C-RX
Housing		Metal enclosure	Plastic molding
Dimensions [L x W x H]	Model	93 x 60 x 25mm [3.7"x2.4"x1"]	45 x 25 x 22mm [1.8"x1"x0.9"]
	Package	270 x 175 x 80mm [10.6"x6.9"x3.1"]	
Weight	Model	340g [12oz]	
	Package	685g [1.5 lbs]	
Fixedness		Wall-mounting case with screws	Direct plug-in
Power supply		5V 4A DC	None
Power consumption		1 Watt [max]	
Operation temperature		0~40°C [32~104°F]	
Storage temperature		-20~60°C [-4~140°F]	
Relative humidity		20~90% RH [no condensation]	
Package Contents		1x HDMI-EXT-1101C-SET [TX & RX] 1x 5V power supply unit 1x User manual	

Input Panel — Transmitting Unit HDMI-EXT-0101C-TX



HDMI IN: Connects to a HDMI source with a HDMI male-male cable

MODE:

- 0 = [Video] – supports up to HDMI 1.3 output. [Audio] – supports up to 7.1ch output
- 1 = [Video] – supports up to HDMI 1.3 output. [Audio] – locks to stereo audio output
- 2 = [Video] – locks to HDMI 1.2 output. [Audio] – supports up to 7.1ch output
- 3 = [Video] – locks to HDMI 1.2 output. [Audio] – locks to stereo audio output
- 4 = [Video] – DVI display mode. [Audio] – no audio output
- 5 = [Safe Mode] – uses default EDID¹ with video supported up to 1080p and 2ch stereo audio
- 6 = [Default Mode] – uses default EDID² with video supported up to 1080p and surround sound (up to 7.1ch Dolby TrueHD and DTS-HD)
- 7 = [EDID Learning Mode] – learns EDID³ from the display

Note for EDID (Extended Display Identification Data) learning

1. If you cannot get the audio/video output from the connected display from the first time setup. Please follow the instructions below to check if the extender is OK:

Step 1 –Please set the rotary arrow on TX at “**Mode 5**” for Safe Mode, and wait for the LED of the RJ-45 connector blinks for a couple seconds.

Step 2 –Please turn the rotary arrow counterclockwise [↶] from **Mode 5** to **Mode 3**. If you can get audio/video from the display, you can stay tune at this setting for 720p or 1080i and stereo audio. If you need to get 720p/1080i with 7.1ch audio output, please turn the rotary arrow counterclockwise [↶] from **Mode 3** to **Mode 2**. For better audio/video output, please check Note#2. If you still cannot get the audio/video out normally, please go on the next step.

Step 3 –Please turn the rotary arrow counterclockwise [↶] from **Mode 3** to **Mode 7**. Wait a few seconds until the LED of the RJ-45 connector dims and then lights again.

Step 4 –Please turn the rotary arrow clockwise [↷] from **Mode 7** to **Mode 1**. You should have normal audio/video output. If not, please contact technical support.

2. For desirable 1080p video output, please follow the instructions below:

Step 1 –Please set the rotary arrow on TX at “**Mode 6**” for Default Mode, and wait for the LED of the RJ-45 connector blinks for a couple seconds.

Step 2 –Please turn the rotary arrow clockwise [↷] from **Mode 6** to **Mode 1**. If you can get audio/video from the display, you can stay tune at this setting for 1080p and stereo audio. If you need to get 1080p with 7.1ch audio output, please turn the rotary arrow counterclockwise [↶] from **Mode 1** to **Mode 0**. If you cannot get the audio/video out normally, please go on the next step.

Step 3 –Please turn the rotary arrow counterclockwise [↶] from **Mode 0/1** to **Mode 7**. Wait a few seconds until the LED of the RJ-45 connector dims and then lights again.

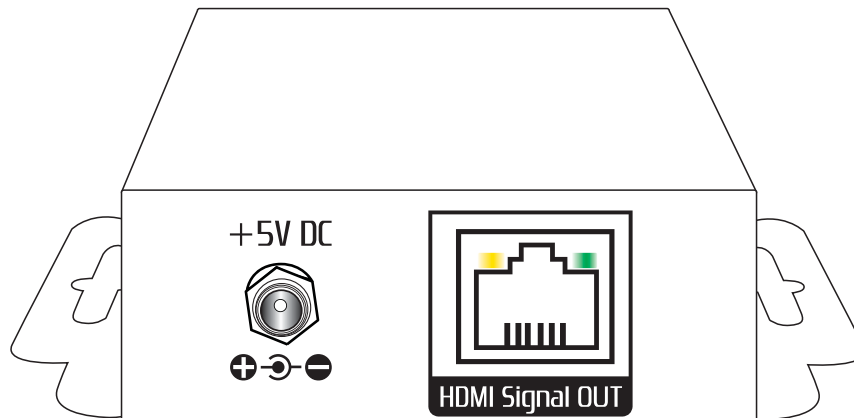
Step 4 –Please turn the rotary arrow clockwise [↷] from **Mode 7** to **Mode 0/1**. You should have your desirable audio/video output. If not, please follow the instruction in Note#1.

3. To learn EDID from the HDMI display, please follow the instruction below:

Step 1 –Please connect the display which you want to read EDID with a HDMI cable to the transmitter's HDMI IN and set the rotary arrow at **Mode 7** so the TX can learn the EDID information from the connected display. The LED on the RJ45 connector of TX will dim and light again in a few seconds, which indicates the EDID learning procedure is complete.

Step 2 –Please turn the rotary arrow clockwise [↷] from **Mode 7** to **Mode 0** or **Mode 1** for desirable audio setting and enjoy the experience. DO NOT let the rotary arrow pass by **Mode 5** and **Mode 6** which will erase the EDID just learned and restore the default EDID.

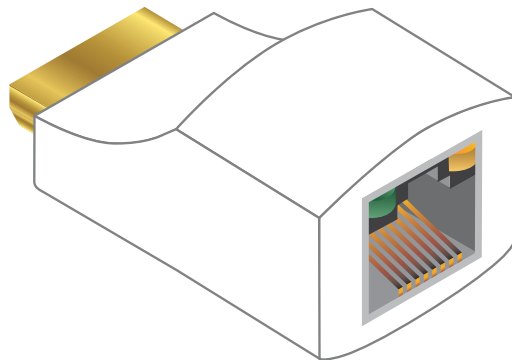
Output Panel — Transmitting Unit HDMI-EXT-0101C-TX



+5V DC: Connect to a 5V DC power supply unit.

HDMI Signal OUT: Plug in a Cat-5e/6/7 cable that needs to be linked to the RJ-45 port of the receiving unit HDMI-EXT-1111C-RX.

Receiving Unit HDMI-EXT-1111C-RX



RJ-45 port: Connect to a Cat-5e/6/7 cable that links to transmitting unit HDMI-EXT-0101C-TX.

HDMI port: Directly plug into the HDMI port of the HDMI display.

Hardware Installation

1. Connect your HDMI source (such as a Blu-ray Disc player) to the transmitting unit HDMI-EXT-0101C-TX.
2. Connect a Cat-5e/6/7 cable between the transmitting and receiving units via the RJ-45 ports.
3. Plug the receiving unit HDMI-EXT-1111C-RX to a HDMI display (such as a HDTV or a projector).
4. Make sure this Cat-5e/6/7 cable is tightly connected and not loose.
5. Plug in a 5V DC power supply unit to the power jack of the transmitting unit HDMI-EXT-0101C-TX.

EDID Learning

1. Turn on the transmitting unit HDMI-EXT-0101C-TX.
2. Turn the **MODE** of the transmitting unit counterclockwise (↺) from 0 (for surround sound) or 1 (for stereo) to 7.
3. Use a HDMI cable to connect the transmitting unit & the display (better not connect to video source). The LED on the RJ-45 of the transmitting unit will dim and light again, which indicates the EDID learning process is finished.
4. Turn the **MODE** of the transmitting unit clockwise (↻) from 7 to 0 (for surround sound) or 1 (for stereo). *The most important thing is don't let the rotary arrow pass through 6 which will erase the EDID just learned and restore to default EDID.*
5. Connect the transmitting unit and the video source through a HDMI cable and enjoy the experience.

1. If the DVI or HDMI device requires the EDID information, please use EDID Reader/Writer to retrieve and provide EDID information of the DVI or HDMI display.
2. All HDMI over CAT5 transmission distances are measured using Belden 1583A CAT5e 125MHz UTP cable and ASTRODESIGN Video Signal Generator VG-859C.
3. 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 or 1,000ft bulk cables) can transmit a lot longer signals than stranded UTP cables (usually in the form of fixed length patch cords). A solid UTP Cat-5e cable shows longer transmission range than a stranded STP Cat-6 cable. For long extension applications, solid UTP/STP cables are the only viable choice.
4. EIA/TIA-568-B termination (T568B) for Cat-5/5e/6 cables is recommended for better performance.
5. To reduce the interference among the unshielded twisted pairs of wires in Cat-5/5e/6 cable, shielded STP cables are better suited than unshielded UTP cables to improve EMI problems, which is worsen in long transmission.
6. Because the quality of the category 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.
7. 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.



Performance Guide for HDMI over CAT5/6 Cable Transmission

Performance rating		Type of CAT5/6 cable		
Wiring	Shielding	CAT5	CAT5e	CAT6
Solid	Unshielded (UTP)	★ ★ ★	★ ★ ★ ★	★ ★ ★ ★ ★
	Shielded (STP)	★ ★ ★	★ ★ ★	★ ★ ★ ★
Stranded	Unshielded (UTP)	★	★ ★	★ ★
	Shielded (STP)	★	★	★ ★
Termination		Please use EIA/TIA-568-B termination (T568B) at any time		