



LINK HDMI-SWISS HDMI In-line Controller

User Manual

Version: V1.0.1



Important Safety Instructions



1. Do not expose this apparatus to rain, moisture, dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on the apparatus.



6. Clean this apparatus only with dry cloth.



2. Do not install or place this unit in a bookcase, built-in cabinet or in another confined space. Ensure the unit is well ventilated.



7. Unplug this apparatus during lightning storms or when unused for long periods of time.



3. To prevent risk of electric shock or fire hazard due to overheating, do not obstruct the unit's ventilation openings with newspapers, tablecloths, curtains, and similar items.



8. Protect the power cord from being walked on or pinched particularly at plugs.



4. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.



9. Only use attachments / accessories specified by the manufacturer.



5. Do not place sources of naked flames, such as lighted candles, on the unit.



10. Refer all servicing to qualified service personnel.

Warnings of FCC

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.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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Introduction

Thank you for purchasing this product. For proper installation and optimum performance, please read the instructions in this manual carefully.

LINK HDMI-SWISS is an HDMI In-line Controller, with resolutions up to 4K@60Hz (chroma sub-sampling 4:4:4 8-bit only) and HDCP 2.2. It features de-embedded audio distribution system. And its rotary EDID switch has 15 EDID presets and can help negotiate the HDMI handshake in certain situations. It also could automatically trigger CEC command to turn on or off TV with CEC support, pre-loaded RS232 commands to power on or standby projector, and relay control to turn on or off projection screen.

Features

- Support video source up to 4K@60Hz 4:4:4 8-bit and HDCP 2.2
- HDMI audio de-embedded out with Digital Coaxial and Analog Stereo
- Rotary switch for EDID Management with 15 EDID presets
- Built in CEC controller from HDMI out
- Built in RS232 controller, to pre-load and store RS232 command of sink device
- Built in RELAY control to automatically turn Projector Screen ON/OFF, by detecting input signal status

Package Contents

- 1 x HDMI-SWISS
- 1 x Power Adapter (DC 12V 1A)
- 3 x 3.5mm 3-Pin Phoenix Connector
- 2 x Mounting Brackets (with Screws)
- 1 x User Manual

Specifications

Technical	
Input/Output Signal Type	HDMI with 4K@60Hz 4:4:4, HDCP 2.2
Input/Output Resolution Supported	Up to 4096x2160@60Hz, including 4K@60Hz/4K@30Hz/1080P/1080i/720P
Deep color	4K: 8/10/12 bit 1080P: up to 16 bit
Maximum Data Rate	18 Gbps
Maximum Pixel Clock	600MHz
Audio Format Supported	HDMI: Supports audio formats in HDMI 2.0 specification, including PCM, Dolby True HD, DTS HD Master Audio, Dolby Atmos and DTS:X S/PDIF: PCM 2.0/5.1, up to Dolby Digital and DTS 5.1 AUDIO OUT (Analog): PCM 2.0

General	
Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F)

General	
Humidity	10% to 90%, non-condensing
ESD Protection	Human-body Model: ±8kV (Air-gap discharge)/ ±4kV (Contact discharge)
Power Supply	DC 12V 1A
Power Consumption (Maximum)	≤ 2 W (Pair, PoC)
Device Dimension (W x H x D)	120mm x 20mm x 80mm / 4.72" x 0.79" x 3.15"
Product Weight	0.23kg/0.51lb

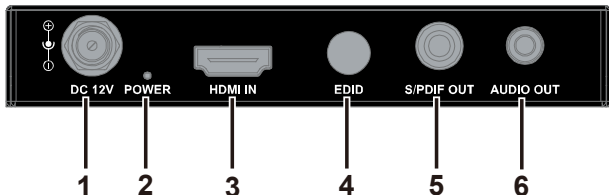
Transmission Distance:

Note: T568B straight-through Category cable is recommended.

Cable Type	Range	Supported Video
HDMI	Input/Output: 15m/50ft	1080P@60Hz
	Input: 5m/16ft Output: 10m/33ft	4K@60Hz 4:2:0
	Input/Output: 5m/16ft	4K@60Hz 4:4:4

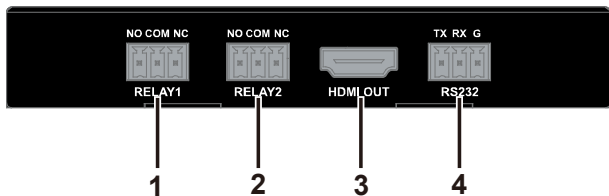
Panel Description

Front Panel



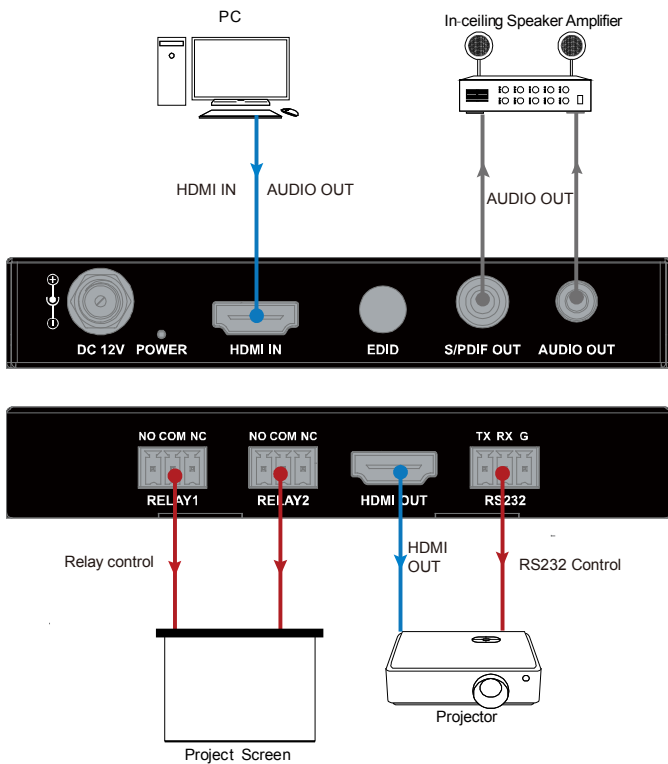
No.	Name	Description
1	DC 12V	Connect to the power adapter provided.
2	POWER LED	On/Off: The device is powered on/off.
3	HDMI IN	Connect to an HDMI source device such as a Blu-Ray, DVD Player.
4	EDID	Switch for EDID Management with 15 EDID presets.
5	S/PDIF OUT	HDMI audio de-embedded out with Digital Coaxial, connect to the amplifier.
6	AUDIO OUT	HDMI audio de-embedded out with Analog Stereo, connect to the amplifier.

Rear Panel



No.	Name	Description
1	RELAY1	Turn on the projector screen automatically.
2	RELAY2	Turn off the projector screen automatically.
3	HDMI OUT	Connect to an HDMI display such as TV.
4	RS232	Pre-load and store RS232 command of sink device.

Application Diagram



EDID Presets



Switch for EDID Management with 15 presets as follows:

No.	Description	No.	Description
0	Copy EDID FROM HDMI Output	A	1400 x 1050@60Hz 2CH
1	3840 x 2160P@60Hz 2CH	B	1360 x 768@60Hz 2CH
2	3840 x 2160P@30Hz 2CH	C	1280 x 1024@60Hz 2CH
3	1920 x 1080P@60Hz 2CH	D	1280 x 960@60Hz 2CH
4	1280 x 720P@60Hz 2CH	E	1280 x 768@60Hz 2CH
5	1920 x 1200@60Hz 2CH	F	1024 x 768@60Hz 2CH
6	1680 x 1050@60Hz 2CH		
7	1600 x 1200@60Hz 2CH		
8	1600 x 900@60Hz 2CH		
9	1440 x 900@60Hz 2CH		

Note: After changing the EDID, please unplug and plug to take effect.

RS232 Control

HDMI-SWISS has a built in RS232 controller to pre-load and store RS232 command for controlling the sink device power on/off the commands are triggered by detecting input signal status.

To configure the unit's ability to do this, connect a PC to HDMI-SWISS via a (RS232 3pins) UART-to-USB cable, check which port on the computer the RS232 cable is connected to in the device manager. Run the LINK PORT CONFIGURATION TOOL software and set the connection parameters correctly before sending any commands to HDMI-SWISS. Set the baud rate to 57600 and choose the correct port in the pull-down menu. Then press Connect. Once connected you are able to set the RS232 output port commands and the relay mode.

LINK PORT CONFIGURATION TOOL menus are described below:

- **Baud rate:** Choose the correct baud rate according to the sink device, then click "Connect" to connect with the device.
Note: This might be different than the setting of 57600 above and is determined by the sink device you are connecting to.
- **Power on:** Pre-load and store the command for "power on" to a sink device, then click "Send" to send and store it on the device.
- **Power off:** Pre-load and store the command for "power off" to a sink device, then click "Send" to send and store it on the device.
Note: If the sink device requires hex commands, make sure the Hex box is checked.
- **Delay:** Set delay time (0~30minutes) the sink device will power off automatically after it cannot detect the input signal, click "set" to take effect.
- **Set Terminator:** Select the command ending after each RS232

command that you are sending from the HDMI-SWISS to the sink device. Then click “Set” to take effect.

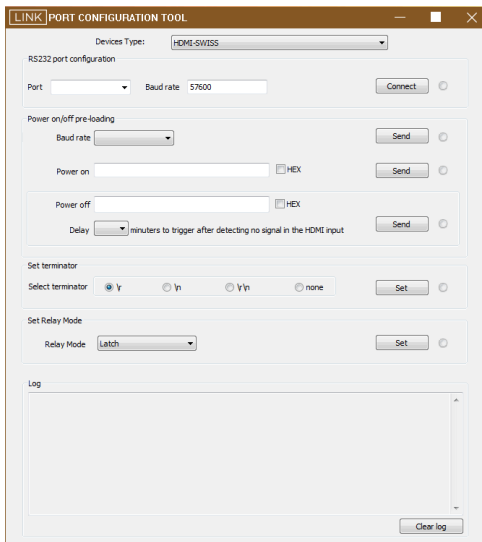
- **Set Relay Mode:** Set relay mode for the sink device.

Latch –relay closes and latches when it is triggered;

Momentary –only closes for a moment and then opens after it is triggered.

Then click “Set” to take effect.

See below picture:



Troubleshooting

1. No Power

- Ensure the power is on.
- Ensure you use the power adapter provided in the package.

2. No Picture or Video Flash

- Ensure all devices are on, and all cables are qualified and connected properly.
- Ensure all the cables' length are within the maximum distance (refer to **Specification** table).
- Ensure the LED indicator is normal.
- When connecting source to display directly, ensure them can work properly.
- Ensure the input resolution is supported by the device.

3. No Audio

- Set EDID switch to fix EDID (see "**EDID Presets**" section), then try.
- For analog audio output, ensure output audio format of source device is PCM 2.0.
- For digital S/PDIF coaxial audio output, ensure output audio format of source device is 5.1 channel or below.

4. RELAY Invalid

Ensure RELAY is set to correct trigger mode, Latch or Momentary.

5. RS232 Output Commands Invalid

- Ensure the commands set via UART port configuration tool are correct.
- Check the commands case.

Warranty Terms and Conditions

For the following cases LINK shall charge for the service(s) claimed for the products if the product is still remediable and the warranty card becomes unenforceable or inapplicable.

1. The original serial number (specified by LINK) labeled on the product has been removed, erased, replaced, defaced or is illegible.
2. The warranty has expired.
3. The defects are caused by the fact that the product is repaired, dismantled or altered by anyone that is not from a LINK authorized service partner. The defects are caused by the fact that the product is used or handled improperly, roughly or not as instructed in the applicable User Guide.
4. The defects are caused by any force majeure including but not limited to accidents, fire, earthquake, lightning, tsunami and war.
5. The service, configuration and gifts promised by salesman only but not covered by normal contract.
6. LINK preserves the right for interpretation of these cases above and to make changes to them at any time without notice.

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