1x4 HDMI 1.4 Splitter/Extender

User's Guide

P/N:HDExt4P-HD14

G4-0124A

Thank you for purchasing from gofanco. Our products aim to meet all your connectivity needs wherever you go. For optimum performance and safety, please read the instructions carefully and keep this User's Guide for future reference. If you need more information about our products, please visit www.gofanco.com. For technical support, email us at support@gofanco.com. For drivers or manual download, please go to www.gofanco.com/downloads.

Important Safety Notices

Please read safety instructions carefully before installation and operation.

- Please pay close attention to all warnings and hints for this device
- Do not expose this unit to rain, heavy moisture, or liquid
- Do not put any items into the device or attempt to modify its operation
- Do not repair the device or open the enclosure without professional guidance to avoid electric shocks. Doing so may void your warranty
- Keep the product in a well-ventilated location to avoid damage from overheating
- Shut off power and make sure environment is safe before installation
- Do not plug the HDMI cables and IR cables in/out when the device is in use to avoid cable damage. Make sure they are plugged into the correct ports
- Use the included power adapter only. Make sure the specification matches if using 3rd-party DC power adapters

Introduction

The 1x4 HDMI 1.4 Splitter/Extender distributes HDMI signals from one source device to four CAT6/7 outputs and one HDMI output (loopout).

Features

- Distributes HDMI signals from one source to four CAT6/7 outputs
- One HDMI loopout on the transmitter
- CAT6/7 outputs: Up to 70m (230ft) at 1080p and 50m (164ft) at 4K
- HDMI 1.4 and HDCP 1.4 compliant
- Supports up to 4K@30Hz YUV 4:4:4, 1080p @60Hz YUV 4:4:4
- Supports Power over Cable (PoC), bi-directional IR control, audio extraction, and firmware upgradable
- Near zero latency
- Lightning/Surge/ESD protection

Installation Requirements

- HDMI source devices (DVD player, set top box, PC, etc.)
- HDMI displays (SDTV/Monitor, HDTV/Monitor, projector, etc.)
- HDMI cables (not included)
- CAT cables (not included)

Package Contents

1x4 HDMI 1.4 Splitter/Extender

- 1x 1x4 HDMI 1.4 Splitter/Extender
- 4x CAT6/7 Receivers
- 5x IR Receiver cables
- 1x IR Emitter cable
- 1x Power adapter (24V/2.71A)
- Surface mount accessories
- 4x Velcro strips
- 4x Plastic cushions
- 1x User guide

Product Layout

Figure 1: 1x4 HDMI 1.4 Splitter/Extender Front Panel Layout

1 **Power LED**: On when the Splitter/Extender is powered on; Off when the Splitter/Extender is powered off

2 **EDID**: 3-Pin EDID selector switch

- **5.1CH Audio**: Uses EDID 1080p@60Hz 5.1CH
- **2.0CH Audio**: Uses EDID 1080p@60Hz 2.1CH
- **Copy Display**: Uses the EDID of the connected display with the lowest resolution

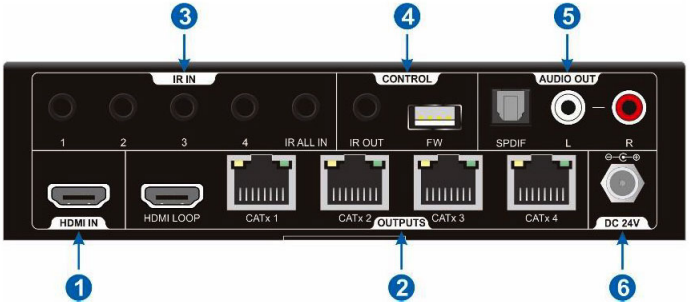


Figure 2: 1x4 HDMI 1.4 Splitter/Extender Rear Panel Layout

1 **HDMI In**: Connects to your HDMI source

2 **Outputs**:

- **HDMI Loopout**: Connects to a local HDMI display
- **CAT6/7 Out (1-4)**: Connects to the CAT6/7 In of the CAT6/7 Receivers using a CAT6/7 cable. It supports PoC to power the receiver over CAT cable. The orange LED illuminates when and HDMI signal is detected. The green LED illuminates when powered on

3 **IR In**: Five 3.5mm IR input jacks for connecting the IR Receivers

- **IR All In**: Connects to an IR Receiver cable. Sends IR signals to all CAT6/7 Receivers to control all display devices
- **IR In (1-4)**: Connects to an IR Receiver cable. Sends IR signals to the respective CAT6/7 Receiver to control the display device

4 **Control**:

- **IR Out**: Connects to an IR Emitter cable. Receives IR signals from the CAT6/7 Receivers to control the source device
- **FW**: USB Type-A port for firmware update

5 **Audio Out**:

- **S/PDIF Out**: Toslink output for audio de-embedding from the HDMI output
- **L/R Out**: RCA analog stereo output for audio de-embedding from the HDMI output

6 **Power Jack**: Connects to the included 24V power adapter

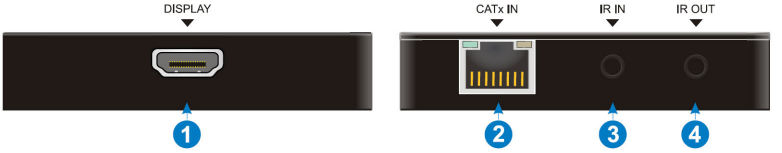


Figure 3: CAT 6/7 Receiver Front and Back Panel Layout

1 **HDMI Out**: Connects to an HDMI display

2 **CAT6/7 In**: Connects to the CAT6/7 Out of the Splitter/Extender using a CAT6/7 cable. It supports PoC to power the receiver over CAT cable. The orange LED illuminates when and HDMI signal is detected. The green LED illuminates when powered on

3 **IR In**: Connects to an IR Receiver cable

4 **IR Out**: Connects to an IR Emitter cable

Hardware Installation

1. Power off all devices including your HDMI source and HDMI display(s).
2. Connect your HDMI source device to the 1x4 HDMI 1.4 Splitter/Extender's HDMI In connector with an HDMI cable (HDMI cable not included).
3. Connect your CAT6/7 cables between the Splitter/Extender and CAT6/7 Receivers.
4. Optional: Connect an HDMI display to the HDMI Out connector of the Splitter/Extender using an HDMI cable (HDMI cable not included). This connection is needed only if you require local monitoring of the HDMI signal.
5. Connect an HDMI display to each CAT6/7 Receiver's HDMI Out connector with an HDMI cable (HDMI cables not included).
6. Optional: Connect the IR Receiver cables and the IR Emitter cable to the IR interface ports. This connection is needed only if you need to control your HDMI devices from the remote location. See IR Control, starting on page 9, for proper IR connection.
7. Plug the included power adapter into the Splitter/Extender 's Power Jack, then plug the power adapter into a reliable power outlet. **Note**: The CAT6/7 Receivers do not need power adapters, they can be powered from the Splitter/Extender over CAT cable with PoC technology.
8. Power on your HDMI source device and HDMI display(s). The Splitter/Extender is ready for use.

Application Diagram

The application diagram shows the most typical input and output devices used with the Splitter/Extender.

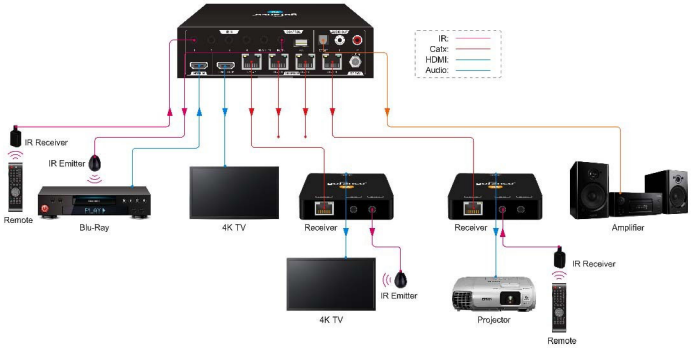
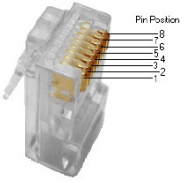


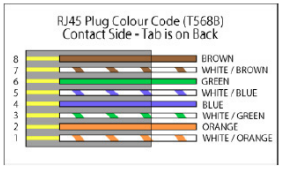
Figure 4: Application Diagram

CAT Cable Wiring

We suggest both RJ-45 connectors be wired identically using T568B wiring standard for the best performance and compatibility.

Both connectors must be wired identically, to T568B standard.





Note: *You may use cat5e, cat6 UTP (cat6 preferred) in conjunction with the RJ45 output; however for best performance use cat6a or cat7 (particularly in electrically noisy environments). The maximum distances & transmission performance for HDMI and USB may be compromised by cable quality, patch panels, poor termination, wall plates, cable kinks and electrical interferences. Generally ensure the cat cable is solid copper core of 23AWG (avoid CCA type), in one straight run (avoid/minimise patches) and avoid close proximity to any noisy electrical sources.*

IR Control

Provides IR control of the connected devices. The IR feature is bi-directional so either the source device or the display device(s) can be remotely controlled.

Controlling the Source Device

1. Connect an IR Emitter Cable to the IR Out port of the Splitter/Extender.
2. Point the IR Emitter Cable's IR eye in line with the source device's IR window.
3. Connect an IR Receiver Cable to the IR In port on each CAT6/7 Receiver.

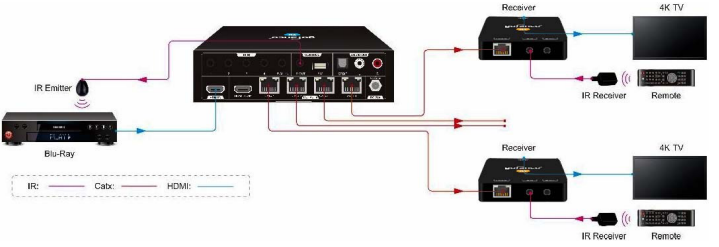


Figure 5: Source Device IR Control Connection Diagram

Controlling the Display Device(s) using IR In

Allows you to remotely control each display individually.

1. Connect an IR Receiver Cable to the IR In port of the Splitter/Extender.
2. Connect an IR Emitter Cable to the IR Out port on each CAT6/7 Receiver.
3. Point the IR Emitter Cable's IR eye in line with the display's IR window.

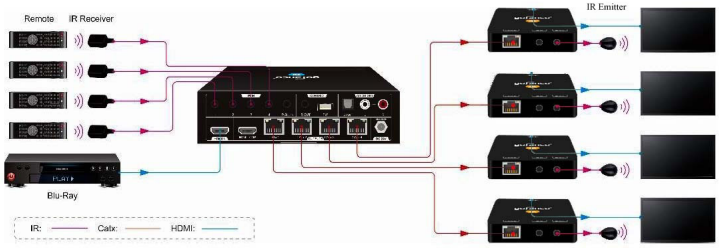


Figure 6: Display Device IR Control Connection Diagram

Controlling the Display Device(s) using IR All In Port

Allows remote controlling of all of the display devices simultaneously.

1. Connect an IR Receiver Cable to the IR All In port of the Splitter/Extender.
2. Connect an IR Emitter Cable to the IR Out port on each CAT6/7 Receiver.
3. Point the IR Emitter Cable's IR eye in line with the display's IR window.

Figure 7: Display Device IR Control Connection Diagram

Note:

The IR All In will relay the received IR signal to all the CAT6/7 outputs whereas the IR IN connectors associated with each CAT6/7 output will only relay the IR signal to its respective CAT6/7 Receiver.

The Splitter/Extender's IR Out connector will output the IR signals received from any of the CAT6/7 Receivers, so as to allow control of a source from any of the remote CAT6/7 Receivers.

FAQ & Troubleshooting

Q: Poor video quality or no video signal on display:

A1: Check whether the HDMI cables are connected properly and are in good working condition.

A2: Make sure the resolution of the display is compatible with the splitter's resolution

Q: No HDMI signal output from the CAT6/7 connectors while the local HDMI out port is working normally:

A1: Check whether the HDMI cables are connected properly and are in good working condition.

Q: Splash screen on the displays:

A1: Cause by damaged or low quality HDMI cables. Change to a higher quality HDMI cable.

Specifications

1x4 HDMI 1.4 Splitter/Extender

Video Input	
Input	(1) HDMI
Input Connector	(1) Female type A HDMI
HDMI Input Resolution	Up to 4K@30Hz 4:4:4
Video Output	
Output	(1) HDMI; (4) CATx
Output Connector	(1) Female type A HDMI; (4) RJ45
HDMI Output Resolution	Up to 4K@30Hz 4:4:4 8bit.
CATx Output Resolution	Up to 4K@30Hz 4:4:4 8bit.
SPDIF Audio Output	
Audio Output	(1) SPDIF
Audio Output Connector	(1) Toslink
Audio Format	LPCM 2ch, Dolby Digital 5.1ch and DTS 5.1ch
Output Level	±0.05dBFS
Frequency Response	20Hz ~20kHz, ±1dB
THD+N	< 0.05%, 20Hz ~20kHz bandwidth, 1kHz sine at 0dBFS level (or max level)
SNR	> 90dB, 20Hz ~20kHz bandwidth
Crosstalk Isolation	> 70dB, 10kHz sine at 0dBFS level (or max level before clipping)
Noise	-90dB
Analog Audio Output	
Audio Output	(1) Analog audio
Audio Output Connector	(1) RCA
Audio Format	PCM 2CH
Frequency Response	20Hz ~20kHz, ±1dB
Max output level	2.0Vrms ± 0.5dB.
THD+N	< 0.05%, 20Hz ~20kHz bandwidth, 1kHz sine at 0dBFS level (or max level)
SNR	> 80dB, 20Hz ~20kHz bandwidth
Crosstalk Isolation	> 70 dB, 10kHz sine at 0dBFS level (or max level before clipping)
L-R Level Deviation	< 0.3 dB, 1kHz sine at 0dBFS level (or max level before clipping)
Output Load Capability	1kohm and higher (supports 10x paralleled 10kohm loads)
Noise	- 80dB

1x4 HDMI 1.4 Splitter/Extender Cont'd

Control	
Control port	(1) EDID; (4) IR IN; (1) IR ALL IN; (1) IR OUT; (1); FW
Control Connector	(1) 3-pin DIP switch; (6) 3.5mm mini jacks; (1) USB-A port
General	
HDMI Standard	HDMI 1.4 with HDCP 1.4
Transmission Mode	CAT5e/6/7 Cable
Transmission Distance	1080p ≤ 230 feet (70 meters), 4K ≤164 feet (50 meters)
Operation Temperature	-5 to +55℃ (+23° to +131°F)
Storage Temperature	-25 to +70℃ (-13° to +158°F)
Relative Humidity	10% to 90%, Non-condensing
AC Adapter Input Power	100V~240V AC, 50/60Hz
Input Power	24V DC 2.71A
Power Consumption	15W (Max)
Dimension (W*H*D)	168mm x 44mm x 100mm
Net Weight	585g

CAT6/7 Receiver

Video	
Input	(1) CATx
Input Connector	(1) RJ45
Input Resolution	Up to 4K@30Hz 4:4:4 8bit
Output	(1) HDMI
Output Connector	(1) Type-A female HDMI
Output Resolution	Up to 4K@30Hz 4:4:4 8bit
Control	
Control Part	(1) IR In, (1) IR Out
Control Connector	(2) 3.5mm mini jacks
General	
HDMI Standard	HDMI 1.4 with HDCP 1.4
Transmission Distance	1080p ≤230 feet (70 meters), 4K ≤164 feet (50 meters)
Operation Temperature	-5~ +55℃
Storage Temperature	-25 ~ +70℃
Relative Humidity	10%-90%

Disclaimer

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