



18G HDMI 2.0 CAT Extender with Cascade - 70m

User's Guide



P/N: HD20Ext-Cas & HD20Ext-RX

G4-0109A



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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 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 18G HDMI 2.0 CAT Extender with Cascade -70m extends UHD 4K HDR HDMI signals up to 70 meters over a single CAT6 cable.

Features

- Extends HDMI transmissions up to 70m (230ft) at 4K and 1080p
- Can cascade up to 10 receivers (RX), part# HD20Ext-RX, sold separately
- Supports UHD 4K@60Hz YUV 4:4:4, HDR with 18Gbps bandwidth
- HDMI 2.0 and HDCP 2.2 compliant
- HDMI loop-out equipped on the TX, bi-directional IR

- Supports 5.1ch digital audio and audio extraction to Toslink
- Near zero latency
- Lightning/Surge/ESD protection

Package Contents

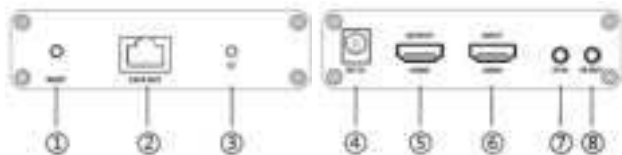
- 18G HDMI 2.0 CAT Extender with Cascade - 70m (1 Transmitter & 1 Receiver)
- 1x IR Blaster cable and 1x IR Receiver cable
- 2x Power adapter (5VDC/2A)
- Surface mount accessories
- User's guide

Installation Requirements

1. HDMI source device (computer, DVD player, XBOX, PS3, etc)
2. HDMI display device (SDTV/Monitor, HDTV/Monitor, projector, etc.)
3. UTP/STP CAT6 cable following IEEE-T568B wiring standard
4. Additional RXs for cascading: 18G HDMI 2.0 CAT Receiver, part# HD20Ext-RX, sold separately

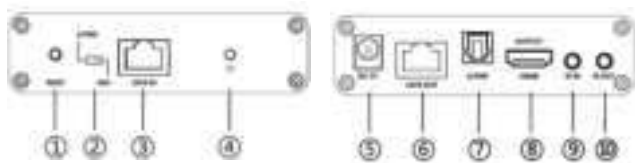
Product Layout

Transmitter TX Front and Rear Panel



1. **Reset Button:** Press to reset the TX
2. **RJ45 Out:** Connects to the Receiver's RJ45 In using a CAT cable
3. **Power/Signal LED:** Blinks when powered on with no HDMI signal detected, and solid on when HDMI signal is detected
4. **Power Jack:** Connects to the included power adapter
5. **HDMI Out:** Connects to an HDMI display for local monitoring of the remote display
6. **HDMI In:** Connects to your HDMI source
7. **IR In:** Connects to the included IR Receiver cable to control the remote display device from the HDMI source location
8. **IR Out:** Connects to the included IR Blaster cable to control the HDMI source device from the remote display location

Receiver RX Front and Rear Panel



1. **Reset Button:** Press to reset the RX
2. **Audio Switch:** Extracts HDMI/ARC audio to Optical Out:
 - **S/PDIF:** Extracts audio from the HDMI source (from TX) to S/PDIF Toslink output
 - **ARC:** Extracts audio from the display (RX's HDMI output) to S/PDIF Toslink output
3. **RJ45 In:** Connects to the Transmitter's RJ45 Out using a CAT cable. When cascading, connects to the former receiver's RJ45 Out using a CAT cable.
4. **Power/Signal LED:** Blinks when powered on with no HDMI signal detected, and solid on when HDMI signal is detected.
5. **Power Jack:** Connects to the included power adapter.

6. **RJ45 Out:** Optional: When cascading receivers, connects to the latter receiver's RJ45 In using a CAT cable
7. **Optical Out:** Connects to your speakers or AVR
8. **HDMI Out:** Connects to an HDMI display
9. **IR In:** Connects to the included IR Receiver cable to control the remote display device from the HDMI source location
10. **IR Out:** Connects to the included IR Blaster cable to control the HDMI source device from the remote display location

CAT Cable Wiring

We suggest both RJ45 connectors be wired identically using T568B wiring standard for the best performance and compatibility.

Both connectors must be wired identically, to T568B standard.



| | | | |
|---|--------------|---|--------------|
| 1 | Green | 1 | Green |
| 2 | White/Green | 2 | White/Green |
| 3 | White/Red | 3 | White/Red |
| 4 | Red | 4 | Red |
| 5 | White/Orange | 5 | White/Orange |
| 6 | Orange | 6 | Orange |
| 7 | White/Brown | 7 | White/Brown |
| 8 | Brown | 8 | Brown |

Note: You may use CAT5e, CAT6 wiring, however, for best performance CAT5e or CAT7 (particularly in electrically noisy environments) is recommended. The maximum transmission distance and video quality may be compromised by cable quality, patch cables, poor termination, wall plates, cable links, and electrical interference. We recommend using 100% copper 23AWG (avoid CCA type) CAT cable, in one straight run (avoid/minimize patches) and avoid close proximity to electrical sources.

Hardware Installation

1. Power off all devices including your HDMI source and HDMI display(s).
2. Connect your HDMI source device to the Transmitter's HDMI In connector with an HDMI cable (HDMI cable not included).
3. Optional: Connect your HDMI display to the Transmitter's HDMI Out connector with an HDMI cable (HDMI cable not included) for local monitoring of the HDMI signal.
4. Optional: Connect the IR cable to the Transmitter's IR port. See the IR Application on page 9 for proper cable connection.
5. Plug a CAT6 cable between the Transmitter's RJ45 Out and Receiver's RJ45 In. If cascading RXs is required, connect the RJ45 Out of the former RX to the RJ45 In of the latter RX.
6. Connect your HDMI display to the Receiver's HDMI Out connector with an HDMI cable (HDMI cable not included).
7. Optional: Connect the IR cable to the Receiver's IR port. See the IR Application on page 9 for proper cable connection.

8. Plug the included power adapters into the TX's and RX's power jack, then plug the power adapters into reliable power sources.
9. Power on all connected devices.
10. The HDMI extender is ready for use.

IR Application

Control HDMI source device from RX location

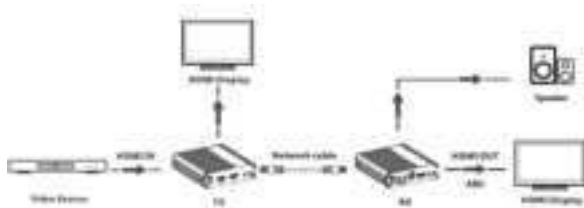
1. Connect the IR Blaster cable to the TX's IR Out port. Face the eye towards your HDMI source device's IR window.
2. Connect the IR Receiver cable to the RX's IR In port.

Control display device from TX location

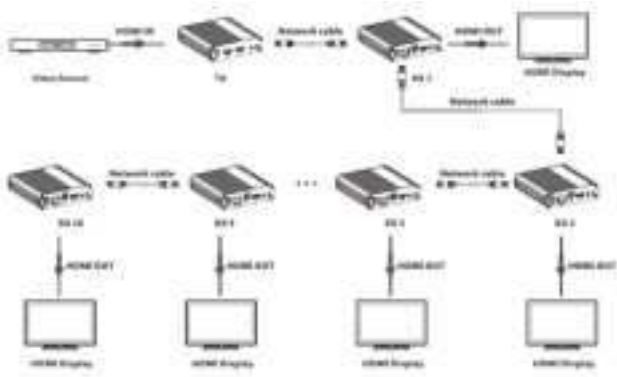
1. Connect the IR Blaster cable to the RX's IR Out port. Face the eye towards your Display device's IR window.
2. Connect the IR Receiver cable to the TX's IR In port.

Application Diagram

1-to-1 Connection



1-to-Many Connection



FAQ & Troubleshooting

Q: There is no video output:

A: 1) Check the HDMI source device is powered on.

2) Check the HDMI cables for solid connection. Use different HDMI cables if necessary.

3) Check the CAT cables for solid connection. Use different CAT cables if necessary

4) Connect the HDMI source device directly to the display to see if there is a signal.

5) Press the reset button on both TX and RX.

Q: Poor video quality:

A: 1) Press the reset button on both TX and RX.

2) Check the HDMI cables for solid connection. Use different HDMI cables if necessary.

3) Check the CAT cables for solid connection. Use different CAT cables if necessary

Specifications

| Item | Specifications |
|-----------------------|--|
| HDMI Signal | HDMI 2.0 and HDCP 2.2 compatible |
| Resolution | 480i@60Hz, 480p@60Hz, 576i@50Hz, 576p@50Hz, 720p@50/60Hz, 1080i@50/60Hz, 1080p@50/60Hz, 3840X2160@24/30/50/60Hz, 4096x2160@24/25Hz, 1280x960, 1280x800, 1280x768, 1680x1050, 1360x768, 1366x768, 1600x900, 1024x768, 800x600 |
| Network Cable | Low resistance, oxygen free, 100% copper (CAT6/CAT6A/CAT7) |
| Audio Formats | Up to Dolby Digital 5.1Ch |
| Transmission Distance | Up to 230 ft (70m) |
| HDMI Cable Length | 8m (AWG24) Input and Output |
| IR Signal | 20 - 60KHz |
| Operating Temperature | -4 to 140 F (-20 to 60 C) |
| Power Adapter | 5VDC/2A (Output) |
| Power Consumption | TX: 4W; RX:<4W |
| Dimensions | 4.2" (L) x 3.9" (W) x 1.0" (H) (2pcs) |
| Weight | TX: 0.46 lb; RX: 0.46 lb |
| Color | Black |

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