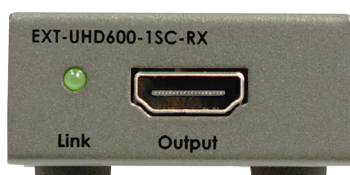
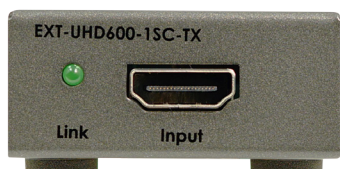




4K Ultra HD 600 MHz Extender for HDMI over one Fiber-Optic Cable

EXT-UHD600-1SC



Version A1

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this product near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install or place this product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. To reduce the risk of electric shock and/or damage to this product, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this product to rain or moisture.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Batteries that may be included with this product and/or accessories should never be exposed to open flame or excessive heat. Always dispose of used batteries according to the instructions.

Warranty Information

For the latest warranty coverage information, refer to the Warranty and Return Policy under the Connect section of the Gefen Web site at <http://www.gefen.com/connect/warranty-and-return-policy>

Contact Us

Technical Support

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8:00 AM to 5:00 PM Monday - Friday, Pacific Time

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Core Brands, LLC
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1800 S McDowell Blvd
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Introduction

Congratulations on your purchase of the Gefen 4K Ultra HD 600 MHz Extender for HDMI over one Fiber-Optic Cable. Your complete satisfaction is very important to us.

The Gefen EXT-UHD600-1SC is a compact and high-performance solution for extending uncompressed, full-bandwidth HDMI 2.0 audio/video with HDR (standard 10-bit and Dolby Vision™), up to 200 meters (660 feet), over a single strand of SC-terminated 50/125 µm OM3 or better multi-mode fiber-optic cable.

It supports 18.2 Gbps of bandwidth and 600 MHz TMDS Clock frequency, the highest specified under the HDMI 2.0 standard. Full bandwidth support allows the Gefen extender to accommodate resolutions up to 4K Cinema-DCI (4096 x 2160 up to 60 Hz 4:4:4), and 4K Ultra HD (3860 x 2160 up to 60 Hz, 4:4:4) along with HDR (High Dynamic Range). HDCP 2.2 and the legacy HDCP 1.4 are both supported. The EXT-UHD600-1SC also supports 1080p Full HD, WUXGA (1920 x 1200), 3DTV, and Deep Color (up to 1080p resolution). Highest performance multichannel digital audio including 7.1 channels of LPCM and HBR (High Bit Rate) digital audio formats, such as Dolby Atmos®, Dolby® TrueHD, DTS:X™, and DTS-HD Master Audio™ are passed through to the HDMI outputs.

There is full electrical isolation between the Sender and the Receiver, meeting the stringent safety and EMC requirements for critical applications.

This extender can be powered from sources and displays featuring powered USB ports, or by using external power supplies.

The Sender and Receiver are plug-and-play, and work without any set-up.

Compact enclosures are easy to install and can be hidden away. Their sturdy metal enclosures help provide further immunity against Electro-Magnetic Interference (EMI) and radiated noise (RFI).

Applications include medical imaging, military and industrial command and control rooms, flight simulators, digital signage, gaming, and wherever 4K full-bandwidth uncompressed video or end-to-end electrical isolation are essential.

Operating Notes

- This product operates with SC-terminated single strand OM3 or OM4 (50/125 µm) multimode fiber optic cable. Single mode fiber is not supported.
- HDMI cable quality is critical when handling 600 MHz HDMI signals. If the 3.3-foot cables that came with the product cannot be used due to their length, we highly recommend 10-foot or shorter Gefen Locking HDMI cables. They have been designed and tested to work at 600 MHz and reliably transport the full 18.2 Gbps throughput of HDMI 2.0.

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Gefen and Core Brands, LLC reserve the right to make changes in the hardware, packaging, and any accompanying documentation without prior notice.



This product uses UL-Listed power supplies



Features & Packing List

Features*

- Supports 18.2 Gbps bandwidth and 600 MHz TMDS clock
- Extension up to 200m (660 feet) over one SC-terminated multi-mode OM3 or better (50/125um) fiber-optic cable
- Supports resolutions up to 4K Cinema-DCI (4096 x 2160 up to 60 Hz, 4:4:4), 4K Ultra HD (3860 x 2160 up to 60 Hz, 4:4:4) with HDR-10 and Dolby Vision™, 1080p Full HD, and WUXGA (1920x1200)
- Supports HDCP 2.2 and 1.4
- Supports HDR (High Dynamic Range) 10-bit color at 4K 60 Hz 4:2:0 and 4K 24 Hz 4:4:4
- Supports Dolby Vision™ HDR
- Supports 12-bit Deep Color at 1080p Full HD (60 Hz 4:4:4)
- 3DTV pass-through
- Lip Sync pass-through
- Supports uncompressed LPCM digital audio up to 7.1 channels
- Supports up to 7.1 channels of HBR (High Bit Rate) digital audio including Dolby Atmos®, Dolby® TrueHD, DTS:X™, and DTS-HD Master Audio™
- Supports the use of DVI sources and DVI displays up to 1080p Full HD and WUXGA (1920x1200), with Gefen CAB-DV1z-HDMI-LCK DVI-to-HDMI cables (not included)
- Sturdy metal construction of the enclosures help provide immunity against Electro-Magnetic Interference (EMI) and radiated noise (RFI).
- Plug & Play—no configuration or set-up required for most applications
- Compact enclosures are easy to install and can be hidden away.

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Packing List

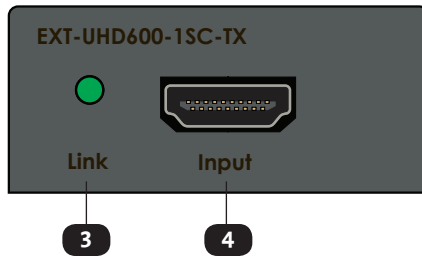
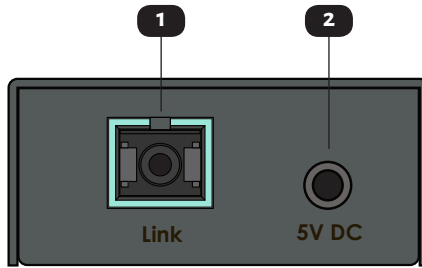
The following items are shipped with the 4K Ultra HD 600 MHz Extender for HDMI over one Fiber Optical Cable. If any of these items are not present in the box when you first open it, immediately contact your dealer or Gefen.

- (1) EXT-UHD600-1SC-TX (Sender unit)
- (1) EXT-UHD600-1SC-RX (Receiver unit)
- (2) HDMI-to-HDMI Male-to-Male cables, 3.3 feet
- (2) USB Type-A-to-DC cables, 2.3 ft
- (2) EXT-PS52AIP-1.3-6-AL 5V DC power supplies & 2 sets of regional AC plugs (US, UK, EU, & AU)
- (1) Quick Start Guide

Table of Contents

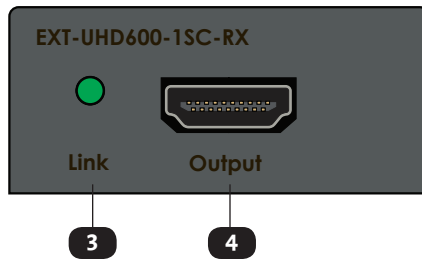
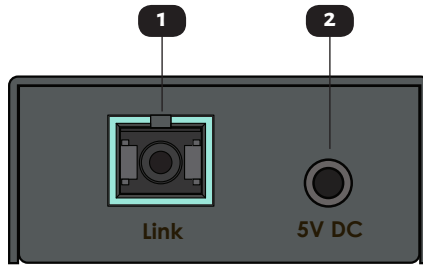
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Sender Unit



ID	Name	Description
1	Link	Connect an SC-terminated OM3 or better multimode fiber optic cable between this connector and the Link connector on the Receiver unit.
2	5V DC	Connect the included 5V DC power supply or USB-to-DC cable to this power receptacle.
3	Link	Under normal operating conditions, this LED indicator will glow bright green.

Receiver Unit



ID	Name	Description
1	Link	Connect an SC-terminated OM3 or better multimode fiber optic cable between this connector and the Link connector on the Sender unit.
2	5V DC	Connect the included 5V DC power supply or USB to DC cable to this power receptacle.
3	Link	Under normal operating conditions, this LED indicator will glow bright green.

Connection Instructions

▶ Video

1. Connect the included HDMI cable between the 4K source and the Input port on the Sender unit.
2. Connect a 4K display to the Output port on the Receiver unit, using the included HDMI cable.

▶ Fiber

3. Connect a single SC-terminated OM3 or better (50/125 μm) multimode fiber optic cable, up to 660 feet (200 meters), between the Link port on the Sender unit and the Link port on the Receiver unit.

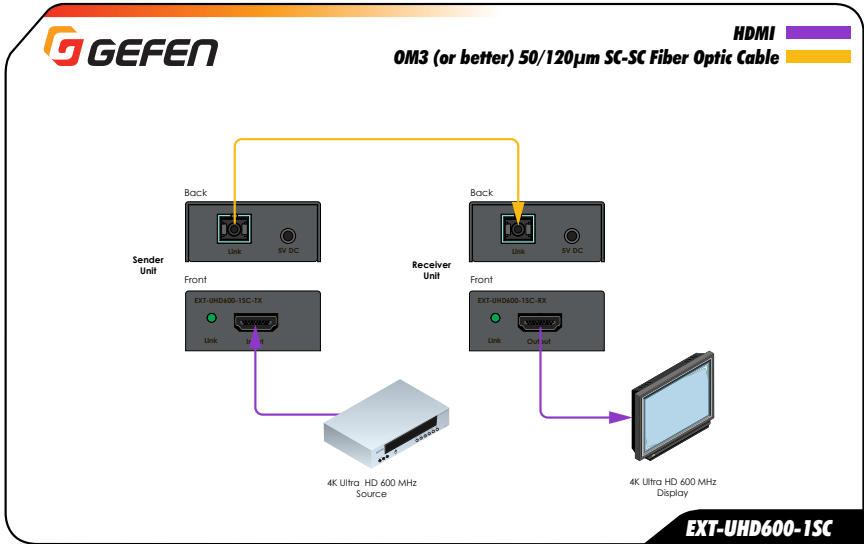
▶ Power

4. Connect the included 5V DC power supplies to the 5V DC port on both the Sender and Receiver unit.
5. Connect the opposite end of the power supplies to available electrical outlets.
6. Alternatively, you can use the USB-to-DC cables that are also included. Make sure that the USB port is powered and can supply 5V DC at 2A.

▶ Indicators

7. The Link indicators on both units will light once all connections are complete and the units, the source, and the display are powered up.

Sample Wiring Diagram



Specifications

Supported Formats

Video	<ul style="list-style-type: none">· 4K Cinema-DCI (4096 x 2160 to 60 Hz, 4:4:4)· 4K Ultra HD (3860 x 2160 to 60 Hz, 4:4:4) w/ HDR-10 and Dolby Vision™· 1080p Full HD (1920 x 1080 to 60 Hz, 4:4:4, 12 bit) WUXGA (1920 x 1200 to 60 Hz)
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Connectors & Indicators

Input Connector (Sender)	· 1 x HDMI Type A 19-pin, female
Output Connector (Receiver)	· 1 x HDMI Type A 19-pin, female
Link Connector (Sender / Receiver)	· 1 x SC-type, female
Power Connector (Sender / Receiver)	· 1 x DC jack, 3.5mm barrel/1.3mm pin
Link Indicator (Sender / Receiver)	· 1 x LED, green

Operational

TMDS Clock	· 600 MHz
Video Bandwidth	· 18.2 Gbps
Optical Wavelength	· 850 nm
Power Input	· 5V DC
Power Consumption (Sender)	· 3.2 W
Power Consumption (Receiver)	· 2.8 W
Optical Power Budget	· 6.5 dB
Operating Temperature	· +32 to +122 °F (0 to +50 °C)
Operating Humidity	· 10% to 85% RH, non-condensing
Storage Temperature	· -4 to +158 °F (-20 to +70 °C)
Storage Humidity (RH)	· 10% to 85% RH, non-condensing
MTBF	· 50000 hours

Physical

Dimensions (W x H x D) (Sender / Receiver), not including connectors	· 1-3/4" x 7/8" x 3-1/8" (45 mm x 22 mm x 79 mm)
Net Weight (Sender / Receiver)	· 3.2 oz. (0.1 kg), each
Shipping Weight	· 2.5 lbs (1.2 kg)

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