



600 MHz
4K ULTRA HD
60Hz, 4:4:4

DisplayPort™ 1.2 Extender over one SC-Terminated Fiber-Optic Cable

EXT-DP-4K600-1SC

User Manual



Release 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

Gefen warrants the equipment it manufactures to be free from defects in material and workmanship.

If equipment fails because of such defects and Gefen is notified within two (2) years from the date of shipment, Gefen will, at its option, repair or replace the equipment, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications. Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of reshipment to the Buyer.

This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed.

1. Proof of sale may be required in order to claim warranty.
2. Customers outside the US are responsible for shipping charges to and from Gefen.
3. Copper cables are limited to a 30 day warranty and cables must be in their original condition.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.

For the latest warranty coverage information, refer to the Warranty and Return Policy under the Support section of the Gefen Web site at www.gefen.com.

Technical Support

(707) 283-5900 (800) 472-5555
8:00 AM to 5:00 PM Monday - Friday, Pacific Time

Email

support@gefen.com

Web

<http://www.gefen.com>

Mailing Address

Gefen
Core Brands, LLC
c/o Customer Service
1800 S McDowell Blvd
Petaluma, CA 94954 USA

Product Registration

Register your product here: <http://www.gefen.com/kvm/Registry/Registration.jsp>

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.

4K 600 MHz DisplayPort 1.2 Extender over one SC-Terminated Fiber Optic Cable is a trademark of Core Brands, LLC.

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



This product uses UL or CE listed power supplies.

Features*

- Supports Full-Bandwidth 4K 60 Hz 4:4:4 (600 MHz)
- Fully compliant with DisplayPort 1.2 standard
- Supports WQUXGA (4K; 3840x2400), 4K Ultra HD (3840 x 2160), and 4K Cinema - DCI (4096 x 2160) at 60Hz, 4:4:4
- Extension up to 200m (660 feet) over one (1) SC-terminated multi-mode OM3 or better (50/125um) fiber-optic cable
- HDCP 2.2, HDCP 1.4, and DPCP compliant
- Supports DisplayPort Auxiliary/I²C channel
- Supports DisplayPort Multi-stream technology
- Compact enclosures are easy to install and can be hidden away.
- Sturdy metal construction of the enclosures help provide further immunity against Electro-Magnetic Interference (EMI) and radiated noise (RFI).
- Plug & Play – no configuration or set-up required for most applications
- EQ switches on Sender & Receiver ensure compatibility with most sources & displays
- Medical Safety (EN 60601-1) & EMC Compliant (EN 60601-1-2) when used with two EXT-PS52AU-M-1.3-6-AL power supplies (available separately)

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Packing List

The following items are shipped with the 4K 600 MHz DisplayPort 1.2 Extender over one SC-Terminated Fiber Optic Cable. If any of these items are not present in the box when you first open it, immediately contact your dealer or Gefen.

- 1 x EXT-DP-4K600-1SC-TX - Sender unit
- 1 x EXT-DP-4K600-1SC-RX - Receiver unit
- 2 x DisplayPort Male-to-Male cables, 6 feet
- 2 x USB-to-DC cables, 2.3 feet
- 2 x EXT-PS52AIP-1.3-6-AL power supplies and 2 sets of regional AC plugs (US, UK, EU, and AU)
- 1 x Quick Start Guide

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1 Getting Started

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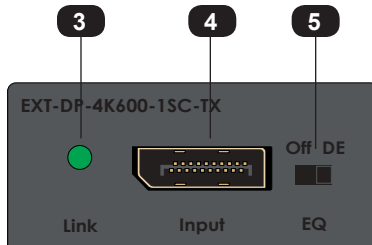
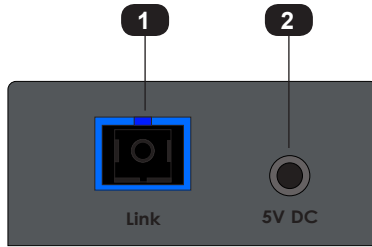
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4K 600 MHz DisplayPort 1.2 Extender over one SC-Terminated Fiber-Optic Cable

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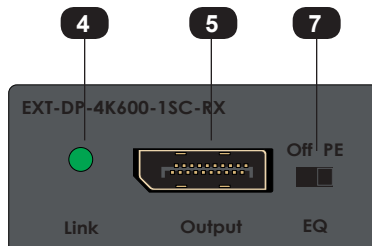
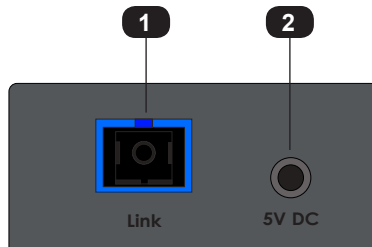
Getting Started

Sender Unit



| ID | Name | Description |
|----|----------|--|
| 1 | Link | Connect an SC-terminated multimode fiber optic cable from this connector to the Fiber 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. |
| 4 | Input | Use the included DisplayPort cable to connect to a DisplayPort 1.2 source. |
| 5 | Off / DE | De-emphasis switch. By default this is set to the "Off" position. See EQ Switch Configuration (page 6) for more information. |

Receiver Unit



| ID | Name | Description |
|----|----------|---|
| 1 | Link | Connect an SC-terminated multimode fiber optic cable from this connector to the Fiber 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. |
| 4 | Input | Use the included DisplayPort cable to connect to a DisplayPort 1.2 display. |
| 5 | Off / PE | Pre-emphasis switch. By default this is set to the "Off" position. See EQ Switch Configuration (page 6) for more information. |

Connection Instructions

▶ Video

1. Connect the included DisplayPort cable between the DisplayPort 1.2 source and the **Input** port on the Sender unit.
2. Connect a DisplayPort 1.2 display to the **Output** port on the Receiver unit, using the included DisplayPort cable.

▶ Fiber

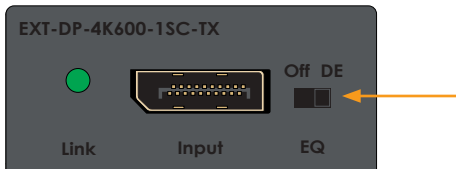
3. Connect a single SC-terminated OM3 or OM4 (50/125 μm) multimode fiber optic cable, up to 660 feet (200 meters), between the **Link** port on the Sender unit and the **Link** port on the Receiver unit.

▶ Power

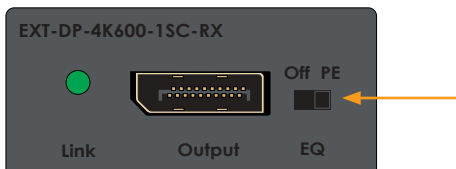
4. Connect the included 5V DC power supplies to the **5V DC** port on both the Sender and Receiver unit.
5. Connect the opposite end of the power supplies to available electrical outlets.
6. The Link indicators on both units will light once all connections are complete and the units, the source, and the display are powered up.

EQ Switch Configuration

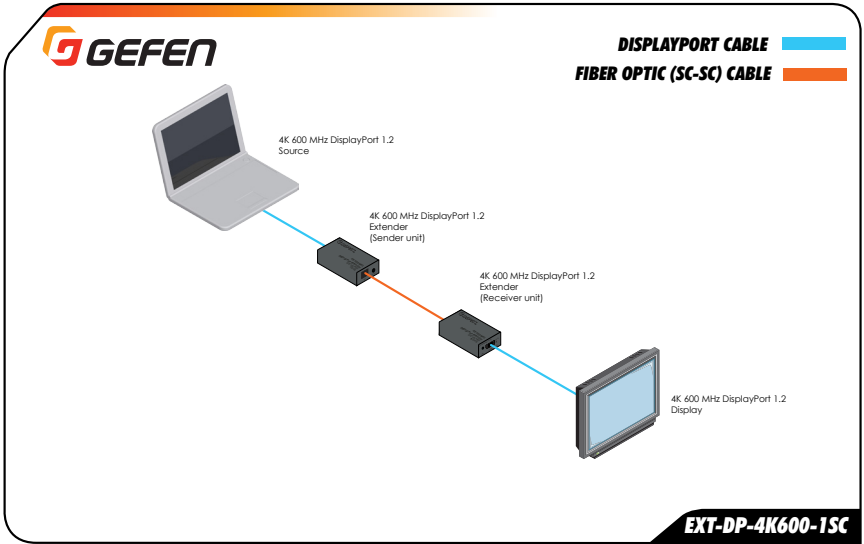
Sender unit - By default, this switch is in the "Off" position. Set the switch to the "DE" (signal de-emphasis) setting, if the source output is very high.



Receiver unit - By default, this switch is set to the "Off" position. Set to the "PE" (signal pre-emphasis) position if the sink device requires a higher than normal input level.



Sample Wiring Diagram



4K 600 MHz DisplayPort 1.2 Extender over one SC-Terminated Fiber-Optic Cable

2

Appendix

Supported Formats

| | |
|-------|--|
| Video | <ul style="list-style-type: none"> • 3840 x 2160 @ 60 Hz • WQUXGA (4K; 3840x2400 @ 60Hz) • 4K Ultra HD (3840 x 2160 @ 60Hz) • 4K Cinema - DCI (4096 x 2160 60Hz) |
|-------|--|

Connectors & Indicators

| | |
|--------------------------|---|
| Input (Sender) | <ul style="list-style-type: none"> • 1 x DisplayPort, 20-pin, female |
| Output (Receiver) | <ul style="list-style-type: none"> • 1 x DisplayPort, 20-pin, female |
| Link (Sender / Receiver) | <ul style="list-style-type: none"> • 1 x SC-type, female |
| Link (Sender / Receiver) | <ul style="list-style-type: none"> • 1 x LED, green |
| Power | <ul style="list-style-type: none"> • 1 x 1.3 mm barrel jack |

Operational

| | |
|------------------------------|--|
| Video Bandwidth | <ul style="list-style-type: none"> • 21.6 Gbps (5.4 Gbps per lane, 4 lanes) |
| Optical Wavelength | <ul style="list-style-type: none"> • 850 nm |
| Power Input | <ul style="list-style-type: none"> • 5V DC |
| Power Consumption (Sender) | <ul style="list-style-type: none"> • 1.75 W |
| Power Consumption (Receiver) | <ul style="list-style-type: none"> • 2.0 W |
| Optical Power Budget | <ul style="list-style-type: none"> • 6.5 dB |
| Operating Temperature | <ul style="list-style-type: none"> • +32 to +122 °F (0 to +50 °C) |
| Operating Humidity | <ul style="list-style-type: none"> • 10% to 85% RH, non-condensing |
| Storage Temperature | <ul style="list-style-type: none"> • -4 to +158 °F (-20 to +70 °C) |
| Storage Humidity (RH) | <ul style="list-style-type: none"> • 10% to 85% RH, non-condensing |

Physical

| | |
|--|--|
| Dimensions (W x H x D) (Sender / Receiver), not including connectors | <ul style="list-style-type: none"> • 1-3/4" x 7/8" x 3-1/8" (45 mm x 22 mm x 79 mm) |
| Unit Weight (each) | <ul style="list-style-type: none"> • 4.8 oz. (0.135 kg) |
| Shipping Weight | <ul style="list-style-type: none"> • 2.5 lbs (1.2 kg) |

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1800 S McDowell Blvd. Petaluma CA 94954, USA
(707) 283-5900 (800) 472-5555