Gefen TOOLBOX

USB 2.0 LR 4-Port Extender

GTB-USB2.0-4LR
GTB-USB2.0-4LR-BLK

User Manual

ASKING FOR ASSISTANCE

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Notice

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INTRODUCTION

Congratulations on your purchase of the USB 2.0 LR 4-Port Extender. Your complete satisfaction is very important to us.

Gefen

Gefen delivers innovative, progressive computer and electronics add-on solutions that harness integration, extension, distribution and conversion technologies. Gefen's reliable, plug-and-play products supplement cross-platform computer systems, professional audio/video environments and HDTV systems of all sizes with hard-working solutions that are easy to implement and simple to operate.

Why GefenToolBox?

The GefenToolBox line offers portable and easy-to-install solutions for common A/V system integration setups using HDMI connectivity. GefenToolBox products are wall-mountable and small in size. GefenToolBox products are easily transported in the field and are ready for immediate and simple installations in working environments. These products come finished in a glossy color to blend in with either a white wall or black cabinet.

The GefenToolBox USB 2.0 LR 4-Port Extender

The GefenToolBox USB 2.0 4-Port Extender extends a USB source up to 330 feet (100 meters) using a single CAT5 cable. This product supports USB 2.0 with data rates up to 480 Mbps in addition to backward-compatibility with USB 1.1. The Receiver Unit allows the connections of up to four (4) USB devices, providing access to printers, scanners, cameras, external storage media, digital signage, and automated control systems.

How It Works

Use the supplied USB cable to connect the USB 2.0 4-Port Sender Unit to the USB host (source) device. Connect the USB devices to the Receiver Unit. Use a CAT-5 cable to connect the Sender Unit to the Receiver Unit. Connect the included locking power supply to the Receiver Unit then connect both power cables to available electrical outlets. The LED indicators on the Sender Unit and the Receiver Unit provide status on power and data transmission activity.

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE USB 2.0 LR 4-PORT EXTENDER

- Use industry standard CAT-5e or CAT-6. Gefen recommends using solid core cabling for maximum performance.
- The USB 2.0 LR 4-Port Extender is USB 2.0/1.1 compliant
- The USB 2.0 LR 4-Port Extender can extend USB a maximum of 330 ft (100m)
- Use only the AC adapter supplied with the USB 2.0 LR 4-Port Extender. Use of substitute adapters may cause permanent damage to the system and will void the warranty.

FEATURES

Features

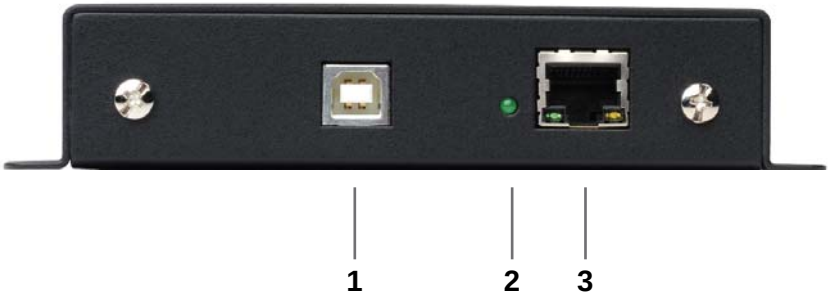
- Operate USB 2.0 peripherals up to 330ft (100m) from a computer
- Supports low and high-speed USB
- Uses industry-standard CAT5e or CAT6 cable
- Supports all major operating systems -- Windows, MacOS and Linux.
- True plug-and-play, 100% hardware solution with no drivers required
- Operates at full 480 Mbps speed when running in USB 2.0 mode
- Receiver supports up to 4 powered USB 2.0 connections at 500 mA each

Package Includes

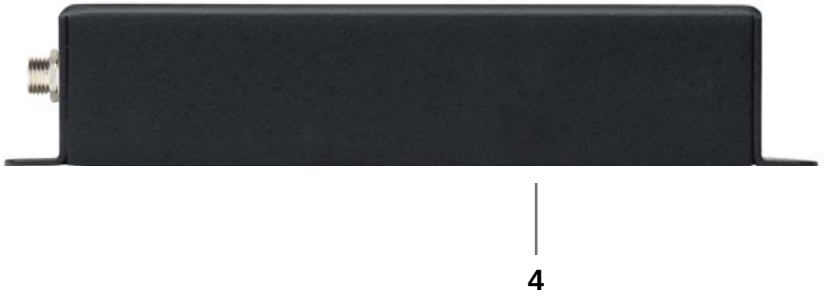
(1) Gefen USB 2.0 4-Port Extender Sender Unit
(1) Gefen USB 2.0 4-Port Extender Receiver Unit
(1) 5V DC Power Supply with Locking Power Connector
(1) 6 ft. USB Cable
(1) User Manual

SENDER UNIT PANEL LAYOUT

Front Panel



Back Panel



SENDER UNIT PANEL DESCRIPTIONS

1 USB Input Port

Connect the USB host device to this port.

2 Power Indicator

This LED will become active once a valid connection is made between the included 5V DC power supply and an open wall power socket.

3 CAT-5 Output Jack

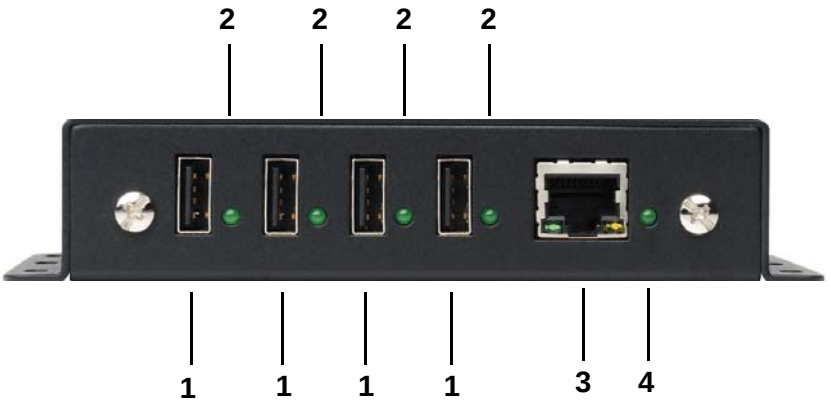
Connects the Sender Unit to the Receiver Unit using CAT-5e/CAT-6 cabling.

4 5V DC Locking Power Connector

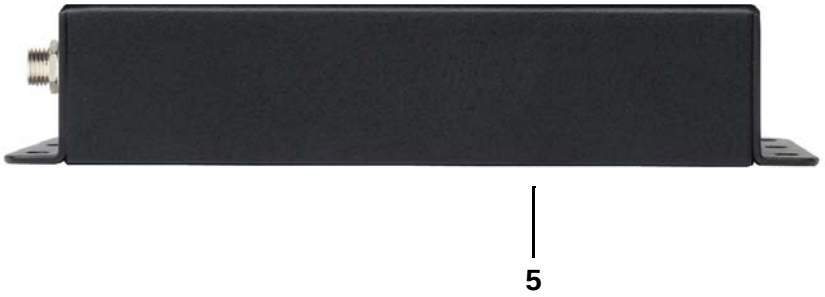
This receptacle can be used with an additionally purchased 5V DC power supply if the host computer does not provide the required 5V for operation.

RECEIVER UNIT PANEL LAYOUT

Front Panel



Back Panel



RECEIVER UNIT PANEL DESCRIPTIONS

1 USB Output Port (1 - 4)
Connect the USB devices to these ports.

2 Host Connection Indicator (1 - 4)
These LEDs will turn bright green once a connection is made from the host device to a USB accessory device via the USB 2.0 LR 4-Port Extender.

3 *CAT-5 Input Jack*
Connects the Receiver Unit to the Sender Unit using CAT-5e/CAT-6 cabling.

4 Power Indicator
This LED will become active once a valid connection is made between the included 5V DC power supply and an open wall power socket.

5 5V DC Locking Power Connector
Connect the included 5V DC locking power supply to this connector. Only use the power supply shipped with this unit.

How to Connect the USB 2.0 LR 4-Port Extender

1. Connect the USB source to the USB 2.0 LR 4-Port Extender Sender unit using the supplied USB cable.

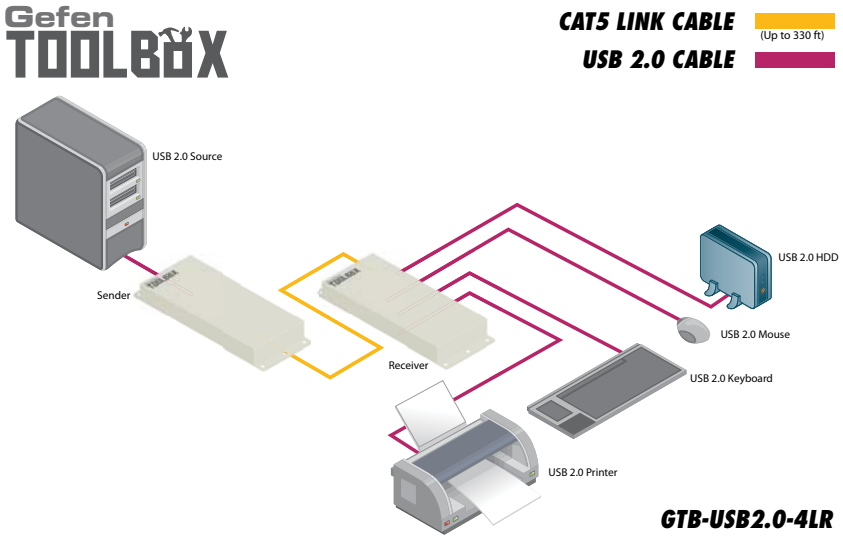
2. Connect up to four USB devices to the USB 2.0 LR 4-Port Extender Receiver Unit.

NOTE: Powered USB hubs may be connected to these ports up to a maximum connection of 14 USB peripherals (including hubs). Overall speed and power is divided among the active devices.

3. Connect the USB 2.0 LR 4-Port Extender Sender Unit and Receiver Unit together with a CAT-5, CAT-5e or CAT-6 cable.

4. Connect the included 5V DC Locking Power Supplies to the Sender Unit and Receiver Unit. Do not overtighten the locking connectors. Plug the two power supplies into an available electrical outlet using the included AC power cords.

Wiring Diagram for the USB 2.0 LR 4-Port Extender



Using the LED Indicators to Troubleshoot Issues

Power LED

The power LED indicators should be active once the included 5V DC power supply has been properly connected between the receiving unit and an open wall power socket. A non-active LED can indicate a power problem. Check that the power cable is properly connected and locked to the Receiver unit. If the power LED on the Sender Unit is unstable or not active, the host computer may not be supplying the required 5 volts for operation. In that case, a separate 5V DC power adapter must be purchased and connected to the Sender unit (see item no. 4 on page 5).

Host LED

The host LED indicators should be active once a valid USB source/output device has been properly connected to the sending/receiving unit. On the Sender, the LED indicator will only be active once the source device is on. A non-active LED may indicate that the source device is not on or properly connected. On the Receiver, the LED indicator will only be active when a USB devices is properly connected and is recognized by the source. A non-active LED may indicate that a USB device is not properly connected or recognized by the source. Please check all USB cables and install the proper drivers for the connected USB device. Devices requiring more power such as hard drives and cameras may require a powered USB hub.

Link LED

The link LED indicators should be active once a valid connection has been made between the sending and receiving units. A non-active LED may indicate a problem with the CAT-5 cabling. Please check terminations, patch panels, and cables. Use other CAT-5 cables and test the units without using any patch panels.

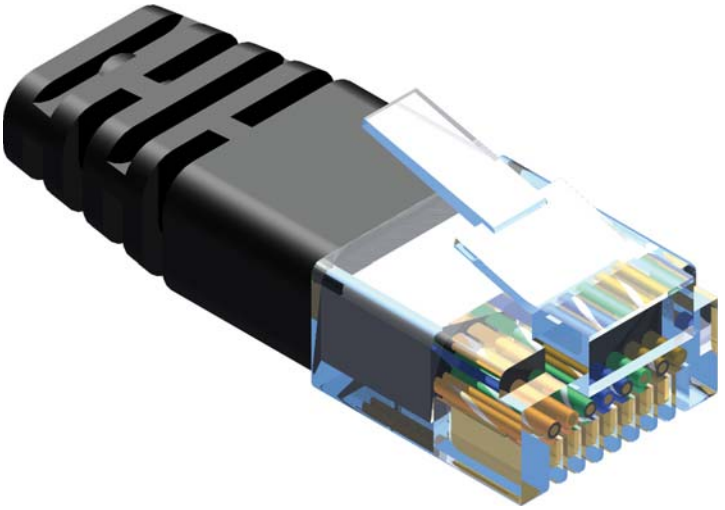
Checking the Installation

On the sending and receiving units, check that the Power, Host and Link LEDs are on and that the Activity LED is blinking. If the Link LED and Activity LED are permanently off then the cabling between the sending and receiving units are not installed properly or is defective.

For Windows users (2000, XP, or Vista) open Device Manager to confirm that the USB 2.0 LR 4-Port Extender has installed correctly. Expand the entry for Universal Serial Bus controllers by clicking the + sign. If the USB 2.0 LR 4-Port Extender has been installed correctly you should find it listed as a Generic USB Hub.

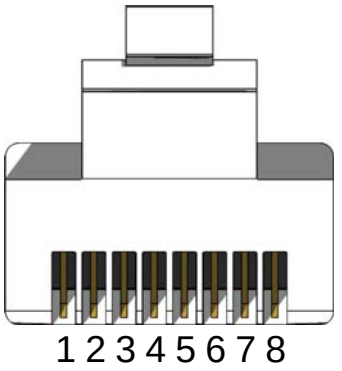
For Mac OS X users open the System Profiler to confirm that the USB 2.0 LR 4-Port Extender has installed correctly. In the left hand column under Hardware, select “USB” and inspect the right hand panel. If the USB 2.0 LR 4-Port Extender has been installed correctly you should find it listed as a Hub under the USB High-Speed Bus/USB Bus.

NETWORK CABLE WIRING DIAGRAM



Gefen recommends the TIA/EIA-568-B wiring option. Please adhere to the table below when field terminating cable for use with Gefen products.

Pin	Color
1	Orange / White
2	Orange
3	Green / White
4	Blue
5	Blue / White
6	Green
7	Brown / White
8	Brown



CAT-5, CAT-5e, and CAT-6 cabling comes in stranded and solid core types. Gefen recommends using solid core cabling. CAT-6 cable is also recommended.

It is recommended to use one continuous run from one end to the other. In some cases, connecting through a patch might not work.

SPECIFICATIONS

USB 2.0 Speed ..... 480 Mbps

Link Connectors ..... RJ-45 Shielded

USB Connector (in) Transmitter ..... (1) USB type B

USB Connectors (out) Receiver ..... (4) USB type A

Power Supply ..... 5V DC

Power Consumption (Sender)……..…….…….. 2.5W (max.)

Power Consumption (Receiver) .....20W (max.)

Operating Temperature ..... 0 - 40 °C

Dimensions Transmitter ..... 1.5” W x 1.2” H x 3.3” D

Dimensions Receiver ..... 3.4” W x 1.1” H x 1.3” D

Shipping Weight ..... 2 lbs.

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, please visit Gefen's Warranty web page at http://www.gefen.com/kvm/aboutus/warranty.jsp

PRODUCT REGISTRATION

Please register your product online by visiting Gefen's web site at http://www.gefen.com/kvm/Registry/Registration.jsp

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Rev A4

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