



The next generation extender

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USB 2.0 Extender

A Next Generation Extender for Hi-Speed USB Peripherals

The USB 2.0 Extender gives you the freedom to connect high performance, hi-speed USB peripherals up to 150 feet (50 meters) from the CPU. It provides you with instant access to more data (up to 480 mbps) at even these long distances. Greater USB 2.0 functionality is assured as the extended peripherals perform as if connected locally.

Hi-speed USB 2.0 transmits data up to 480 mbps (way beyond the former 12 mbps limit) allowing for little or no downtime when accessing higher performance applications such as digital imaging and interactive gaming. Hi-speed USB 2.0 is forward and backward compatible with original USB, and uses the same cables and connectors.

How It Works

The USB 2.0 Extender sender is connected to the computer. The USB 2.0 Extender receiver is connected to the extended hi-speed USB 2.0 peripheral. Sender (computer) and receiver (peripheral) are connected by one category-5 (CAT-5) cable. Once all the components are connected and powered on, the extended peripheral becomes operational.

Features:

- Provides the freedom to operate USB 2.0 peripherals away from the computer.
- Supports both low and hi-speed USB peripherals (1.0 and 2.0) and is compatible with either PC or Mac peripherals that use hi-speed USB 2.0 connectors.
- CAT-5 cable used for extension
- Number of devices can be expanded using standard USB hubs

Specifications:

- USB Speed: 480 Mbps
- Host cable (USB): Type B
- USB Connectors: USB type A
- Link Connector: RJ-45 Shielded
- Power Supply: External 5V DC
- Dimensions: 4.25" W x 1.4" H x 3.4" D
- Shipping Weight: 4 lbs.

Package Includes:

- USB 2.0 Extender Sender unit
- USB 2.0 Extender Receiver unit
- Two 5V Power Supplies
- One 6 ft. USB Cable
- User's Manual



EXT-USB-2.0



**USB 2.0
Extender
USER MANUAL**

ASKING FOR ASSISTANCE

Technical Support:

Telephone (818) 772-9100
(800) 545-6900
Fax (818) 772-9120

Technical Support Hours:

8:00 AM to 5:00 PM Monday thru Friday.

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Notice

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ExtremeUSB is a trademark of **Icron Inc.**
Macintosh is a trademark of Apple Computer Inc.

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INTRODUCTION

Thank you for purchasing the ex•tend•it USB 2.0 Extender Series. The new USB 2.0 Extender incorporates ExtremeUSB™ technology, which allows users the benefits of USB technology beyond the desktop. Extending your USB peripherals (i.e. computer keyboard, mouse or hard drive) up to 150 feet away from the location of your Macintosh or PC computer are done easily with the USB 2.0 Extender.

The USB 2.0 Extender system consists of two units. The USB 2.0 S Extender sender resides next to the host computer or device, and the USB 2.0 R Extender receiver is linked to the sender via Category-5 (CAT-5) cable and resides at the desired location by the USB device.

The USB 2.0 Extender signal is sent between the sender and receiver controls USB peripherals by buffering the USB signal through send and receive line drivers. The signal is extended by using standard Category 5 (CAT-5) cabling.

You can connect additional USB 2.0 Extender systems to the same computer, allowing you to access the computer from multiple locations up to 150 feet apart.

OPERATION NOTES

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE USB 2.0 EXTENDER SYSTEM.

- * The USB 2.0 Extender send and receive were designed to operate on USB 2.0 enabled computers. **DO NOT** attempt to use this equipment with any other type of computers.
- * Use the computer's USB port when using a local keyboard that is not extended with the USB 2.0 Extender sender unit.
- * In order to operate properly, the USB 2.0 Extender receiver unit must be connected, powered, and the CAT-5 cable must be installed between the send and receive units.
- * Only Dedicated Category 5 UTP type cable (CAT-5) is recommended for this application. Refer to the wiring diagram on page 7 for wiring instructions.
- * The length of cable used to connect the USB 2.0 S Extender send unit to the USB 2.0 R Extender receiver unit **MUST NOT EXCEED** 150 feet.

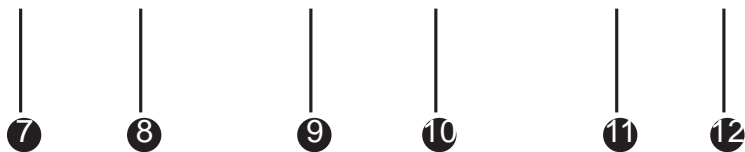
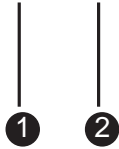
Includes:

- (1) USB 2.0 Extender Sender unit
- (1) USB 2.0 Extender Receiver unit
- (2) Power Supply
- (1) User Manual

USB 2.0 EXTENDER SERIES INSTALLATION

1. Place the USB 2.0 R Extender unit close to the USB devices at the remote end.
2. Connect the USB devices to the USB 2.0 R Extender unit.
3. Connect the power adapter to a suitable AC source wall outlet.
4. Connect the power adapter to the USB 2.0 R Extender unit using the supplied cable.
5. Place the USB 2.0 S Extender unit close to the host computer.
6. Connect the USB 2.0 S Extender unit to the USB 2.0 R Extender unit using the desired length of CAT5 cable
7. Connect the USB 2.0 S Extender unit to the host computer using the USB cable supplied with the unit. **This connection should be made last.**

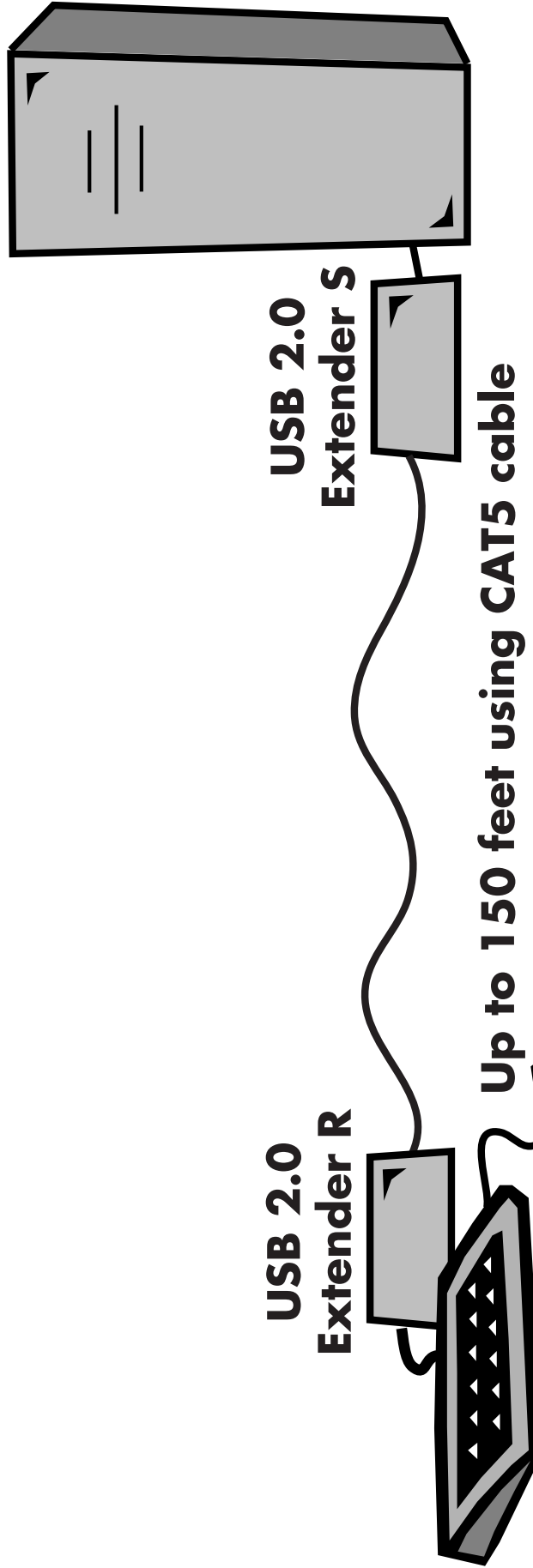
USB 2.0 EXTENDER PANELS LAYOUT



USB 2.0 EXTENDER FUNCTION DESCRIPTION

- 1 **USB Led** - Indicates if a USB device is plugged in.
- 2 **USB Out** - Connects to USB Hub, or USB Device.
- 3 **Link LED** - Indicates if a link between the USB 2.0 S Extender send and the USB 2.0 R Extender Receive units.
- 4 **Link** - CAT-5 Modular Jack which connects to the USB 2.0 S Extender send and the USB 2.0 R Extender Receive units.
- 5 **Power LED** - Indicates the unit is plugged in and powered up.
- 6 **DC IN** - Power plug for 5VDC wallmount power supply.
- 7 **USB Led** - Indicates an active connection to the computer.
- 8 **USB In** - USB cable (A-B) cable from computer to sender.
- 9 **Link LED** - Indicates if a link between the USB 2.0 S Extender send and the USB 2.0 R Extender Receive units.
- 10 **Link** - CAT-5 Modular Jack which connects to the USB 2.0 S Extender send and the USB 2.0 R Extender receive units.
- 11 **Power LED** - Indicates the unit is plugged in and powered up.
- 12 **DC IN** - Power plug for 5VDC Wallmount power supply.

WIRING DIAGRAM



LINK CABLE - WIRING DIAGRAM

RJ-45 Jack



White/Orange

Orange

White/Green

Blue

White/Blue

Green

White/Brown

Brown

RJ-45 Jack



1

2

3

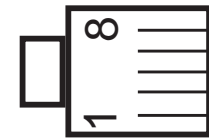
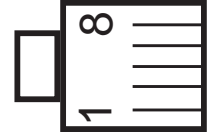
4

5

6

7

8



CHECK LIST

1. On the USB 2.0 S Extender send unit, check that the power indicator is GREEN.
2. On the USB 2.0 S Extender send unit, check that the link indicator is GREEN.
3. On the USB 2.0 R Extender receiver unit, check that the power indicator is GREEN.

4. Once all LEDs are illuminated as suggested, the USB 2.0 Extender is ready to accept a USB peripheral device at the USB port on the USB 2.0 R Extender receiver unit. Follow the installation instructions as if one were installing the device directly into a computer's USB port.

5. On the host computer, check that a general purpose hub is visible in the Control Panel. Once connected, a USB peripheral device causes its host computer to automatically enumerate it. This simply means that the computer must identify the new device, assign it an ID, and ensure that the required software drivers are available for loading when the device is to be used.

6. The USB 2.0 Extender is not an end device. Consequently, it does not have a software component or driver to be loaded. Some peripheral devices that are to be attached to the USB 2.0 Extender will have a USB Driver diskette or CD-ROM which will need to be inserted after initial connection to a USB port on the USB 2.0 Extender model.

TROUBLESHOOTING HINTS

Power Indicator is not lit.

-- Make certain the power supply unit is properly connected to the USB 2.0 R Extender unit and to a proper local power supply outlet.

Link Indicators are Green.

-- Make certain that the host computer is operating and responding to commands. If required, reset the computer.

Problem Not Resolved

- Disconnect power (DC Adaptor) plug from wall outlet that feeds power to the USB 2.0 R Extender unit.
- Disconnect the USB 2.0 S Extender USB connection from the computer.
- Reconnect power (DC Adaptor) from the USB 2.0 R Extender unit to the wall outlet.
- Reconnect the USB 2.0 S Extender USB connection to the computer.

WARRANTY

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

If equipment fails because of such defects and Gefen Inc. is notified within two (2) year from the date of shipment, Gefen Inc. 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 cable must be free from any scratches, markings, and neatly coiled.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen, Inc. assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen, Inc., 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 USB 2.0 Extender features and specifications is subject to change without notice.