



## Extend your USB

### Optional Accessories



MTRJ-MTRJ Fiber Optic Link

### USB-500

**Extends any USB device up to 1640 feet (500 meters) from the computer with built-in 4 port hub over multimode fiber optics cable.**

The ex•tend•it USB-500 extends any USB device up to 1,650 feet from the location of your computer, eliminating the 17.5 feet distance limitation of USB. The USB-500 also includes a remote 4 port USB HUB to operate up to four USB devices remotely using Extreme USB? technology.

#### How It Works

The ex•tend•it USB-500 sender unit is connected to the computer using the supplied USB cable. The extended peripheral(s) are connected to the receiver unit. A fiber optic cable is used to link the sender to the receiver with HUB.

#### Features:

- Extreme USB technology extends the range of USB 1.1 devices up to 1650 meters (500 meters) using fiber-optic cable
- Remote extender 500R is equipped with 4 USB ports
- Provides support for both low-power and high-power USB devices
- Comes with a USB cable, power adapters and user guide
- Fully compliant with USB 1.1 specification as certified by the USB Implementer's Forum
- Number of devices can be expanded using standard USB hubs

#### Specifications:

- USB device support: full-speed 12 Mb/s Low-speed 1.5 Mb/s
- USB Input Connectors: type B
- USB Output Connectors: type A
- Link Connector: MTRJ
- Power Supply: 15V DC
- Dimensions: 4.75" W x 1.75" H x 5" D
- Shipping Weight: 5 lbs.

#### Package Includes:

- USB-500S Send Unit
- USB-500R Receive Unit
- One 6ft A to B USB cable
- Two 15V Power Supply



EXT-USB-500



**USB•500**  
USER MANUAL

# ASKING FOR ASSISTANCE

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## 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.

## Write To:

Gefen Inc.  
c/o Customer Service  
20600 Nordhoff St.  
Chatsworth, CA 91311

support@gefen.com  
www.gefen.com

## 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

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Thank you for purchasing the extend•it USB•500 Series. Incorporating *ExtremeUSB*, the new USB•500 model allows users the benefits of USB technology beyond the desktop, extending your computer keyboard, mouse, trackball, and any USB device up to 1650 feet away from the location of your Macintosh or PC computer.

The USB•500 system consists of two units: the USB•500S Sender resides next to the host computer, and the USB•500R Receiver resides next to the extended USB type device connected by conventional USB cables.

The USB•500 signal controls the keyboard, mouse, trackball and other USB devices by buffering the keyboard/mouse signal through send and receive line drivers, and the signal is extended by using standard fiber optic cabling.

You can connect additional USB•500 Series to the same computer, allowing you to access the computer from other locations up to 1650 feet apart.

## OPERATION NOTES

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### READ THESE NOTES BEFORE INSTALLING OR OPERATING THE USB•500 SYSTEM.

- \* The USB•500 units were designed to operate on USB type computers. **DO NOT** attempt to use this equipment with any other type computers.
- \* Use the computer's USB port when using a local keyboard that is not extended with the USB•500 sender unit.
- \* In order to operate properly, the USB•500S and USB•500R units must be connected, powered up, and the MTRJ fiber optic cable installed between both units.
- \* The length of cable used to connect the USB•500S send unit to the USB•500R receiver unit **MUST NOT EXCEED** 1650 feet.

# USB•500 SERIES INSTALLATION

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## USB•500R (Receiver Unit)

1. Place the USB•500R unit close to the USB device to be served.
2. Connect the USB devices to the USB•500R unit.
3. Connect the power adapter to a suitable AC source wall outlet.
4. Connect the power adapter to the USB•500R unit using the supplied cable.

## USB•500S (Sender Unit)

5. Place the USB•500S unit close to the host computer.
6. Connect the power adapter to the USB•500S unit using the supplied cable.
7. Connect the USB•500S unit to the USB•500R unit using the desired length of fiber optic cable outfitted with standard MTRJ.
8. Connect the USB•500S unit to the host computer using the 6ft. USB cable supplied with the unit .  
**This connection should be made last.**

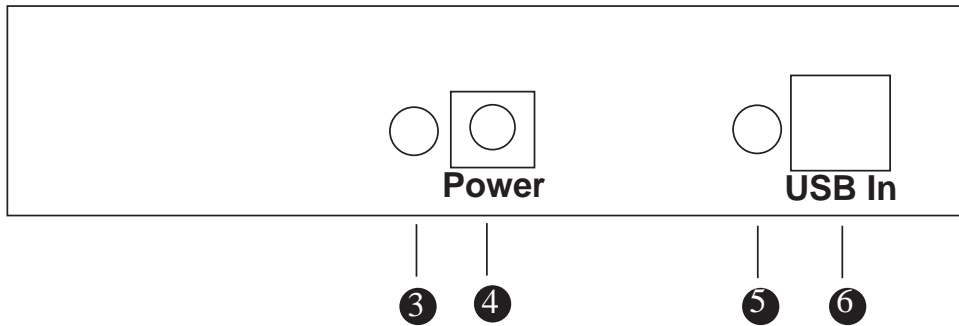
# USB•500 PANELS LAYOUT

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## USB•500S



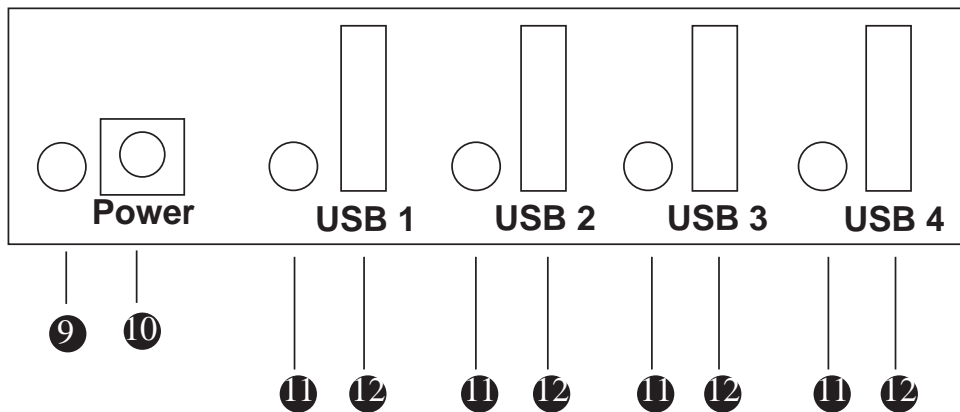
## USB•500S



## USB•500R



## USB•500R





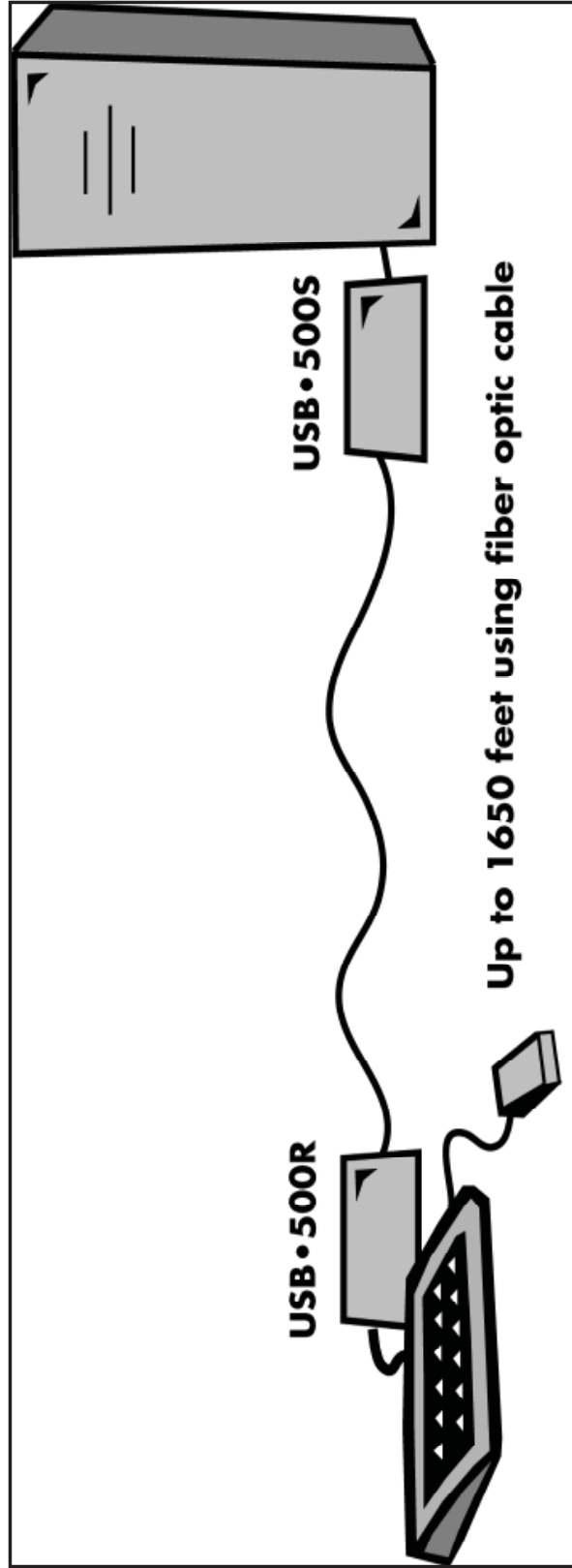
# USB•500 FUNCTION DESCRIPTION

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- ① **Link LED**  
Indicates a link between the USB•500S send and the USB•500R Receive units.
- ② **Link**  
MTRJ Modular Jack which connects to the USB•500S send and the USB•500R Receive units.
- ③ **Power LED**  
Indicates the unit is plugged in and powered up.
- ④ **AC IN**  
Power plug for +-15VDC Wallmount power supply.
- ⑤ **USB Link Led**  
Indicates if the USB connection to the computer is active.
- ⑥ **USB In**  
USB from computer
- ⑦ **Link LED**  
Indicates a link between the USB•500S send and the USB•500R Receive units.
- ⑧ **Link**  
MTRJ Modular Jack which connects to the USB•500S send and the USB•500R Receive units.
- ⑨ **Power LED**  
Indicates the unit is plugged in and powered up.
- ⑩ **AC IN**  
Power plug for +-15VDC Wallmount power supply.
- ⑪ **USB Led**  
Indicates if a USB device is plugged in.
- ⑫ **USB input A**  
Four (4) USB A type connector Hub.

# WIRING DIAGRAM

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## CHECK LIST

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1. On the USB•500S send unit, check that the power indicator is GREEN.
2. On the USB•500S send unit, check that the link indicator is GREEN.
3. On the USB•500R receiver unit, check that the power indicator is GREEN.
4. Once all LEDs are illuminated as required, the USB•500 is ready to accept a peripheral device at the USB port on the USB•500R 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 from the Control Panel/System applet. 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•500 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•500 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•500 model.

# TROUBLESHOOTING HINTS

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## **Power Indicator is not lit.**

-- Make certain the power supply unit is properly connected to the USB•500R unit and the computers USB port is active and securely connected to the USB•500S

## **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•500R unit.

-- Disconnect the USB•500S USB connection into the computer.

-- Reconnect power (DC Adaptor) from the USB•500R unit to the wall outlet.

-- Reconnect the USB•500S USB connection to the computer.

# WARRANTY

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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•500 features and specifications is subject to change without notice.