

Owner's Manual

VGA Over Cat5 Extenders and Extender/Splitters

Extender Kit Models:

B130-101A-MR and B130-101A-SR

Transmitter Unit Models:

B132-002A-2 and B132-004A-2

Receiver Unit Models:

B132-100A-MR, B132-100A-SR and B132-200A-SR

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Package Contents

	B130-101A-MR	B130-101A-SR	B132-002A-2	B132-004A-2	B132-100A-MR	B132-100A-SR	B132-200A-SR
Local Unit (L), Remote Unit (R) or Both (B)	B	B	L	L	R	R	R
External Power Supply (P) or Micro USB Cable (U)	U	U	P	P	U	U	P
Number of Power Supplies / Micro USB Cables	2	2	1	1	1	1	1
Mounting Hardware			Y	Y			
Screwdriver	Y	Y			Y	Y	Y
1-ft. VGA + Audio Daisy Chain Cable				Y			

Product Features

All

- Transmits both VGA video and mono audio.
- All operating systems supported.
- Plug and play; no software or drivers required.
- HDCP compliant.

B130-101A-MR

- Extends a 1920 x 1080 video signal up to 300 ft. or a 1024 x 768 video signal up to 750 ft.
- Receiver unit features built-in equalization and gain controls to adjust the video image.
- Power is supplied via the Micro USB ports on the transmitter and receiver units. No external power supplies required.
- EDID copy feature ensures optimal display compatibility.

B130-101A-SR

- Extends a 1440 x 900 video signal up to 150 ft. or a 1024 x 768 video signal up to 300 ft.
- Receiver unit features built-in equalization and gain controls to adjust the video image.
- Power is supplied via the Micro USB ports on the transmitter and receiver units. No external power supplies required.
- EDID copy feature ensures optimal display compatibility.

B132-002A-2

- Works with the B132-100A-MR, B132-100A-SR and B132-200A-SR remote units to extend both the VGA video and audio signal.
- Transmits a single VGA video and audio signal to 2 sets of monitors and speakers.
- Includes mounting hardware that allows unit to be wall-mounted, rack mounted or pole mounted.
- EDID copy feature ensures optimal display compatibility.

Product Features continued

B132-004A-2

- Works with the B132-100A-MR, B132-100A-SR and B132-200A-SR remote units to extend both the VGA video and audio signal.
- Features additional VGA and 3.5 mm ports for connecting a local monitor and speakers.
- Transmits a single VGA video and audio signal to up to 5 sets (4 remote, 1 local) of monitors and speakers.
- Expands the number of connected monitors/speakers up to 25 (24 remote, 1 local) by daisy chaining up to 6 local units together.
Note: *B132-002A-2 local units cannot be daisy chained.*
- Includes mounting hardware that allows unit to be wall-mounted, rack mounted or pole mounted.
- Up to three local units can be connected to a Tripp Lite B132-004-RB rackmount bracket and mounted in just 1U of rack space.
- EDID copy feature ensures optimal display compatibility.

B132-100A-MR

- Works with the B132-002A-2 and B132-004A-2 transmitter units to extend a VGA video and audio signal.
- Extends a 1920 x 1080 video signal up to 300 ft. or a 1024 x 768 video signal up to 750 ft.
- Features built-in equalization and gain controls to adjust the video image.
- Power is supplied via a Micro USB port. No external power supply required.

Product Features continued

B132-100A-SR

- Works with the B132-002A-2 and B132-004A-2 transmitter units to extend a VGA video and audio signal.
- Extends a 1440 x 900 video signal up to 150 ft. or a 1024 x 768 video signal up to 300 ft.
- Features built-in equalization and gain controls to adjust the video image.
- Power is supplied via a Micro USB port. No external power supply required.

B132-200A-SR

- Works with the B132-002A-2 and B132-004A-2 transmitter units to extend a VGA video and audio signal.
- Features two sets of VGA and audio ports to connect two sets of monitors and speakers.
- Extends a 1440 x 900 video signal up to 150 ft. or a 1024 x 768 video signal up to 300 ft.
- Features built-in equalization and gain controls to adjust the video image.

Optional Accessories

- B132-004-RB 1U Rackmount Bracket
- N022-01K-GY Gray Cat5e Bulk 24 AWG Solid Cable – 1,000 ft.
- N030-010 10-pack of RJ45 Plugs for Solid-wire Cat5e Cable
- N202-Series Cat6 Snagless 24 AWG Solid Patch Cables
- N222-01K-GY Gray Cat6 Bulk 24 AWG Solid Cable – 1,000 ft.
- P312-Series Audio Cables
- P502-Series VGA Monitor Cables with RGB Coax
- P504-Series VGA Monitor + Audio Cables with RGB Coax
- P524-01K Zero-Skew UTP Bulk Cable – 1,000 ft.

Mounting Hardware Instructions

The B132-002A-2 and B132-004A-2 units come with mounting hardware that allows them to be mounted in a variety of ways. The following images show the different ways the included mounting brackets can be attached for different mounting methods.

Note: The images below show a B140-101X DVI Extender, but mounting is the same for the VGA Extenders. The B132-004A-2 can also be mounted to a Tripp Lite B132-004-RB 1U rackmount bracket. Up to three B132-004A-2 local units can be connected to a B132-004-RB.

Wall-Mount 1



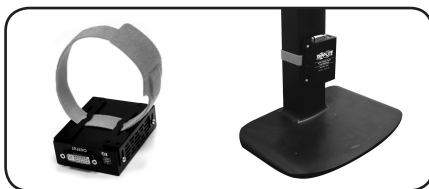
Wall-Mount 2



19" Rack Mount



Pole Mount



Installation

EDID Copy

Compatibility issues can occur when EDID information is not properly communicated between the source and the display. All of the transmitter units in this manual include an EDID copy feature which stores a monitor's EDID information in the transmitter and sends it to the source, ensuring optimal compatibility.

The transmitter can only store EDID information copied from a single monitor. You should copy the EDID information of the monitor that has the lowest maximum supported resolution of all monitors being connected. This monitor must also support the native video resolutions of the other monitors.

For example, if you plan to use three monitors that support the resolutions listed below, you should copy the EDID information from Monitor A, since the highest resolution it supports is 1440 x 900, which is lower than the highest supported resolutions of the other two monitors. Monitor A's supported resolutions are also supported by Monitors B and C.

A. 1440 x 900, 1024 x 768, 800 x 600

B. 1920 x 1080, 1680 x 1050, 1600 x 1200, 1024 x 768, 800 x 600

C. 1920 x 1080, 1680 x 1050, 1600 x 1200, 1280 x 768, 1152 x 768, 1024 x 768, 800 x 600

If you are not using the EDID copy feature, the transmitter will use a default set of EDID information.

Note: Receiver units will support EDID copy as long as they are used with a transmitter unit that supports it.

To use the EDID copy feature, follow the instructions below:

- 1** Determine which monitor to perform EDID copy on, per the example in the EDID Copy section above.
- 2** If using a B132-002A-2 or B132-004A-2 model, connect the powered-on monitor to the input port of the transmitter unit. For the B130-101A-MR and B130-101A-SR, connect the built-in VGA cable on the transmitter unit to the powered-on monitor.

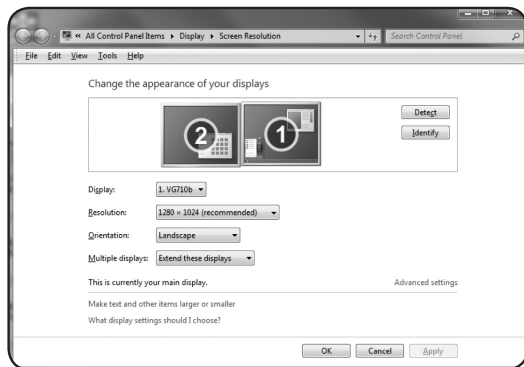
Installation continued

- 3** If using a B132-002A-2 or B132-004A-2 model, connect the external power supply to the unit and plug it into a Tripp Lite Surge Protector, Power Distribution Unit (PDU) or Uninterruptible Power Supply (UPS). For the B130-101A-MR and B130-101A-SR models, connect the included Micro USB cable to the unit and plug it into the USB port on a computer or a USB wall outlet. Wait 10 seconds for the EDID information to be copied, then disconnect the monitor and proceed per the installation instructions in this manual.

Note: The B130-101A-MR and B130-101A-SR transmitter units feature an internal EDID LED that blinks to indicate a scan is taking place. The LED will stop blinking and glow solid when the scan is complete. When a monitor is connected, its EDID information will be copied and stored on the transmitter unit. If no monitor is connected, the scan will still take place and the Orange LED will illuminate, but no EDID information will be copied. The information stored on the transmitter unit will remain unchanged.

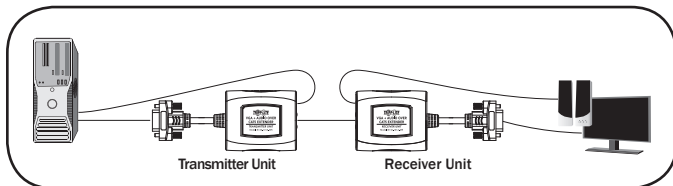
- 4** You can verify that the EDID information was copied from your computer's Display Settings screen. If the model name of the monitor that you copied is shown in the Display field, the EDID information has been copied successfully.

Note: You may need to click on the Detect button.



Installation continued

Extender Kit Installation (B130-101A-MR and B130-101A-SR)



Note:

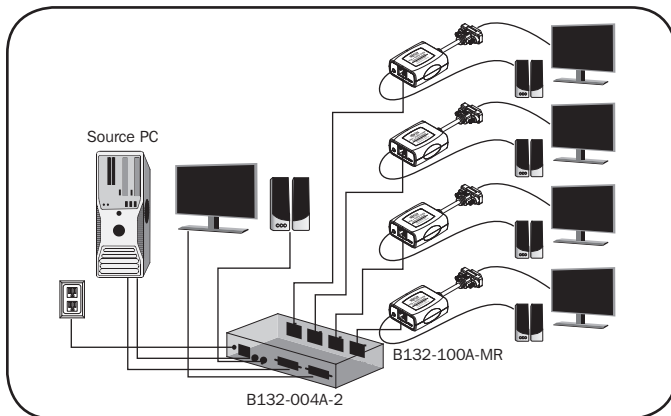
1. If desired, perform the EDID copy procedure described in this manual prior to installation.
2. Test to make sure the entire installation works properly before pulling cables through ceilings/walls.
3. To achieve maximum distance and performance, 24 AWG solid-wire Cat5e/6 cable must be used. The use of stranded wire Cat5e/6 cable, or cable with a gauge (AWG) size higher than 24 AWG will result in shorter extension distance. All Tripp Lite N202-Series cables are made with 24 AWG solid-wire cabling. Tripp Lite N022-01K-GY (Cat5e) and N222-01K-GY (Cat6) are 24 AWG solid-wire bulk cables. For optimal image quality, use Zero-Skew cable such as Tripp Lite P524-01K.

- 1** Make sure the VGA and audio source is powered off.
- 2** Connect the built-in VGA cable of the transmitter unit to the computer's VGA port.
- 3** Connect a 3.5 mm audio cable from the transmitter unit to the computer.
- 4** Connect the included Micro USB cable between the transmitter unit and a USB port on the computer or USB wall outlet.
- 5** Using Cat5e/6 cable, connect the RJ45 *OUTPUT* port of the transmitter unit to the RJ45 *INPUT* port of the receiver unit (see Product Features section for your model's max distance information).
- 6** Connect the built-in VGA cable of the receiver unit to the monitor's VGA port.

Installation continued

- 7** Connect a 3.5 mm audio cable from the receiver unit to the monitor or external speakers.
- 8** Use the included Micro USB cable to connect the receiver unit with a USB port on the monitor or USB wall outlet.
- 9** Turn on the power to the computer, monitor and speakers.
- 10** If necessary, adjust the *equalization* and *gain* controls on the receiver unit with the included screwdriver to improve the video image.

Non-Kit Standard Installation



Note:

1. If desired, perform the EDID copy procedure described in this manual prior to installation.
2. The diagram above shows a B132-004A-2 VGA + Audio Extender/Splitter installation. Installation will be the same for the B132-002A-2 model, except the B132-002A-2 contains fewer output ports and no local ports.
3. Test to make sure the entire installation works properly before pulling cables through ceilings/walls.
4. To achieve maximum distance and performance, 24 AWG solid-wire Cat5e/6 cable must be used. The use of stranded wire Cat5e/6 cable, or cable with a gauge (AWG) size higher than 24 AWG will result in shorter extension distance. All Tripp Lite N202-Series cables are made with 24 AWG solid-wire cabling. Tripp Lite N022-01K-GY (Cat5e) and N222-01K-GY (Cat6) are 24 AWG solid-wire bulk cables. For optimal image quality, use Zero-Skew cable such as Tripp Lite P524-01K.
5. To achieve maximum resolution, it is recommended that you use Tripp Lite P502-Series VGA video or P504-Series VGA video and audio cables with RGB coax.

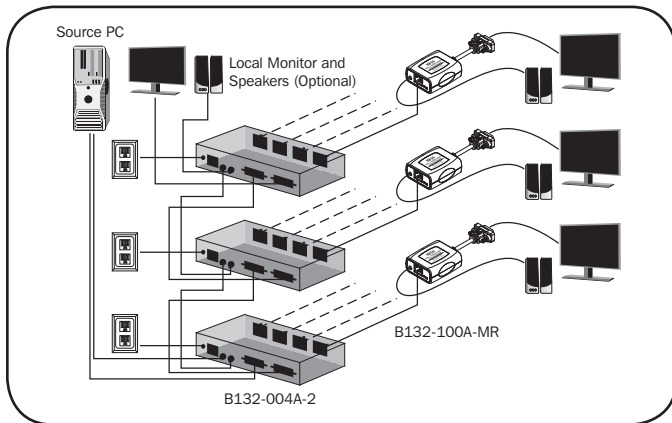
Installation continued

- 1** Make sure that the VGA and audio source is powered off.
- 2** Connect the VGA and audio source to the *INPUT* port(s) on the transmitter unit using a VGA and audio cable.
- 3** **(Optional – B132-004A-2 only)** – Connect a local monitor and speakers to the *LOCAL* port(s) on the transmitter unit.
- 4** Connect the external power supply to the transmitter unit, then plug it into a Tripp Lite Surge Protector, Power Distribution Unit (PDU) or Uninterruptible Power Supply (UPS).
- 5** Using Cat5e/6 cable, connect an available RJ45 *OUTPUT* port on the transmitter unit to the RJ45 *INPUT* port on a receiver unit (see Product Features section for your model's max distance information).
- 6** Repeat step 5 for each receiver unit you are connecting to the installation.
- 7** **(B132-100A-MR and B132-100A-SR)** – Connect the built-in VGA cable to the monitor's VGA port. Connect a 3.5 mm audio cable between the receiver unit and the monitor or external speakers.
(B132-200A-SR) – The B132-200A-SR features two sets of VGA and audio ports. Connect each set of ports to a set of monitors and speakers using VGA video and 3.5 mm audio cables.
- 8** **(B132-100A-MR and B132-100A-SR)** – Use included Micro USB cable to connect the receiver unit with a USB port on the monitor or USB wall outlet.
(B132-200A-SR) – Connect the external power supply to the receiver unit, then plug it into a Tripp Lite Surge Protector, Power Distribution Unit (PDU), or Uninterruptible Power Supply (UPS).
- 9** Repeat steps 7 and 8 for each receiver unit in the installation.
- 10** Turn on the power to the monitor and speakers.
- 11** Turn on the power to the VGA monitor and audio source.
- 12** If necessary, adjust the *equalization* and *gain* controls using the included screwdriver to improve the video image.

Installation continued

Non-Kit Daisy Chain Installation

(B132-004A-2 only)



Note:

1. If desired, perform the EDID copy procedure described in this manual prior to installation.
2. Test to make sure the entire installation works properly before pulling cables through ceilings/walls.
3. To achieve maximum distance and performance, 24 AWG solid-wire Cat5e/6 cable must be used. The use of stranded wire Cat5e/6 cable, or cable with a gauge (AWG) size higher than 24 AWG will result in shorter extension distance. All Tripp Lite N202-Series cables are made with 24 AWG solid-wire cabling. Tripp Lite N022-01K-GY (Cat5e) and N222-01K-GY (Cat6) are 24 AWG solid-wire bulk cables. For optimal image quality, use Zero-Skew cable such as Tripp Lite P524-01K.
4. To achieve maximum resolution, it is recommended that you use Tripp Lite P502-Series VGA video or P504-Series VGA video and audio cables with RGB coax.

Installation continued

- 1** Make sure that the VGA and audio source is powered off.
- 2** Connect the VGA and audio source to the *INPUT* port(s) on the transmitter unit using a VGA and audio cable.
- 3** Using the included daisy chain cable, connect the *LOCAL* port(s) on the transmitter unit to the *INPUT* ports on a second-level transmitter unit.
Note: A standard VGA cable can be used to increase the distance between units by no more than 6 ft.
- 4** Repeat step 3 for each additional transmitter unit you are adding to the daisy chain, with no more than 6 transmitter units in the entire installation.
- 5 (Optional)** – Connect a local monitor and speakers to the *LOCAL* port(s) of the last transmitter unit in the daisy chain using a VGA and audio cable.
- 6** Connect the external power supply to the first transmitter unit in the installation, and then plug it into a Tripp Lite Surge Protector, Power Distribution Unit (PDU) or Uninterruptible Power Supply (UPS).
- 7** Repeat step 6 for each additional transmitter unit in the installation.
- 8** Using Cat5e/6 cable, connect an available RJ45 *OUTPUT* port on the transmitter unit to the RJ45 *INPUT* port on a receiver unit (see Product Features section for your model's max distance information).
- 9** Repeat step 8 for each receiver unit you are connecting to the installation.
- 10 (B132-100A-MR and B132-100A-SR)** – Connect the built-in VGA cable to the monitor's VGA port. Connect a 3.5 mm audio cable between the receiver unit and the monitor or external speakers.
(B132-200A-SR) – The B132-200A-SR features two sets of VGA and audio ports. Connect each set of ports to a set of monitors and speakers using VGA video and 3.5 mm audio cables.

Installation continued

- 11 (B132-100A-MR and B132-100A-SR)** – Use the included Micro USB cable to connect the receiver unit with a USB port on the monitor or a USB wall outlet.
(B132-200A-SR) – Connect the external power supply to the receiver unit, then plug it into a Tripp Lite Surge Protector, Power Distribution Unit (PDU), or Uninterruptible Power Supply (UPS).
- 12** Repeat steps 10 and 11 for each receiver unit in the installation.
- 13** Turn on the power to the monitor and speakers.
- 14** Turn on the power to the VGA monitor and audio source.
- 15** If necessary, adjust the *equalization* and *gain* controls using the included screwdriver to improve the video image.

Troubleshooting

If you are unable to get an acceptable image after following the installation instructions, try the troubleshooting tips below.

1. Are the external power supplies and/or Micro USB cables that came with the product connected and plugged into a working power source? For the product to function properly, it must be connected to and receiving power from the external power supply and/or Micro USB cable.
2. Was the power to the VGA source turned off prior to installation? If not, restart your computer.
3. You may need to manually set your computer to display in Mirror mode. Open your Display Properties screen and select the option to Mirror the image on both displays.
4. Compatibility issues can occur when EDID information is not properly communicated between the source and the display. Tripp Lite's VGA over Cat5 extender products include an EDID copy feature which stores a monitor's EDID information and sends it to the source, ensuring optimal compatibility. Perform the EDID copy procedure described in this manual.

Note: Because EDID copy is intended to be performed prior to installation, you may need to restart your computer if you perform a copy after setting everything up.

5. Have you adjusted the *Equalization* and *Gain* settings on the repeater and/or receiver units? There are built-in *equalization* and *gain* adjustment knobs on every repeater and receiver, which can be adjusted to obtain the best picture quality. Use the mini screwdriver included with the product to adjust this setting until an acceptable image is displayed.
6. What resolution are you trying to reach? See the Product Features section in this manual for details on max distance and resolution. The shorter the extension distance, the higher the resolution you will be able to obtain. If you are not able to get an acceptable image after adjusting the *Equalization* and *Gain* settings, try lowering your computer's video resolution or adjusting the refresh rate.

Troubleshooting continued

7. What type of cabling are you using? Inferior cabling can result in poor performance, so it is important that you use cables that can support the video resolution you are trying to obtain. To achieve maximum distance and resolution, 24 AWG solid-wire UTP cable must be used. Tripp Lite's N202-Series Cat6 cables are made with 24 AWG solid wires, as are the N022-01K-GY (Cat5e) and N222-01K-GY (Cat6) bulk cables. For optimal image quality, use Zero-Skew cable such as Tripp Lite P524-01K. Also, the VGA cables you are using must support the resolution you are trying to obtain. Inexpensive, low-quality VGA cables may not support the maximum resolution. It is recommended that you use Tripp Lite's P502-Series VGA or P504-Series VGA + audio cables, as they have been tested to work with Tripp Lite's VGA over Cat5 extender products.
8. Is your Cat5e/6 cabling wired to TIA 568B? Tripp Lite's VGA over Cat5 extender products have been tested using Cat5e/6 cabling wired to TIA 568B (all Tripp Lite Cat5e/6 cables are wired to TIA 568B). Using cabling that is wired differently may affect performance.
9. Test your cables to ensure they are working properly. For example, connect your VGA cables between a source and a monitor that you know is working properly to see if the cable is functioning. For Cat5e/6 cable, connect it between a computer and a network to verify that it establishes a network connection. Test your cables between the source and monitor(s) being used in your installation. This will ensure that your source and monitor(s) are compatible.
10. Do you have any patch panels or other devices in between the transmitter, repeater and receiver units? Tripp Lite's VGA over Cat5 extender products were designed to be connected directly from the transmitter to the repeater and/or receiver via UTP cable. The more connection points that are between the source and the remote monitor, the more likely signal degradation will occur, causing poor performance. If you have a patch panel or other device in between, it should be removed from the installation.

Troubleshooting continued

11. Check your cabling for any damages that may have occurred during installation. If a cable connector is loosened from pulling through ceilings/walls or the cable jacket is damaged, causing the wiring to be exposed, you will not be able to achieve maximum performance.
12. Are the transmitter and/or receiver units located in an area that exposes them to elevated temperatures? If the product is overheating, it will not function properly.
13. Are you using a VGA to DVI adapter with this product? If so, you will need to have it connected to a DVI source or monitor that supports both Analog and Digital signals. If your DVI source or monitor supports DVI-D digital signals only, you will not be able to convert it to VGA.

Warranty and Product Registration

1-Year Limited Warranty

TRIPP LITE warrants its products to be free from defects in materials and workmanship for a period of one (1) year from the date of initial purchase. TRIPP LITE's obligation under this warranty is limited to repairing or replacing (at its sole option) any such defective products. To obtain service under this warranty, you must obtain a Returned Material Authorization (RMA) number from TRIPP LITE or an authorized TRIPP LITE service center. Products must be returned to TRIPP LITE or an authorized TRIPP LITE service center with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase. This warranty does not apply to equipment which has been damaged by accident, negligence or misapplication or has been altered or modified in any way.

EXCEPT AS PROVIDED HEREIN, TRIPP LITE MAKES NO WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not permit limitation or exclusion of implied warranties; therefore, the aforesaid limitation(s) or exclusion(s) may not apply to the purchaser.

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Specifically, TRIPP LITE is not liable for any costs, such as lost profits or revenue, loss of equipment, loss of use of equipment, loss of software, loss of data, costs of substitutes, claims by third parties, or otherwise.

Product Registration

Visit www.trippelite.com/warranty today to register your new Tripp Lite product. You'll be automatically entered into a drawing for a chance to win a FREE Tripp Lite product!*

* No purchase necessary. Void where prohibited. Some restrictions apply. See website for details.

Additional Warnings and Notices

WARNING

Use of this equipment in life support applications where failure of this equipment can reasonably be expected to cause the failure of the life support equipment or to significantly affect its safety or effectiveness is not recommended. Do not use this equipment in the presence of a flammable anesthetic mixture with air, oxygen or nitrous oxide.

FCC Notice, Class B

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications to this equipment not expressly approved by Tripp Lite could void the user's authority to operate this equipment.

WEEE Compliance Information for Tripp Lite Customers and Recyclers (European Union)



Under the Waste Electrical and Electronic Equipment (WEEE) Directive and implementing regulations, when customers buy new electrical and electronic equipment from Tripp Lite they are entitled to:

- Send old equipment for recycling on a one-for-one, like-for-like basis (this varies depending on the country)
- Send the new equipment back for recycling when this ultimately becomes waste

Tripp Lite has a policy of continuous improvement. Specifications are subject to change without notice.



1111 W. 35th Street, Chicago, IL 60609 USA • www.tripplite.com/support