VGA Extender LR

EXT-VGA-141LR

User's Manual

www.gefen.com

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INTRODUCTION

Congratulations on your purchase of the VGA Extender LR. 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.

The Gefen VGA Extender LR

The VGA Extender allows users to extend video signals beyond the A/V rack. The VGA Extender Series can be used to extend an analog signal to cover distances up to 330 feet. Industry standard Category 5e (CAT-5e) cable is used for the extension.

How It Works

The VGA Extender LR Sender unit connects to your source using the supplied cable. The Receiver unit connects to your display – up to 330 feet away. One CAT-5 cable connects the Sender and the Receiver to each other, extending your video flawlessly.

Note: This is a new VGA Extender that goes double the distance of the previous version, and also has a trim pot for fine video adjustment.

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE VGA EXTENDER LR

- Display information (EDID) is not sent back to the source. Standard VESA resolutions should be output by most computers without the need of an EDID. If using a non-VESA standard resolution or if EDID is needed, an EDID storage and relay device is necessary. Gefen recommends the use of a DVI Detective (part# EXT-DVI-EDID, EXT-DVI-EDIDN, or EXT-DVI-EDIDP) with two VGA to DVI adapters.
- Use industry standard Category-5 (CAT-5) cable to operate the VGA Extender LR system. CAT-5e cable is preferred.
- Please connect all the cables between the computer and the VGA Extender LR before powering up the VGA Extender LR unit.
- The VGA Extender LR units are housed in a metal box for better RF shielding.

FEATURES

Features

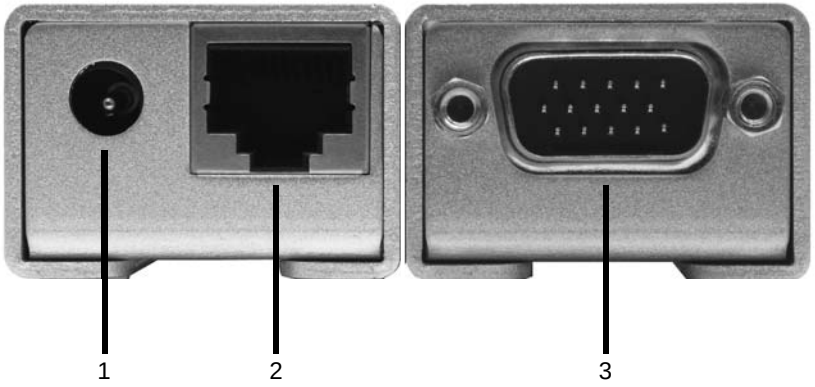
- Extends any VGA or high definition component display up to 330 feet (100 meters)
- One CAT-5e cable for extension
- Supports resolutions up to 1080p, 2K, and 1920 x 1200

Package Includes

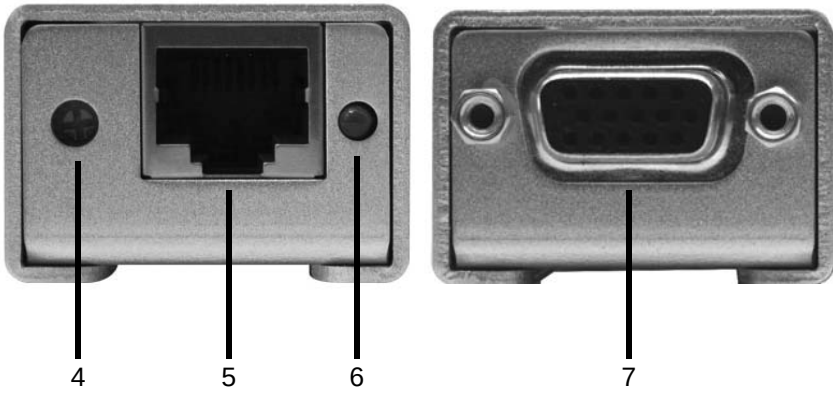
(1) VGA Extender S Sender Unit
(1) VGA Extender R Receive Unit
(1) 6 Foot VGA cable (M-F)
(1) 5V external power supply
(1)User's Manual

PANEL LAYOUT

Sender Unit Panel



Receiver Unit Panel



PANEL DESCRIPTIONS

1 5V DC Power Supply Input

Connect the included 5V DC power supply to this input. Power for the receiving unit will be provided over the CAT-5e cable that connects the sending and receiving units together.

2 Sender RJ-45 Input

Connect a CAT-5e cable (terminated according to the TIA/EIA-568-B specification. Please see page 7) between the sending and receiving units.

3 VGA Input

Connect the VGA source to this input. EDID is not transmitted from the display through the VGA Extender LR units. If the display has a non-standard VESA resolution, please purchase an EDID storage device (part# EXT-DVI-EDIDN) to record and transmit the displays EDID back to the source.

4 Brightness Trim Pot Control

Adjusting this control will brighten or dim the output video. Please see page 6 for more details.

5 Receiver RJ-45 Input

Connect a CAT-5e cable (terminated according to the TIA/EIA-568-B specification. Please see page 7) between the sending and receiving units.

6 Power LED

This LED will become active once the included power supply is connected and a properly connected CAT-5e cable is joining the sending and receiving units.

7 VGA Output

Connect the VGA display to this output port.

CONNECTING AND OPERATING THE VGA EXTENDER LR

How to Connect the VGA Extender LR

1. Connect the VGA Extender LR Sender unit to the VGA output on the back of your computer. The six foot M-F VGA cable connects the CPU and Sender unit together.

2. Connect the VGA Extender LR Receiver unit to your monitor with the VGA cable that is attached to your monitor.

3. Connect the CAT-5e cable between the VGA Extender LR Sender and Receiver's CAT5 input.

4. Plug the 5V DC power supply into the Sender unit. The VGA Extender LR Receiver will draw power from the Sender.

BRIGHTNESS ADJUSTMENT CONTROL

A brightness adjustment control (or "trim pot") is found on the Receiver unit and will help compensate for issues that can be introduced by outside interference and cable variances. If the outgoing image is too dark or too bright, the brightness trim pot can be tuned to help brighten the image. To use the brightness trim pot, insert a small philips screwdriver into the brightness trim pot hole. Turn the trim pot in small increments in either a clockwise or counterclockwise direction until the desired brightness is reached. Do not force the trim pot to turn if resistance is encountered; turn it the other way instead. Forcing the trim pot may render the product inoperative.

CABLE SKEW / COLOR CONVERGENCE ADJUSTMENTS

In order to reduce the amount of crosstalk between twisted pairs within the CAT5 cable, the rate of twist for each pair is varied. The rate of twist affects the length of each twisted pair and is referred to as CABLE SKEW. Slight differences in cable skew between pairs of wire can result in undesirable color separation.

The EXT-VGA-LR allows you to manually compensate for cable skew. Underneath the Receiver unit, there are a group of DIP switches. These switches are pre-set to optimal values at the factory but can easily be changed to correct color smearing or separation. To use the DIP switches, peel back the small strip of silver-grey tape. The exposed small sliding switches can be turned ON or OFF with a small pointed instrument such as a very small screwdriver or the head of a mechanical pencil (without lead exposed). The DIP switch banks and instructions for their use are shown on the next page.

Using DIP Switches to Compensate for Video Issues

The first step in adjusting the video quality is to display text and a graphic on your monitor (i.e. desktop icons). Then set your computer to the resolution that you will be using most frequently. Set the DIP (Dual Inline Package) switches to the settings that are recommended for the different lengths of CAT5 cable (see chart below). Verify that the picture quality is to your satisfaction. If the recommended setting does not produce a great quality picture, try using a different DIP switch setting.

The three DIP switch banks affect the primary colors Red, Green and Blue directly and are thus labelled accordingly. Should you find a problem with too much or too little or a certain color present in the output video, begin adjustments in the DIP switch bank corresponding to the color that is present/absent too much.

The settings shown below are our recommendations for best performance.

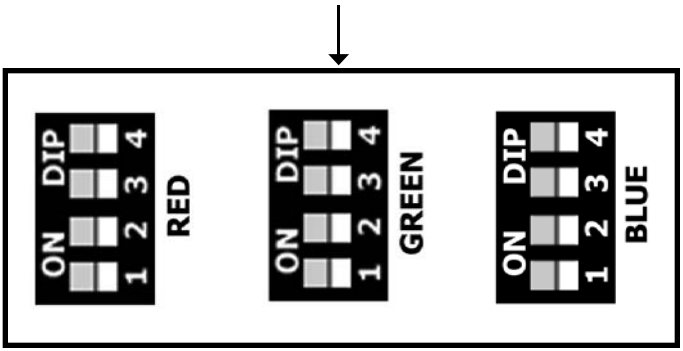
0-25 Feet	All DIP switches are set to OFF for all colors.
26-100 Feet	Set DIP switch #1 ON for all colors. 2,3,4 remain OFF.
101-200 Feet	Set DIP switch #2 ON for all colors. 1,3,4 remain OFF.
201-300 Feet	Set DIP switch #3 ON for all colors. 1,2,4 remain OFF.
301 Feet and Up	Set DIP switch #4 ON for all colors. 1,2,3,remain OFF.

NOTE: A DIP switch is set to the OFF position when the switch is closest to the number printed immediately below it. The word "ON" will be printed at the top of the DIP switch bank, usually in the lefthand upper corner.

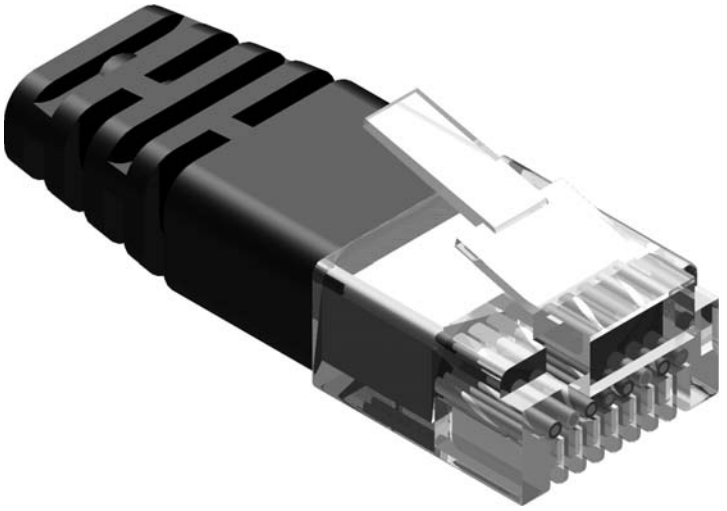
NOTE: The default position of the DIP switches is that of the 26-100 Feet setting above with DIP Switch #1 ON for all colors and switches 2,3,4 OFF.

Underside of Receiver Unit

DIP Switch Bank for Video Adjustments

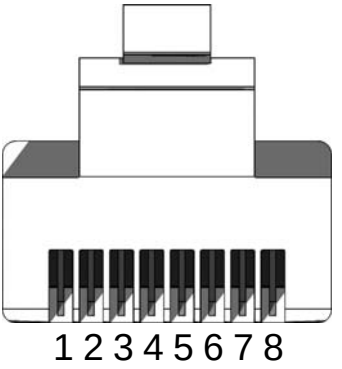


NETWORK CABLE WIRING DIAGRAM



Gefen has specifically engineered their products to work with the TIA/EIA-568-B specification. Please adhere to the table below when field terminating cable for use with Gefen products. Failure to do so may produce unexpected results and reduced performance.

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 for best results.

Each cable run must be one continuous run from one end to the other. No splices or use of punch down blocks.

SPECIFICATIONS

Video Amplifier Bandwidth ..... 350 MHz

Input Video Signal ..... 1.2 Volts p-p

Input Sync Signal ..... 5 Volts p-p (TTL)

Horizontal Frequency Range..... 15-70 KHz

Vertical Frequency Range..... 30-170 KHz

Video In HD-15

Focus ..... 25 to 330 FT

Video out HD-15

Link Connector RJ-45

Power Consumption ..... 5W (per unit, max.)

Power Supply ..... 5VDC (External)

Dimensions ..... 1.9”H x 1.6”W x 3.5”D

Shipping Weight ..... 2 Lbs

ma-VGA-141LR

Rev X5

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