Gefen

DVI RS232 Extender

EXT-DVIRS232-CAT5N

User Manual

www.gefen.com

HDTV

ASKING FOR ASSISTANCE

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Notice

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INTRODUCTION

Congratulations on your purchase of the DVI RS232 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.

DVI RS232 Extender

Extending state-of-the-art digital video displays, computer monitors and touch screens has never been easier. Distances up to 150 feet at 1080p resolution (300 feet at 1080i resolution) are guaranteed to perform beautifully, giving you a reliable method of all-digital extension while streamlining your installation cabling needs.

How It Works

You simply connect the DVI RS232 Extender sender unit to your DVI and RS-232 source using the supplied cables. Your RS-232 device and the DVI display plugs into the DVI RS232 Extender's receiver unit. Two CAT-5 cables connect the sender and the receiver units to each other allowing for up to 300 feet of extension (300 feet at 1080i resolution or 150 feet of extension at 1080p resolution).

OPERATION NOTES

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE DVI RS232 EXTENDER

- Use two industry standard CAT-5, CAT-5e or CAT-6 cables to operate the DVI RS232 Extender. Gefen recommends CAT-6 cabling for maximum performance.
- For 1080i video, maximum extension is 300 feet (91 meters).
- This product features the option to force the output colorspace to RGB and/or use a pre-programmed EDID. These features can be used to resolve specific user issues or for troublingshooting purposes. Please see page 7 for more information.

FEATURES

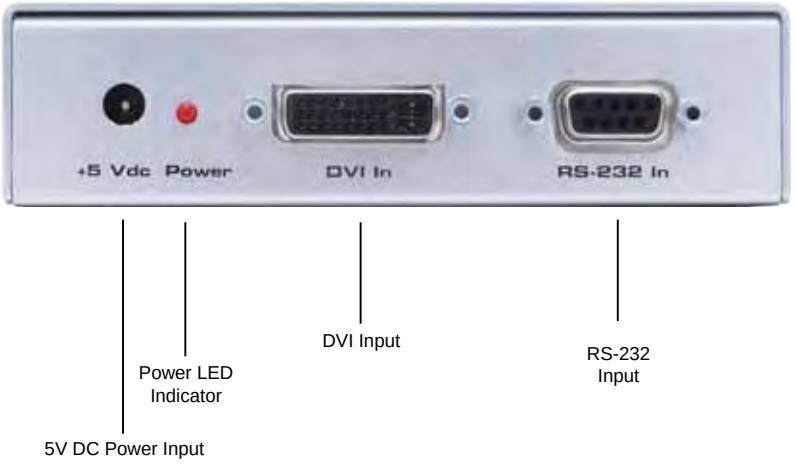
Features

- Supports resolutions up to 1080p, 2K, and 1920 x 1200
- Sends video at distances of up to 300 feet (1080i) / 150 feet (1080p)
- Small and compact
- Improved compensation for cable skew
- Audio and video are transmitted digitally over the CAT-5, CAT-5e or CAT-6 cable for zero signal loss
- Eliminates equipment noise in the viewing environment
- Extends any IR device

Package Includes

(1) DVI RS232 Extender Sender Unit
(1) DVI RS232 Extender Receiver Unit
(1) 6 Foot DVI Cable (M-M)
(1) 6 Foot RS-232 Cable (M-M)
(2) 5V DC Power Supply
(1) User's Manual

Front Panel



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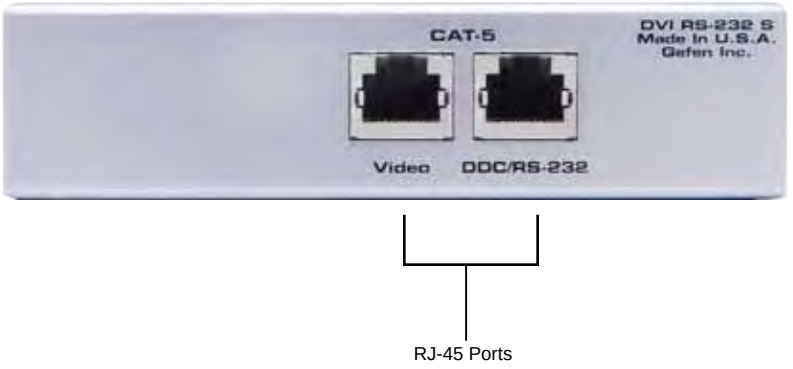

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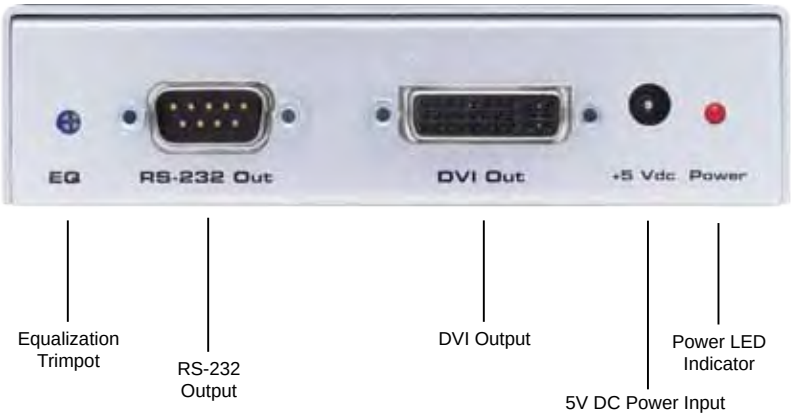

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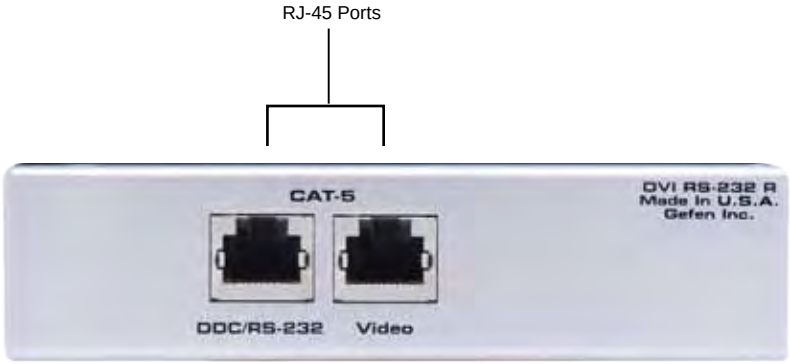


*An optional IR extension (part # EXT-RMT-EXTIR) may be connected to this port to extend the position of the IR sensor. This is to allow installa ion flexibility by having the ability to put he DVI RS232 unit in a hidden location and still retain IR functionality.

CONNECTING AND OPERATING THE DVI RS232 EXTENDER

1. Connect the DVI source to the DVI RS232 Extender sending unit's DVI input port using the supplied DVI cable.

2. Connect the RS-232 source to the DVI RS232 Extender sending unit's RS-232 input port using the supplied DB-9 serial cable.

3. Connect the DVI RS232 Extender sending and receiving units together using two user supplied CAT-5, CAT-5e or CAT-6 cables.

NOTE: If field terminating network cable, please adhere to the TIA/EIA568B specification. Please see page 8 for more information.

4. Connect the display to the DVI output port of the DVI RS232 Extender receiving unit using a user supplied DVI cable.

5. Connect the RS-232 device to the RS-232 output port of the DVI RS232 Extender receiving unit using a user supplied DB-9 serial cable.

6. Plug the 5V DC power supply into the DVI RS232 Extender sending unit.

NOTE: In most scenarios, the 5V DC external power supply for the receiving unit will not be required. Operational power is supplied by the sending unit via the connected CAT-5, CAT-5e or CAT-6 cable. If the power LED indicator on the receiving unit is not on, please check to make sure that the RJ-45 cables are not crossed (DDC to video and video to DDC). At extreme distances, it may be necessary to apply power to the receiving unit.

7. Power on the display.

8. Power on the source.

DVI RS232 EXTENDER CONFIGURATION

The DVI RS232 Extender has built-in auto equalization that will automatically tune out any unwanted video noise. This feature is reliable with premium cable runs up to a maximum of 130 feet. It may be necessary to disable this feature if there is either no video being displayed on initial start-up, there is video noise in the image, or the cable run exceeds 130 feet. First, verify that all the proper connections have been made and that all devices are powered on before attempting to disable auto equalization.

HOW TO EQUALIZE THE VIDEO SIGNAL

The sender and receiver units both have sets of DIP switches located on the underside of their casings. There is a piece of silver metallic tape that must be removed to expose these DIP switches. Each unit carries a bank of 4 DIP switches. DIP switches 1 and 2 on both the sending and receiving units are used in this procedure. By default, all DIP switches on the sending and receiving units should be in the OFF position (Auto EQ On). To turn off auto equalization, turn DIP switch 1 on the receiving unit to the ON position (Auto EQ off). With this setting please follow the steps below to equalize the picture.

1. Insert a small flat head tool into the trimpot on the receiver unit.

2. Turn the trimpot in a clockwise fashion until it comes to a stop. Do not force the trimpot beyond this point. Doing so may break the trimpot.

3. Slowly turn the trimpot counter-clockwise in millimeter increments until the image stabilizes and all video noise disappears.

4. Carefully remove the adjustment tool.

NOTE: If your cable run is beyond 130 feet, or the following steps do not produce any video, it may be necessary to increase the boost from the sending unit. Use the chart below to increase the boost by changing the sender DIP switches. Once a new boost setting is set, repeat steps 1 through 4 from above.

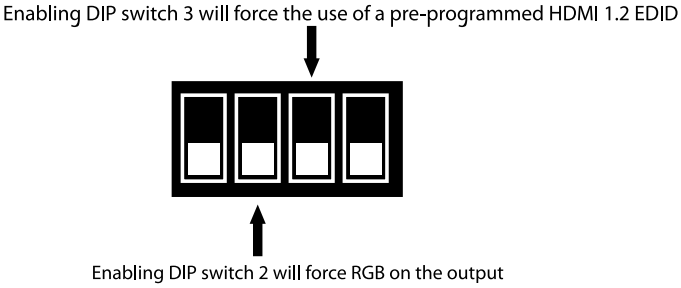
Sender DIP Switch Settings		
Setting	**Switch 1**	**Switch 2**
No Boost (Default)	OFF	OFF
Medium Boost	OFF	ON
High Boost	ON	OFF
Very Low Boost	ON	ON

Receiver DIP Switch Settings		
Setting	**Switch 1**	**Switch 2**
Manual EQ	ON	OFF
Auto EQ (Default)	OFF	OFF

ADDITIONAL DIP SWITCH FUNCTIONS

FORCE RGB AND PRE-PROGRAMMED EDID FEATURES

DIP switch 1 on the 4-bank DIP switch located on the underside of receiver unit enables and disables the automatic equalization function. Additional features can be enabled by using the other DIP switches on this bank.



FORCING THE RGB COLORSPACE

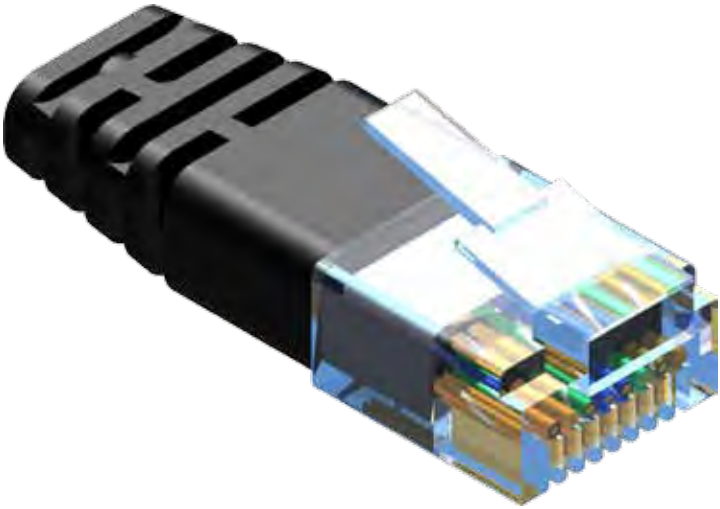
In some cases, the output video may have a pink or green tint. This usually is attributed to the output device (i.e. display) not supporting the colorspace being used by the source device. All digital displays will handle the standard RGB colorspace. DIP switch 2 can be enabled to force the output colorspace to RGB. If the input colorspace is YCbCr, the colorspace will be converted to RBG prior to output on the receiver unit.

USING THE PRE-PROGRAMMED EDID

In some cases it may be necessary to force an EDID for troubleshooting purposes. Enabling DIP switch 3 will force the use of a pre-programmed EDID to be sent to the source instead of the connected output device (i.e. display). The EDID specifics are listed below.

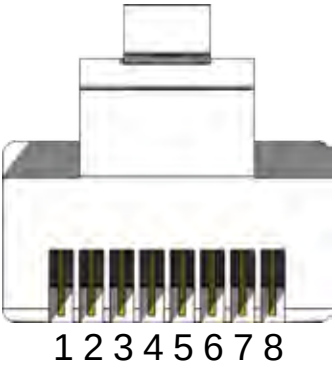
Resolution	Timing
640x480	60Hz
720x480i/p	59.94/60Hz
720x576i/p	50Hz
1280x720p	50Hz
1280x720p	59.94/60Hz
1920x1080i/p	50Hz
1920x1080i/p	59.94/60Hz

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 ..... 165 MHz

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

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

Single Link Range ..... 1080p/1920 x 1200

DVI Connector ..... DVI-I (29 Pin) Female (Digital Only)

RS232 Input Connector ..... DB-9 Female

RS232 Output Connector ..... DB-9 Male

RS-232 Standard RS-232C

Link Connector ..... RJ-45 Shielded

Power Supply ..... 5V DC

Power Consumption ..... 10 Watts (max)

Dimensions .....3.2” D x 4.6”W x 1.25”H

Shipping Weight ..... 4 lbs.