

Gefen

4x4 VGA Matrix

EXT-VGAAUD-444

User Manual



www.gefen.com

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.

Write To:

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

www.gefen.com
support@gefen.com

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INTRODUCTION

Congratulations on your purchase of the 4x4 VGA Matrix. 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 4x4 VGA Matrix

The Gefen 4x4 VGA Matrix offers flexibility and convenience by routing high-quality VGA and analog audio from any of four VGA/audio sources to any of 4 VGA displays and audio devices.

The Gefen 4x4 VGA Matrix works with a wide variety of VGA sources such as computers, security cameras and DVRs. Every source is accessible at any time by any display by selecting it with the included IR remote, front panel buttons, or RS-232 control.

How It Works

Connect up to four VGA and analog audio sources to the 4x4 VGA Matrix's inputs. Connect the Matrix's VGA and analog audio outputs to 4 VGA displays and audio devices. Plug in the Matrix's power supply. You may now switch VGA and audio sources using the included IR remote, front panel buttons, or the built-in RS-232 serial port. LED lights on the front panel show the currently selected routes from the VGA sources to the VGA displays.

OPERATION NOTES

READ THESE NOTES BEFORE INSTALLING OR OPERATING THE 4X4 VGA MATRIX

- The 4x4 VGA Matrix does not transmit display information (EDID) 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-EDIDN) with two VGA to DVI adapters.

FEATURES

Features

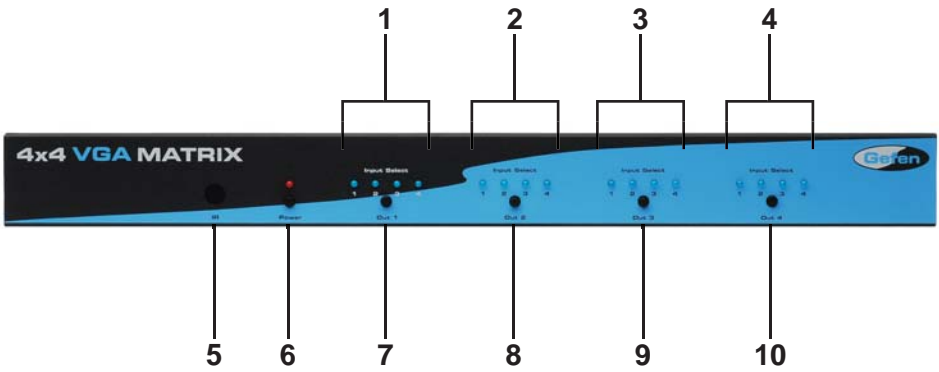
- Switches easily between any four VGA/analog audio sources
- Sends up to four VGA inputs with analog audio to any four displays with analog audio
- Supports high-definition VGA up to 1920 x 1200 resolution at 60 Hz
- LED lights on the front panel show selected VGA routes
- RS-232 Control
- Includes discrete IR remote control

Package Includes

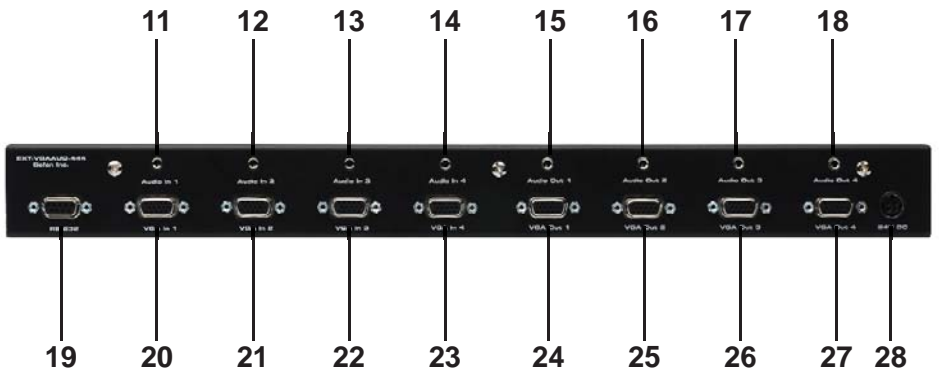
- (1) 4x4 VGA Matrix
- (4) 6-Foot Vga Cables (M-F)
- (4) 6-Foot Mini-Stereo 3.5mm Analog Audio Cables
- (1) 24V DC Power Supply
- (1) RMT-16IR Remote Control
- (1) Set Of Rack Ears
- (1) User's Manual

PANEL LAYOUT

Front Panel



Back Panel



PANEL DESCRIPTIONS

1-4 Selected Input LED Indicators For Outputs 1-4

There is a set of 4 LEDs for each of the four output ports. Each of the four labeled outputs have a set of 4 individual LEDs that will indicate which input source is active for that output. The currently selected input will be indicated by an active LED.

5 IR (Infrared) Receiver

This receiver will accept commands for switching between HDMI input devices using the included RMT-16IR remote control.

6 Power/Standby Button

This button will toggle the unit between on and standby modes.

7-10 Input Selection Button For Outputs 1-4

This button will set the source for the indicated output. Each labeled output on the front panel has this button. Each press of this button will cycle through the four input sources that will be routed to the output.

11-14 Audio Inputs For Inputs 1-4

This 3.5mm mini-jack analog stereo input will accept a single audio source for routing to the outputs. There are four inputs, one for each VGA input.

15-18 Audio Output For Outputs 1-4

This 3.5mm mini-jack analog stereo output will accept a single amplified audio device. There are four outputs, one for each VGA output.

19 RS-232 Serial Communications Port

This DB-9 serial communications port is used with RS-232 devices for various routing and functions.

20-23 VGA Inputs 1-4

These inputs will accept a single VGA source device. Any of these four VGA inputs can then be routed, in any combination, to the four VGA outputs.

24-27 VGA Outputs 1-4

These outputs will accept a single VGA output device. Any of these four VGA outputs can select and view one of the four VGA and audio inputs.

28 24V DC Power Receptacle

Connect the included 24V DC power supply between this port and an open wall power receptacle.

CONNECTING AND OPERATING THE 4X4 VGA MATRIX

How to Connect the 4x4 VGA Matrix

1. Connect up to 4 VGA video sources to the 4x4 VGA Matrix inputs using the supplied VGA cables.
2. Connect up to 4 analog audio sources to the 4x4 VGA Matrix audio inputs using the supplied 3.5mm mini-jack stereo audio cables.
3. Connect up to 4 VGA capable displays to the 4x4 VGA Matrix outputs using user supplied VGA cables.
4. Connect up to 4 amplified analog audio devices to the 4x4 VGA Matrix audio outputs using user supplied 3.5mm mini-jack stereo audio cables.
5. Connect the included 24V DC power supply to the 4x4 VGA Matrix and an open wall power socket.

How to Connect the 4x4 VGA Matrix

Routing of video to displays is done using Connect up to 4 analog audio sources to the 4x4 VGA Matrix using the supplied 3.5mm mini-jack stereo audio cables. either the included RMT-16-IR remote control or the direct select buttons located on the front panel of the 4x4 VGA Matrix.

Using the RMT-16-IR remote control

The RMT-16-IR remote control uses 16 buttons to select 1 of 4 sources for each output to view. Each output has a grouping of 4 buttons allocated for selecting the individual sources. Use the chart below to route video to your desired display

NOTE:

How to Operate the 4x4 VGA Matrix

RMT-16-IR Button	Source	Output	RMT-16-IR Button	Source	Output
1	1	1	9	1	3
2	2	1	10	2	3
3	3	1	11	3	3
4	4	1	12	4	3
5	1	2	13	1	4
6	2	2	14	2	4
7	3	2	15	3	4
8	4	2	16	4	4

Using the Direct Source Buttons

Each output on the 4x4 VGA Matrix has a push-button located on the front panel. Pressing this button will cycle through the 4 input sources. Press the button for each display repeatedly to select the desired source for viewing on that output.

RMT-16IR REMOTE DESCRIPTION

1. Remove battery cover from the back of the RMT-16-IR remote.
2. Verify that DIP switches 1 & 2 are in the down (OFF) position.
3. Insert the battery, hold the battery so that you can see the positive side facing up. The side that is not marked must be facing down.
4. Test the RMT-16-IR remote by pressing ONLY one button at a time. The indicator light on the remote will flash once each time you press a button.

WARNING: Do not press multiple buttons simultaneously and do NOT press buttons rapidly. These actions will cause the remote to reset and steps 1-4 will have to be repeated.

NOTE: The RMT-16-IR ships with two batteries. One battery is required for operation, the second battery is complimentary.

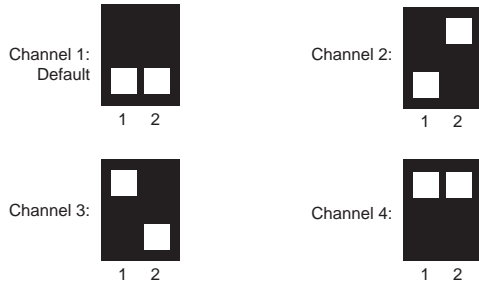


4X4 VGA MATRIX REMOTE INSTALLATION

How to Resolve IR Code Conflicts

In the event that IR commands from other remote controls conflict with the supplied RMT-16IR remote control, changing the remote channel will alleviate this issue. The RMT-16IR remote control has a bank of DIP (Dual Inline Package) switches for configuring the remote channel that both units use to communicate. The 4x4 VGA Matrix can be put into a mode that will use its front LED array to indicate which remote channel is being used and also give the user the ability to modify the currently used IR remote channel. These IR channel settings must exactly match each other for proper operation.

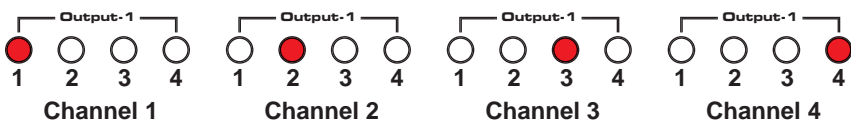
The DIP Switch bank on the RMT-16IR is located underneath the battery cover.



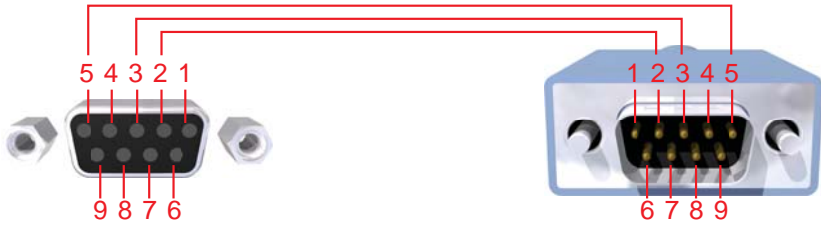
Left: Picture of the opened rear battery compartment of the RMT-16IR remote showing the exposed DIP Switch bank between the battery chambers.

Follow these steps to place the 4x4 VGA Matrix into IR channel setup mode.

1. Turn on the 4x4 VGA Matrix.
2. Press and hold the front panel POWER button for 5 seconds to enter the setup mode (All output LED's except for Output 1 will be off). The Output 1 LED source indicator (page 4) will display the currently selected IR channel. The active LED, either 1, 2, 3, or 4, will indicate which IR channel is being used.
3. Note the IR channel used on the RMT-16IR remote and press the Output 1 selector button to cycle to the IR channel that is being used.
4. Press the POWER button to save the settings and exit the IR channel setup mode.



RS-232 SERIAL CONTROL INTERFACE



Only Pins 2 (RX), 3 (TX), and 5 (Ground) are used on the RS-232 serial interface

Binary Table

ASCII	Corresponding RMT16-IR Button	Binary	ASCII	Corresponding RMT16-IR Button	Binary
1	1	0011 0001	9	9	0011 1001
2	2	0011 0010	a	10	0110 0001
3	3	0011 0011	b	11	0110 0010
4	4	0011 0100	c	12	0110 0011
5	5	0011 0101	d	13	0110 0100
6	6	0011 0110	e	14	0110 0101
7	7	0011 0111	f	15	0110 0110
8	8	0011 1000	g	16	0110 0111

Additional Features

ASCII	Command
X or x	Power Off
Y or y	Power On

RS232 Settings

Bits per second 19200

Data bits 8

Parity None

Stop bits1

Flow Control None

RACK MOUNT INSTALLATION

Rack mount ears are provided for installation of this unit into a 1U rack mount space.

1. Locate the side screws on the unit.
2. Remove the front 2 screws that are located closest to the front of the unit.
3. Using the removed screws, screw the rack mounting bracket into the unit.
4. Repeat the procedure on the opposite side of the unit.



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 Hz
Video Connectors	8 x HD15, female (4 input, 4 output)
Audio Connectors	8 x 3.5mm mini-stereo jack, female (4 input, 4 output)
RS-232 Control Port	9-pin female DB9
Power Supply Sender	5V DC (20 Watts)
Dimensions	17"W x 3.5"H x 5.875"D
Shipping Weight	9.5 lbs.