GEFEN

a Nice brand

4K Ultra HD 60 Hz, 4:4:4 HDMI & USB-C KVM over IP

GF-HD18G-VIP-TX

GF-HD18G-VIP-RX

User Manual

Contents

GETTING STARTED

BASIC OPERATION

Contents

GETTING STARTED

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this product near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install or place this product near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. To reduce the risk of electric shock and/or damage to this product, never handle or touch this unit or power cord if your hands are wet or damp. Do not expose this product to rain or moisture.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Batteries that may be included with this product and/or accessories should never be exposed to open flame or excessive heat. Always dispose of used batteries according to the instructions.

Operating Notes

Important: This product has been specifically designed for use with the Gefen Syner-G™ Software Suite, available for download at www.gefen.com. The Gefen Syner-G™ Discovery and Show-Me features simplify initial IP configuration.

- Always make sure that the 4K60 HDMI/USB-C KVM over IP is running the latest firmware.
- Gefen highly recommends the use of the Syner-G software and Matrix Controller (Gefen part no. GF-AVIP-MC running Firmware 3.x or above) for setting up and controlling the operation of a Video-over-IP network using these products.
- Shielded CAT-5e (or better) cables should not exceed 330 feet (100 meters) between the Sender/Receiver unit and the network.
- By default, all Sender and Receiver units are set to channel **0**.
- The HDMI inputs and outputs on this product also support Single-Link DVI and its standard VESA resolutions. Dual-Link DVI is not supported.
- Both HDMI and USB-C Inputs and HDMI Output will pass content from HDCP sources such as Blu-ray players and PlayStation® console systems.
- By default, the source device will use Internal 4K60/2CH EDID.
- If terminating network cables in the field, please adhere to the TIA/EIA568B specification. See the “Network Cable Diagram” on page 130 for details.

Important:

- When connecting through a Local Area Network, a managed gigabit switch is required. Jumbo Frame Support (8k or greater) and IGMP Snooping must be enabled.
- A dedicated LAN is not required but highly recommended.
- When using HDCP-encrypted content, only the HDMI inputs and outputs can accept and display the content.
- We recommend that Sender and Receiver are first connected directly and functionality/performance is fully verified before integrating them into a Local Area Network.

Supported USB Devices

- HID-class devices: keyboard, mouse, joystick, and touch panels.
- Bulk-only storage devices: USB flash drive, most storage devices, DVD-ROM, card readers, and printers.
- Isochronous devices: Webcam, Audio Interface

Features

Features

- Secure content distribution using AES-256 bit encryption
- Extends HDMI, USB-C (Video + Data), RS-232, stereo analog audio, Digital Optical Audio Return, and IR over IP, using a Gigabit Local Area Network
- Supports input resolutions up to 4K 60Hz 4:4:4 on HDMI and USB-C
- Supports output resolutions up to 4K 60Hz 4:4:4 on HDMI
- Capable of scaling output resolutions up to 4K 60Hz
- Supported HDMI Features:
  - HDR10, HDR10+, Dolby Vision
  - HDCP 2.3/2.2 and 1.4
  - Deep Color
  - Lip-Sync pass-through
- Supports uncompressed LPCM digital audio up to 7.1 channels
  - Supports up to 7.1 channels of HBR (High Bit Rate) digital audio including Dolby Atmos®, Dolby® TrueHD, DTS:X™, and DTS-HD Master Audio™
- Supports USB Roaming utilizing one set of keyboard and mouse to control all PCs
- Support for KVM OSD Hotkey Keyboard Switching
- Smart CEC management and Power Save modes
- When used with DVI-to-HDMI cables (not included), supports the use of DVI sources and DVI displays up to 1080p Full HD and 1920x1200 (WUXGA)
- Built-in video wall controller accommodates any number of rows and columns up to 16x16
- Built-in Audio De-Embedder on Receiver breaks out 2 channels of analog 2-channel stereo, allowing the audio content to be sent to external amplifiers and music distribution systems for added impact
- Route-able Audio Return path from any display to an external amplifier via TOSLINK.
- MFU (Mass-Firmware-Update), quick and automated configuration, and enhanced control capabilities and system security when used with the Gefen GF-AVIP-MC Matrix Controller
- Real-time live sub stream support
- Enhanced API for added functionality for IP, CEC, and IR Bridging using third-party control systems
- Built-in intuitive graphical web interface, Telnet, and UDP
- Supports 39,900 Senders and a combination of just over 65,000 Sender and Receiver units, depending on the network bandwidth and number of ports on your network switch
- Two USB 2.0 ports with data rates up to 480 Mbps and backward-compatibility with USB 1.1

Packing List

- Conforms to IEEE 802.3at standard Power-over-Ethernet allows the Sender and Receiver units to be powered through a standard PoE-enabled IP network switch, without the need for external power supplies.
- 802.3at standard Power-over-Ethernet allows the Sender and Receiver units to be powered through a standard PoE-enabled IP network switch, without the need for external power supplies
- Two-port Gigabit Ethernet switch built into the Sender and Receiver units
- Field-updatable firmware via GF-AVIP-MC controller or the built-in web server interface
- Locking power supply connectors
- Sender and Receiver enclosures are rack-mountable using Gefen's optional 19-inch vertical stack equipment rack.
- Low profile Receiver enclosure features an IR Extender port and can be hidden away behind the display

Packing List

- The 4K60 HDMI/USB-C KVM over IP ships with the items listed below. The packing contents of the Sender and Receiver unit are listed below. If any of these items are not present in the box when you first open it, immediately contact your dealer or Gefen.

GF-HD1K18G-VIP-TX

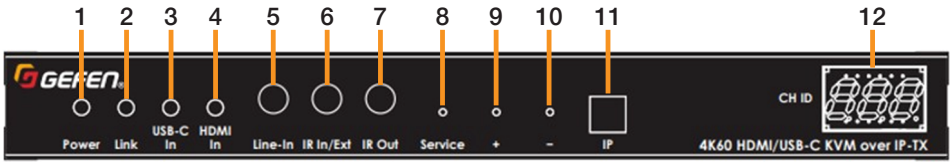
- 1 x Sender unit (GF-HD1K18G-VIP-TX)
- 1 x 12V/3A Power Supply (EXT-PS12U3AIP-LP-6)
- 1x Gefen IR Emitter (EXT-IREMIT)
- 1x Gefen IR Receiver (EXT-RMT-EXTIRN)
- 4 x Self-Adhesive Rubber-Feet
- 1 x Quick-Start Guide

GF-HD1K18G-VIP-RX

- 1 x Receiver unit (GF-HD1K18G-VIP-RX)
- 1 x 12V/3A Power Supply (EXT-PS12U3AIP-LP-6)
- 1x Gefen IR Emitter (EXT-IREMIT)
- 1x Gefen IR Receiver (EXT-RMT-EXTIRN)
- 4 x Self-Adhesive Rubber-Feet
- 1 x Quick-Start Guide

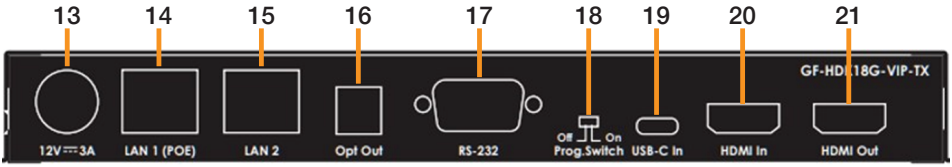
Physical Features

Sender Unit



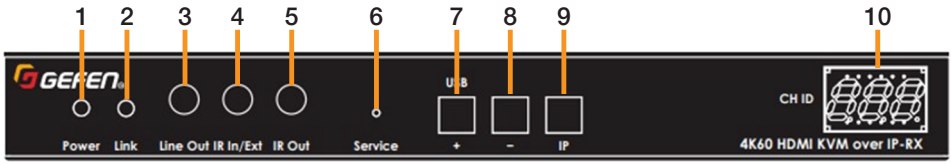
ID	Name	Description
1	Power	This LED glows solid blue when the unit is is Powered ON via AC outlet or PoE. See “LED Status” on page 22 for more information.
2	Link	This LED glows solid green when the Sender unit and Receiver unit are connected and passing video. See “LED Status” on page 22 for more information.
3	USB-C In	This LED glows solid green when the Sender unit when switched to USB-C Input.
4	HDMI In	This LED glows solid green when the Sender unit when switched to HDMI Input.
5	Line In	Connect a 3.5mm mini-stereo cable from a Line Out port of a multimedia PC to this port.
6	IR In/Ext	Connect an IR Extender (Gefen part no. EXT-RMT-EXTIRN) to this 3.5mm mini- stereo port. Alternatively, connect a 3.5mm mini-stereo connector from this port to the output of an automation system with an electrical IR output.
7	IR Out	Connect an IR Emitter cable (Gefen part no. EXT-IREMIT) from this port to the 4K UHD source to control the source from the viewing location.
8	Service	For factory use only.
9-10	CH +/-	Press the +/- pinhole buttons to decrement/increment the TX Channel ID.
11	IP	Toggle this button to view TX Channel ID or IP Address.
12	CH ID	Displays TX Channel ID or IP address.

Physical Features



ID	Name	Description
13	Power Input	Connect the included 12V DC 3-pin DIN power supply to this power receptacle.
14	LAN 1 (PoE)	Connects the Sender unit to a PoE-capable switch (or directly to the Receiver unit) using shielded CAT-5e (or better) cable.
15	LAN 2	This port is used as an Ethernet Hub or for daisy chaining units.
16	Opt Out	Connect a Digital TOSLINK cable from this port to an audio amplifier (Audio Return Path).
17	RS-232	Connect an RS-232 cable from this port to an RS-232 controller. See Using RS-232 (page 38) for more information.
18	Prog. Switch	For factory use only. This switch must stay in the **Off** position.
19	USB-C In	Connect a USB-C cable from the computer or mobile device to this USB port.
20	HDMI In	Connect an HDMI cable from this connector to the 4K UHD source.
21	HDMI Out	Connect an HDMI cable from this connector to a 4K UHD display for local monitoring.

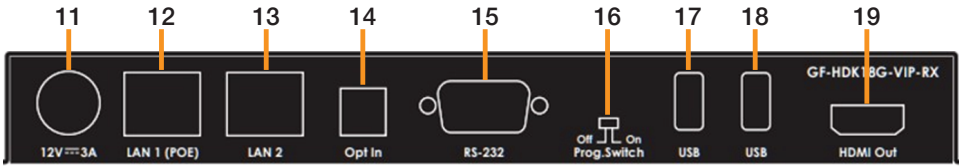
Receiver Unit



ID	Name	Description
1	Power	This LED glows solid blue when the unit is Powered ON via AC outlet or PoE. See “LED Status” on page 22 for more information.
2	Link	This LED glows solid green when the Sender unit and Receiver unit are connected and passing video. See “LED Status” on page 22 for more information.
3	Line Out	Connect a 3.5mm mini-stereo cable from the Line Out port to headpones, powered speakers, or an external amp.
4	IR In/Ext	Connect an IR Extender (Gefen part no.EXT-RMT-EXTIRN) to this 3.5mm mini-stereo port. Alternatively, connect a 3.5mm mini-stereo connector from this port to the output of an automation system with an electrical IR output.

Physical Features

ID	Name	Description
5	IR Out	Connect an IR Emitter cable (Gefen part no. EXT-IREMIT) from this port to the 4K UHD source to control the source from the viewing location.
6	Service	Press this button to reset the unit to factory default settings.
7-8	CH +/-	These buttons serve two purposes. 1) Press the +/- buttons to increment/decrement, respectively, the current channel number. See “Setting the Video Channel” on page 23 for more information. 2) Press and hold the + (“USB”) button to switch between USB modes. See “USB Control” on page 42 for more information.
9	IP	Toggle this button to view RX Channel ID or IP Address.
10	CH ID	Displays RX Channel ID or IP Address.



ID	Name	Description
11	Power	This LED glows solid blue when the unit is Powered ON via AC outlet or PoE. See “LED Status” on page 22 for more information.
12	LAN 1 (PoE)	Connects the Sender unit to a PoE-capable switch (or directly to the Receiver unit) using shielded CAT-5e (or better) cable.
13	LAN 2	This port is used as an Ethernet Hub or for daisy chaining units.
14	Opt In	Connect an optical audio cable from a 4K UHD Display to this TOSLINK port. (For Audio Return Path)
15	RS-232	Connect an RS-232 cable from this port to an RS-232 controller. See “Using RS-232” on page 39 for more information.
16	Prog. Switch	For factory use only. This switch must stay in the Off position.
17-18	USB	Connect up to two USB devices to these USB 2.0 Ports.
19	HDMI Out	Connect an HDMI cable from this connector to a 4K UHD Display.

Installation & Configuration

The 4K60 HDMI & USB-C KVM over IP Sender and Receiver units can be connected over a Local Area Network (LAN) or they can be directly connected to one another. Both installations will be covered.

Local Area Network (LAN) Connection

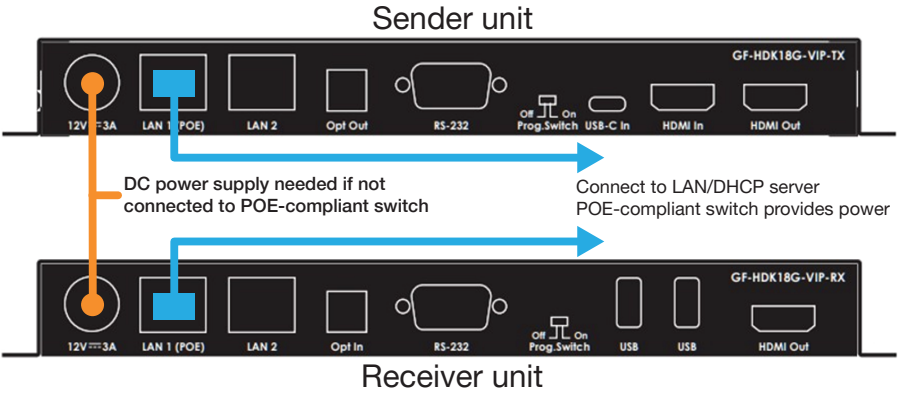
In order to connect the 4K60 HDMI & USB-C KVM over IP to a Local Area Network (LAN), both the Sender and Receiver unit must first be set to DHCP mode or Static IP mode.

DHCP mode will use the DHCP server to automatically assign an IP address for each Sender and Receiver unit that is connected to the network. Static IP mode will allow the IP address for each Sender and Receiver unit to be configured manually. Contact your network administrator if necessary.

1. Connect a high-quality HDMI or USB-C cable to connect a 4K Ultra HD source to the HDMI In port or USB-C In port on the rear panel of the **Sender** (Tx) unit. It is recommended to use Gefen's HDMI 2.1 cables to ensure performance.
2. Connect a HDMI cable from the **HDMI OUT** port on the **Sender** unit to a local display.
3. Connect an HDMI cable from the 4K UHD display to the **HDMI Out** port on the **Receiver** unit.
4. Connect a CAT-5e (or better) cable between the **LAN1 (PoE)** port on the **Sender** unit and a Gigabit IP switch.
5. Connect **LAN 1 (PoE)** on the **Receiver** unit to the same network switch. Each cable run can be up to 330 feet (100 meters).

Important: If the IP switch is PoE compliant and the Sender and Receiver are connected through their PoE ports, external power supplies are not required. Additional Receivers or other devices connected to LAN 1 and LAN 2 ports of a Receiver will, however, need to be powered locally.

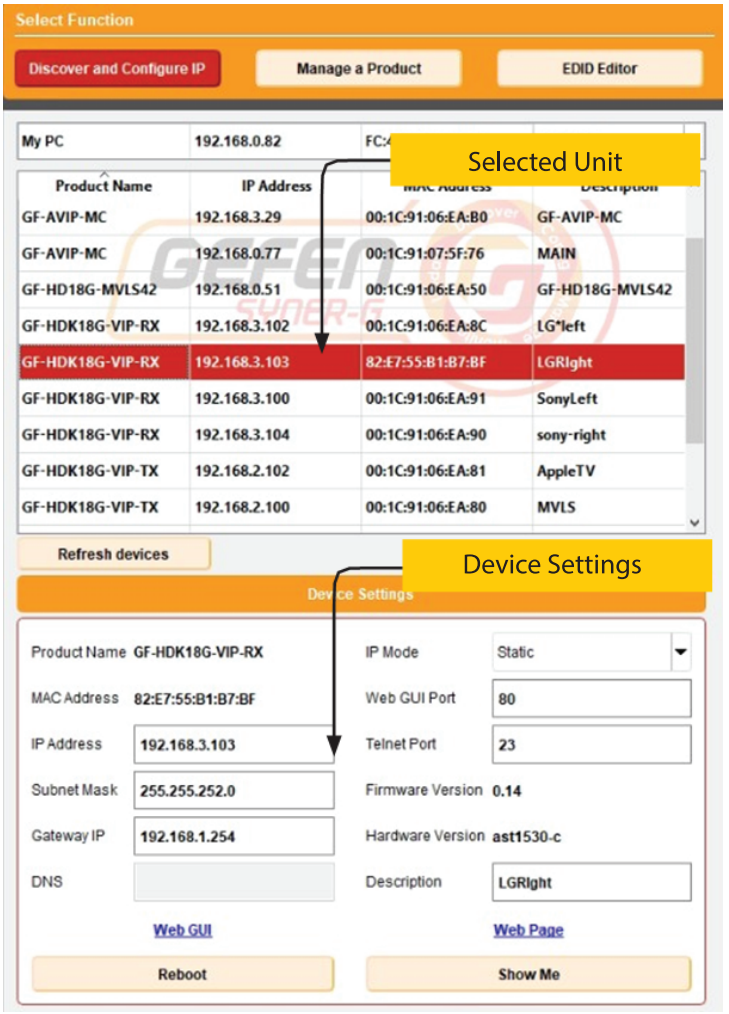
6. If *not using* a PoE-compliant switch, then connect the included 12V DC power supplies to the Sender and Receiver unit.



7. Launch the Gefen Syner-G app to discover the IP address of the Sender/Receiver unit. See the *Gefen Syner-G User Manual* for more information.

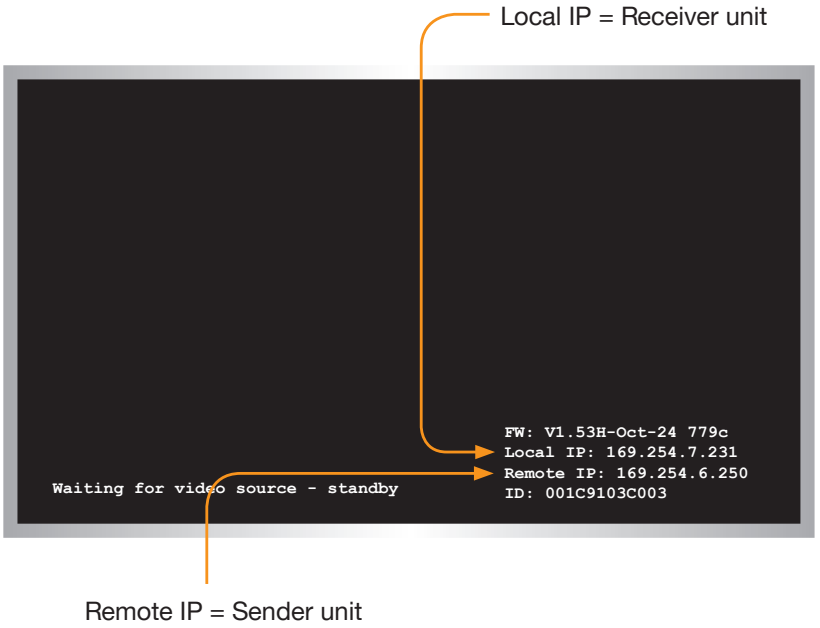
8. Click the desired unit from the list. The currently selected unit will be highlighted in red.

9. Use the fields in the **Device Settings** section to change the IP settings, as necessary.



10. After all IP settings have been adjusted, click the **Apply** button.
11. Click the **Reboot** button to apply changes.
12. Repeat steps 7 - 11 for each Sender and Receiver unit, as necessary.

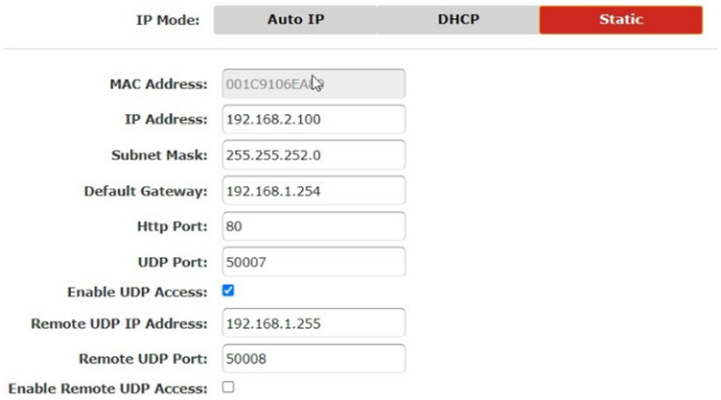
Information: The IP address of both the Sender and Receiver unit can be viewed by disconnecting the HDMI cable from the Sender unit (of from the source device), as shown in the example below.



13. Open your Web browser and enter the IP address of the desired Sender or Receiver unit in the address bar. The **Login** screen is displayed. In order to change network settings, you must log in as “Administrator.”
14. Select the “Administrator” username from the drop-down list.
15. Type the password in the **Password** field. The default password for “Administrator” is **admin**. The password is case-sensitive and will be masked as it is entered.

Note: Passwords and operating features can be changed when logged in as Administrator. The User option has limited access. To change password credentials, see “Utilities” on page 65.

16. Click the **Login** button. The **Network** will automatically be selected. The current IP Mode will be highlighted within the **IP Setup** window group.



17. Click the desired **IP Mode** button.
    - If **Static** mode is selected, then enter the IP Address, Subnet Mask, and Default Gateway. Contact your system administrator if necessary.
    - If **DHCP** mode is selected, then the IP address, subnet mask, and default gateway will be specified by the DHCP server.
18. Click the **Apply** button to save the changes. This operation will require a reboot.
19. Click the **Reboot** button near the bottom of the page.
20. Repeat these steps for each Sender and Receiver to be configured.
21. After the desired IP settings have been applied, set the video channel for each Sender unit. See “Setting the Video Channel” on page 23 for more information.

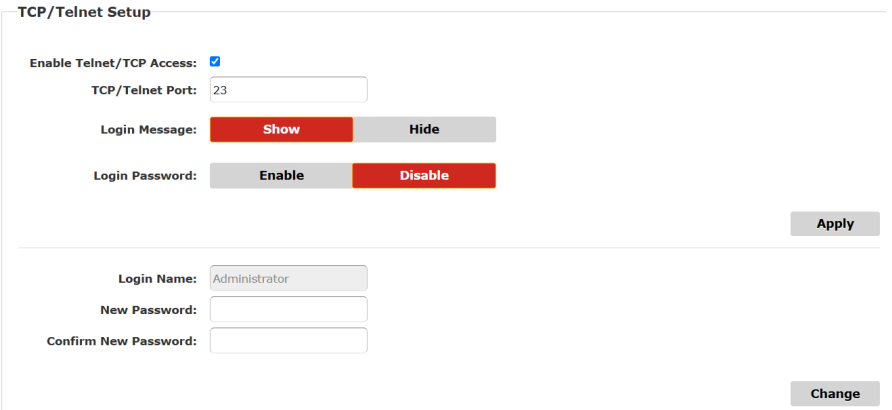
Important: The use of a managed Gigabit switch with “Jumbo Frame” and “IGMP Snooping” capability is required when connecting the 4K Ultra HD HDMI & USB-C KVM over IP to a network. The switch should be set to greater than 8K and IGMP Snooping must be enabled.

TCP/UDP Configuration

Click the **Network Settings** tab within the web interface to access the TCP and UDP settings page.

TCP/Telnet Settings

Before attempting to use Telnet control, please ensure that both the unit and the PC are connected to the same active networks.



- **Enable Telnet/TCP Access:** Select to enable (default) or disable TCP access.
- **TCP/Telnet Port:** Enter the Telnet listening port in this field (Port **23** by default).
- **Login Message:** Click these buttons to show or hide the Telnet welcome message at the beginning of each Telnet session.
- **Login Password:** Click these buttons to enable or disable login credentials for TCP access.
- **Apply:** Click this button to save all changes on this page.

To access the Command Line Interface (CLI):

1. In Windows 10/11, click **Start** > **Run**, type **cmd** and press **Enter**.
   -OR-
   In Mac OS X, click **Go** > **Applications** > **Utilities** > **Terminal**.
2. Once in the CLI, type **telnet** followed by the IP address of the unit (and the port number if it is non-standard), and then press **Enter**. This will connect us to the unit we wish to control.

```
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation.  All rights reserved.

C:\Users\Administrator>telnet 192.168.1.50 23
```

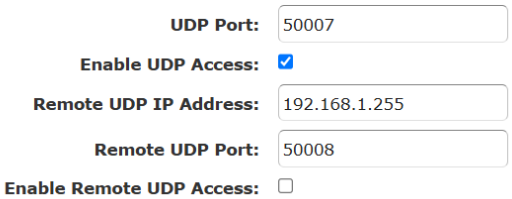
TCP/UDP Configuration

Notes:

- By default the unit will obtain the LAN 2 IP address via DHCP. If you are unsure of the unit's current LAN 2 IP address, please check the unit's HDMI status display.
- If the unit's IP address is changed then the IP address required for Telnet access will also change accordingly.

UDP Settings

Configure the desired control system for UDP.

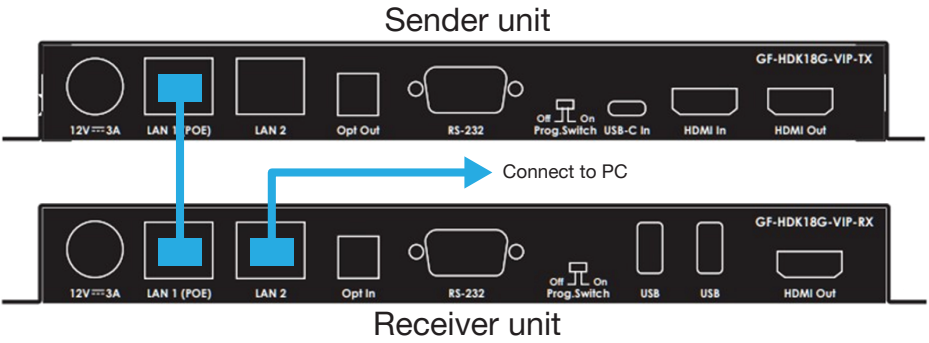


- **UDP Port:** Enter the local UDP listening port in this field (**50007** by default).
- **Enable UDP Access:** Select to enable UDP access.
- **Remote UDP IP Address:** If enabling Remote UDP Access, enter the remote UDP IP address here. This IP address should be the same as the control system. The default IP address is **192.168.1.255**.
- **Remote UDP Port:** If enabling Remote UDP Access, enter the remote UDP listening port here. The default remote UDP listening port is **50008**.
- **Enable Remote UDP Access:** Select to enable remote UDP access. This feature needs to be enabled only if feedback to the matrix is required. Otherwise, this feature can be disabled.
- **Apply:** Click this button to save all changes on this page and reboot the controller.

Using a Direct Connection

By default, the 4K60 HDMI & USB-C KVM over IP is shipped in Auto IP mode. Auto IP mode is used for directly connecting Sender and Receiver units to one another. In Auto IP mode each Sender and Receiver unit assigns itself a unique IP address within the range of **169.254.x.x**. To configure the units to work over a LAN, we must access the Web interface of the Sender and Receiver unit on a computer. Then, we can change the network settings.

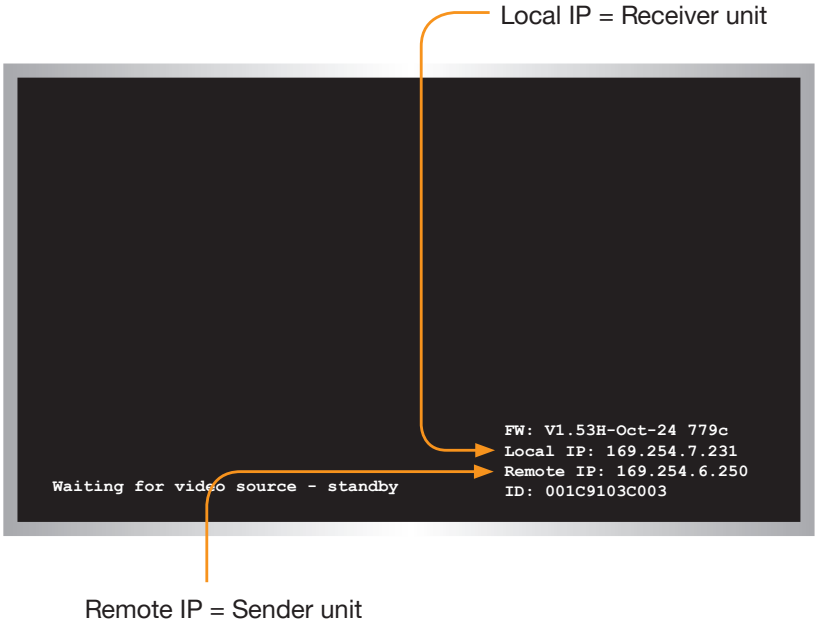
1. Connect a high quality HDMI or USB-C cable to connect a 4K Ultra HD source to the HDMI In port or USB-C In port on the rear panel of the Sender (Tx) unit. It is recommended to use Gefen's HDMI 2.1 cables to ensure performance.
2. Connect an HDMI cable from the 4K UHD display to the **HDMI Out** port on the Receiver unit.
3. Connect a shielded CAT-5e (or better) cable from the **LAN1 (PoE)** port on the Sender unit to the **LAN1 (PoE)** port on the Receiver unit. While any of the two ports on the Receiver can beused, we recommend using **LAN1 (PoE)** for the sake of consistency.
4. Connect another shielded CAT-5e (or better) cable from one of the **LAN** ports on the Receiver unit to a PC.



5. Connect the included 12V DC locking power supplies to both the Sender unit and Receiver unit. Do not overtighten the locking connectors. Connect the included AC power cords from the power supplies to available electrical outlets.

Using a Direct Connection

6. Obtain the IP address of both the Sender and Receiver unit by disconnecting the HDMI cable from the Sender unit (or from the source device). Information, similar to the illustration on the next page, will be displayed.



7. Make note of both IP addresses. These IP addresses can be entered in a Web browser to access the built-in Web interface.
8. To configure your PC and access the built-in Web interface, see “Local Area Network (LAN) Connection” on page 11 and follow the steps shown.
9. Set the video channel. By default, both the Sender and Receiver unit are set to channel **0**. For more information, see “Setting the Video Channel” on page 23.
10. Once both Sender and Receiver units are configured using the built-in Web interface, the shielded CAT-5e cable between the PC and the Receiver unit can be disconnected.
11. See “Supplementary Connections” on page 20 for instructions on connecting USB, IR, RS-232, and audio cables.

Supplementary Connections

USB

For more information on using USB devices, see “USB Control” on page 42.

1. Connect a USB-C cable from the computer to the USB-C In port on the Sender unit. Connect a maximum of two USB devices to the Receiver unit.

IR

For more details on IR control, see “IR Control” on page 48.

1. Connect an IR Emitter (Gefen part no. EXT-IREMIT) to the Sender unit and attach it to the IR sensor on the device to be controlled.
2. Connect an IR Extender (Gefen part no. EXT-RMT-EXTIRN) to the Receiver unit if the IR sensor will not be within line-of-site for proper IR control.

Audio

For more information on using audio devices, see “Audio Connections” on page 50.

1. Connect a 3.5mm mini-stereo cable from the **Line In** port on the Sender unit to an audio source.
2. Connect a pair of powered speakers (or another audio output device) to the **Line Out** port on the Receiver unit.
3. Connect a USB microphone / headset to one of the **USB 2.0** ports on the Receiver unit
4. Connect a TOSLINK cable from a 4K UHD Display digital Optical Audio Output to the Opt In port on the Receiver unit. (For routing Audio Return Path)
5. Connect an AVR Receiver (or another audio output device) to the **Opt Out** port on the Transmitter unit. (For routing Audio Return Path)

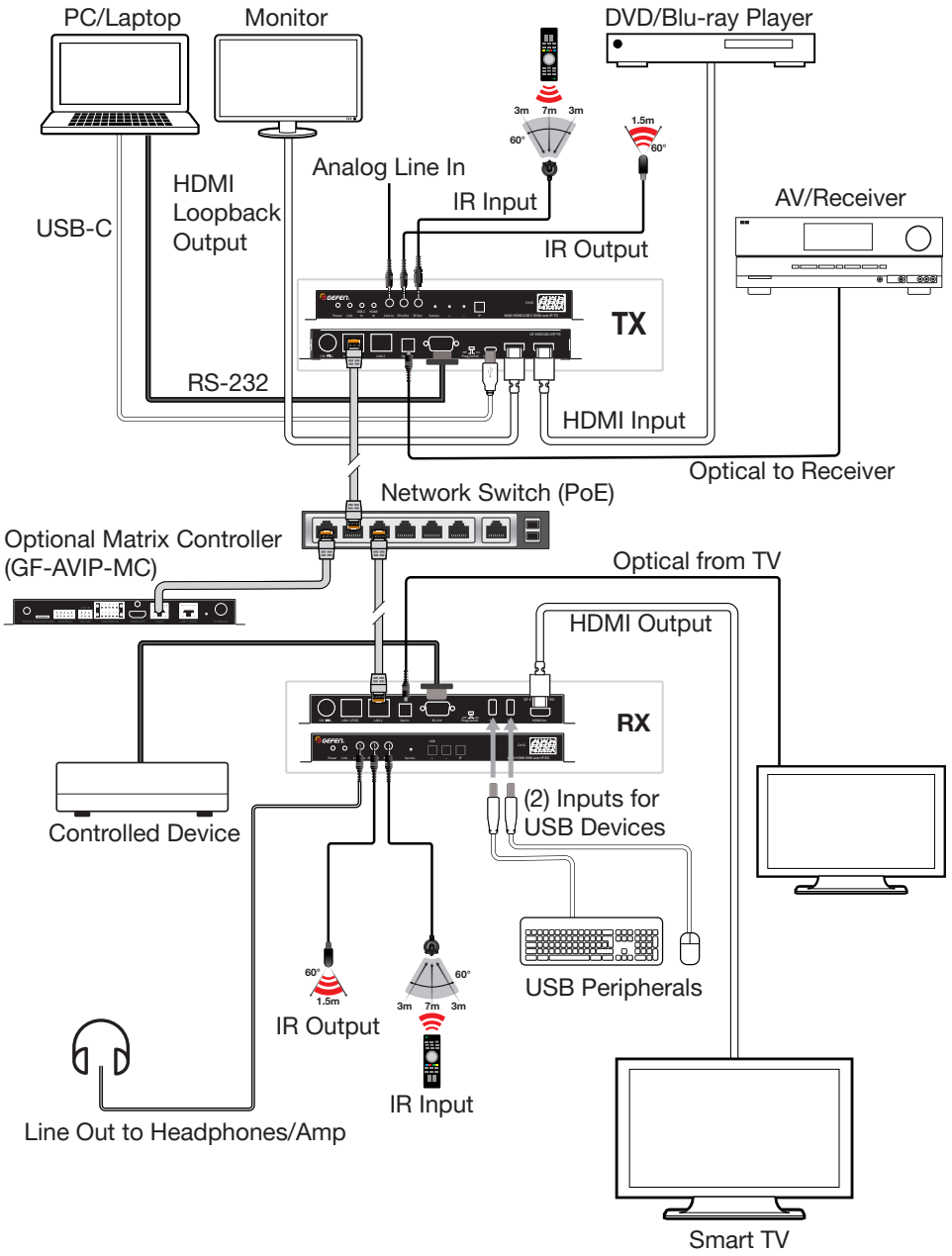
RS-232

For more information on using RS-232 control, see “Using RS-232” on page 39.

1. Connect an RS-232 cable from the PC or automation system to the **RS-232** port on the Sender unit.
2. Connect an RS-232 cable from the Receiver unit to the RS-232 device to be controlled.

Supplementary Connections

Sample Wiring Diagram



BASIC OPERATION

LED Status

The **Power** and **Link** LED indicators on the Sender and Receiver unit provides basic information on the current status.

The information, in the tables below, applies to both the Sender and Receiver unit.

Link Indicator Status	Description
Off ○	• Connection is not established. • Check the cable between the Sender and Receiver unit.
On ●	• Connection is established and video is streaming.
Blinking 	• System is in a state of transition. Connection is established but streaming has not started. • No video source detected. • Check that the Receiver unit is connected to the host.

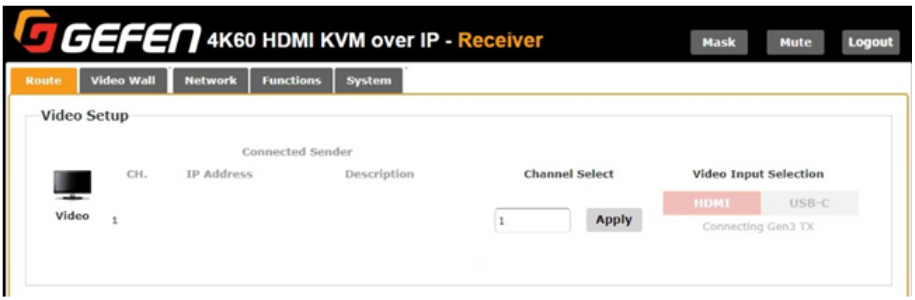
Power Indicator Status	Description
Off ○	• No power.
On ●	• Solid Blue LED; Power is on and the system is ready.
Blinking 	• Flashing Blue LED; System is booting (not ready).
Standby ●	• Solid Red LED; No signal detected and in Power Save Mode.

Setting the Video Channel

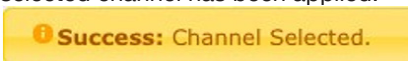
In order for a Sender and Receiver unit to communicate with one another, they must both be set to the same video channel. This is similar to changing the channel on a set-top box in order to view a different program. Pressing and releasing either the **CH+** or **CH-** buttons on the front of the Receiver unit can also be used to change the video channel. Both methods will be covered in this section. By default, Sender units are set to **Channel 1** and Receiver units are set to **Channel 0**.

Setting the Channel Using the Web Interface

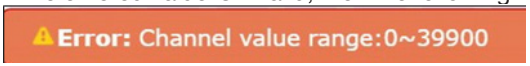
1. Access the Web interface by entering the IP address of the desired Sender or Receiver unit.
2. Log in as “Administrator” or “User.”
3. Click the **Functions** tab. The current channel is displayed within the **Channel Setup** window group.
4. Type the desired channel number. Channel numbers can range from **0** to **39900**.
5. Click the **Apply** button on the right-hand side of **Channel Setup** window group.



6. The following message will be displayed, at the top of the page, indicating that the selected channel has been applied.



If the entered value is invalid, then the following message will be displayed:



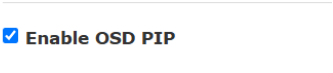
7. Access the Web interface of the next unit (Sender or Receiver) by entering its IP address.
8. Repeat steps 1-5 for each Sender and Receiver to be changed.

Setting the Video Channel

Setting the Channel Using the Front Panel

1. Press the recessed **-** or **+** button on the Transmitter to configure the TX Channel. The TX Channel will be displayed on the front panel display.
2. Press the **-** or **+/USB** button on the Receiver to display the current channel number it is routed to. The routed channel will be displayed on the front-panel display and onscreen. An OSD Picture-in-Picture (PiP) will also show a preview of the source being routed to.

   The OSD PiP is enabled by factory default. This can be disabled via Receiver WEBGUI or API command. For more information, refer to the Gen3 API manual.

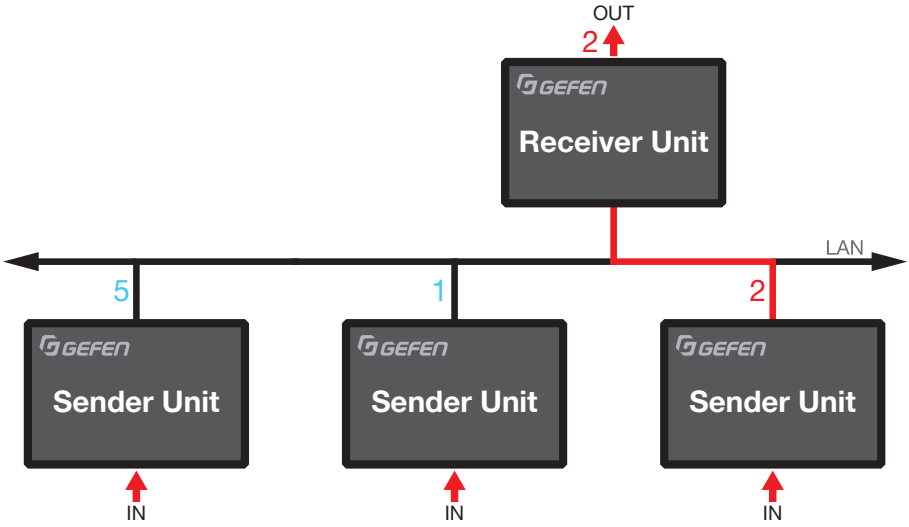
3. The current video channel of the Receiver unit will be shown on the connected display as well as on the CH ID display on the front panel.

4. While the current video channel is being displayed, press and release the Channel +/- button on the Receiver unit. The Receiver unit will change to the next available video channel that is being used by a Sender unit. Picture-in-Picture (PiP) source preview will briefly appear onscreen when using the Channel +/- buttons. The Channel numbers range from **0** to **39900**.

Setting the Video Channel

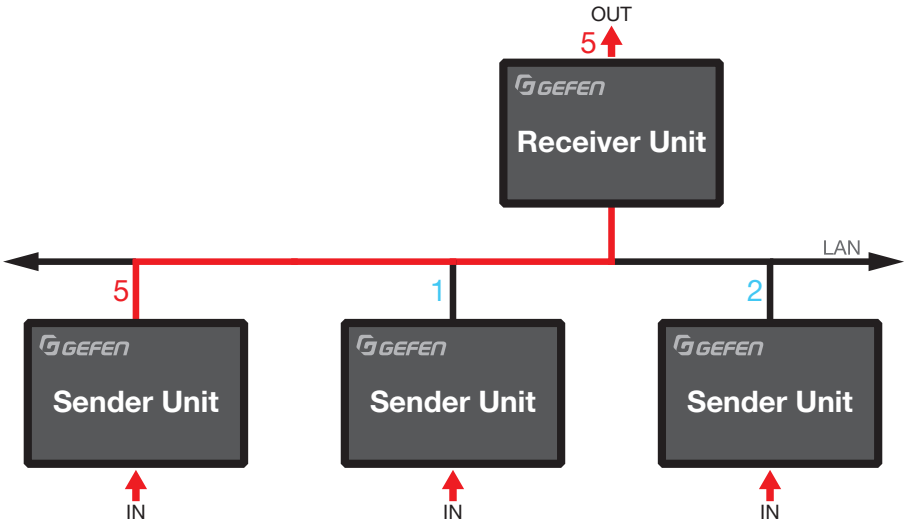
The illustration below shows one Receiver unit and three Sender units. The numbers indicate the video channel for each unit. Here, the Receiver unit is currently set to channel 2 and is receiving the signal from the Sender unit, set to channel 2.



5. To switch the channel and view the source that is connected to the Sender on channel 5, press and release the **+/USB** button to increment the video channel until the display shows the number 5.

Setting the Video Channel

The Receiver unit on channel 5 is now receiving the signal from the Sender unit on channel 5.



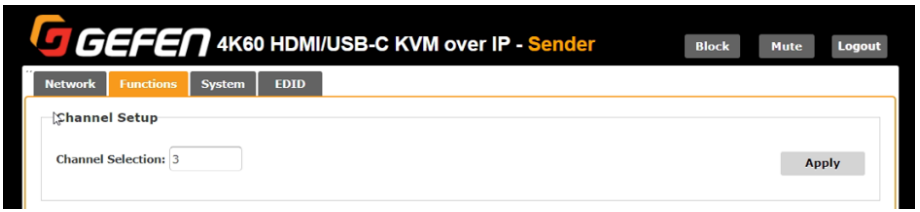
Video Routing

In order for a Sender and Receiver unit to communicate with one another, they must both be set to the same video channel. This is similar to changing the channel on a set-top box in order to view a different program. Pressing and releasing either the **CH+** or **CH-** buttons on the front of the Receiver unit can also be used to change the video channel.

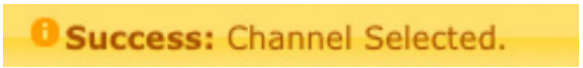
Both methods will be covered in this section. By default, all Sender and Receiver units are set to channel 0 (zero).

Setting the Channel Using the Web Interface

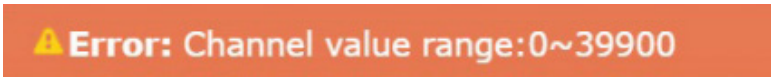
1. Access the Web interface by entering the IP address of the desired Sender unit.
2. Log in as “Administrator” or “User.”
3. Click the **Functions** tab. The current channel is displayed within the **Channel Setup** window group.
4. Type the desired channel number. Channel numbers can range from **0** to **39900**.
5. Click the **Apply** button on the right-hand side of **Channel Setup** window group.



The following message will be displayed, at the top of the page, indicating that the selected channel has been applied.

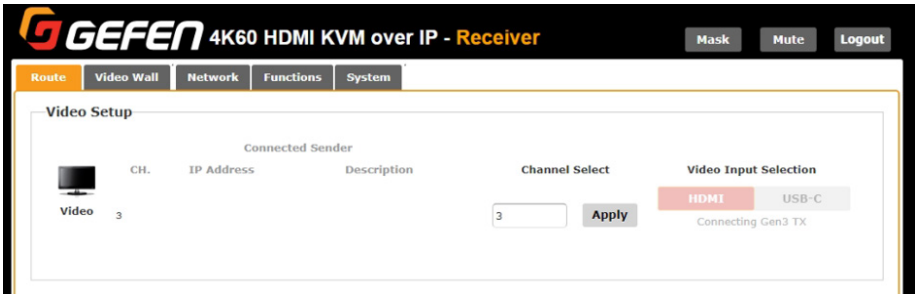


If the entered value is invalid, then the following message will be displayed:



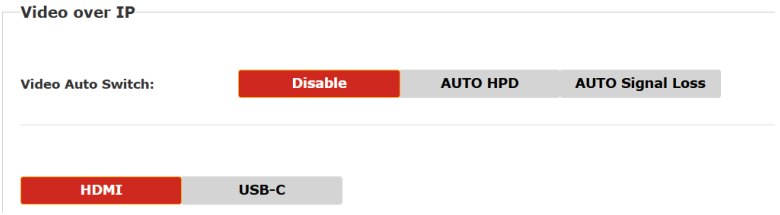
6. Access the Web interface of Receiver by entering its IP address.
7. Repeat steps 1 - 5 for each Sender and Receiver to be changed.

Video Routing



Video Input Select & Modes

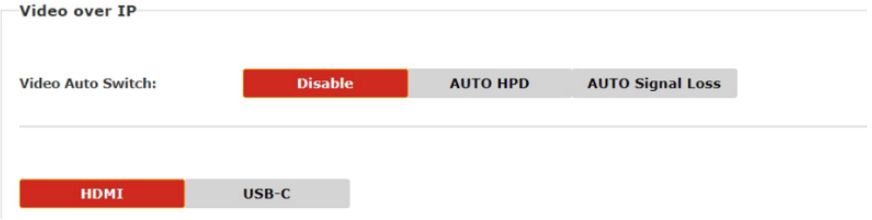
1. Access this setting under the **Functions** tab.



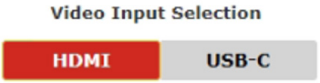
- **Disable** - Disables Auto Switch.
- **Auto HPD** - Auto switches when a new source is connected.
- **Auto Signal Loss** - Input switch auto toggles when current input signal is lost.

2. Press the **HDMI** or the **USB-C** button to switch video input.

Sender



Receiver



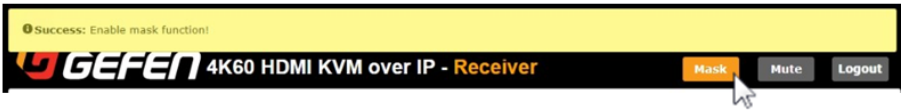
Video Routing

Masking & Blocking Video

Use the **Block Video** option on a Sender unit to prevent video from being transmitted to each of the connected Receiver units (multicast mode only). Use the **Mask Video** option to selectively block video on the desired Receiver units.

Mask Video

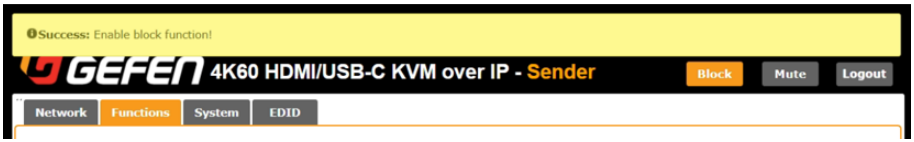
1. Access the Web interface of a Receiver unit by entering the IP address in the address bar of the browser.
2. Log in as “Administrator.”
3. On the header for each page will display the Mask toggle button. Toggle the **Mask** button to mask the video. When enabled, the mask button will highlight in orange. To disable, click on the **Mask** button again to unmask video.



Block Video

Information: The Block Video option is only applicable in *multicast* mode.

1. Access the Web interface of a Sender unit by entering the IP address in the address bar of the browser.
2. Login as “Administrator.”
3. Click the **Block** button within the header which will highlight in orange to indicate Block is enabled. Highlight in gray will indicate that it is disabled.

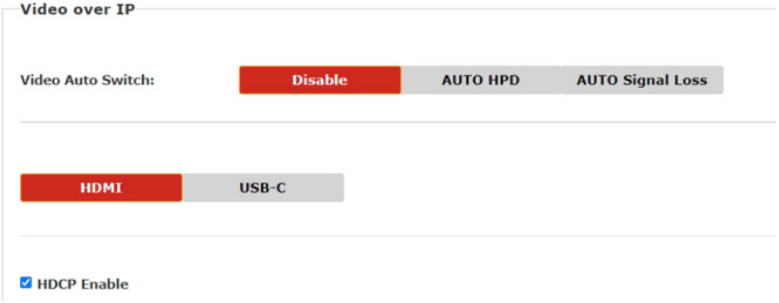


Blocking & Masking Video

Enabling & Disabling HDCP

HDCP-encrypted content can be allowed to pass through or blocked using the **HDCP Enable** option on the Receiver unit. Note that disabling the **HDCP Enable** option *does not* decrypt HDCP content.

1. Access the Web interface of a Sender unit.
2. Log in as "Administrator," then click the **Functions** tab.
3. Under the **Video over IP** window group, check the **Enable HDCP** box to allow HDCP content to be passed to each Receiver unit. Deselect this box to block HDCP content from being transmitted to each Receiver unit.



4. Click the **Apply** button within the **Video over IP** group.
5. Click the **Reboot** button at the bottom of the page.
6. Repeat steps 1 through 5 for each Sender unit in the system. This can also be configured using Gefen's Matrix Controller (GF-AVIP-MC).

Setting Video Timings

1. Access the Web interface of a Receiver unit.
2. Log in as "Administrator."
3. Click the **Functions** tab.
4. Under the **Video over IP** window group, click the radio button of the desired timing mode.
   - **Passthrough** is default setting. The output resolution will be the same as the input resolution.
   - Selecting the **Native** option will determine (scale) the output resolution, based on capability of display.

- Select the Custom option to use a specific output resolution. Click the drop-down list to select the resolution/timing. Make sure that the display will support the selected resolution.

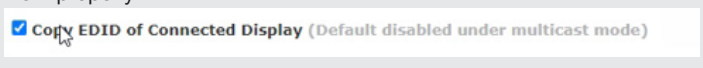
5. Click the **Apply** button within the **Video Timing Hybrid Mode** to save changes.

EDID Management

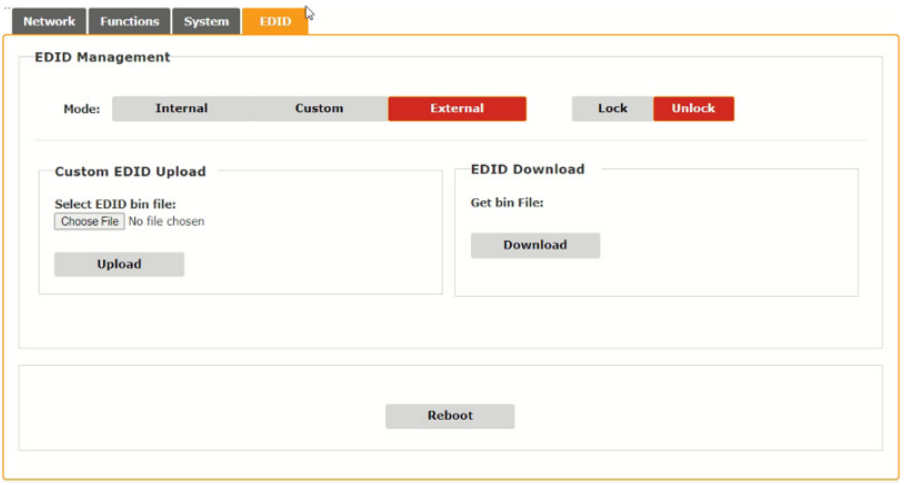
To access the EDID management, click on the **EDID** tab. Below are the following selectable options:

- Internal (Default) – This is the default mode which uses a Gefen 4.
- Custom – Allows to use a custom uploaded EDID. Use the Custom EDID upload window to browse for an EDID xxxx.bin file by clicking on Choose File and pressing Upload button to upload the EDID file.
- External – Copies downstream EDID from routed Receiver to the HDMI local input of the Transmitter.

Note: Receiver must have Copy EDID of Connected Display checked for this function to work properly:



If the EDID received from the primary receiver unit (selected via a checkbox on the preferred receiver in multicast mode) has compatibility issues with the connected HDMI source, the default Internal EDID mode (up to 4K60 2CH) can be selected.



Audio Input Select

1. Access this setting under the **Functions** tab in the **Audio over IP** section on the Transmitter WEBGUI.

- **Auto** - Line Input has priority when connected.
- **HDMI/USB-C** - Force HDMI/USB-C input selection.
- **Line In** - Force Line Input selection.

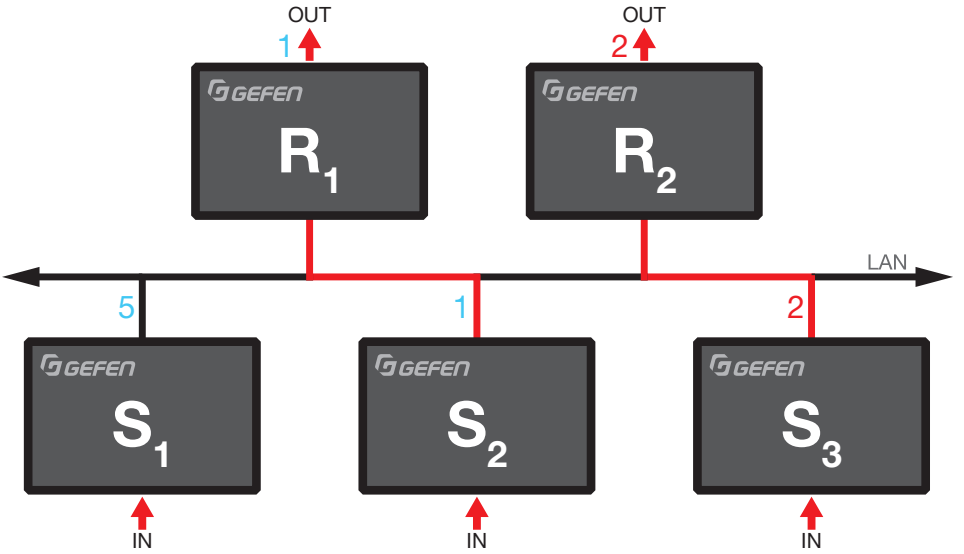
Unicast & Multicast Modes

Configuring Unicast Mode

The term unicast is used to describe a configuration where information is sent from one point to another point. It is possible to have multiple Sender and Receiver units connected in a system. However, in unicast mode a Sender unit can communicate with only one Receiver unit at a time. In unicast mode, the 4K Ultra HD HDMI & USB-C KVM over IP functions similar to a KVM switcher.

> **Note:** The 4K Ultra HD HDMI & USB-C KVM over IP Sender and Receiver units shipped from the factory in *multicast* mode.

The illustration below shows 3 Sender units (S1, S2, and S3) and 2 Receiver units (R1 and R2) on a network, operating in unicast mode. The video channels are notated in blue.



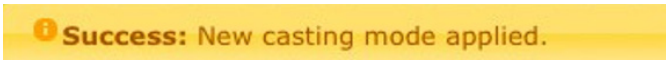
Unicast mode: A Sender unit can communicate with only one Receiver unit at a time.

Unicast & Multicast Modes

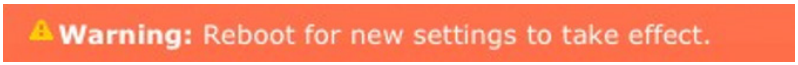
1. Access the Web interface for each Sender and Receiver unit that will be using unicast mode. In this example, we will start with Receiver unit R1.
2. Log in as “Administrator.”

   Tip: In *unicast mode*, the 4K60 HDMI & USB-C KVM over IP behaves as a KVM switcher.
3. Click the **Network** tab.
4. Click the **Unicast** button under the **Network Mode** window group.

5. Click the **Apply** button. The following message will appear:



6. Click the **Reboot** button at the bottom of the page. If the **Reboot** button is not clicked, the following message will be displayed, indicating that the unit must be rebooted.



7. Repeat steps 1 - 6 in order to configure the Sender unit for unicast mode.

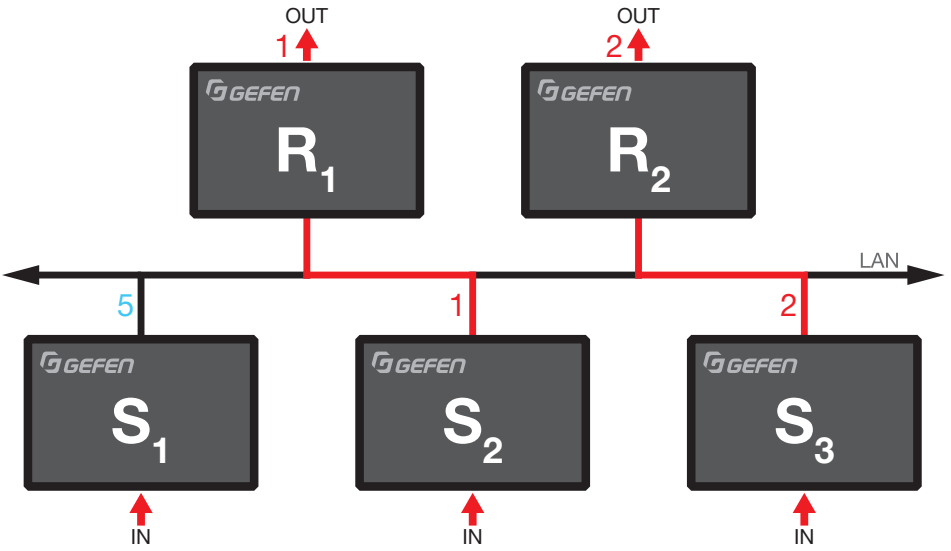
   Important: When switching between *unicast* and *multicast* modes, both Sender and Receiver units must be set to the same mode.

Switching between Sender Units in Unicast Mode

When multiple Sender and Receiver unit are used in *unicast* mode, the 4K Ultra HD HDMI & USB-C KVM over IP behaves as a switcher. In unicast mode, a Sender unit can communicate with only one Receiver unit at a time.

In the example below, Receiver unit R1 will be switched to receive the source connected to Sender unit S1. To do this, simply change the video channel.

Unicast & Multicast Modes



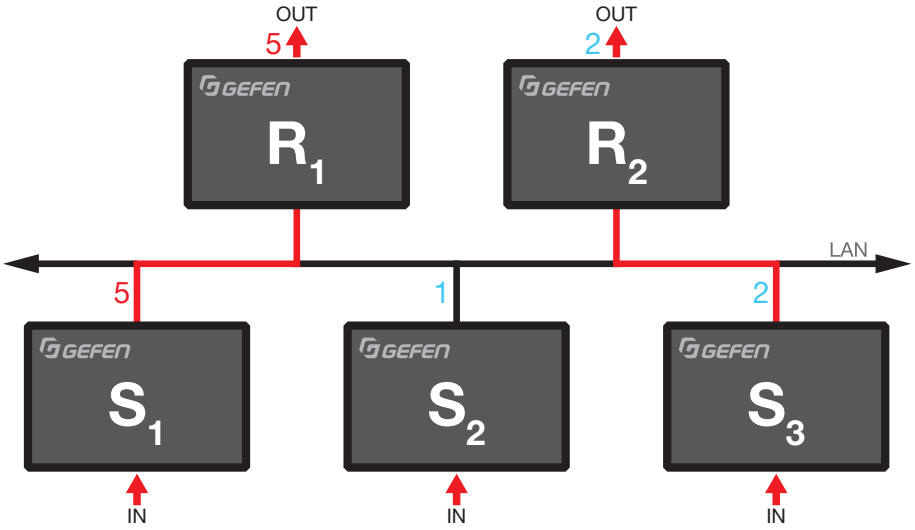
1. Access the Web interface for Receiver unit R1.
2. Log in as “Administrator.”
3. Click the **Network** tab and change the video channel. Refer to “Setting the Video Channel” on page 23, if necessary.
4. Click the **Apply** button.

   The following message will be displayed, at the top of the page, indicating that the new channel has been applied to the Sender or Receiver unit.

   Success: Channel Selected.

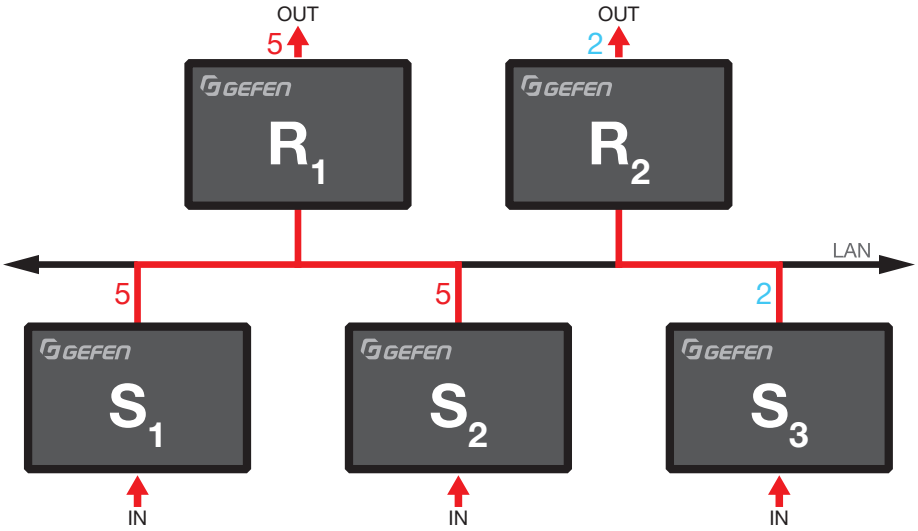
Unicast & Multicast Modes

Receiver unit R1 is now receiving the UHD/HD source connected to Sender unit S1, as shown below:



Now, observe the result when both Sender S1 and S2 are set to channel 5:

In the example below, Receiver R1 will continue to receive audio/video data from Sender S1, even though Sender S2 is set to the same channel. This is because Receiver R1 and Sender S1 were already set to the same channel and communicating. However, this scenario violates the unicast mode rule: A Sender unit can communicate with only one Receiver unit at a time.



Unicast & Multicast Modes

When using unicast mode, each of the Sender units must be assigned a unique channel and should never be changed. Use the Receiver unit to switch (channels) between Sender units.

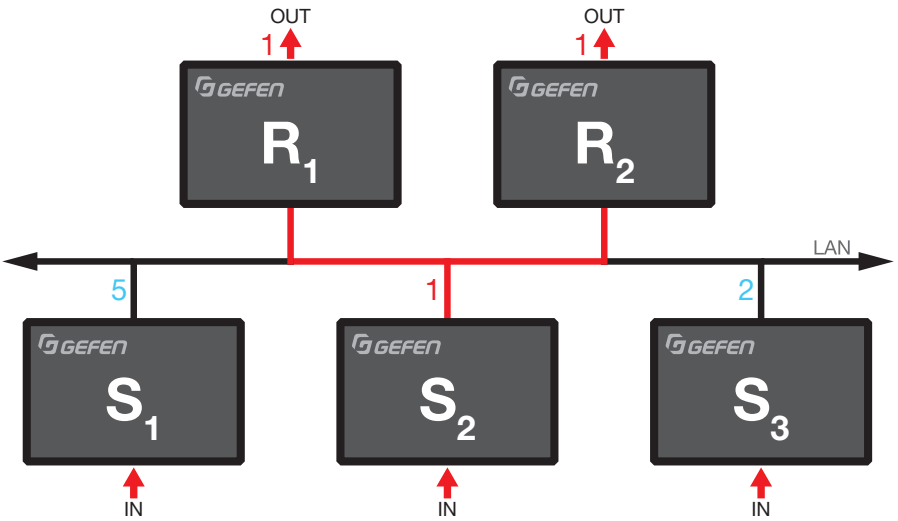
Note: In *unicast* mode, if an additional Sender unit is introduced into a system with the same channel as another Sender unit, then the Receiver unit will continue to receive audio/video data from the Sender unit which was connected first.

Configuring Multicast Mode

The term *multicast* is used to describe a configuration where information is sent from one or more points to a set of other points. For example, a single Sender unit can transmit data to multiple Receiver units. In addition, if multiple Sender units are used, each Sender unit can transmit data to any Receiver that is not already receiving data from another Sender unit. In *multicast* mode, the 4K Ultra HD HDMI & USB-C KVM over IP functions similar to a HD KVM matrix.

The illustration below shows three Sender units (S1, S2, and S3) and two Receiver units (R1 and R2) on a network, operating in *multicast* mode. The video channels are shown in blue.

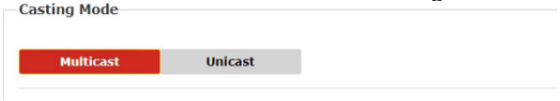
Multicast mode: A Sender unit can communicate with multiple Receiver units.



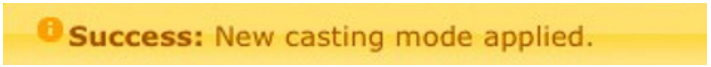
1. Access the Web interface for each Sender and Receiver unit that will be using *multicast* mode. In this example, we will start with Receiver S2.
2. Log in as “Administrator.”

   Tip: In *multicast* mode, the 4K Ultra HD HDMI & USB-C KVM over IP behaves as an HD KVM Matrix.
3. Click the **Network** tab.

4. Click the **Multicast** button within Casting mode and press **Apply**.

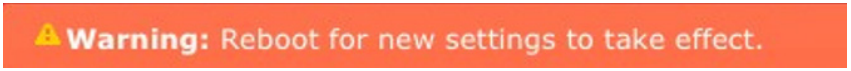


5. After casting mode has been applied to the Sender or Receiver unit, the following notification will appear:



If a display is connected to the Receiver unit, then the message “Starting USB” will be displayed. For more information on using USB under multicast mode, see “USB under Multicast Mode” on page 44.

6. Click the **Reboot** button at the bottom of the page. If the **Reboot** button is not clicked, the following message will be displayed, indicating that the unit must be rebooted.



7. Repeat the steps above in order to configure the Sender unit to *multicast* mode.

Important: When switching between *unicast* and *multicast* modes, both Sender and Receiver units must be set to the same mode.

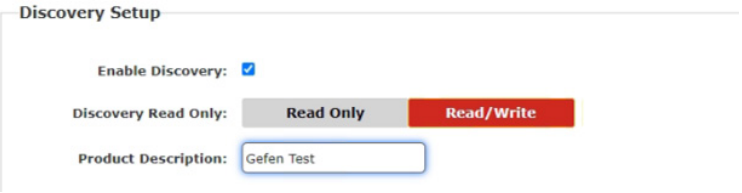
Discovery Mode

Gefen Syner-G Discovery

Enabling the Gefen Syner-G Discovery feature allows the Gefen Syner-G Software Suite or Gefen Discovery Tool App to locate a Sender and/or Receiver on a network. Once the software is able to locate the unit, IP settings can be changed as desired.

1. Access the Web interface by entering the IP address of a Receiver or Sender unit.
2. Log in as “Administrator.”
3. Click the **Network** tab.
4. Under the **IP Setup** window group, check the **Gefen Syner-G Discovery** box to allow the Gefen Syner-G software to locate the unit. If you do not want the unit to be discoverable, then un-check this box.
5. Click the **Apply** button.

6. Click the **Reboot** button at the bottom of the page to restart the unit and apply the change.



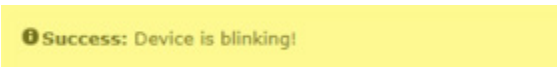
Finding Your Device

If several Sender and Receiver unit pairs are connected on a network, you may need to physically identify a particular Sender and/or Receiver unit. In such a case, use the **Find Your Device** feature.

1. Access the Web interface by entering the IP address of a Receiver or Sender unit.
2. Log in as "Administrator."
3. Click the **Network** tab.
4. Under the **IP Setup** window group, click the **Show Me button**. By default, the **Hide Me** button will be selected.

   Alternatively, the Gefen Syner-G application has a **Show Me** button that will enable the **Find Your Device** feature.

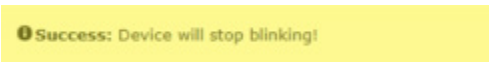
   The following message will be displayed at the top of the page, indicating that the LED indicators on the unit are blinking.



   The **Power** and **Link** LED indicators will continue to blink until the **Hide Me** button is clicked.

5. Click the **Hide Me** button to stop both LED indicators from blinking.

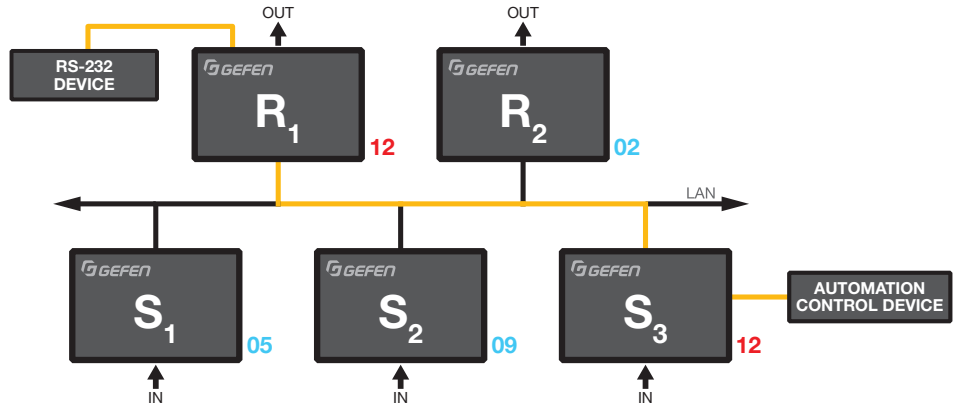
6. The **Power** and **Link** LED indicators will stop blinking and the following message will be displayed at the top of the page.



Using RS-232

The 4K Ultra HD HDMI & USB-C KVM over IP supports RS-232 pass-through, allowing the control of remote RS-232 devices. The Sender and Receiver unit which are being used to pass-through the RS-232 data must be set to the same baud rate as the RS-232 host and client.

In the example below, an RS-232 device has been connected to Receiver R1. We want to control this product from Sender unit S3, using an automation control device. The channel numbers are listed in blue.



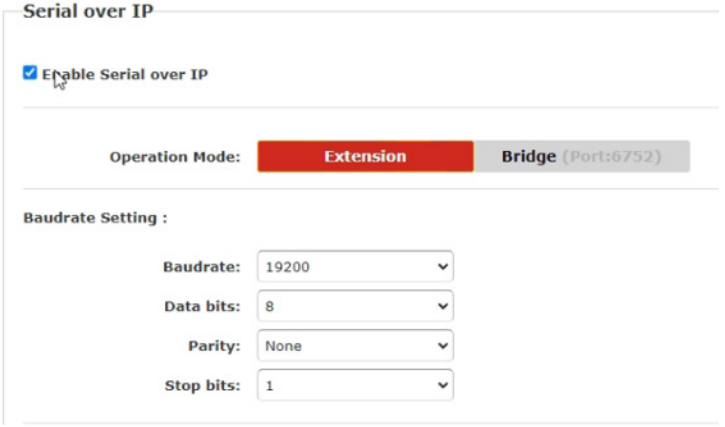
RS-232 settings for an arbitrary RS-232 device.

Description	Setting
Baud rate	19200
Data bits	8
Parity	None
Stop bits	1
Hardware flow control	None

Confirm that the same RS-232 settings are assigned to both the Sender and Receiver units. To do this, access the Web interface on both the required Sender unit and Receiver unit to set the proper RS-232 settings. Follow the instructions on the next page.

1. Access the Web interface for the Sender unit and log in as “Administrator.”
2. Click the **Functions** tab.

3. Locate the **Serial over IP** group and change the RS-232 settings to match the settings of the RS-232 device that is being used. In this case, we need to use the settings from the table above.
   - **Extension** is the default setting for serial pass-through.
   - Selecting the **Bridge** option allows Telnet to be output to the serial interface. Telnet listening port 6752 is used. This applies to either the Sender or Receiver unit.

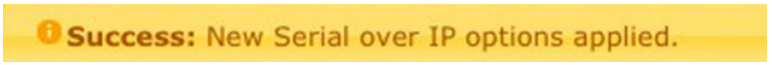


4. Make sure that the **Enable Serial over IP** box is checked.

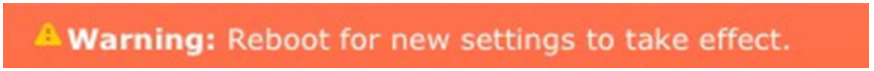
   Important: If **Enable Serial over IP** is not checked, then RS-232 pass-through will be disabled.

5. Click the **Apply** button in the lower-right corner of the **Serial over IP** group.

   The following message will be displayed, at the top of the page, indicating that the new Serial over IP options have been applied.



6. Click the **Reboot** button at the bottom of the page. If the **Reboot** button is not clicked, the following message will be displayed, indicating that the unit must be rebooted.

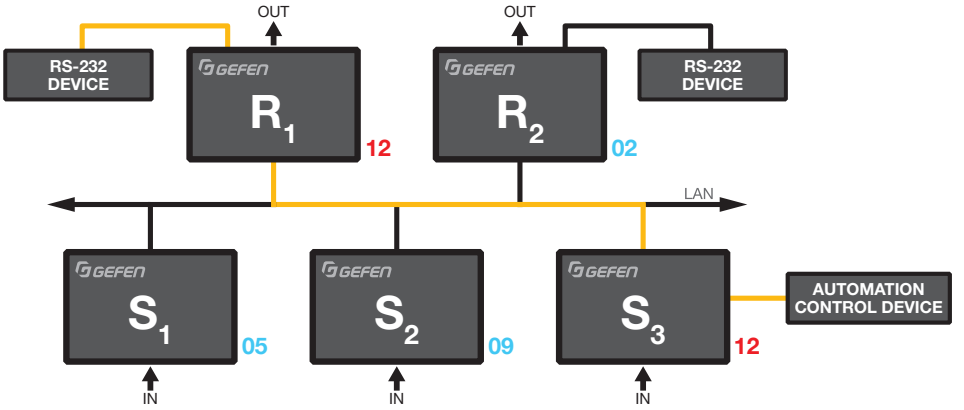


7. Repeat steps 1-6 for the Receiver unit.

Using RS-232

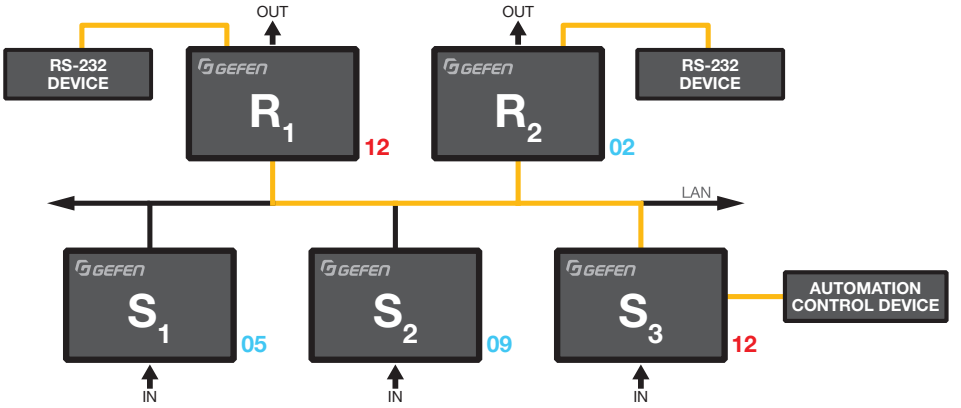
RS-232 under Unicast Mode

In *unicast* mode, a Sender unit will be able to communicate with only one RS-232 Receiver unit at a time.



RS-232 under Multicast Mode

In *multicast* mode, a Sender unit can communicate with multiple RS-232 Receiver units simultaneously.



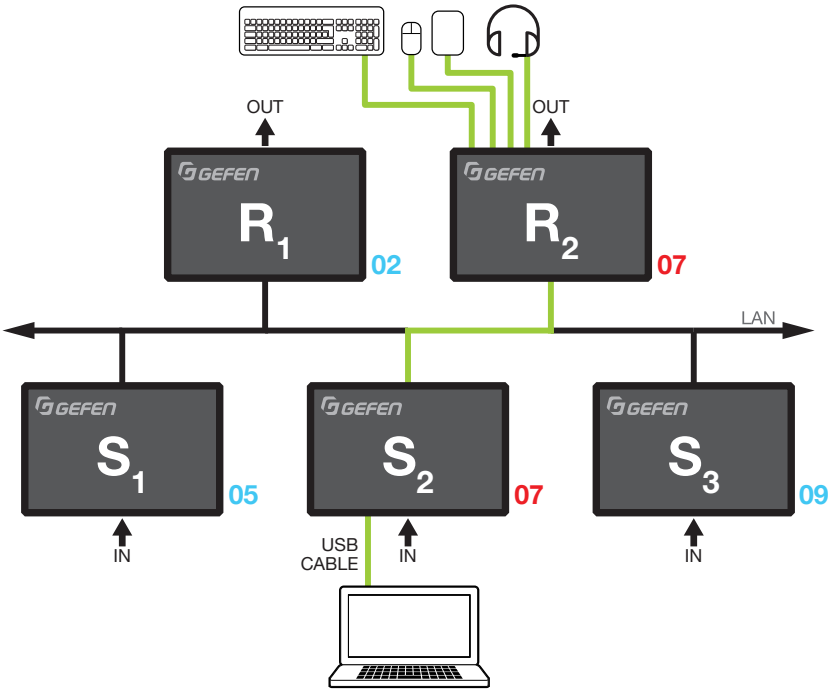
USB Control

USB under Unicast Mode

When connecting USB devices to the 4K Ultra HD HDMI & USB-C KVM over IP, the functionality is similar to that of video and RS-232.

> **Note:** The 4K Ultra HD HDMI & USB-C KVM over IP Sender and Receiver units shipped from the factory in *unicast* mode.

As an example, we will start with our original diagram and connect a computer to Sender unit S2 and a keyboard, mouse, USB drive, and USB mic/headset to Receiver unit R2.



1. Make sure the desired Sender and Receiver units are set to unicast mode. Refer to Configuring Unicast Mode on page 32, if necessary.
2. Access the Web interface for the Sender unit.
3. Log in as “Administrator.”
4. Click the **Functions** tab.

5. Locate the **USB over IP** group and make sure the **Enable USB over IP** box is checked. This is the default setting. Note that in *unicast* mode, the **Operation Mode** is automatically set to **Active on link** and cannot be changed.

6. Make sure that the **USB Mouse Mode** is set to **High Resolution**. This is the default setting. Use **Compatibility** mode only if using additional KVM switchers or other devices within the system that causes the mouse to behave erratically.
7. Click the **Apply** button within the **USB over IP** group, then click the **Reboot** button at the bottom of the page.
8. Connect the USB host (e.g., computer) to the **USB** port on the Sender unit.
9. Connect a USB device (keyboard and/or mouse) to a USB port on the Receiver unit. Up to 7 USB devices can be connected per network in *unicast* mode.

   The keyboard and mouse (or other USB device) can now be used from the Receiver unit.

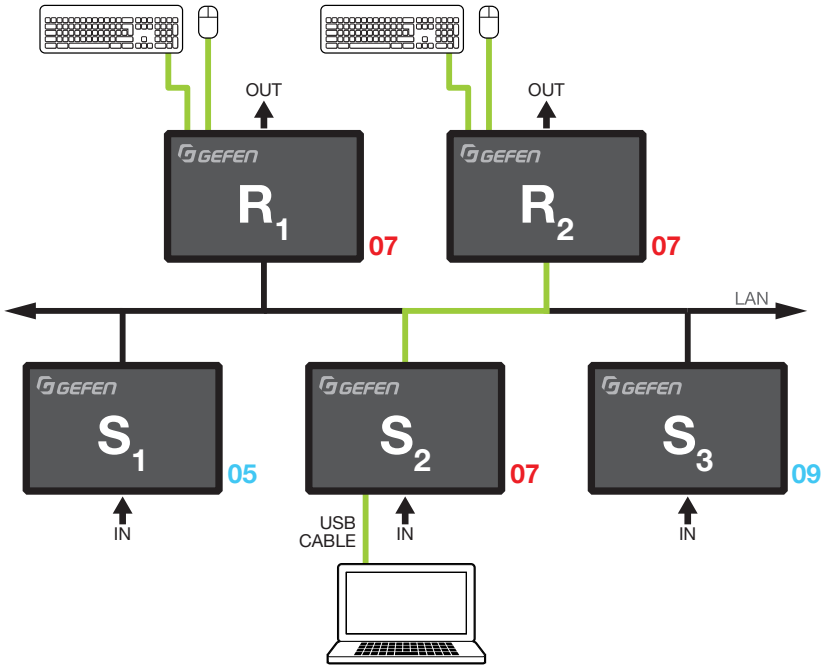
Important: When enabling or disabling USB over IP, the **Apply** and **Reboot** buttons must be clicked to apply changes.

USB Control

USB under Multicast Mode

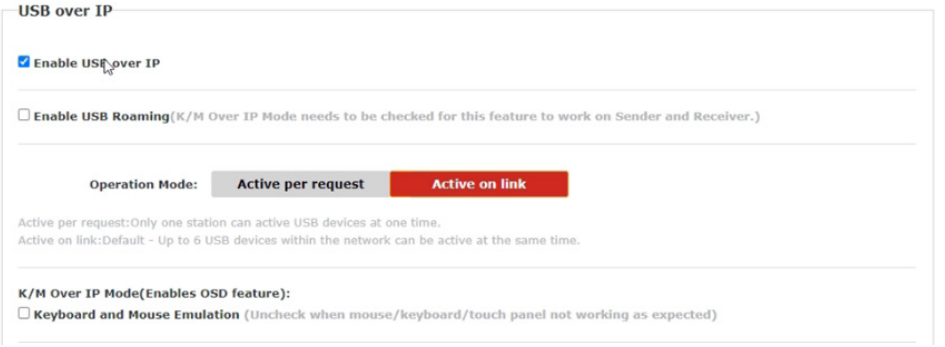
When connecting USB devices to the 4K Ultra HD HDMI & USB-C KVM over IP, the functionality is similar to that of video and RS-232. There are two USB modes available in multicast mode: **Active per request** mode and **Active on link** mode.

Using the last example, another keyboard and mouse device has been connected to Receiver R1. This will allow us to control the computer from two separate locations. For purposes of clarity, the USB drive and mic/headset have been removed.



1. Make sure the desired Sender and Receiver units are set to *multicast* mode. Refer to “Configuring Multicast Mode” on page 36, if necessary.
2. Access the Web interface for the Sender unit.
3. Click the **Functions** tab.
4. Locate the **USB over IP** group and make sure the **Enable USB over IP** box is checked. This is the default setting. See the figure below.

USB Control

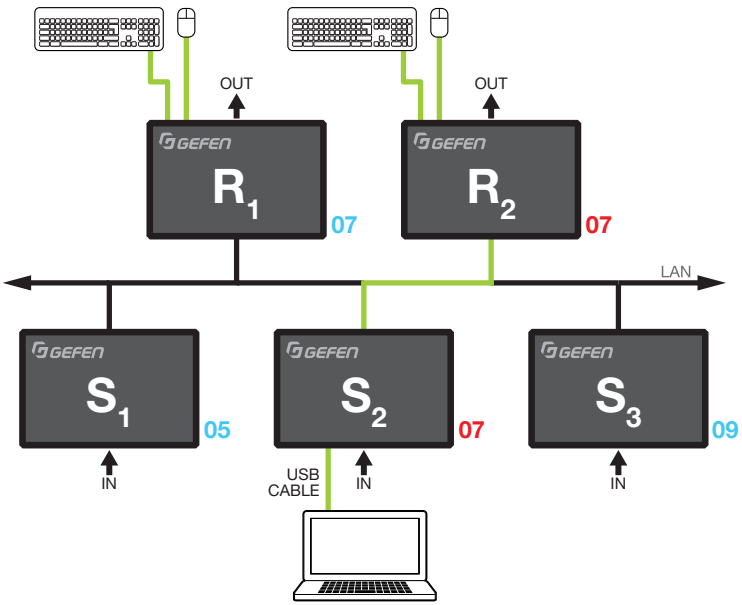


Note that in *multicast* mode, the Operation Modes for both Sender and Receiver units are automatically set to **Active per request** mode.

Under **Active per request** mode, multiple USB devices may be present on one or more Receiver units. However, only one Receiver unit can have USB control at a time.

By default, the first Receiver unit connected to the system will have USB control.

In the example below, Receiver unit R2 currently has control (we arbitrarily connected Receiver unit R2 before Receiver unit R1).



Important: If switching between **Active per request** mode and **Active on link** mode, the **Apply** and **Reboot** buttons must be clicked to apply changes.

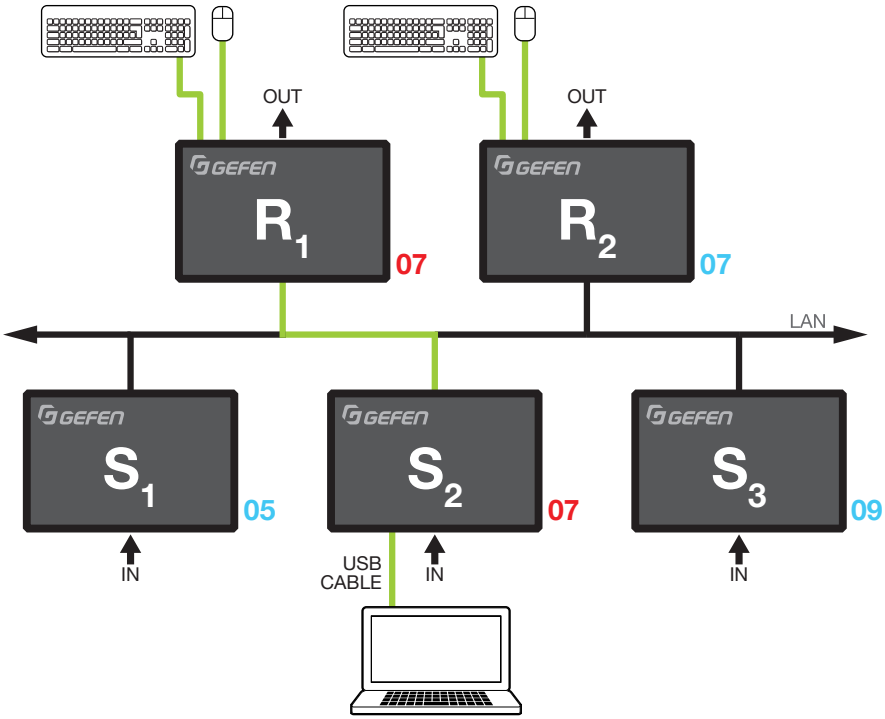
USB Control

The next example will consist of switching USB control between two Receiver units. Using the diagram above, Receiver unit R1 will have USB control.

To assign USB control to another Receiver unit, follow the steps below.

Active per Request Mode

1. Press and hold the **CH + USB** button on the desired Receiver unit for at least two seconds.
2. The message “Starting USB” will appear on the connected display.



3. In order to assign USB control to a different Receiver unit, repeat steps 1 - 2.

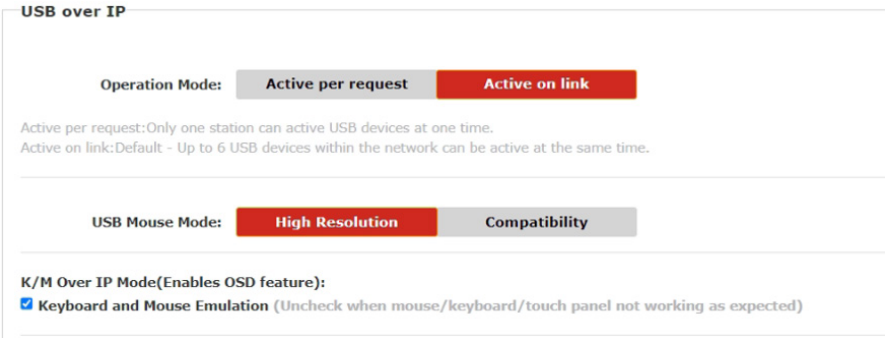
Important: If switching between **Active per request** mode and **Active on link** mode, the **Apply** and **Reboot** buttons must be clicked to apply changes.

Active on Link Mode

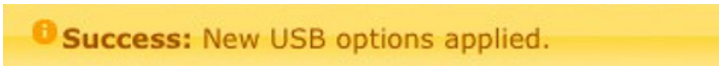
Under **Active on link** mode, a maximum of four USB devices can be used within a system. In the diagram, on the previous page, the system is already using the maximum number of USB devices (2 USB devices per Receiver). If we had two more Receiver units (making a total of four Receiver units), we would only be able to connect one USB device to each Receiver unit. To switch to **Active on link** mode:

USB Control

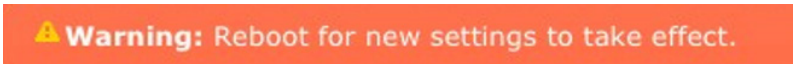
1. Access the Web interface for the Sender unit.
2. Log in as “Administrator.”
3. Click the **Functions** tab.
4. Locate the **USB over IP** group and make sure the **Enable USB over IP** box is checked. This is the default setting.



5. Click the **Active on link** radio button within the **USB over IP** group.
6. Click the **Apply** button within the **USB over IP** group.
7. The following message will be displayed, at the top of the page, indicating that the new Serial over IP options have been applied.



8. Click the **Reboot** button at the bottom of the page. If the **Reboot** button is not clicked, the following message will be displayed, indicating that the unit must be rebooted.



9. Repeat steps 2 - 8 for the Receiver unit.

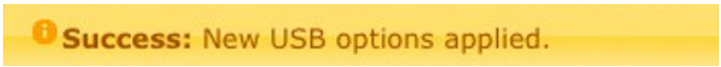
K/M over IP Compatibility Mode

When a Sender or Receiver unit is placed in “compatibility mode,” video wall functions will be disabled.

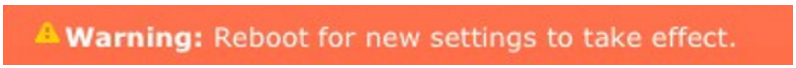
1. Access the Web interface of a Sender or Receiver unit.
2. Log in as “Administrator.”
3. Click the **Functions** tab.

4. Locate the **USB over IP** group and click the **K/M over IP** check box. This will place the unit in “compatibility mode.” Uncheck this box if the mouse, keyboard, or other input devices are not working as expected.

5. Click the **Apply** button within the **USB over IP** group. The following message will be displayed at the top of the page, indicating that the new Serial over IP options have been applied.



6. Click the **Reboot** button at the bottom of the page. If the **Reboot** button is not clicked, the following message will be displayed, indicating that the unit must be rebooted.

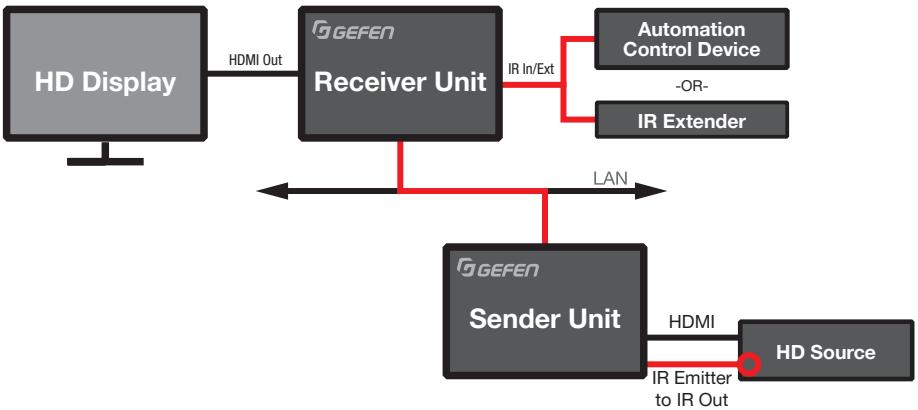


7. Repeat steps 2 - 6 for the other Sender/Receiver units.

IR Control

Controlling the Source from the Viewing Location

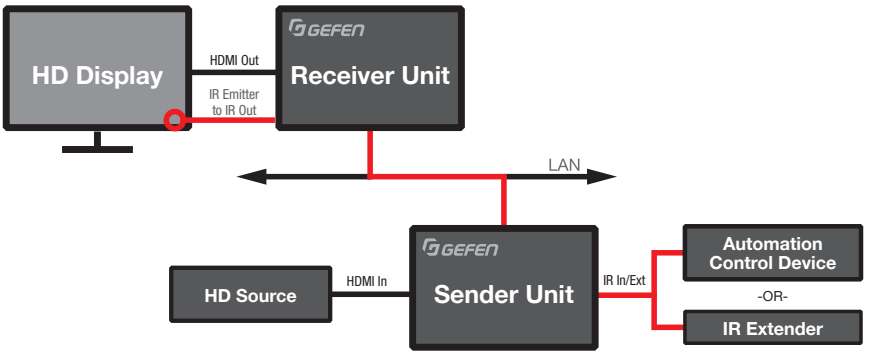
1. Connect an IR extender to the **IR In/Ext** port on the Receiver.
2. If using an automation system, connect the 3.5mm mini-stereo connector from the **IR In/Ext** port on the Receiver to an automation system with an electrical IR output. IR signals are transmitted over the network cable.
3. Connect the included IR emitter from the **IR Out** port on the Sender to the IR sensor window on the source device.



IR Control

Controlling the Display from the Source Location

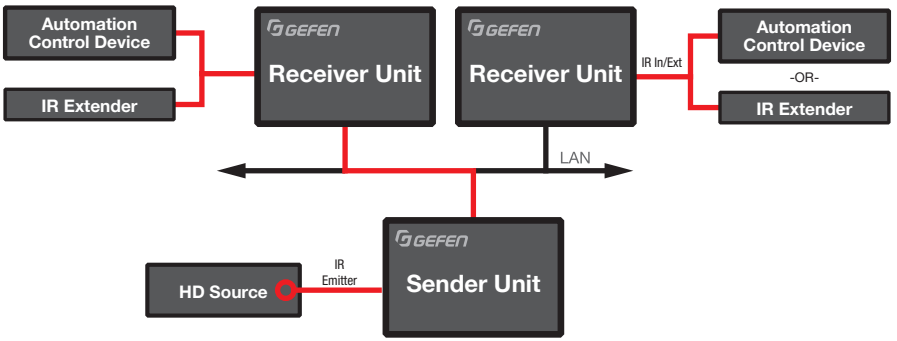
1. Connect the included IR extender to the **IR In/Ext** port on the Sender.
2. If using an automation system, connect the 3.5mm mini-stereo connector from the **IR In/Ext** port on the Sender to an automation system with an electrical IR output. IR signals are transmitted over the network cable.
3. Connect the included IR emitter from the **IR Out** port on the Receiver to the **IR** sensor on the display.



Controlling the Source/Display from Different Locations

Note: An additional IR extender (Gefen part no. EXT-RMT-EXTIRN) and IR emitter (Gefen part no. RMT-IREMIT) will be required for this configuration.

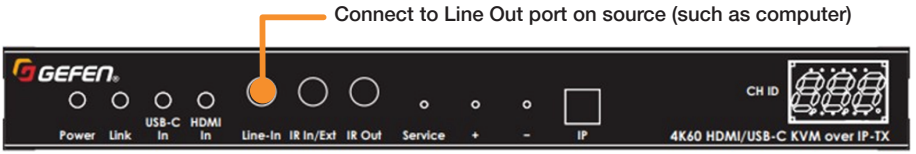
Using bidirectional IR allows the source and/or display to be controlled from the viewing location or the source location. Refer to the diagram below for connection details. The video cables have been removed for clarity.



Audio Connections

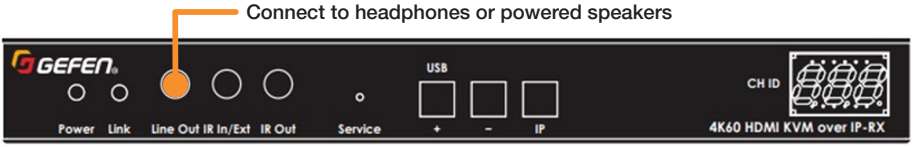
Audio works in both unicast and multicast modes. The only difference between the two modes is that the **Line In** port is automatically *disabled* on all Receiver units in multicast mode. To illustrate how audio works with the 4K Ultra HD HDMI & USB-C KVM over IP, we will set up headphones or powered speakers.

1. Connect a 3.5mm mini-stereo cable from the **Line In** port on the Sender unit to the **Line Out** port on the computer.



Sender unit

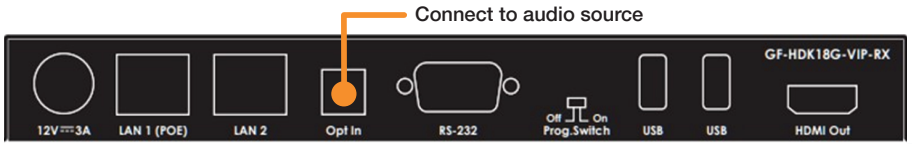
2. Connect the **Line Out** port to powered speakers or a pair of headphones.



Receiver unit

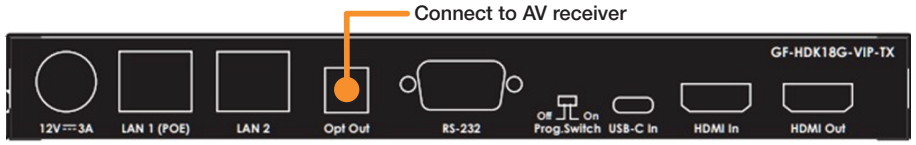
Important: The **Line In** port on the Sender requires line level audio output, and certain microphones will require a pre-amp connected inline to be compatible. Alternately, you can use a USB mic connected to one of the USB 2.0 ports on the Receiver.

3. Connect a TOSLINK cable from the audio source (such as a TV) to the **Opt In** port on the Receiver.



Receiver unit

4. Connect a TOSLINK cable from the **Opt Out** port on the Sender to the Optical Digital Input of an AV receiver or amplifier.

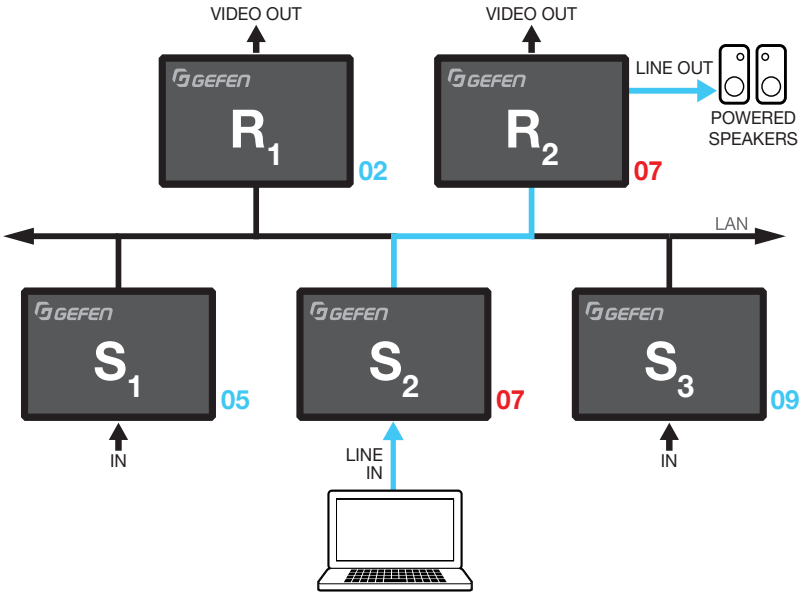


Sender unit

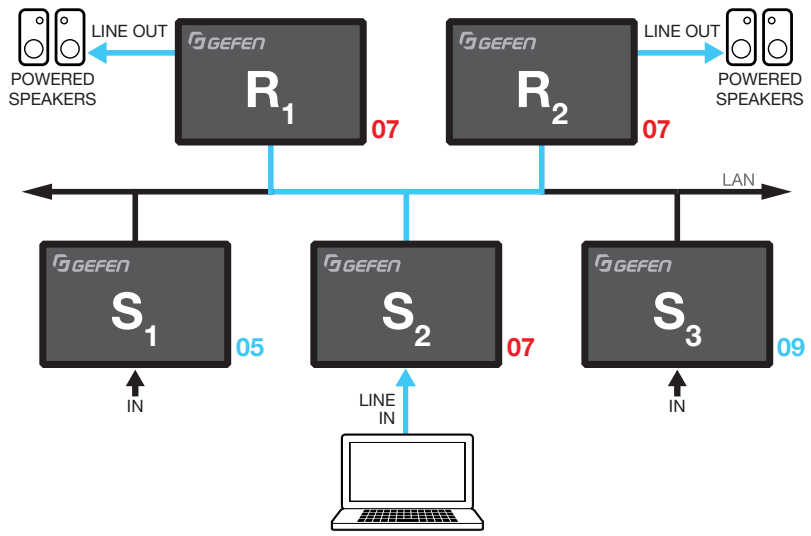
Audio Connections

In the diagram below, the mouse and keyboard USB devices have been removed from Sender unit S2 and Receiver unit R2, for purposes of clarity. Arrowheads indicate the audio signal path.

Unicast mode



Multicast mode



Audio Connections

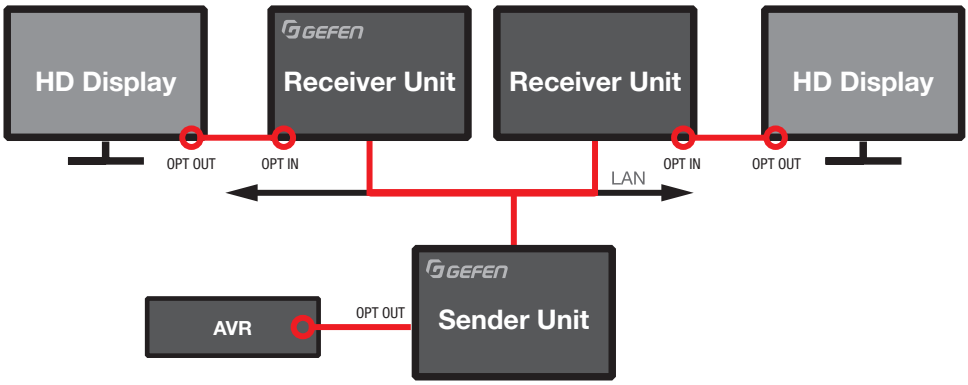
Audio Return Routing

This setup allows audio from a 4K UHD display to be routed back to an AVR or audio system using Gen3 AVoIP hardware. The setup also enables the audio return path from any display to be routed over the AVoIP network and output at a remote location.

See the AR command on page 128 to configure the Audio Return routing for the Sender unit. We recommend using Gefen's GF-AVIP-MC to manage the Audio Return Routing.

Set Up Audio Return Routing

1. Connect a TOSLINK cable from a 4K UHD display digital optical audio output to the **Opt In** port on the Receiver unit.
2. Connect an AVR receiver (or another audio output device) to the **Opt Out** port on the Sender unit.

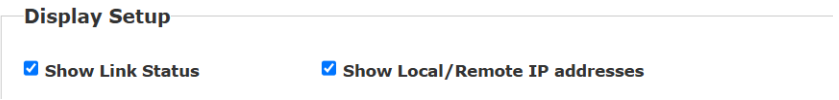


Display Setup

The Display Setup group of the built-in web interface allows customizing of what is displayed on the screen during boot-up and when no video is being displayed. Status messages can also be hidden or displayed.

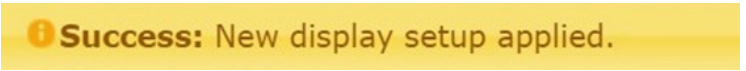
Show/Hide Link Status

1. Access the Web interface for the Receiver unit.
2. Log in as “Administrator.”
3. Click the **Functions** tab.
4. Locate the **Show Link Status** checkbox under the **Display Setup** group. By default, this checkbox is enabled.



- When enabled (checked), the link status will be displayed.
- When disabled (unchecked), the link status will be hidden.

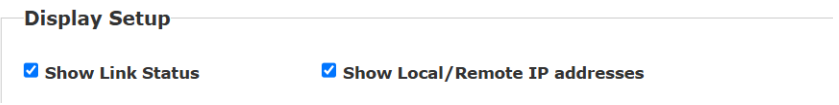
5. Click the **Save** button under the **Display Setup** group to save changes. The “Loading...” message box will be displayed.
6. After the new changes have been saved, the following message will be displayed at the top of the page:



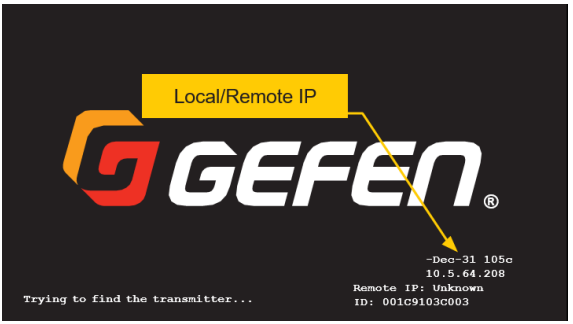
7. Click the **Reboot** button at the bottom of the page. The “Rebooting...” message will be displayed.
8. After the Receiver unit reboots, the new changes will be applied.

Show Local/Remote IP Addresses

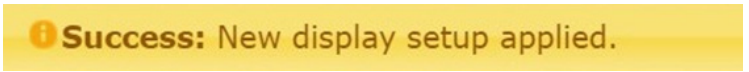
1. Access the Web interface for the Receiver unit.
2. Log in as “Administrator.”
3. Click the **Functions** tab.
4. Locate the **Show Local/Remote IP Addresses** checkbox under the **Display Setup** group. By default, this checkbox is enabled.



- When enabled (checked), the local and remote IP addresses, in addition to the firmware version and hardware ID, will be displayed.
- When disabled (unchecked), this information will be hidden.



5. Click the **Save** button under the **Display Setup** group to save changes. The “Loading...” message box will be displayed.
6. After the new changes have been saved, the following message will be displayed at the top of the page:



7. Click the **Reboot** button at the bottom of the page. The “Rebooting...” message will be displayed. After the Receiver unit reboots, the new changes will be applied.

Independent Routing

Audio, USB, Serial, and IR are defaulted to Follow Video.

To independently route audio:

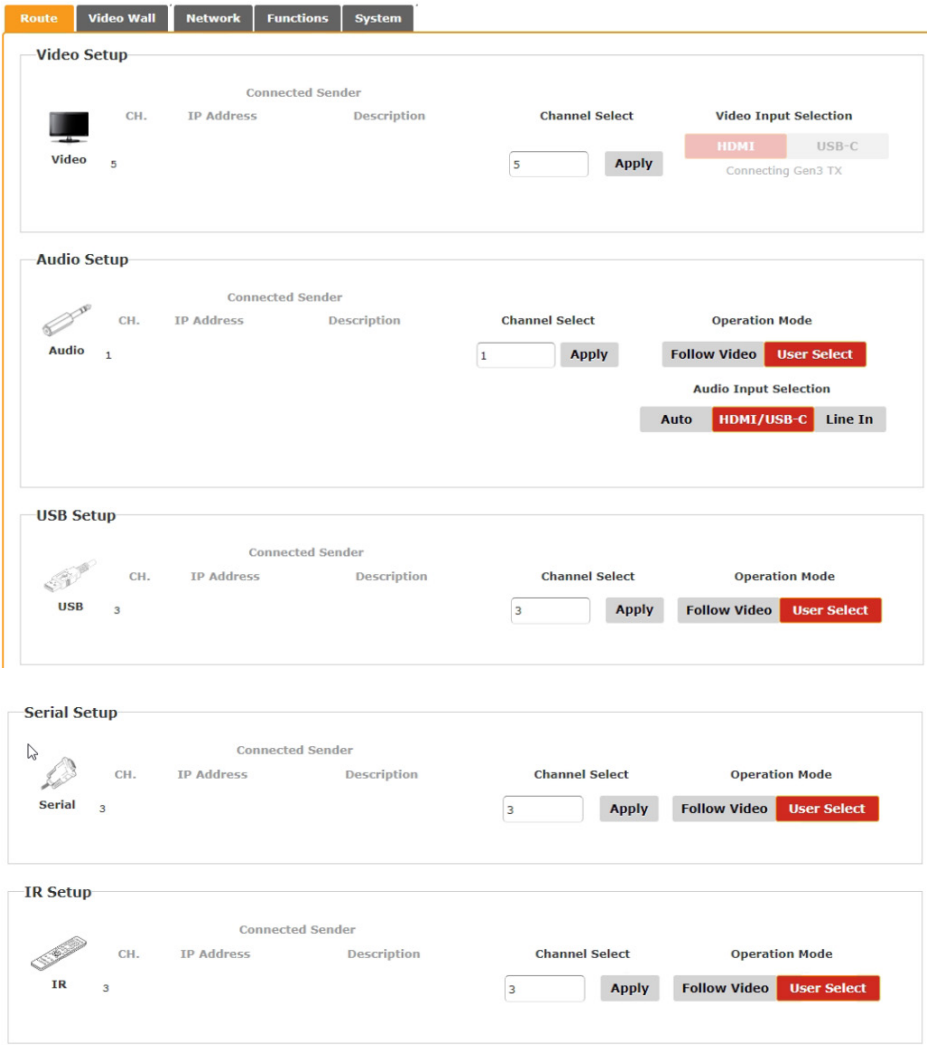
1. Click on **User Select** and change the channel by entering the channel ID to route.
2. Click on **Apply**. Audio Input Selection is set to **Auto** by default.

Independent Routing

3. To manually select the audio input, click on either **HDMI/USB-C** or **Line In** buttons.

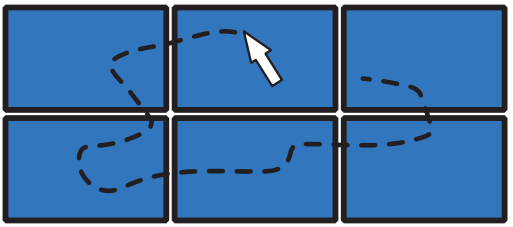
To independently route USB, Serial, or IR:

1. Click on **User Select** in the appropriate section.
2. Change the channel by entering the channel ID to route.

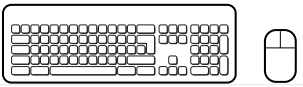


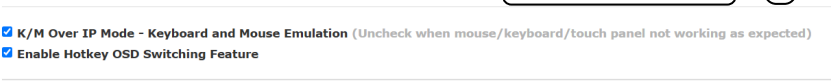
USB Roaming

The USB Roaming feature allows you to control a video wall of sources with a single mouse and keyboard. Mouse and keyboard emulation will have the ability to roam across screens to control the respective sources.



1. **K/M over IP** must be enabled for this feature to work for the Transmitter and Receiver.



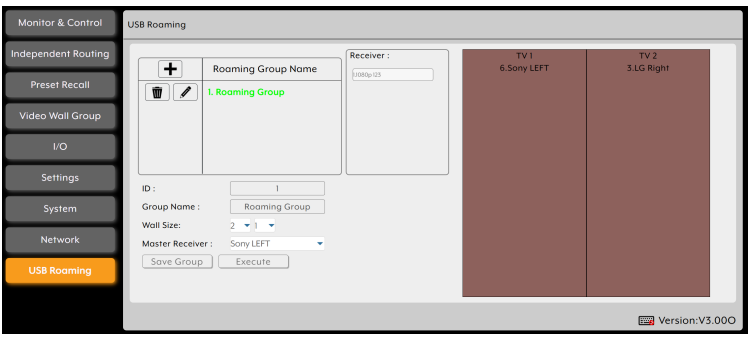


2. Click **Apply** and reboot the device when prompted.

Assigning USB Roaming Group Layout

Configuration can be performed via API command, but it is recommended to use GF-AVIP-MC. Go to the USB Roaming page on a matrix controller to assign the layout. For API control see the Gen3 API manual.

The example below shows a 2x1 layout with assigned receiver. Make sure to set the Master Receiver that will have USB Control, and click **Save Group**.



Assigning Source to USB Roaming Group Layout: Route each source to each display in the **USB Roaming** Group Layout.

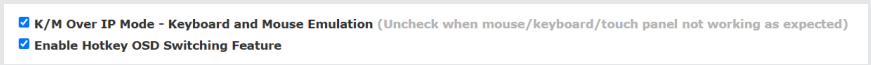
Execute/Stop USB Roaming: To activate the USB Roaming for your group, click on the **Roaming Group Preset** created and click the **Execute** button. Make sure a USB keyboard and mouse are connected to the Master Receiver that's assigned to the group.

To stop USB Roaming, click the **Stop** button.

OSD Hotkey Switching

OSD Hotkey Switching allows each end point to control routing via a hotkey trigger. The trigger initiates an OSD that lists all transmitters to select from via keyboard or mouse.

Note: K/M Over IP mode must be enabled on both Sender and Receiver. The Receiver must have the **Enable Hotkey OSD Switching** feature enabled.



OSD Initialization and Deactivation

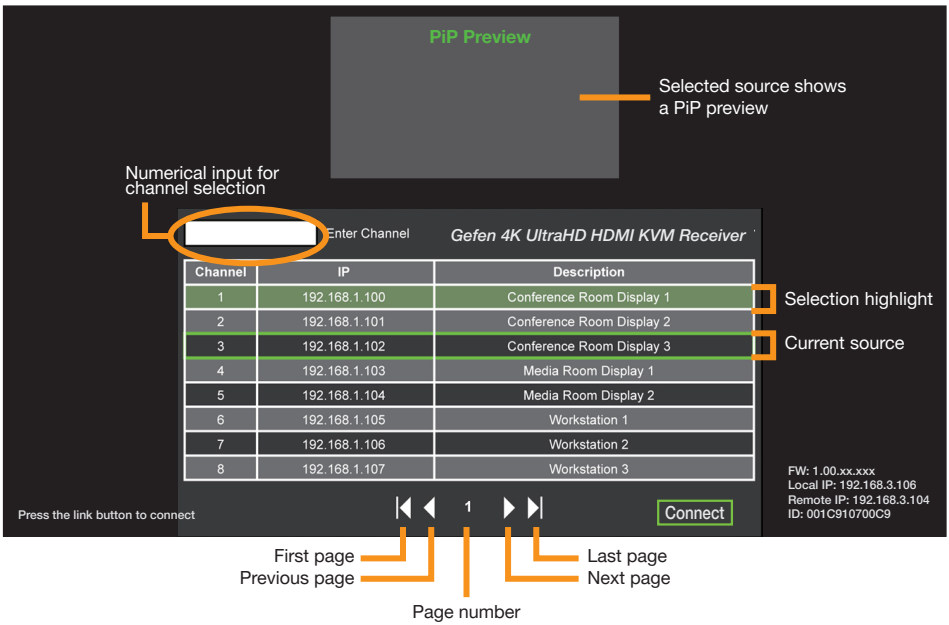
To initialize or deactivate the OSD, press **Scroll Lock** twice (setting toggles).

Keyboard actions:

- "Up" and "Down" keys: Cycles up/down through the available options.
- Numerical keys: Direct channel input.
- "Backspace" key: Delete previously input character (for channel input).
- "Right" and "Left" keys: Next and previous pages (pagination is circular).
- "Enter" key: Select current option.

Mouse actions:

- X and Y movement: On-screen mouse x and y movement.
- Left mouse button: Select currently highlighted option.

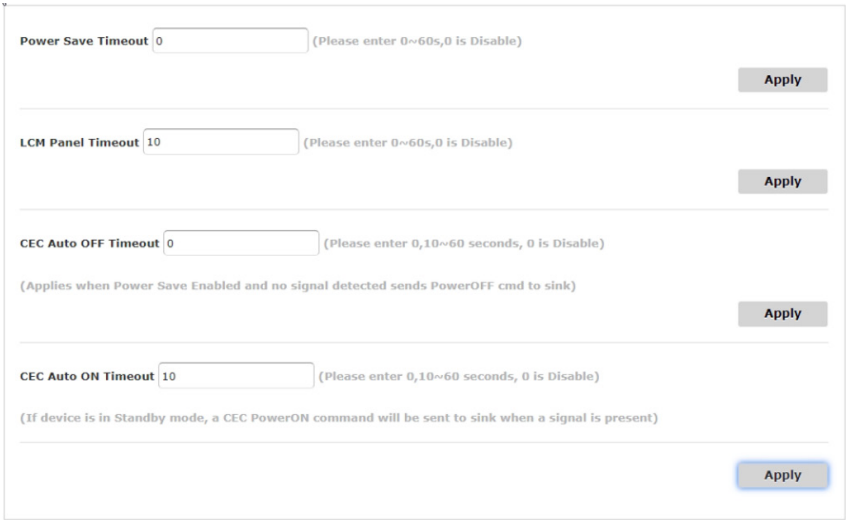


IP Bridge Function

- **Serial Command**: This feature allows to send RS232 commands via IP. RS232 Operation Mode must be set to Bridge for this feature to work. See page 39 for reference. Enter an ASCII string in to this field and click Apply. Note: Any special character must have a backslash (\ ) before it.
- **IR over IP**: This feature allows you to send IR commands via IP. Enter HEX bytes into this field and click Apply.
- **CEC over IP**: This feature allows you to send CEC commands via IP. Enter HEX bytes into this field and click Apply.

Power Save Modes

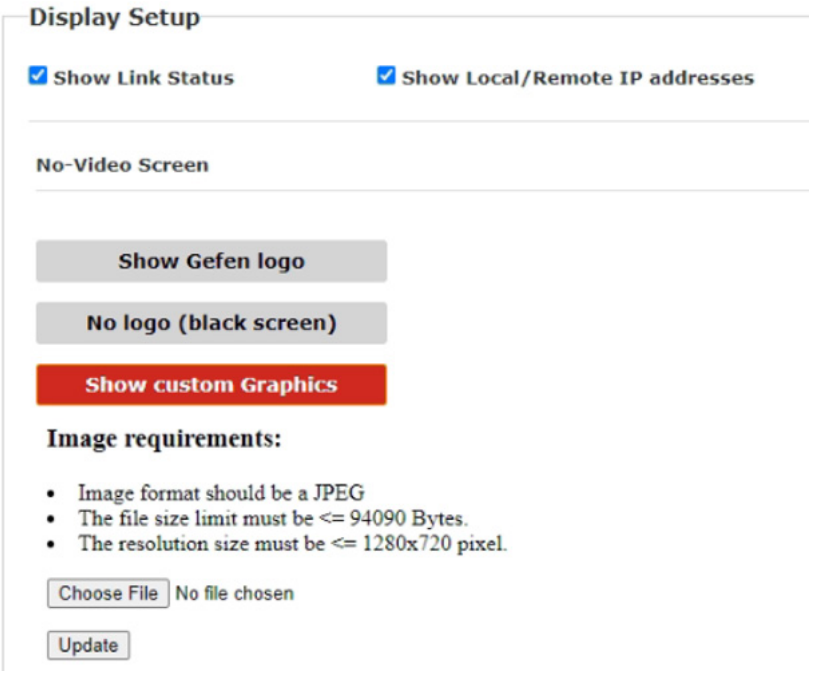
- **Power Save Mode Enable/Disable**: Goes to sleep when no source detected for TX, wakes up when a source signal detected. RX to timeout to turn off the output when no Signal detected or unlinked. Wakes up RX when linked with a source signal.
- **Power Save Timeout**: A value of **0** disables the feature. A value from 1-60 enables the feature and sets the number of seconds before timeout.
- **LCM Panel Timeout**: A value of **10** by default. A value of **0** disables the feature. A value from 1-60 seconds. 10 seconds is set by factory default. Any key press or routing change will wake the LCM then turn off based on configured time.
- **CEC Auto OFF Timeout:** When enabled and in Power Save mode, it sends a CEC PowerOFF command to turn off the display.
- **CEC Auto ON Timeout:** When enabled and in Power Save mode, it sends a CEC PowerON command to display on wake of RX. Normal power operation keeps the display ON even when turned off.



No-Video Screen Options

By default, when no video is being passed from the Sender unit to the Receiver unit, the Gefen logo will be displayed on a black background. This can be changed to display only a black screen or a custom graphic.

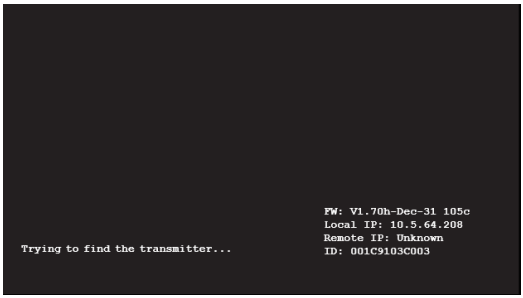
1. Access the Web interface for the Receiver unit.
2. Log in as “Administrator.”
3. Click the **Functions** tab.
4. Locate the **No-Video Screen** section under the **Display Setup** group. There are three options:



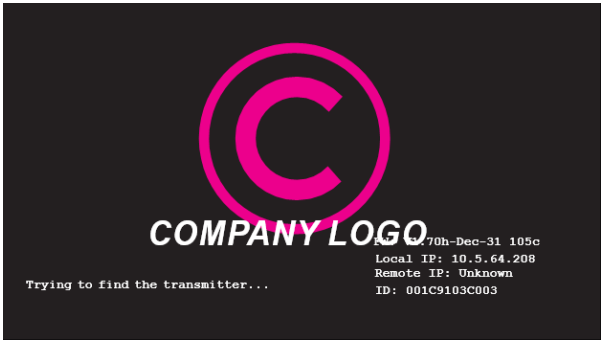
No-Video Screen Options

- Show Gefen logo (this is the default setting)

- No logo (solid black background)



- Show custom Graphics

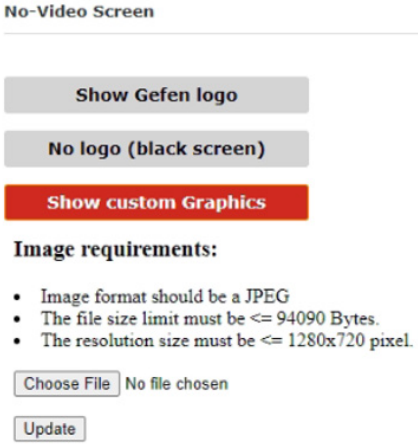


When selecting a graphic file for custom graphics, the image must be in .JPG format.

No-Video Screen Options

To upload a graphics file to the Receiver unit:

1. Click the **Show custom Graphics** radio button under the **No-Video Screen** section.
2. Note the information displayed under the Image requirements section.



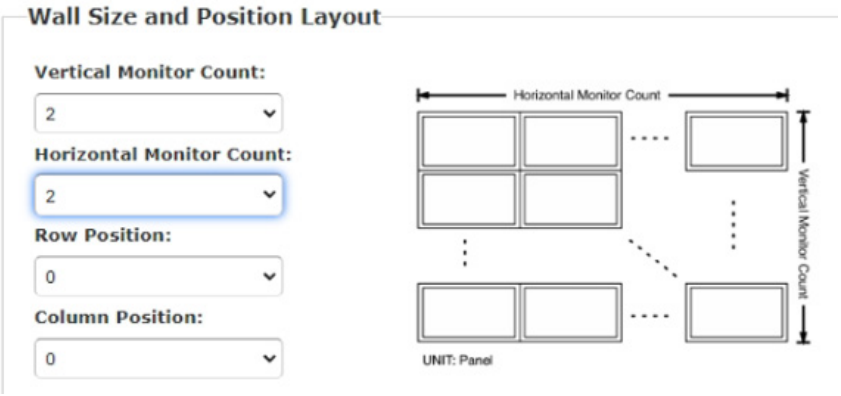
3. Click the **Browse** button to open the **File Upload** dialog box and select the desired graphics file. Images are not scaled and will be stretched or compressed to fit the output resolution of the display.
4. After the graphics file is selected, click the **Open** button on the **File Upload** dialog box.
5. Click the **Update** button under the **Image requirements** section.
6. Click the **Save** button to save the changes.
7. Click the **Reboot** button. The new **No-Video Screen** selection will be used when no video source is being passed from the Sender to the Receiver unit.

Creating Video Walls

The web interface 4K Ultra HD HDMI & USB-C KVM over IP allows the creation of video walls up to 16 horizontal and 16 vertical displays. Video walls may contain any number or rows and columns and any combination of these can be enabled, as necesary.

Wall Size and Layout

1. Access the Web interface for the Receiver unit.
2. Log in as “Administrator” or “User.”
3. Make sure that the **Enable Video Wall** option is enabled under the **Functions** tab of the Sender unit, then click the **Video Wall** tab.
4. Under the **Wall Size and Position Layout** window group, click the drop-down lists for the **Vertical Monitor Count** and **Horizontal Monitor Count** and select the number of rows and columns of displays.



5. Select the row and column positions using the **Row Position** and **Column Position** drop-down lists.
6. Click the drop-down list next to the **Apply** button to select the desired host or client to which these settings will be applied.

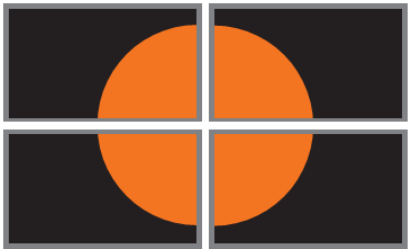
   If the **All** option is selected, then all parameters will be transferred to all Receiver units. For monitor count and bezel compensation in a video wall array of matching displays, this is fine, but the row and position will also be copied. There is an option for “This” unit that will apply to the current unit being interfaced with. The “This” option can be used to precisely set the proper position of each unit but would require the user to access the web interface of each unit to set. Alternatively, the drop-down will provide a list of all connected host (Sender units) and clients (Receiver units). This process allows the configuration of an entire video wall from a single unit.

Creating Video Walls

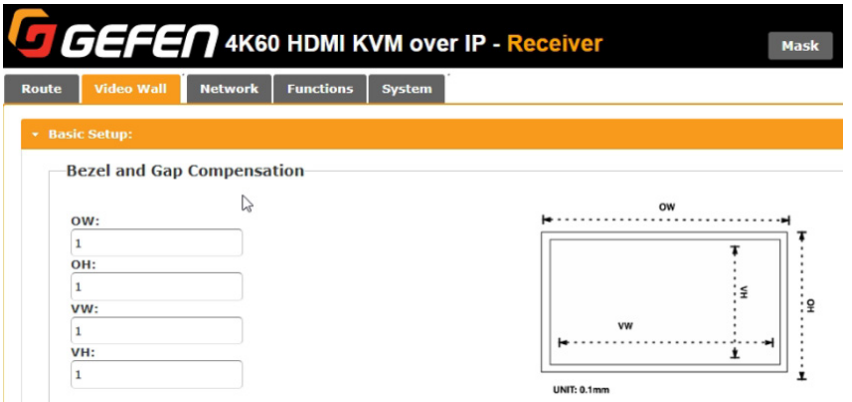
Bezel Compensation

Display devices have a region where video data is not displayed. This area is called the *bezel*. Bezel *compensation* takes this area into account when a single video source is mapped across multiple displays. It is recommended, when a video wall is set up for the first time, that bezel compensation values be set to zero. Bezel compensation can be adjusted at any time.

The illustration on the left shows a 2x2 video wall without bezel compensation. Note how the circle is slightly stretched horizontally. On the right, bezel compensation is used to correct the “distorted” image.



1. Access the Web interface for the Receiver unit:
2. Click the **Video Wall** tab.
3. Adjust the values under the **Bezel and Gap Compensation** window group. Refer to the diagram to the right of each field to see the effect of each value. All entered values are applied to the physical displays in 0.1 millimeter increments.



Utilities

Changing the Password

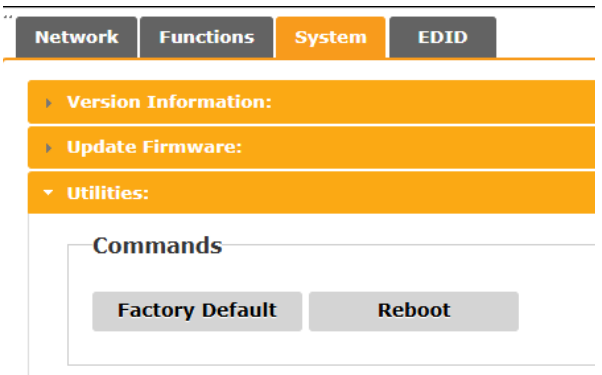
1. Access the Web interface for the Sender/Receiver unit.
2. Log in as “Administrator.”
3. Click the **System** tab.
4. Under the **Password Change** window group, enter the new password for the desired username. Note that the new password will not be masked when it is entered.
5. Click the **Change** button.

Resetting Using the Web Interface

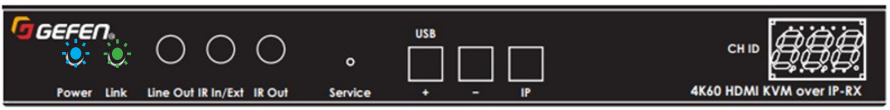
The 4K Ultra HD HDMI & USB-C KVM over IP can be reset using the Web interface or using the buttons on the front panel. When using the Web interface, the Sender/Receiver units will automatically be reset to *Auto IP* mode. When using the front-panel buttons, the Sender/Receiver can be reset.

> **Note:** Once a unit has been reset to Auto IP mode, the connection to the Web interface will be terminated. To reestablish a connection to the Web interface, from your computer, see Installation & Configuration (page 11).

1. Access the Web interface for the desired Sender/Receiver unit. It does not matter which unit is reset first.
2. Log in as “Administrator.”
3. Click the **System** tab.
4. Click the **Utilities** rollout.
5. Click the **Factory Default** button.



Both the **Power** and **Link** LED indicators begin to flash.



After both LED indicators stop flashing, the unit will be reset.

6. Repeat the process for each unit.

Resetting Using Front-panel Buttons

1. Press and hold the minus button on the front panel during power-up until both Power LED and Link LED start flashing.

2. Power cycle the unit to complete the factory reset process, which turns on AutoIP.

Rebooting

The 4K Ultra HD HDMI & USB-C KVM over IP Sender or Receiver unit can be rebooted in two ways: Using the Web interface or simply disconnecting and reconnecting the power.

To reboot using the web interface:

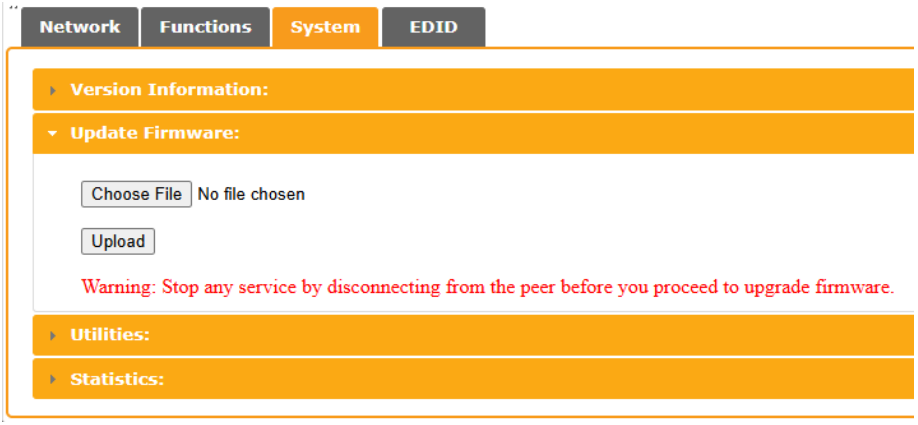
1. Access the Web interface for the Sender/Receiver unit.
2. Log in as “Administrator.”
3. Click the **System** tab.
4. Click the **Utilities** rollout.
5. Click the **Reboot** button.

After a few moments, the **Power** LED indicator will flash. Several seconds later, the **Power** LED indicator will glow solid blue and the **Link** LED indicator will begin to flash. After both LED indicators stop flashing, the reboot process will be complete.

Utilities

Updating Firmware

1. Download the latest firmware from Gefen's Downloads page.
2. In the Sender/Reciever unit's web interface, click the **System** tab.
3. Click the **Update Firmware** rollout.



4. Click **Choose File** to open the file selection window, then select the firmware file you downloaded. The firmware update file is in a "*.bin" format, which is extracted from a "*.zip" format file.
5. Click **Upload** to begin the firmware update process. After the firmware has been updated, the device will reboot.

Tip: We recommend that firmware updates be managed by Gefen's GF-AVIP-MC Matrix Controller.

Preview image

Preview Image is located under the **System** tab. This provides a snapshot preview of the Transmitter that is being accessed or the Receiver that shows the routed source.

Telnet Access

Note: By default, the Telnet login credentials are disabled. This setting is required when using the Matrix controller (Gefen part no. GF-AVIP-MC) but can be enabled for security purposes. Use the #use_telnet_login command to enable or disable this feature.

1. Launch the desired terminal application (e.g., Windows Hyperterminal, etc).
2. Within the terminal program, enter the IP address of the Sender or Receiver unit that you wish to control.
3. Enter the TCP listening port. The default listening port is **23**.
4. After the correct settings have been used in the terminal program, information similar to the following will be displayed.

   In the example below, we are connected to the client (Receiver unit) and Telnet login has been enabled:

```
------------- Welcome to the Gefen Telnet Server -----------

ast2-client001C9103C8B3 login:
```

5. Log in as “Administrator.” The default password is “admin”. To change the Telnet password, see the #set_telnet_pass command.
6. Type **#help** for a list of commands or refer to the tables on the following pages.

Command Categories

For information on additional commands, refer to the Gen3 API document.

Command Categories

Important: Commands that are limited to a Sender or Receiver unit are marked as “Tx only” and “Rx only,” respectively. Unless otherwise noted, commands can be used when connected to either a Sender or Receiver unit.

CEC

Command	Description
#get_auto_cec_off	Displays auto CEC OFF status
#get_auto_cec_on	Displays auto CEC ON status
#get_cec_enable	Displays CEC pass-through enable status
#set_auto_cec_off	Sets auto CEC to OFF
#set_auto_cec_on	Sets auto CEC to ON
#set_cec_enable	Sets CEC pass-through enable

Discovery Service

Command	Description
#get_device_desc	Displays the device description
#get_discovery	Displays the current state of the discovery service
#get_discovery_mode	Displays the discovery read/write mode
#get_showme	Displays the status of the showme state
#set_device_desc	Sets the device description
#set_discovery	Enables or disables the discovery service
#set_discovery_mode	Sets the discovery mode
#set_showme	Enables or disables the “show me” feature

Help

Command	Description
#help	Displays a list of available commands

IP Bridge

Command	Description
#send_cec	Sends CEC command to device
#send_ir	Sends IR command
#send_serial	Sends Serial command

Command Categories

Network

Command	Description
#get_gateway	Displays the gateway IP address
#get_ip_address	Displays the IP address
#get_ip_mode	Displays the IP mode
#get_ipconfig	Displays the IP configuration information
#get_net_mode	Displays the network casting mode
#get_netmask	Displays the subnet mask address
#get_remote_udp_access	Displays the remote UDP access state
#get_remote_udp_ip	Displays the remote UDP IP address
#get_remote_udp_port	Displays the remote UDP listening port
#get_telnet_access	Displays the Telnet access state
#get_telnet_login	Displays the status of the Telnet login
#get_telnet_port	Displays the Telnet listening port
#get_telnet_welcome	Displays the Telnet welcome message
#get_udp_access	Displays the UDP access state
#get_udp_port	Displays the UDP listening port
#get_web_port	Displays the HTTP listening port
#set_gateway	Sets the gateway address
#set_ip_address	Sets the IP address
#set_ip_mode	Sets the IP mode
#set_net_mode	Sets the network casting mode
#set_netmask	Sets the subnet mask address
#set_remote_udp_access	Enables or disables remote UDP access
#set_remote_udp_ip	Sets the remote UDP IP address
#set_remote_udp_port	Sets the remote UDP listening port
#set_telnet_access	Enables or disables Telnet access
#set_telnet_login	Enables or disables the Telnet login
#set_telnet_pass	Sets the Telnet password
#set_telnet_port	Sets the Telnet listening port
#set_telnet_welcome	Sets the Telnet welcome message
#set_udp_access	Enables or disables UDP access
#set_udp_port	Sets the UDP listening port
#set_web_port	Sets the HTTP listening port

Command Categories

Routing

Command	Description
#get_a	Displays current input audio status
#get_ar	Displays audio return route status
#get_audio_allow	Displays current audio over IP status
#get_rx_channel	Displays the channel of the Receiver unit (Rx only)
#get_v	Displays the current video input status
#set_audio_allow	Enable/disable audio over IP
#request_usb	Requests USB control when active per request is enabled
a	Changes audio input of currently connected Sender
ar	Set audio return route
r	Routes an input to a Receiver unit (Rx only)
v	Changes the video input of Sender unit

Rx Specific

Command	Description
#get_edid_copy	Displays the EDID copy state (Rx only)
#get_mask	Displays the current video mask state
#get_rx_id	Displays the ID of the Receiver unit
#get_vw	Displays the status of the video wall
#get_vw_bc	Displays the video wall bezel compensation
#get_vw_delay	Displays the video wall display delay
#get_vw_hscale	Displays the video wall horizontal up-scaling
#get_vw_layout	Displays the video wall horizontal and vertical maximum display count
#get_vw_osd	Displays the status of the video wall OSD
#get_vw_pos	Displays the video wall display position
#get_vw_shift	Displays the video wall display shift
#get_vw_vscale	Displays the video wall vertical up-scaling
#set_edid_copy	Enables or disables EDID copy
#set_mask	Enables or disables video masking
#set_rx_id	Sets the ID of the Receiver unit
#set_vw	Enable / disable video wall
#set_vw_bc	Sets the video wall bezel compensation
#set_vw_delay	Sets the video wall display delay
#set_vw_hscale	Displays the video wall horizontal up-scaling
#set_vw_layout	Sets video wall horizontal/vertical maximum display count

Command Categories

Command	Description
#set_vw_osd	Enable / disable the video wall OSD
#set_vw_pos	Sets the video wall display position
#set_vw_shift	Sets the video wall display shift
#set_vw_vscale	Displays the video wall vertical up-scaling

Serial

Command	Description
#get_serial_allow	Displays the Serial-over-IP state
#get_serial_baud	Displays the serial baud rate setting
#get_serial_bits	Displays the serial data bits setting
#get_serial_parity	Displays the serial parity setting
#get_serial_stop	Displays the serial stop bits setting
#set_serial_allow	Enables or disables Serial-over-IP mode
#set_serial_baud	Sets the baud rate for the serial port
#set_serial_bits	Sets the data bits for the serial port
#set_serial_parity	Sets the parity setting for the serial port
#set_serial_stop	Sets the number of stop bits for the serial port

System

Command	Description
#get_firmware_version	Displays the firmware version
#get_fp_timeout	Displays front panel LED/LCM timeout
#get_node_list	Displays node list of devices in network
#get_osd_pip	Displays OSD source picture-in-picture
#set_fp_timeout	Sets front panel LED/LCM timeout
#set_osd_pip	Sets OSD source picture-in-picture setting
#factory_reset	Resets the unit to factory-default settings
#fw_upgrade	Upgrades firmware using external file
#reboot	Reboots the unit

Tx Specific

Command	Description
#get_block	Displays the current video blocking state
#get_hdcp	Displays the HDCP state

Command Categories

Command	Description
#get_power_save	Displays power save setting
#get_tx_channel	Displays the video channel
#set_block	Enables or disables video blocking
#set_hdcp_allow	Enables or disables HDCP-detection
#set_power_save	Sets power save
#set_tx_channel	Sets the video channel

USB

Command	Description
#get_km_roaming	Displays USB K/M roaming layout
#get_osd_key	Displays the status of OSD hot key switching
#get_usb_allow	Displays the USB-over-IP state
#get_usb_kmoip	Displays USB K/M over IP (USB emulation feature)
#get_usb_mode	Displays the USB operating mode
#get_usb_mouse	Displays the mouse operating mode
#get_usb_roaming	Displays USB K/M roaming
#set_km_roaming	Sets USB K/M roaming layout
#set_osd_key	Enables/disables OSD hot key switching
#set_usb_allow	Enables / disables USB over IP
#set_usb_kmoip	Sets USB K/M over IP (USB emulation feature)
#set_usb_mode	Sets the USB operating mode
#set_usb_mouse	Sets the USB mouse mode
#set_usb_roaming	Sets USB K/M roaming

Video

Command	Description
#get_video_allow	Displays the Video-over-IP state
#set_video_allow	Sets the Video-over-IP state

Web Interface

Command	Description
#set_webui_ad_pass	Sets the administrator password for the web UI
#set_webui_user_pass	Sets the user password for the web UI

Command Parameters

#help

Displays a list of available commands. The commands listed are specific to either the Sender or Receiver unit.

Syntax
#help

Parameters
None

Example
#help
#HELP
#FACTORY_RESET
#FW_UPGRADE
#GET_BLOCK
#GET_DEVICE_DESC
#GET_DISCOVERY
#GET_DISCOVERY_MODE
#GET_EDID_COPY
#GET_FIRMWARE_VERSION
#GET_GATEWAY
#GET_HDCP
#GET_IP_ADDRESS
#GET_IP_MODE
#GET_IPCONFIG
#GET_MASK
#GET_NET_MODE
#GET_NETMASK
#GET_REMOTE_UDP_ACCESS
#GET_REMOTE_UDP_IP
#GET_REMOTE_UDP_PORT
#GET_RX_CHANNEL
#GET_RX_ID
#GET_SERIAL_ALLOW
#GET_SERIAL_BAUD
#GET_SERIAL_BITS
...

#factory_reset

Resets the unit to factory-default settings. param1 must be included and set to 1.

Syntax
#factory_reset param1

Parameters

param1	Integer	1

Example
#factory_reset 1
RESET TO FACTORY DEFAULTS

Related Commands
#reboot

Command Parameters

#fw_upgrade

Upgrades the firmware from the command.

Syntax
#fw_upgrade filename

Parameters
filename String

Example
#fw_upgrade firmware_file_v2.bin

#get_ar

Displays the audio return route status.

Syntax
#get_ar

Parameters
None

Example
#get_ar
AR 1

#get_audio_allow

Displays the current audio-over-IP status.

Syntax
#get_audio_allow

Parameters
None

Example
#get_audio_allow
AUDIO_ALLOW 1

#get_auto_cec_off

Syntax
#get_auto_cec_off

Parameters
None

Example
#get_auto_cec_off
AUTO_CEC_OFF 0

Command Parameters

#get_auto_cec_on

Syntax
#get_auto_cec_on

Parameters
None

Example
#get_auto_cec_on
AUTO_CEC_ON 10

#get_block

Displays the current video blocking state. This command is only available when connected to a Sender unit. To enable or disable the video blocking state, refer to the **#set_block** command.

Syntax
#get_block

Parameters
None

Example
#get_block
BLOCK DISABLED

Related Commands
#get_mask
#set_block

#get_cec_enable

Displays CEC pass-through enable status.

Syntax
#get_cec_enable

Parameters
None

Example
#get_cec_enable
CEC_ENABLE 1

#get_device_desc

Displays the description of the Sender/Receiver unit.

Syntax
#get_device_desc

Parameters
None

Example
#get_device_desc
DEVICE DESCRIPTION IS Genius Sender 2

Related Commands
#set_device_desc

#get_discovery

Displays the current discovery mode setting.

Syntax
#get_discovery

Parameters
None

Example
#get_discovery
DISCOVERY SERVICE SET TO ENABLED

Related Commands
#set_discovery
#set_showme

#get_discovery_mode

Displays the current discovery mode setting.

Syntax
#get_discovery_mode

Parameters
None

Example
#get_discovery_mode
DISCOVERY MODE 1

Related Commands
#set_discovery
#set_discovery_mode
#set_showme

#get_edid_copy

Displays the EDID copy state. This command is only available when connected to a Receiver unit.

Syntax
#get_edid_copy

Parameters
None

Example
#get_edid_copy
COPY EDID OF CONNECTED DISPLAY IS ENABLED

Related Commands
#set_edid_copy

#get_firmware_version

Displays the firmware version.

Syntax
#get_firmware_version

Parameters
None

Example
#get_firmware_version
FIRMWARE VERSION IS 1.83hv

Related Commands
#fw_upgrade

#get_fp_timeout

Displays the front panel LED/LCM timeout.

Syntax
#get_fp_timeout

Parameters
None

Example
#get_fp_timeout
FP_TIMEOUT 10

Command Parameters

#get_gateway

Displays the gateway address of the Sender/Receiver unit.

Syntax
#get_gateway

Parameters
None

Example
#get_gateway
GATEWAY: 192.168.0.1

Related Commands
#get_ip_address
#get_ip_mode
#get_ipconfig
#get_netmask
#set_gateway
#set_ip_address
#set_ip_mode
#set_netmask

#get_hdcp

Displays the current HDCP state. This command is only available when connected to a Sender unit.

Syntax
#get_hdcp

Parameters
None

Example
#get_hdcp
HDCP ENCRYPTED SOURCE IS ENABLE

Related Commands
#set_hdcp_allow

#get_ip_address

Displays the current IP address of the Sender or Receiver unit.

Syntax
#get_ip_address

Parameters
None

Example
#get_ip_address
IP: 10.5.64.60

Related Commands
#get_gateway
#get_ip_mode
#get_ipconfig
#get_netmask
#get_web_port
#set_gateway
#set_ip_address
#set_ip_mode
#set_netmask
#set_web_port

#get_ip_mode

Displays the current IP mode.

Syntax
#get_ip_mode

Parameters
None

Example
#get_ip_mode
IP MODE IS SET TO DHCP

Related Commands
#get_gateway
#get_ip_address
#get_ipconfig
#get_netmask
#get_web_port
#set_gateway
#set_ip_address
#set_ip_mode
#set_netmask
#set_web_port

#get_ipconfig

Displays the current IP configuration. In addition to providing the MAC address and the broadcast IP address, this command also provides the same information as executing the #get_ip_mode, #get_ip_address, #get_netmask, and #get_gateway commands.

Syntax
#get_ipconfig

Parameters
None

Example
#get_ipconfig
IP CONFIGURATION IS : IP MODE: DHCP
IP: 10.5.64.60
NETMASK: 255.255.255.0
GATEWAY: 10.5.64.1
MAC ADDRESS: 00-1C-91-03-C8-B3

Related Commands
#get_gateway
#get_ip_address
#get_netmask
#get_web_port
#set_gateway
#set_ip_address
#set_ip_mode
#set_netmask
#set_web_port

#get_km_roaming

Syntax
#get_km_roaming param1

Parameters
param1 Integer [0...39900] (Rx ID)

Example
#get_km_roaming 1
KM_ROAMING 1 0 0

#get_mask

Displays the current video mask state. This command is only available when connected to a Receiver unit. To enable or disable video masking on a Receiver unit, refer to the #set_mask command.

Syntax
#get_mask

Parameters
None

Example
#get_mask
MASK DISABLED

Related Commands
#get_block
#set_mask

#get_net_mode

Displays the current network mode setting.

Syntax
#get_net_mode

Parameters
None

Example
#get_net_mode
NETWORK MODE SET TO MULTICAST

Related Commands
#set_net_mode

Command Parameters

#get_netmask

Displays the current net mask setting.

Syntax
#get_netmask

Parameters
None

Example
#get_netmask
NETMASK: 255.255.255.0

Related Commands
#get_gateway
#get_ip_address
#get_ipconfig
#get_web_port
#set_gateway
#set_ip_address
#set_ip_mode
#set_netmask
#set_web_port

#get_node_list

Displays node list of devices in network.

Syntax
#get_node_list

Parameters
None

Example
#get_node_list

IP	Hostname	Status	Description
192.168.3.55	VIP-TX012345	s_srv_onC4	
192.168.2.44	VIP-RX012345	s_attaching	PC Audio

#get_osd_key

Syntax
#get_osd_key param1

Parameters
param1 Integer [0...n]

param1	Description
0	All receivers
1~n	Receiver number

Example
#get_osd_key
OSD_KEY 1 1

#get_osd_pip

Displays OSD source for picture-in-picture setting.

Syntax
#get_osd_pip

Parameters
None

Example
#get_osd_pip
OSD_PIP 1 0

#get_power_save

Syntax
#get_power_save

Parameters
None

Example
#get_power_save
POWER_SAVE 1

#get_remote_udp_access

Syntax
#get_remote_udp_access

Parameters
None

Example
#get_remote_udp_access
REMOTE UDP ACCESS IS ENABLED

Related Commands

#get_remote_udp_ip
#get_remote_udp_port
#get_udp_access
#get_udp_port
#set_remote_udp_access
#set_remote_udp_ip
#set_remote_udp_port
#set_udp_access
#set_udp_port

#get_remote_udp_ip

Displays the remote UDP IP address.

Syntax
#get_remote_udp_ip

Parameters
None

Example
#get_remote_udp_access
REMOTE UDP IP: 192.168.1.29

Related Commands
#get_remote_udp_access
#get_remote_udp_port
#get_udp_access
#get_udp_port
#set_remote_udp_access
#set_remote_udp_ip
#set_remote_udp_port
#set_udp_access
#set_udp_port

#get_remote_udp_port

Displays the remote UDP listening port.

Syntax
#get_remote_udp_port

Parameters
None

Example
#get_remote_udp_port
REMOTE UDP COMMUNICATIONS PORT: 50008

Related Commands
#get_remote_udp_access
#get_remote_udp_ip
#get_udp_access
#get_udp_port
#set_remote_udp_access
#set_remote_udp_ip
#set_remote_udp_port
#set_udp_access
#set_udp_port

#get_rx_channel

Displays the current channel of the Receiver unit. To set the video channel of a Receiver unit, use the **r** command.

Syntax
#get_rx_channel

Parameters
None

Example
#get_rx_channel RECEIVER CHANNEL: 1

Related Commands
#get_tx_channel
#set_tx_channel
r

#get_rx_id

Displays the ID of the Receiver unit. This command is only available when connected to a Receiver unit.

Syntax
#get_rx_id

Parameters
None

Example
#get_rx_id
RX ID: 8

Related Commands
#set_rx_id

#get_serial_allow

Displays the Serial-over-IP state. Use the #set_serial_allow command to enable or disable the Serial-over-IP feature.

Syntax
#get_serial_allow

Parameters
None

Example
#get_serial_allow
SERIAL OVER IP is ENABLE

Related Commands
#get_serial_baud
#get_serial_parity
#get_serial_stop
#set_serial_allow
#set_serial_baud
#set_serial_bits
#set_serial_parity
#set_serial_stop

#get_serial_baud

Displays the serial baud rate setting. Use the #set_serial_baud command to set the baud rate.

Syntax
#get_serial_baud

Parameters
None

Example
#get_serial_baud
SERIAL BAUD RATE IS 19200

Related Commands
#get_serial_allow
#get_serial_bits
#get_serial_parity
#get_serial_stop
#set_serial_allow
#set_serial_baud
#set_serial_bits
#set_serial_parity
#set_serial_stop

#get_serial_bits

Displays the serial data bits setting. Use the #set_serial_bits command to set the number of data bits.

Syntax
#get_serial_bits

Parameters
None

Example
#get_serial_bits
SERIAL DATA BITS IS 8

Related Commands
#get_serial_allow
#get_serial_baud
#get_serial_parity
#get_serial_stop
#set_serial_allow
#set_serial_baud
#set_serial_bits
#set_serial_parity
#set_serial_stop

#get_serial_parity

Displays the serial parity bit setting. Use the #set_serial_parity command to set the parity bit.

Syntax
#get_serial_parity

Parameters
None

Example
#get_serial_parity
SERIAL PARITY MODE SET TO NONE

Related Commands
#get_serial_allow
#get_serial_baud
#get_serial_bits
#get_serial_stop
#set_serial_allow
#set_serial_baud
#set_serial_bits
#set_serial_parity
#set_serial_stop

#get_serial_stop

Displays the serial stop bits setting. Use the #set_serial_stop command to set the number of stop bits.

Syntax
#get_serial_stop

Parameters
None

Example
#get_serial_stop
SERIAL STOP BITS IS 1

Related Commands
#get_serial_allow
#get_serial_baud
#get_serial_bits
#get_serial_parity
#set_serial_allow
#set_serial_baud
#set_serial_bits
#set_serial_parity
#set_serial_stop

#get_showme

Displays the showme state.

Syntax
#get_showme

Parameters
None

Example
#get_showme
SHOW ME DISABLED

Related Commands
#set_showme

#get_telnet_access

Displays the Telnet access state. Use the #set_telnet_access command to enable or disable Telnet access.

Syntax
#get_telnet_access

Parameters
None

Example
#get_telnet_access
TELNET ACCESS IS ENABLED

Related Commands
#get_telnet_login
#get_telnet_port
#get_telnet_welcome
#set_telnet_access
#set_telnet_pass
#set_telnet_login
#set_telnet_pass
#set_telnet_port
#set_telnet_welcome

#get_telnet_login

Displays the Telnet login status.

Syntax
#get_telnet_login

Parameters
None

Example
#get_telnet_login
TELNET LOGIN SET TO DISABLED

Related Commands
#get_telnet_access
#get_telnet_port
#get_telnet_welcome
#set_telnet_access
#set_telnet_pass
#set_telnet_login
#set_telnet_pass
#set_telnet_port
#set_telnet_welcome

#get_telnet_port

Displays the Telnet listening port.

Syntax
#get_telnet_port

Parameters
None

Example
#get_telnet_port
TELNET COMMUNICATION PORT: 23

Related Commands
#get_telnet_access
#get_telnet_login
#get_telnet_welcome
#set_telnet_access
#set_telnet_pass
#set_telnet_login
#set_telnet_pass
#set_telnet_port
#set_telnet_welcome

#get_telnet_welcome

Displays the Telnet welcome message. Use the #set_telnet_welcome to create a custom welcome message.

Syntax
#get_telnet_welcome

Parameters
None

Example
#get_telnet_welcome
TELNET WELCOME SCREEN IS DISABLED

Related Commands
#get_telnet_access
#get_telnet_login
#get_telnet_port
#set_telnet_access
#set_telnet_pass
#set_telnet_login
#set_telnet_pass
#set_telnet_port
#set_telnet_welcome

#get_tx_channel

Displays the video channel of the Sender unit. This command is only available when connected to a Sender unit.

Syntax
#get_tx_channel

Parameters
None

Example
#get_tx_channel
TRANSMITTER CHANNEL: 1

Related Commands
#get_rx_channel
#set_tx_channel
r

#get_udp_access

Displays the UDP access state. Use the #set_udp_access command to enable or disable UDP access.

Syntax
#get_udp_access

Parameters
None

Example
#get_udp_access
UDP ACCESS IS ENABLED

Related Commands
#get_remote_udp_access
#get_remote_udp_ip
#get_remote_udp_port
#get_udp_port
#set_remote_udp_access
#set_remote_udp_ip
#set_remote_udp_port
#set_udp_access
#set_udp_port

#get_udp_port

Displays the local UDP listening port.

Syntax
#get_udp_port

Parameters
None

Example
#get_udp_port
UDP PORT SET TO 50007

Command Parameters

#get_usb_allow

Displays the USB-over-IP state.

Syntax
#get_usb_allow

Parameters
None

Example
#get_usb_allow
USB OVER IP is ENABLE

Related Commands
#get_usb_mode
#get_usb_mouse
#set_usb_allow
#set_usb_mode
#set_usb_mouse

#get_usb_kmoip

Displays the USB K/M over IP (USB emulation feature)

Syntax
#get_usb_kmoip

Parameters
None

Example
#get_usb_kmoip
USB_KMOIP 1

#get_usb_mode

Displays the USB operating mode.

Syntax
#get_usb_mode

Parameters
None

Example
#get_usb_mode
USB OPERATION MODE IS ACTIVE PER REQUEST

Related Commands
#get_usb_allow
#get_usb_mouse
#set_usb_allow
#set_usb_mode
#set_usb_mouse

Command Parameters

#get_usb_mouse

Displays the mouse operating mode.

Syntax
#get_usb_mouse

Parameters
None

Example
#get_usb_mouse
USB MOUSE MODE IS HIGH RESOLUTION

Related Commands
#get_usb_allow
#get_usb_mode
#set_usb_allow
#set_usb_mode
#set_usb_mouse

#get_usb_roaming

Syntax
#get_usb_roaming

Parameters
None

Example
#get_usb_roaming
USB_ROAMING 1

#get_v

Displays the current video input status.

Syntax
#get_v

Parameters
None

Example
#get_v
V
H

Related Commands
#set_video_allow

#get_video_allow

Displays the Video-over-IP status. Use the #set_video_allow command to enable or disable video over IP.

Syntax
#get_video_allow

Parameters
None

Example
#get_video_allow
VIDEO OVER IP is ENABLE

Related Commands
#set_video_allow

#get_vw

Displays the video wall enable/disable setting.

Syntax
#get_vw

Parameters
None

Example
#get_vw
VW 0

Related Commands
#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw
#set_vw_bc
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_pos
#set_vw_shift
#set_vw_vscale

Command Parameters

#get_vw_bc

Displays the video wall bezel compensation setting.

Syntax
#get_vw_bc

Parameters
None

Example
#get_vw_bc
VW_BC 6223 6550 3429 4010

Related Commands
#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw
#set_vw_bc
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_pos
#set_vw_shift
#set_vw_vscale

#get_vw_delay

Displays the video wall delay setting.

Syntax
#get_vw_delay

Parameters
None

Example
#get_vw_delay VW_DELAY 0

Related Commands
#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw
#set_vw_bc
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_pos
#set_vw_shift
#set_vw_vscale

#get_vw_hscale

Displays the video wall horizontal upscaling value.

Syntax
#get_vw_bc

Parameters
None

Example
#get_vw_bc VW_HSCALE 0

Related Commands
#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw
#set_vw_bc
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_pos
#set_vw_shift
#set_vw_vscale

#get_vw_layout

Displays the video wall horizontal and vertical display count.

Syntax
#get_vw_layout

Parameters
None

Example
#get_vw_layout
VW_LAYOUT 2 2

Related Commands
#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw
#set_vw_bc
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_pos
#set_vw_shift
#set_vw_vscale

#get_vw_osd

Displays the enable/disable status of the video wall OSD.

Syntax
#get_vw_osd

Parameters
None

Example
#get_vw_osd
VW_OSD 0

Related Commands
#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw
#set_vw_bc
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_pos
#set_vw_shift
#set_vw_vscale

#get_vw_pos

Displays the video wall display position.

Syntax
#get_vw_pos

Parameters
None

Example
#get_vw_pos
VW_POS 0 0

Related Commands
#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw
#set_vw_bc
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_pos
#set_vw_shift
#set_vw_vscale

#get_vw_shift

Displays the video wall display shift.

Syntax
#get_vw_shift

Parameters
None

Example
#get_vw_shift
VW_SHIFT 0 0 0 0

Related Commands
#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw
#set_vw_bc
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_pos
#set_vw_shift
#set_vw_vscale

#get_vw_vscale

Displays the video wall vertical upscaling value.

Syntax
#get_vw_vscale

Parameters
None

Example
#get_vw_vscale
VW_VSCALE 0

Related Commands
#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw
#set_vw_bc
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_pos
#set_vw_shift
#set_vw_vscale

#get_web_port

Displays the HTTP listening port. Use the #set_web_port command to set the HTTP listening port.

Syntax
#get_web_port

Parameters
None

Example
#get_web_port
WEB INTERFACE PORT: 80

Related Commands
#get_gateway
#get_ip_address
#get_ipconfig
#set_gateway
#set_ip_address
#set_ip_mode
#set_netmask
#set_web_port

#reboot

Reboots the Sender/Receiver unit.

Syntax
#reboot

Parameters
None

Example
#reboot
UNIT WILL REBOOT SHORTLY

Related Commands
#factory_reset

#request_usb

Requests USB control when ACTIVE PER REQUEST USB mode is set.

Syntax
#request_usb

Parameters
None

Example
#request_usb
REQUESTING USB FROM SENDER

Related Commands
#set_usb_mode

Command Parameters

#send_cec

Sends CEC command to device.

Syntax
#send_cec param1

Parameters
param1 hex bytes

Example
#send_cec 0x0004
CEC COMMAND SENT

#send_ir

Sends an IR command.

Syntax
#send_ir param1 param2

Parameters
param1 Integer [1~20] (repeater count)
param2 Hex [Pronto hex bytes]

Example
#send_ir 1 FFFF
IR COMMAND SENT

#send_serial

Sends a serial command.

Syntax
#send_serial param1

Parameters
param1 Serial command in ASCII

Example
#send_serial test
SERIAL COMMAND SENT

#set_audio_allow

Eanbles/Disables audio-over-IP.

Syntax
#set_audio_allow param1

Parameters
param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example
#set_audio_allow 1
AUDIO_ALLOW 1

Command Parameters

#set_auto_cec_off

Syntax
#set_auto_cec_off param1

Parameters
param1 Integer [0,10~60]

param1	Description
0	Disabled
10~60	Enabled, CEC time in seconds

Example
#set_auto_cec_off 0
AUTO_CEC_OFF 0

#set_auto_cec_on

Syntax
#set_auto_cec_on param1

Parameters
param1 Integer [0,10~60]

param1	Description
0	Disabled
10~60	Enabled, CEC time in seconds

Example
#set_auto_cec_on 10
AUTO_CEC_ON 10

#set_block

Enables or disables video blocking at a Sender unit.

Syntax
#set_block param1

Parameters
param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example
#set_block 1
BLOCK ENABLED

Related Commands
#get_block
#set_mask

Command Parameters

#set_cec_enable

Sets CEC pass-through enable.

Syntax

#set_cec_enable param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example

#set_cec_enable 1
CEC_ENABLE 1

#set_device_desc

Sets the description for the Sender/Receiver unit. The description string cannot exceed 30 characters in length. Spaces and underscore characters are acceptable. Avoid using symbols and special characters.

Syntax

#set_description param1

Parameters

param1 String

Example

#set_description Blu-ray_Panasonic
PRODUCT DESCRIPTION SET

Related Commands

#get_device_desc

#set_discovery

Enables or disables the discovery feature. The default value is On.

Syntax

#set_discovery param1

Parameters

param1 Integer [0...1]

param1	Description
0	Off
1	On

Example

#set_discovery 0
DISCOVERY SERVICE SET TO DISABLED

Related Commands

#get_discovery
#set_showme
#get_showme

#set_discovery_mode

Sets the discovery read/write mode.

Syntax

#set_discovery_mode param1

Parameters

param1 Integer [0...1]

param1	Description
0	Read-only mode
1	Read/write mode

Example

#set_discovery_mode 1
DISCOVERY MODE 1

Related Commands

#get_edid_copy

#set_edid_copy

Enables or disables the EDID copy state. When param1 = 1, the downstream EDID (connected to the Receiver unit) is copied to the Sender unit. If param1 = 0, then the internal (default) EDID is used. This command is available only when connected to a Receiver unit. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_edid_copy param1

Parameters

param1 Integer [0...1]

param1	Description
0	Off
1	On

Example

#set_edid_copy 1
COPY EDID OF CONNECTED DISPLAY SET TO ENABLED
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_edid_copy

#set_fp_timeout

Displays the front panel LED/LCM timeout.

Syntax

#set_fp_timeout param1

Parameters

param1 Integer [0...60]

param1	Description
0	Disabled
1-60	Seconds

Example

#set_fp_timeout 10
FP_TIMEOUT 10

Command Parameters

#set_gateway

Sets the gateway address. This command is only applicable when using Static IP mode. *param1* must be specified using dot-decimal notation. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_gateway param1

Parameters

#set_gateway param1 IP Address

Example

#set_gateway 192.168.1.1
GATEWAY ADDRESS SET TO 192.168.1.1
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_gateway
#get_ip_address
#get_ip_mode
#get_ipconfig
#get_netmask
#get_web_port
#set_ip_address
#set_ip_mode
#set_netmask
#set_web_port

#set_hdcp_allow

Blocks or unblocks HDCP-encrypted sources. This command *does not* decrypt HDCP content and is only available when connected to a Sender unit. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_hdcp_allow param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example

#set_hdcp_allow 1
HDCP ENCRYPTED SOURCE SET TO ENABLED
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_hdcp_allow

#set_ip_address

Sets the IP address. *param1* must be specified using dot-decimal notation. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_ip_address param1

Parameters

param1 IP Address

Example

#set_gateway 192.168.1.1
GATEWAY ADDRESS SET TO 192.168.1.1
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_gateway
#get_ip_address
#get_ip_mode
#get_ipconfig
#get_netmask
#get_web_port
#set_gateway
#set_ip_mode
#set_netmask
#set_web_port

#set_ip_mode

Sets the IP mode. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_ip_mode param1

Parameters

param1 Integer [0...2]

param1	Description
0	Static
1	DHCP
2	Auto IP

Example

#set_ip_mode 1
IP MODE SET TO DHCP
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_gateway
#get_ip_address
#get_ip_mode
#get_ipconfig
#get_netmask
#get_web_port
#set_ip_address
#set_gateway
#set_netmask
#set_web_port

Command Parameters

#set_km_roaming

Syntax
#set_km_roaming param1 param2 param3 (optional param4~param6)

Parameters
param1	Integer	[0...39900] (Rx ID)
param2	Integer	[0...15] (row position)
param3	Integer	[0...15] (column position)

Example
#set_km_roaming 1 0 0
KM_ROAMING 1 0 0

#set_mask

Enables or disables video masking at a Receiver unit.

Syntax
#set_mask param1

Parameters
param1 Integer [0...1]

param1	Description
0	Disabled
1	Enbled

Example
#set_mask 1 MASK ENABLED

Related Commands
#get_mask
#set_block

#set_net_mode

Sets the network casting mode.

Syntax
#set_net_mode param1

Parameters
param1 Integer [0...1]

param1	Description
0	Unicast
1	Multicast

Example
#set_net_mode 0
NETWORK CASTING MODE SET TO UNICAST

Related Commands
#get_net_mode

#set_netmask

Sets the network mask address. *param1* must be specified using dot-decimal notation. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_netmask param1

Parameters

param1 IP Address

Example

#set_netmask 255.255.255.0
NETMASK ADDRESS SET TO 255.255.255.0
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_gateway
#get_ip_address
#get_ip_mode
#get_ipconfig
#get_netmask
#get_web_port
#set_ip_address
#set_ip_mode
#set_gateway
#set_web_port

#set_osd_key

Syntax

#set_osd_key param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example

#set_osd_key 1
OSD_KEY 1

Command Parameters

#set_osd_pip

Sets OSD source for picture-in-picture setting.

Syntax

#set_osd_pip param1
param2(optional)

Parameters

param1	Integer	[0...1]
param2	Integer	[0...8]

param1	Description
0	Disabled
1	Enabled

param2	Description
0-8	Position

Example

#set_osd_pip 1 0
OSD_PIP 1 0

#set_power_save

Syntax

#set_power_save param1

Parameters

param1	Integer	[0...60] seconds

param1	Description
0	Disabled
1-60	Enabled for *x* seconds

Example

#set_power_save 1
POWER_SAVE 1

#set_remote_udp_access

Enables or disables remote UDP access. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_remote_udp_access param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example

#set_remote_udp_access 1
REMOTE UDP ACCESS SET TO ENABLED
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_remote_udp_access
#get_remote_udp_ip
#get_remote_udp_port
#get_udp_access
#get_udp_port
#set_remote_udp_access
#set_remote_udp_ip
#set_remote_udp_port
#set_udp_access
#set_udp_port

#set_remote_udp_ip

Set the remote UDP IP address. *param1* must be specified using dot-decimal notation. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_remote_udp_ip param1

Parameters

param1 IP Address

Example

#set_remote_udp_ip 192.168.1.29

REMOTE UDP IP ADDRESS SET TO 192.168.1.29
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_remote_udp_access
#get_remote_udp_ip
#get_remote_udp_port
#get_udp_access
#get_udp_port
#set_remote_udp_access
#set_remote_udp_port
#set_udp_access
#set_udp_port

#set_remote_udp_port

Set the remote UDP listening port. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_remote_udp_port param1

Parameters

param1	Integer	[0...65535]

Example

#set_remote_udp_port 50008
REMOTE UDP COMMUNICATIONS PORT IS SET TO PORT 50008
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_remote_udp_access	#get_udp_access	#set_remote_udp_ip
#get_remote_udp_ip	#get_udp_port	#set_udp_access
#get_remote_udp_port	#set_remote_udp_access	#set_udp_port

#set_rx_id

Sets the ID of the Receiver unit. This command is only available when connected to a Receiver unit.

Syntax

#set_rx_id param1

Parameters

param1	Integer	[0...65535]

Example

#set_rx_id 1
RX ID: 1

Related Commands

#get_rx_id

#set_serial_allow

Enables or disables serial over IP. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_serial_allow param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disable
1	Enable

Example

#set_serial_allow 0
SERIAL OVER IP SET TO DISABLED
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_serial_allow
#get_serial_baud
#get_serial_bits
#get_serial_parity
#get_serial_stop
#set_serial_baud
#set_serial_bits
#set_serial_parity
#set_serial_stop

#set_serial_baud

Sets the baud rate for the serial port. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_serial_baud param1

Parameters

param1 Integer [0...9]

param1	Description
0	300
1	600
2	1200
3	2400
4	4800
5	9600
6	19200
7	38400
8	57600
9	115200

Example

#set_serial_baud 6
SERIAL BAUD RATE SET TO 19200
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_serial_allow
#get_serial_baud
#get_serial_bits
#get_serial_parity
#get_serial_stop
#set_serial_allow
#set_serial_bits
#set_serial_parity
#set_serial_stop

#set_serial_bits

Sets the data bits for the serial port. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_serial_bits param1

Parameters

param1 Integer [0...3]

param1	Description
0	5
1	6
2	7
3	8

Example

#set_serial_bits 3
SERIAL DATA BITS SET TO 8
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_serial_allow
#get_serial_baud
#get_serial_bits
#get_serial_parity
#get_serial_stop
#set_serial_allow
#set_serial_baud
#set_serial_bits
#set_serial_parity
#set_serial_stop

#set_serial_parity

Sets the parity bit for the serial port. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_serial_parity param1

Parameters

param1 Integer [0...2]

param1	Description
0	None
1	Odd
2	Even

Example

#set_serial_parity 0
SERIAL PARITY MODE SET TO NONE
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_serial_allow
#get_serial_baud
#get_serial_bits
#get_serial_parity
#get_serial_stop
#set_serial_allow
#set_serial_baud
#set_serial_bits
#set_serial_stop

#set_serial_stop

Sets the number of stop bits for the serial port. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_serial_stop param1

Parameters

param1 Integer [0...1]

param1	Description (stop bits)
0	1
1	2

Example

#set_serial_stop 0
SERIAL STOP BITS SET TO 1
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_serial_allow
#get_serial_baud
#get_serial_bits
#get_serial_parity
#get_serial_stop
#set_serial_allow
#set_serial_baud
#set_serial_bits
#set_serial_parity

Command Parameters

#set_showme

Enables or disables the “Show Me” feature. When the “Show Me” feature is enabled, then both the **Power** and **Link** LED indicators, on the front panel, will flash. This quickly identifies a unit and is useful when multiple units are being used. The default setting is *disabled*.

Syntax

#set_showme param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example

#set_showme 1
SHOW ME ENABLED

Related Commands

#get_discovery
#set_discovery

#set_telnet_access

Enables or disables Telnet access. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_telnet_access param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example

#set_telnet_access 1
TELNET ACCESS SET TO ENABLED
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_telnet_access
#get_telnet_login
#get_telnet_port
#get_telnet_welcome
#set_telnet_login
#set_telnet_pass
#set_telnet_port
#set_telnet_welcome

#set_telnet_login

Enables or disables the Telnet login process. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_telnet_login param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example

#set_telnet_login 1
TELNET INTERFACE LOGIN SET TO ENABLED PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_telnet_access
#get_telnet_pass
#get_telnet_port
#get_telnet_welcome
#set_telnet_access
#set_telnet_pass
#set_telnet_port
#set_telnet_welcome

#set_telnet_pass

Sets the Telnet password. The password cannot exceed 8 characters in length and is case-sensitive. No special characters are allowed. The default password is **admin**. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_telnet_pass param1

Parameters

param1 String

Example

#set_telnet_pass b055man
TELNET INTERFACE PASSWORD IS SET b055man
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_telnet_access
#get_telnet_pass
#get_telnet_port
#get_telnet_welcome
#set_telnet_access
#set_telnet_login
#set_telnet_port
#set_telnet_welcome

#set_telnet_port

Sets the Telnet listening port. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_telnet_port param1

Parameters

param1 Integer [0...65535]

Example

#set_telnet_port 23
TELNET COMMUNICATIONS PORT SET TO PORT 23
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_telnet_access
#get_telnet_pass
#get_telnet_port
#get_telnet_welcome
#set_telnet_access
#set_telnet_login
#set_telnet_pass
#set_telnet_welcome

#set_telnet_welcome

Enables / disables the Telnet welcome screen. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_telnet_welcome param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example

#set_telnet_welcome Welcome! TELNET WELCOME SCREEN IS ENABLED
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_telnet_access
#get_telnet_pass
#get_telnet_port
#get_telnet_welcome
#set_telnet_access
#set_telnet_login
#set_telnet_pass
#set_telnet_port

Command Parameters

#set_tx_channel

Sets the video channel for the Sender unit. This command is only available when connected to the Sender unit.

Syntax

#set_tx_channel param1

Parameters

param1 Integer [0...255]

Example

#set_tx_channel 1
TRANSMITTER CHANNEL SET TO 1

Related Commands

#get_tx_channel
#get_rx_channel
r

#set_udp_access

Enables or disables UDP access. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_udp_access param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example

#set_udp_access 0
UDP ACCESS SET TO DISABLED
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_remote_udp_access
#get_remote_udp_ip
#get_remote_udp_port
#get_udp_access
#get_udp_port
#set_remote_udp_access
#set_remote_udp_ip
#set_remote_udp_port
#set_udp_port

#set_udp_port

Sets the local UDP listening port. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_udp_port param1

Parameters

param1 Integer [0...65535]

Example

#set_udp_port 50007
UDP COMMUNCATION IS SET TO PORT 50007
PLEASE REBOOT THE UNIT TO APPLY CHANGES.

Related Commands

#get_remote_udp_access
#get_remote_udp_ip
#get_remote_udp_port
#get_udp_access
#get_udp_port
#set_remote_udp_access
#set_remote_udp_ip
#set_remote_udp_port
#set_udp_access

#set_usb_allow

Enables or disables the USB-over-IP feature. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_usb_allow param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example

#set_usb_allow 1
USB OVER IP SET TO ENABLED
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_usb_allow
#get_usb_mode
#get_usb_mouse
#set_usb_mode
#set_usb_mouse

#set_usb_kmoip

Sets USB K/M over IP (USB emulation feature)

Syntax

#set_usb_kmoip param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example

#set_usb_kmoip 1
USB_KMOIP 1

#set_usb_mode

Sets the USB operating mode. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_udp_port param1

Parameters

param1 Integer [0...1]

param1	Description
0	Active per request
1	Active on link

Example

#set_usb_mode 0
USB OPERATION MODE SET TO ACTIVE PER REQUEST
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_usb_allow
#get_usb_mode
#get_usb_mouse
#set_usb_allow
#set_usb_mouse

#set_usb_mouse

Sets the USB mouse mode. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_udp_port param1

Parameters

param1 Integer [0...1]

param1	Description
0	High resolution
1	Compatibility

Example

#set_usb_mouse 0
USB MOUSE MODE SET TO HIGH RESOLUTION
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_usb_allow
#get_usb_mode
#get_usb_mouse
#set_usb_allow
#set_usb_mode

#set_usb_roaming

Syntax

#set_usb_roaming param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example

#set_usb_roaming param1
USB_ROAMING 1

#set_video_allow

Enables or disables the Video-over-IP feature. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_video_allow param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disabled
1	Enabled

Example

#set_video_allow 1
VIDEO OVER IP IS SET TO ENABLED
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_video_allow

#set_vw

Enable/disable the video wall. After executing this command, the unit must be rebooted to apply the changes.

Syntax

#set_vw param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disable
1	Enable

Example

#set_vw 1
VW 1
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw_bc
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_pos
#set_vw_shift
#set_vw_vscale

#set_vw_bc

Sets the video wall bezel compensation value. All arguments are expressed in 0.1 mm units:

- param1 is the video width
- param2 is the overall width
- param3 is the video height
- param4 is the overall height

Syntax

#set_vw_bc param1 param2 param3 param4

Parameters

param1	Integer	[0 ... 99999]
param2	Integer	[0 ... 99999]
param3	Integer	[0 ... 99999]
param4	Integer	[0 ... 99999]

Example

#set_vw_bc 190 200 90 100
VW_BC 190 200 90 100

Related Commands

#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_pos
#set_vw_shift
#set_vw_vscale

#set_vw_delay

Sets the video wall display delay in microseconds.

Syntax

#set_vw_delay param1

Parameters

param1	Integer	[0...99999]

Example

#set_vw_delay 16000
VW_DELAY 16000

Related Commands

#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw_bc
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_pos
#set_vw_shift
#set_vw_vscale

#set_vw_hscale

Sets the video wall horizontal upscaling.

Syntax

#set_vw_hscale param1

Parameters

param1	Integer	[0 ... 1]

Example

#set_vw_hscale 1
VW_HSCALE 1

Related Commands

#get_vw_bc	#get_vw_pos	#set_vw_layout
#get_vw_delay	#get_vw_shift	#set_vw_osd
#get_vw_hscale	#get_vw_vscale	#set_vw_pos
#get_vw_layout	#set_vw	#set_vw_shift
#get_vw_osd	#set_vw_delay	#set_vw_vscale

#set_vw_layout

Sets the maximum horizontal and vertical display count for the video wall:

- param1 is the maximum horizontal display count.
- param2 is the maximum vertical display count.

Syntax

#set_vw_layout param1 param2

Parameters

param1	Integer	[0 ... 15]
param2	Integer	[0 ... 15]

Example

#set_vw_layout 2 2
VW_LAYOUT 2 2

Related Commands

#get_vw_bc	#get_vw_pos	#set_vw_hscale
#get_vw_delay	#get_vw_shift	#set_vw_osd
#get_vw_hscale	#get_vw_vscale	#set_vw_pos
#get_vw_layout	#set_vw_bc	#set_vw_shift
#get_vw_osd	#set_vw_delay	#set_vw_vscale

#set_vw_osd

Enable/disable the video wall OSD.

Syntax

#set_vw_osd param1

Parameters

param1 Integer [0...1]

param1	Description
0	Disable
1	Enable

Example

#set_vw_osd 1
VW_OSD 1

Related Commands

#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_pos
#set_vw_shift
#set_vw_vscale

#set_vw_pos

Sets the video wall position.

- param1 is the row position.
- param2 is the column position.

Syntax

#set_vw_pos param1 param2

Parameters

param1 Integer [0...15]
param2 Integer [0...15]

Example

#set_vw_pos 2 2
VW_POS 2 2

Related Commands

#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw_bc
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_shift
#set_vw_vscale

#set_vw_shift

Sets the video wall display shift. param2 must be specified in increments of eight pixels (e.g., 0, 8, 16, 24, etc.)

Syntax

#set_vw_shift param1 param2

Parameters

param1 Character

param1	Description
U	Shift up
D	Shift down
L	Shift left
R	Shift right

param2 Integer [0...80000]

Example

#set_vw_shift L 16
VW_SHIFT L 16

Related Commands

#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_pos
#set_vw_vscale

#set_vw_vscale

Sets the video wall vertical upscaling.

Syntax

#set_vw_vscale param1

Parameters

param1 Integer [0...15]

Example

#set_vw_vscale 1
VW_VSCALE 1

Related Commands

#get_vw_bc
#get_vw_delay
#get_vw_hscale
#get_vw_layout
#get_vw_osd
#get_vw_pos
#get_vw_shift
#get_vw_vscale
#set_vw_bc
#set_vw_delay
#set_vw_hscale
#set_vw_layout
#set_vw_osd
#set_vw_shift

#set_web_port

Sets the HTTP listening port.

Syntax	Parameters		
#set_web_port param1	param1	Integer	[0...65535]

Example

#set_web_port 82
WEB INTERFACE PORT SET TO 80
PLEASE REBOOT THE UNIT TO APPLY CHANGES

Related Commands

#get_gateway
#get_ip_address
#get_ip_mode
#get_ipconfig
#get_netmask
#get_web_port
#set_gateway
#set_ip_address
#set_ip_mode
#set_netmask

#set_webui_ad_pass

Sets the Administrator password for the Web interface login. The password cannot exceed eight characters in length. The default password is admin.

Syntax	Parameters	
#set_webui_ad_pass param1	param1	Password

Example

#set_webui_ad_pass b05Sman
WEB UI ADMINISTRATOR PASSWORD IS SET

Related Commands

#set_webui_user_pass

Command Parameters

#set_webui_user_pass

Sets the User password for the Web interface login. The password cannot exceed eight characters in length. The default password is **user**.

Syntax
#set_webui_user_pass param1

Parameters
param1 Password

Example
#set_webui_user_pass m1ni0n
WEB UI USER PASSWORD IS SET

Related Commands
#set_webui_ad_pass

a

Changes the audio input of the currently selected Sender.

Syntax
a param1

Parameters
param1 Character

param1	Description
D	Digital
A	Analog
Auto	Auto

Example
a D
A D

ar

Sets the audio return route.

Syntax
ar param1

Parameters
param1 Integer [0...39900] (Receiver ID)

param1	Description
0	Off
1~39900	Receiver ID number

Example
ar 1
AR 1

Command Parameters

r

Changes a Receiver unit to the specified video channel. Changing the video channel allows a Receiver unit to accept the signal from a Sender unit that uses the same video channel. This command is only available when connected to a Receiver unit. Do not precede this command with the **#** symbol.

Syntax

r param1

Parameters

param1	Integer	[0...255]

Example

r 1
TRANSMITTER 1 ROUTED TO RECEIVER

Related Commands

v

v

Changes the video input on the Sender unit. This command is only available when connected to a Receiver unit. Do not precede this command with the **#** symbol. The **t** argument will toggle between the USB-C and HDMI inputs.

Syntax

v param1

Parameters

param1 Character

param1	Description
V	USB-C
H	HDMI
T	Toggle

Example

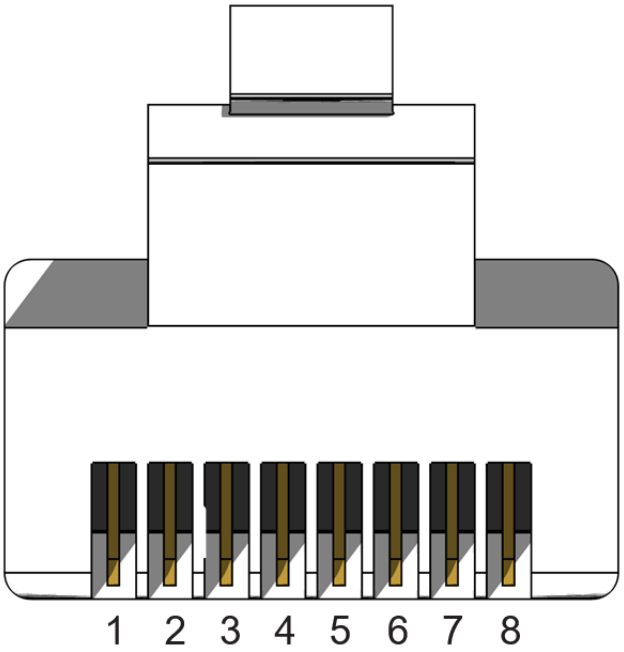
v h
V H

Related Commands

r

APPENDIX

Network Cable Diagram



Gefen recommends the TIA/EIA-568-B wiring option. Use the table below when field-terminating cable for use with Gefen products.

Pin	Color	Description
1	Orange/White	TD+ (Transmit Data, positive differential signal)
2	Orange	TD- (Transmit Data, negative differential signal)
3	Green/White	RD+ (Receive Data, positive differential signal)
4	Blue	Unused
5	Blue/White	Unused
6	Green	RD- (Receive Data, negative differential signal)
7	Brown/White	Unused
8	Brown	Unused

Note: Shielded CAT-5e (or better) cabling is recommended.

Specifications

Supported Formats	
Resolutions (max.)	• 4K Ultra HD 60 Hz, 4:4:4 • 1080p Full HD (60 Hz) • 1920 x 1200 60 Hz (WUXGA)
Output Resolutions/Timing (max.)	• 4K Ultra HD 30 Hz, 4:4:4 • 1080p Full HD (60 Hz) • 1920 x 1200 60 Hz (WUXGA)

Connectors, Controls, and Indicators	
Video Input (Sender)	• 1 x HDMI Type A 19-pin, female • 1 x USB Type C, female
Video Output (Sender)	• 1 x HDMI Type A 19-pin, female, local output
Video Output (Receiver)	• 1 x HDMI Type-A 19-pin, female
Line Input (Sender)	• 1 x 3.5mm mini-stereo jack
Analog Line Output (Receiver)	• 1 x 3.5mm mini-stereo jack
Digital Optical Audio Input (Receiver)	• 1 x TOSLINK®
Digital Optical Audio Output (Sender)	• 1 x TOSLINK®
RS-232 port (Sender)	• 1 x DB-9, female
RS-232 port (Receiver)	• 1 x DB-9, male
IR In/Ext (Sender/Receiver)	• 1 x 3.5mm mini-stereo jack
IR Out (Sender/Receiver)	• 1 x 3.5mm mini-stereo jack
IR Extender type	• EXT-RMT-EXTIRN
Ethernet ports (Sender/Receiver)	• 2 x RJ-45, shielded, 1 with PoE
Channel Up/Down button (Sender)	• 2 x tact-type, recessed
Channel Up/Down button (Receiver)	• 2 x tact-type
3-Digit LED Display (Sender/Receiver)	• Red LED
IP button (Sender/Receiver)	• 1 x tact-type
Service button (Sender/Receiver)	• 1 x tact-type, recessed
Program Select switch (Sender/Receiver)	• 1 x slide-type, recessed
Link Indicator (Sender/Receiver)	• 1 x LED, green
Power Indicator (Sender/Receiver)	• 1 x LED, Bi-Color Blue/Red
Input Select Indicator (Sender)	• 2 x LED, green

Specifications

Operational	
Power Requirements (Sender/Receiver)	• 12V DC, or PoE (802.3at standard)
Power Consumption	• Sender: 12W • Receiver: 12W
Operating Temperature (Sender/Receiver)	• +32 to +104 °F (0 to +40 °C)
Operating Humidity (Sender/Receiver)	• 20% to 90% RH, non-condensing
Storage Temperature (Sender/Receiver)	• -4 to +185 °F (-20 to +85 °C)
Storage Humidity (Sender/Receiver)	• 20% to 90% RH, non-condensing
MTBF	• Sender: 50,000 hours • Receiver: 50,000 hours

Physical	
Dimensions (W x H x D), without connectors or feet	Sender: • 9.11” x 0.98” x 6.22” • (231.5mm x 25mm x 158mm) Receiver: • 9.11” x 0.98” x 6.22” • (231.5mm x 25mm x 108mm)
Unit Weight	Sender: 2.0 lbs. (0.92 kg) Receiver: 2.0 lbs. (0.92 kg)
Shipping Weight	Sender: 3.8 lbs. (1.7 kg) Receiver: 3.8 lbs. (1.7 kg)

Warranty

For the latest warranty coverage information, refer to the Warranty and Return Policy under the Connect section of the Gefen Web site at http://www.gefen.com/connect/warranty-and- return-policy.

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- jQuery
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Technical Support
1-760-438-7000

Technical Support Hours
Monday–Friday, 6:00 a.m.–4:00 p.m. PST

GEFEN
c/o Customer Service
5919 Sea Otter Pl, Suite 100,
Carlsbad, CA 92010 USA

gefen.com

This product uses UL listed power supplies.

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