GEFEN
a Nice brand

AVOIP MATRIX CONTROLLER
GF-AVIP-MC

User Manual

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Important Safety Instructions

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply. Please keep the following in mind as you unpack and install this equipment:

1. Always follow basic safety precautions to reduce the risk of fire,electrical shock and injury to persons.
2. To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
3. Never spill liquid of any kind on or into this product.
4. Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
5. Do not attach the power supply cabling to building surfaces.
6. Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
7. Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
8. To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.
9. Please completely disconnect the power when the unit is not in use to avoid wasting electricity.

Introduction

This Matrix Controller is a powerful and flexible solution for controlling Gefen compatible Video and KVM over IP based extenders within same network. The user only needs to install this unit into the same local network as the extenders (transmitters and receivers) to easily define and configure channel routing selections(including video, audio and a variety of controller interface types), using the WebGUI.

Either unicast or multicast scenarios can be configured via WebGUI. It is also possible to define and switch routes using customized groups or presets allowing for easy control over multiple video zones.

Without the use of this centralized unit, each transmitter and receiver in the system would need to be controlled and configured directly through their own individual WebGUIs.

Additionally, this unit supports controlling the matrix and video wall modes of connected AVoIP units. The settings of all connected transmitter/receiver units, including IP address, netmask and extender status are clearly displayed within the WebGUI.

The WebGUI is easily accessed via a web browser over a normal network connection or by directly connecting an HDMI display and USB keyboard & mouse to the unit. A standard HDMI plus USB touch screen display can also be used to interact with the local WebGUI and control the unit.

A trigger input interface is also provided to allow the easy addition of a remote control keypad, or other trigger-supporting products, which can be installed within a podium or within a table in a conference room or classroom. This interface can allow the user to activate stored presets with the simple press of a button. Standard control is available via WebGUI (remote or local), RS-232, Telnet, UDP and IR remote.

Overview

Applications

- Video/TV wall display and control
- Security surveillance and control
- Commercial advertising, display and control
- Home Theaters with Smart Home Controls
- House of Worship/Live Venues
- Retail sales and demonstration

Package Contents

- 1× AVoIP Matrix Controller
- 1× 5V/2.6A DC Power Adapter (EXT-PS52AIP-LP-6)
- 1× Terminal Block (3-pin)
- 3× Terminal Block (5-pin)
- 1× 3.5mm to IR Extender Cable (EXT-RMT-EXTIRN)
- 1× 8 Button Remote Control
- 1× Shockproof Feet (Set of 4)
- 1× Quick Start Guide

System Requirements

- An active network connection from a switch or router for control of compatible AV over IP devices.

Features

- Enables the management and full configuration of multiple compatible Gefen Video and KVM over IP extenders through a single WebGUI
- Supports point-to-point (unicast) and multi-to-multi (multicast) routing selections
- Control over standard matrix, free routing and TV wall modes using presets or direct configuration
- Definable display groups
- WebGUI clearly displays the status of all connected Transmitters and Receivers, including IP address, channel selection, etc.
- HDMI output displays the WebGUI and system status
- Supports the use of a USB mouse and keyboard, with separate HDMI display, or an HDMI + USB touch screen display to locally control the WebGUI (Optional)
- Can be powered by an Ethernet switch that supports the IEEE 802.3af- 2003 PoE standard (Optional)
- Trigger Control support for easy preset activation
- Standard control is available via WebGUI (remote or local), RS-232, Telnet, UDP and IR remote

Installation

The Matrix Controller is designed to manage and control the Gefen family of Video and KVM over IP products in a virtual matrix environment. The Matrix Controller provides two methods of network control: *Combined Mode* and *Separate Mode*.

Combined Mode

This is the default mode and is used when the Matrix Controller is connected to the same switch as the KVM over IP products, degraded because of the large amount of bandwidth required to support video signals on the same switch. To solve this issue, *Separate Mode* can be used. To use Separate Mode, an independent managed switch must be installed to support the Gefen KVM over IP products. See **Separate Mode** (next page) for more information.

1. Connect a shielded CAT-5E (or better) cable from each of the Gefen Video and KVM over IP units to a managed switch.
2. Connect the included power supply to the 5V DC power receptacle on the rear panel of the AVoIP Matrix Controller.
3. Connect the power cord to an available electrical outlet.
4. Connect a computer to the same network as the AVoIP Matrix Controller.
5. Set the computer's IP address to 192.168.1.xxx, where xxx is a value between 1 and 254 or utilize Gefen Syner-G Software to discover the device and configure the controller to the IP range of computer.

IMPORTANT: Do not use the IP address 192.168.1.72 which is the default IP of the AVoIP Matrix Controller. If the current network configuration is already within this range, make sure that the IP address 192.168.1.72 is not assigned to another device in order to avoid conflicts.

6. Open a Web browser and enter the following address: **192.168.1.74** or use the default mDNS address: avip-mc.local/

   NOTE: the mDNS address is configurable. See Discovery Protocol Settings, pg. 39, for details.

7. Access the System page and click on **Login** button.
8. Type admin (case-sensitive) in both the *Username* and *Password* fields, then click the **Login** button.

Installation

Separate Mode

This mode is used when the KVM over IP products are connected to a separate (dedicated) managed switch.

Two CAT-5e (or better) cables will be required to connect the Matrix Controller. If a single switch will be connecting Gefen KVM over IP products in addition to your other network devices.

1. Connect a shielded CAT-5e (or better) cable from each of the Gefen KVM over IP units to a managed switch. Refer to the User Manual(s) for the Gefen KVM over IP units to obtain the network requirements.
2. Connect a CAT-5e (or better) cable from the LAN 1 port on the Matrix Controller to the network switch.
3. Connect a secondary CAT-5e (or better) cable from the LAN 2 port on the Matrix Controller to the dedicated AV/KVM gigabit switch.

Operation Controls and Functions

Front Panel

1. **POWER LED:** This LED will illuminate to indicate the following:
   - Green LED solid: Power ON
   - Green LED flashing: Booting Up
   - Blue LED solid: Device Ready
   - LED off: Power OFF/Card Read Error
2. **IR Window:** Accepts IR signals from the included IR remote for control of this unit only.

Rear Panel

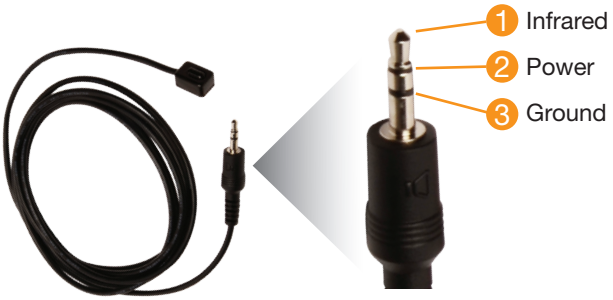
ID	Name	Description
1	IR EXT Port	Connect to the provided IR Extender to extend the IR control range of the unit. Ensure that the remote being used is within direct line-of-sight of the IR Extender.
2	CONTROL 5-pin Terminal Block	This port's functionality is reserved for use in a future update.
3	RS-232 3-pin Terminal Block	Connect to a PC, laptop or other serial control device with a 3-pin adapter cable to control the unit via RS-232.
4	TRIGGER IN 10-pin Terminal Block	Connect to any device with trigger switch functionality such as window security alarms, motion detectors, door switches, etc. Each of the 8 trigger inputs will activate the associated preset (1~8) when triggered. **NOTE:** A minimum of 5V DC is required to activate each trigger.
5	HDMI OUT Port	Connect to a standard HDMI display to view the unit's current status information and access the WebGUI directly without a PC. **NOTE:** HDMI output is locked to a resolution of 1080p@60Hz.
6	LAN 2 Port	This port is used to connect to the AVoIP devices to be controlled in Separate mode. Connect to the AVoIP units' private network, either directly or through their dedicated network switch.
7	LAN 1(POE) Port	This port is used for both Control and Video in Combined mode. Connect to the AVoIP units' private network, either directly or through their dedicated network switch, to enable detection and control over those units. In Separate mode, connect this port to the public network. **NOTE 1:** Typically the AVoIP device network is contained within a separate subnet or, more frequently, in a physically separate network. **NOTE 2:** If the connected network switch supports the IEEE 802.3af-2003 PoE (Power over Ethernet) standard, this unit can optionally be powered directly via this Ethernet port.
8	DC 5V Port	Plug the 5V DC power adapter into the unit and connect it to an AC wall outlet for power. **NOTE:** Optional, not required if the unit is powered via PoE.

Operation Controls and Functions

Remote Control

1. **PRESET 1~8:** Press any of the 8 buttons to activate the saved preset associated with that number.

IR Cable Pinouts

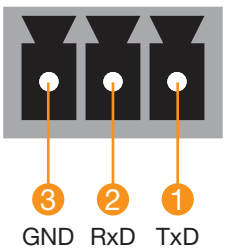


RS-232 Pinout and Defaults

Serial Port Default Settings (RS-232 Port Only)	
Baud Rate	115200
Data Bits	8
Parity Bits	None
Stop Bits	1
Flow Control	None

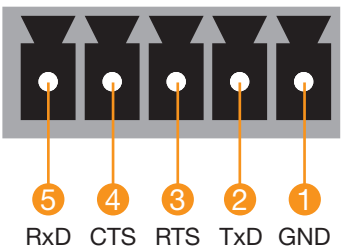
RS-232 Port

3-pin Terminal Block



Control port (Future Use)

5-pin Terminal Block



WebGUI Access Methods

Gefen Syner-G Device Discovery

Download the *Gefen Syner-G* software at www.gefen.com/gefen-syner-g-software/

Connect the unit and your PC/Laptop to the same active network and run the *Gefen Syner-G* software. A list of devices connected to the local network will be displayed indicating their current IP address.

Locate the Product Name: **GF-AVIP-MC**

By clicking on one of the listed devices you will be presented with the network details of that particular device.

You can alter the static IP network settings for the device, or switch the unit into DHCP mode to automatically obtain proper network settings from a local DHCP server.

To switch to DHCP mode, select **DHCP** from the IP mode drop-down, then click **Save**. Then click **Reboot**.

Local Access

Connect an HDMI cable from controller to a Display. Connect USB Mouse and Keyboard.

Multicast DNS (mDNS) Discovery

The controller must in the same IP range of the network.

On the browser, type: **AVIP-MC.local/**

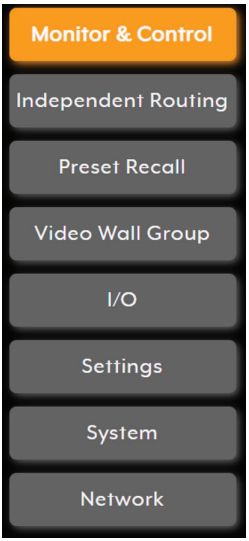
This will perform a device look up based on the domain name and retrieve its IP address.

To modify the mDNS name, see Network / Discovery Protocol Settings section.

WebGUI Control Page

All functions of this unit are controllable via the built in WebGUI. It's accessed by connecting your web browser to LAN 1's IP address or by connecting an HDMI display to the unit's HDMI output and attaching a USB mouse and keyboard to the unit's USB port.

Control via standard HDMI plus USB style touch screens is also supported. This control is presented across a number of separate tabs, including *Monitor & Control*, *Independent Routing*, *Preset Recall*, *Video Wall Group*, *I/O*, *Settings*, *System* and *Network*.



When no user is logged in, a limited selection of tabs are available (*Monitor & Control*, *Preset Recall* and *System*). This applies only when **Guest Mode** is enabled with assigned Transmitters and Receivers.

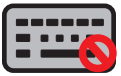
This allows for easy user access to routing selection and presets, while still protecting the more sensitive and critical setup and configuration controls.

To log in to the WebGUI, switch to the *System* tab and click on the **Login** button.
By default, both the *Username* and *Password* are set to **admin** for the WebGUI. The administrator password can be changed within the *System* tab of the WebGUI if desired.

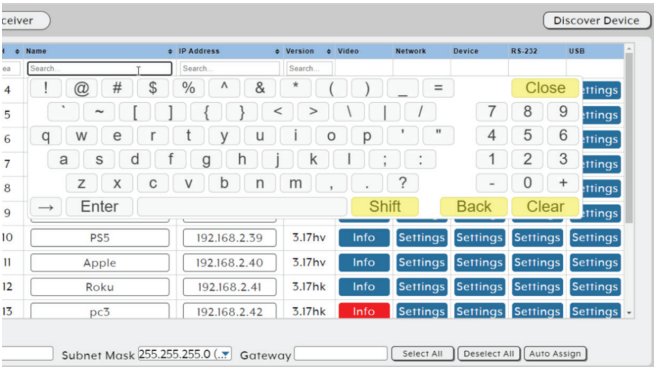
WebGUI Control Page

Virtual On-Screen Keyboard

If a USB keyboard for typing is not present, press keyboard icon located on the bottom right of the WebGUI.



Clicking on any field will bring up the Virtual On-Screen Keyboard.



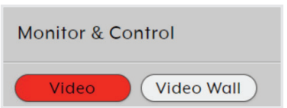
Monitor & Control Tab

This tab provides a graphical representation of all current transmitters, receivers, video walls and video groups. It also provides a simple way to change video routing by using drag and drop or standard table list view routing.

Live Preview Drag & Drop View

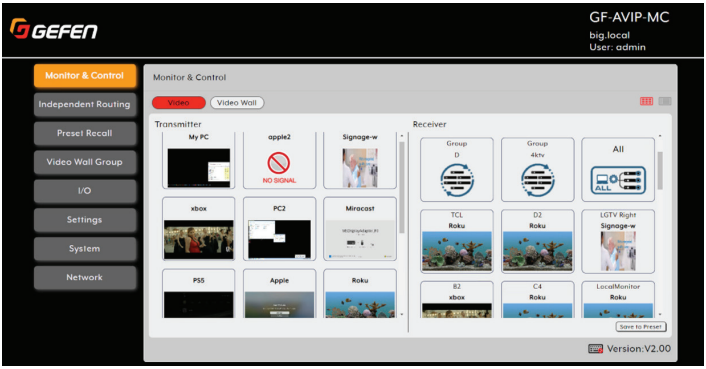
Select the *Drag & Drop View* Icon highlighted in red to display live preview Drag & Drop page. This is the default view.

There are two sub tabs: *Video Routing* and *Video Wall Routing*. Select the **Video** button highlighted in Red to display the Video Matrix Routing page.



WebGUI Control Page

Video Matrix Routing



NOTE: This tab is fully functional even when the user is logged out with Guest mode enabled. I/O devices must also be assigned to Guest User.

- **Transmitter Preview:** This section displays preview thumbnails from all detected transmitters along with their assigned names. To route a transmitter's source to a receiver, video wall or video group, drag-and-drop can be used.

  Click and drag the thumbnail from the Transmitter pane to drop it onto the preferred receiver or group on the Receiver pane. The routing change process will begin immediately.

- **Receiver Preview:** This section displays preview thumbnails from all detected receivers along with their assigned names.

NOTE: Mouse hover feature is supported across all pages which provides helpful details when you hover your mouse pointer specific text/buttons. In this case for Transmitter

Preview thumbnails, hovering will show Device Name, CH ID and IP Address of the selected device:

Receiver Preview thumbnails, will also show Device Name, CH ID and IP Address of the selected device:

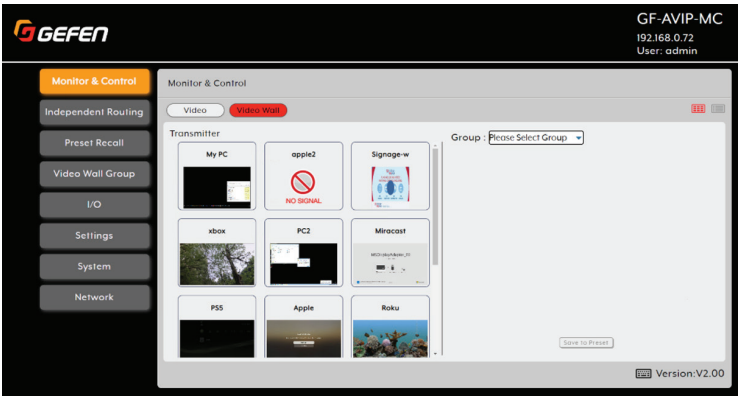
WebGUI Control Page

Video Wall Group Routing

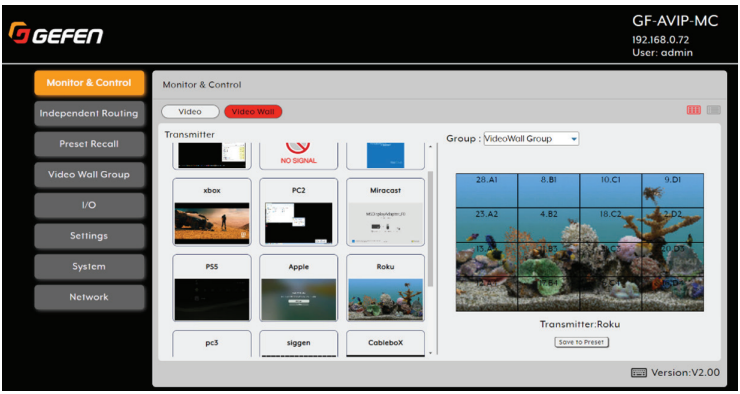
Select the **Video Wall** button highlighted below in red. This will display the Video Wall Group Routing Page which allows you to perform drag & drop Video Wall Group Routing.

- **Group Preview:** This section displays preview thumbnails from any selected Video Wall Group.

To route a Transmitter to a Video Wall Group, select a Video Wall Group from the drop down list, then perform a Transmitter drag & drop to a Video Wall Group.



NOTE: If there are no Video Wall groups selectable, you must create a Video Wall group configuration first. Refer to Video Wall Group Tab, pg. 21, for Creating Video Wall Group.

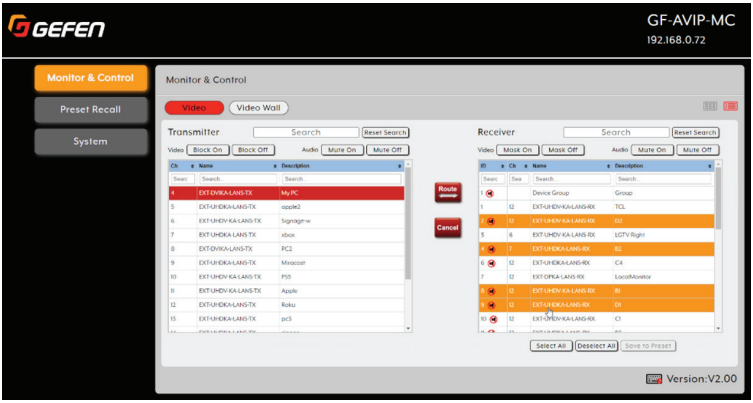


WebGUI Control Page

List View Routing

Select the Table List View Icon highlighted in red to display the List View Routing page.

This page allows the user to select multiple or all receivers to be routed to a selected Transmitter. *Mute*/*Unmute*, *Mask* and *Block* functions are configurable on this page.



NOTE: This tab is fully functional even when the user is logged out with Guest mode enabled. I/O devices must also be assigned to Guest User.

- **Route:** This button will perform a video route. First select any Transmitter which highlights in red, then select one or many receivers which will highlight in orange. Pressing the **Route** button will execute the video route.
- **Cancel:** This button will clear the video route.
- **Save to Preset:** This button will save the current state to a Preset.

WebGUI Control Page

Transmitter Pane

- **Search:** This global field allows searching a Transmitter device by any keyword.

The Channel, Device and Descriptions columns consists of Search fields also allowing to filter by keyword.

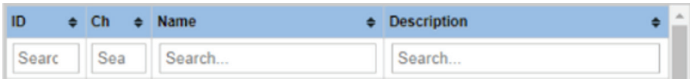
- **Reset Search:** This button will clear the Transmitter search field.
- **Sorting:** Sorting by ascending/descending order is made possible by clicking the up/down arrows which toggle the order.

- **Block On:** Enables Video Block for any selected Transmitter.
- **Block Off:** Disables Video Block for any selected Transmitter.
- **Mute On:** Enables Audio Mute for any selected Transmitter.
- **Mute Off:** Disables Audio Mute for any selected Transmitter.

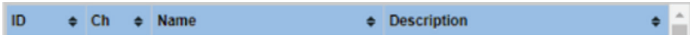
Receiver Pane

- **Search:** This field allows users to search a Receiver device by any keyword.

The Channel, Device and Descriptions columns consists of Search fields also allowing to filter by keyword.



- **Reset Search:** This button will clear the Receiver search field.
- **Sorting:** Sorting by ascending/descending order is made possible by clicking the up/down arrows which toggle the order.

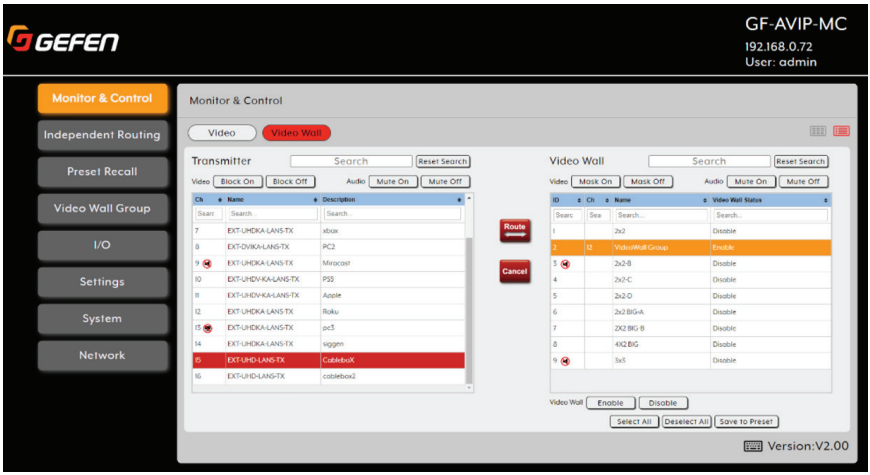


- **Mask On:** Enables Video Mask for any selected Receiver.
- **Mask Off:** Disables Video Mask for any selected Receiver.
- **Mute On:** Enables Audio Mute for any selected Receiver.
- **Mute Off:** Disables Audio Mute for any selected Receiver.
- **Select All:** This button selects all Receivers in the list.
- **Deselect All:** This button deselects all Receivers in the list.

WebGUI Control Page

List View Video Wall Group Routing

This page allows the user to select a single, multiple, or all Video Wall groups to be routed to a selected Transmitter. *Mute*/*Unmute*, *Mask* and *Block* functions and *Save to Preset* are configurable on this page.



- **Route:** This button will perform a video route. First select any Transmitter which highlights in red, then select one or multiple Video Wall Groups to highlight in orange. Pressing the **Route** button will execute the video route.

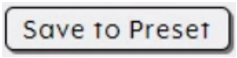
  NOTE: Routing issues may occur if multiple Video Wall Groups are executed at one time that share the same receiver.

- **Cancel:** This button will clear the video route.
- **Save to Preset:** This button will save the current state to a Preset.
- **Video Wall Enable:** This will enable the Video Wall configuration of a selected Video Wall Group.
- **Video Wall Disable:** This will disable the Video Wall configuration of a selected Video Wall Group.
- **Video Wall Name:** This column will list all available Video Wall Group configurations.
- **Video Wall Status:** This column will provide the Video Wall Status for each Video Wall Group.

Save to Preset

This allows to save the current routing state to a **Preset**. Press the **Save to Preset** button.

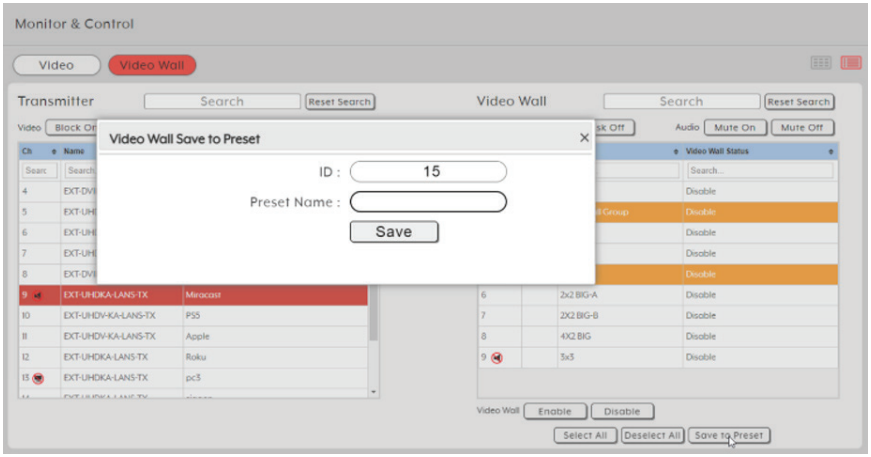
NOTE: This function is only available to logged in Users including Guest.



A prompt will appear to save to Preset.

- **ID:** This field is used to assign a Preset ID number.
- **Preset Name:** This field is used to name the preset.
- **Save:** This button will save the Preset configuration.

To activate the **Save to Preset** button on the Video Wall List View page, one or many Video Wall Groups must be selected first before the **Save to Preset** function is accessible. Up 256 Presets can be configured for each User.

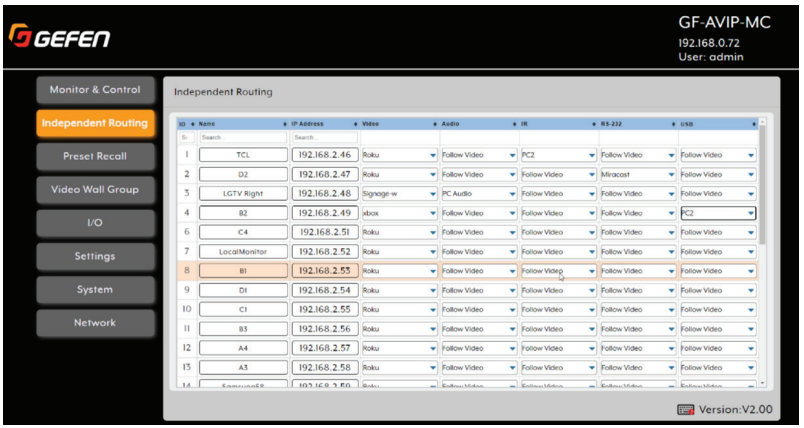


NOTE: To modify an existing preset or to create a custom preset, refer to Preset Settings, pg. 29.

WebGUI Control Page

Independent Routing Tab

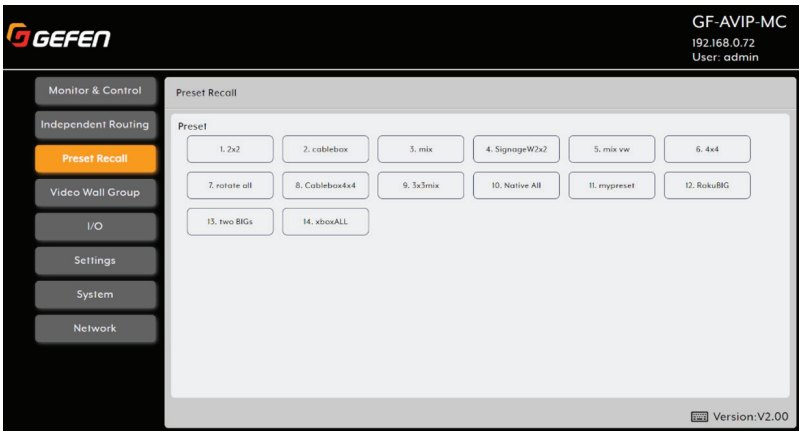
This page allows for independently routing I/O signals for Video, Audio, IR, RS-232, or USB from any Transmitter to any Receiver. By default, the routing these I/O signals will follow video of the routed Transmitter to the Receiver unit. To select a fixed route for a Receiver, use the drop down box of the desired I/O signal and select a Transmitter. Any changes will be applied live.



Preset Recall Tab

This tab lists all currently defined Presets and provides a simple way to activate them. Each **Preset** button will show the Preset ID followed by the *Preset Name*.

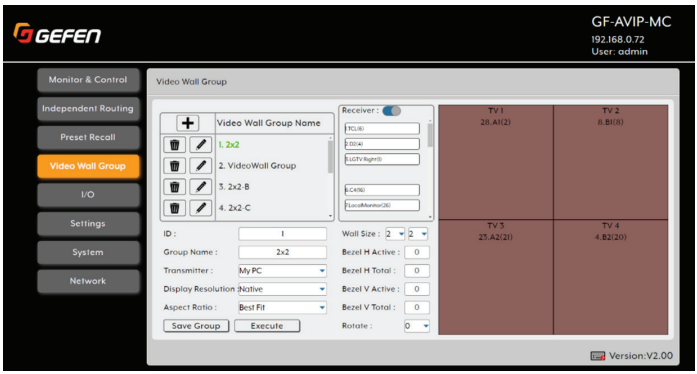
To activate a saved *Preset*, click on the appropriately named button. Presets are defined within the Settings / Presets tab. Only the Presets that have been defined for *Guest* will be visible when logged off. Logged in Users will see their own defined *Presets*.



WebGUI Control Page

Video Wall Group Tab

The *Video Wall Group* page allows the user to design, edit and manipulate a video wall system created using multiple receiver units connected to identical displays. The bezel and video size of the displays being used, as well as the horizontal and vertical monitor count is defined here. *Display Resolution Scaling*, *Aspect Ratio* and *Rotation* can also be controlled here.



NOTE: While it is possible to create small video walls using unicast mode, in order to more efficiently use the available network bandwidth, it is strongly recommended to only use multicast mode when creating video walls.

- **Video Wall Group Settings:** This section is used to define the number of displays used in the video wall. A typical video wall consists of an equal number of horizontal and vertical monitors (for example: 2×2 or 3×3), however it is possible to create video walls using this system with a wider variety of dimensions as long as the end result is still a rectangle (for example: 5×1 or 2×3). Both horizontal and vertical dimensions are limited to a maximum of 16 displays.

NOTE: Up 256 Video Wall Groups can be configured for each User.

  - » **Video Wall Group Name:** Set the name for the current video wall group.
  - » **Transmitter:** Use the dropdown to select the transmitter to use as the source video for the video wall.
  - » **Display Resolution:** Use the dropdown to select the *Display Resolution* setting for all receivers in the current video wall group.
  - » **Aspect Ratio:** Use the dropdown to select the *Aspect Ratio* setting for all receivers in the current video wall group. Set the video stretch method. Selecting **Fit In** will expand the video to exactly fit the dimensions of the video wall regardless of the source's original aspect ratio. Selecting **Stretch Out** will zoom the video until the video wall is filled in all four dimensions while maintaining the aspect ratio of the original source.
  - » **Vertical Monitor Count:** Use the dropdown to define the number of displays in the video wall, measured vertically. (Max. is 16 displays.)
  - » **Horizontal Monitor Count:** Use the dropdown to define the number of displays in the video wall, measured horizontally. (Max. is 16 displays.)

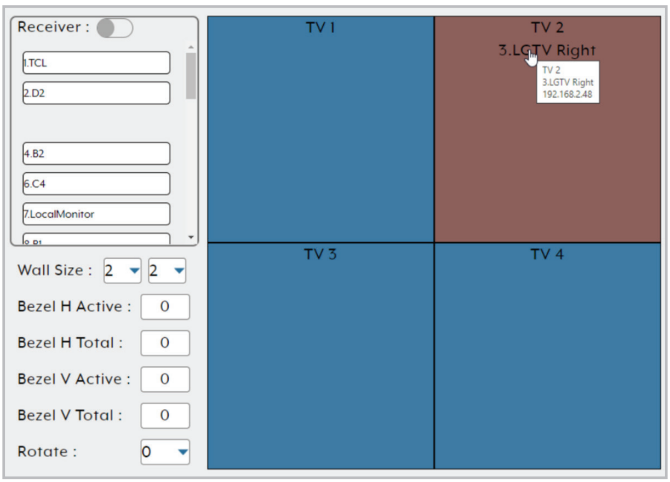
WebGUI Control Page

- **Video Wall Bezel:** This section is used to define the physical dimensions of each display being used in the video wall. Accurate measurements are needed of the monitor's outer frame (OW, OH) and the video screen (VW, VH). The measurements may be made using any unit of measurement (inches, mm, cm, etc.) as long as ALL measurements in the same wall are made using the exact same units and the numbers are integers.
    - » **OW (Outer Width):** This is the horizontal measurement of the display's outer case.
    - » **OH (Outer Height):** This is the vertical measurement of the display's outer case.
    - » **VW (Video Width):** This is the horizontal measurement of the display's video screen.
    - » **VH (Video Height):** This is the vertical measurement of the display's video screen.
    - » **Rotate:** Set the rotation of the video output to 0, 180, or 270 degrees.

NOTE: All monitors in a video wall should be identical and have the same dimensions.

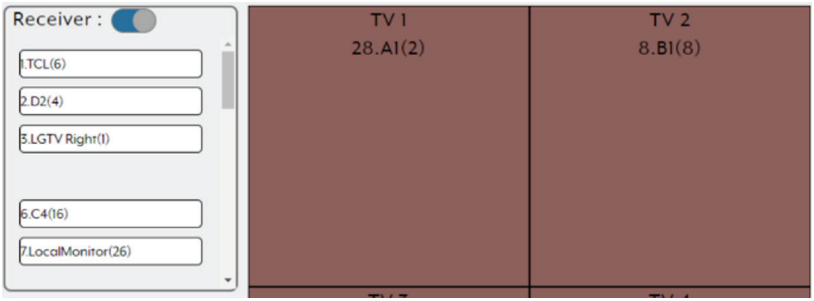
- **TV Wall Assignments:** Each rectangle in this section represents a single display within the defined video wall. From the Receiver list, drag & drop a receiver to assign to a specific display. Once assigned, the window will be colored brown. If no receiver is attached to a specific display, the window output will be in blue.

NOTE: A receiver should not be assigned to more than one display.



- **Receiver OSD Toggle:** This will toggle the *Receivers Video Wall OSD ID* to appear on the list indicated by the ID in the parenthesis as well as output the *VW ID* to each Receiver. This will help simplify the configuration for the video wall layout by matching the VW ID to the desired location.

WebGUI Control Page

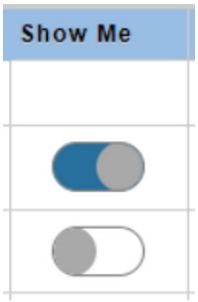


I/O Tab - Transmitter Page

I/O Tab - Receiver Page

WebGUI Control Page

- **Discover Device:** Only used for systems utilizing legacy EXT-CU-LAN systems where Gefen's Discovery Protocol has been disabled for all Transmitters/Receivers. Utilize this function to broadcast a UDP message to turn on Discovery Protocol which is required for GF-AVIP-MC to operate properly.
- **Show Me:** Toggles Show Me function for Transmitters/Receivers used to easily identify units in a system.



- **Icon:** Indicator when a unit is *Online*, *Offline* or *Updating*.

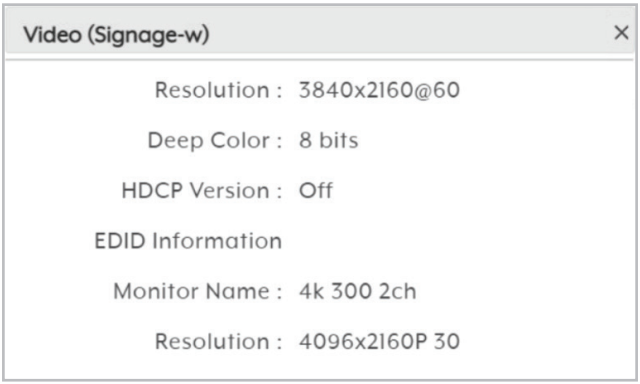
Update in Progress

- **CH:** This column displays the list of Channel IDs assigned to all Transmitters and Receivers. The search field can be utilized to filter a device by CH. Sorting can be applied in ascending or descending order.
- **Name:** This column displays the list of Device Names assigned to all Transmitters and Receivers. The search field can be utilized to filter a device by a given keyword. Sorting can be applied in ascending or descending order.
- **IP Address:** This column displays the list of IP Addresses assigned to all Transmitters and Receivers. The search field can be utilized to filter a device by given digits. Sorting can be applied in ascending or descending order.
- **Version:** This column displays the list of Firmware Versions of all Transmitters and Receivers.

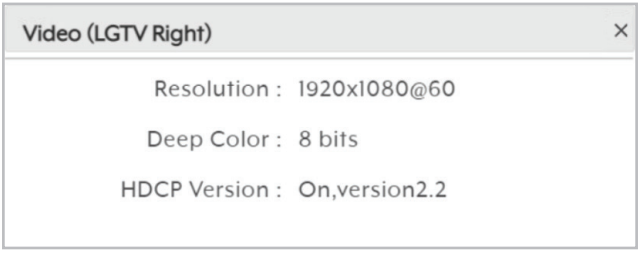
- **Video Info:** Click this button to display the Video Information including *Resolution*, *Color Depth*, *HDCP* and limited *EDID* information.

Note: When this button is highlighted in red, it indicates that no signal has been detected.

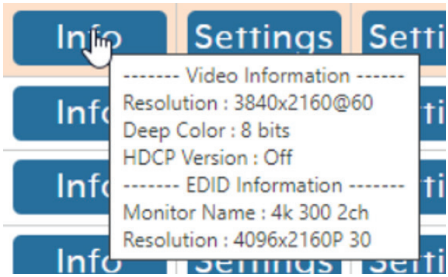
For Transmitter



For Receiver

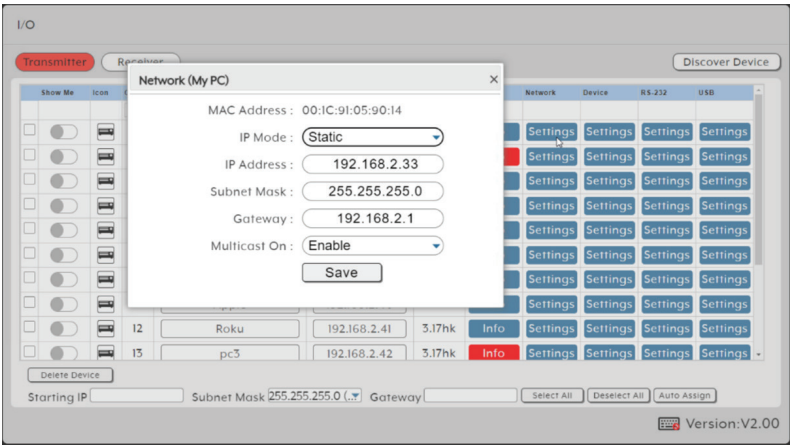


NOTE: Hovering your mouse over the **Info** button will provide quick information without the need of accessing the *Video Info* function.



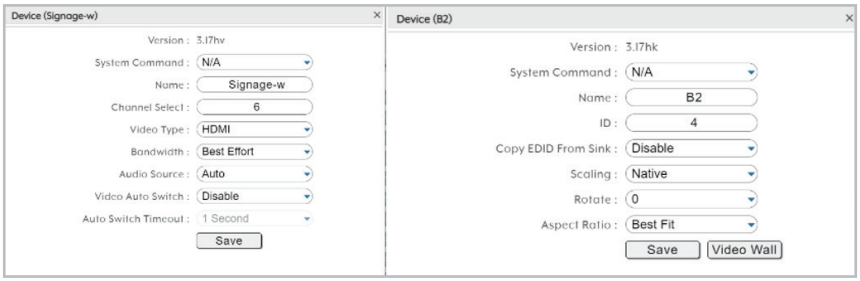
- **Network Settings:** Click the **Network Settings** button to configure the Network settings of the Transmitter or Receiver device.

WebGUI Control Page



- **Device Settings:** Click on the **Device Settings** button to configure the Transmitter or Receiver Settings. Press the **Save** button and perform a device reboot to apply settings. See *System Command* options to perform a device reboot.

NOTE: Functions will vary depending on the Gefen Video and KVM over IP models used. Refer to the manuals for those devices for details of each setting.



» **System Command functions:** Click on the drop down menu which shows the following options. Press **Save** to apply settings.

» **Factory Reset:** Performs a Factory Reset to the device.

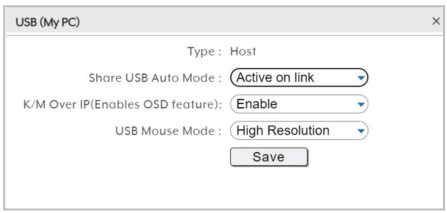
» **Reboot:** Performs a Reboot to the device.

» **Firmware Update:** Performs a Firmware Update to the device.

NOTE: Firmware package for Video and KVM over IP devices must be uploaded to the AVoIP Matrix controller before executing the Firmware Update function.

» **RS232 Settings:** Click the **RS-232 Settings** button to access the RS-232 settings of the device. Press the **Save** button and perform a device reboot to apply settings.

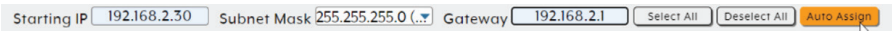
» **USB Settings:** Click the **USB Settings** button to access the USB settings of the device. Press the **Save** button and perform a device reboot to apply settings.



Auto Assign Process

This process is used to perform a batch assignment of Network and Channel ID settings. This will Auto Assign the IP address based on a specific given starting IP address.

- **Starting IP:** Enter the starting IP address to use. This information is used by the **Auto Assign** button.



- **Subnet Mask:** Select from the drop down menu the subnet mask address.
- **Gateway:** Enter the gateway address in this field.
- **Select All:** Selects all devices in the Transmitter or Receiver page.
- **Deselect All:** Click this button to deselect all devices in the Transmitter or Receiver page.
- **Auto Assign:** Click this button to auto-assign the IP address, ID and Channel of the selected device(s). This button should only be used if there are devices outside of the IP range or conflicting Channel ID numbers.
- **Delete Device:** Click this button to delete any or all disconnected devices.

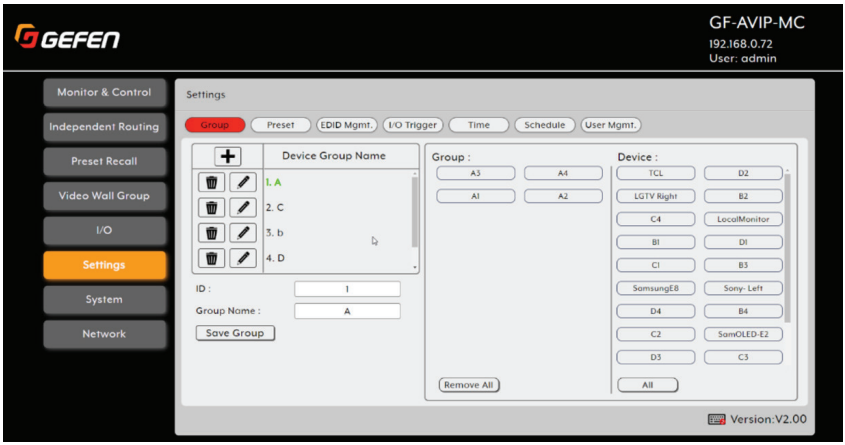
IMPORTANT: AVoIP units running Firmware <2.x will all appear in the Receiver I/O page which includes Transmitters. Firmware update is is required. Refer to Firmware Upgrade section, pg. 36.

IMPORTANT: Duplicate device IP or Channel conflict will be listed in the end of the I/O list. Firmware update will not be applied until these conflicts are resolved. Select the devices in the I/O list and perform an *AutoAssign* or *Factory Reset* each device.

WebGUI Control Page

Group Settings

This page provides a way to define a group of displays that will all receive the same routed source when used in Presets or from the *Monitor & Control* tab. Receivers can be assigned to a Group by simply performing drag & drop of any or all Receivers. Saved Groups will appear in the *Routing* pages as a routable item in the *Receiver* pane. Up to 256 Groups can be configured for each User.

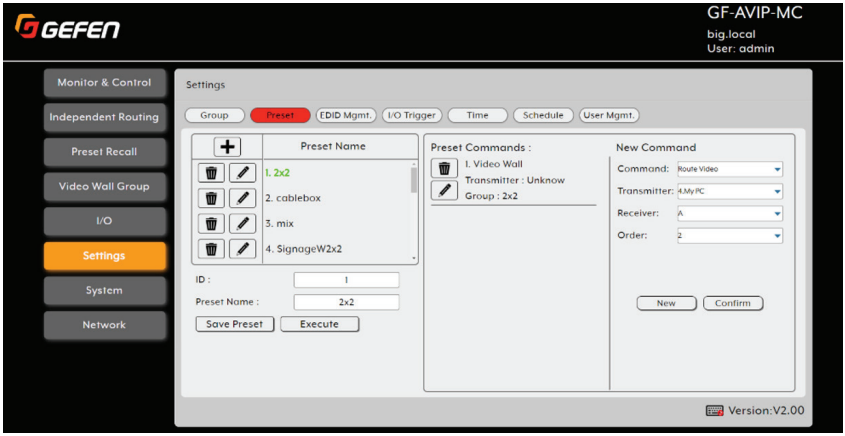


- **Add Group:** Creates a new Group. Click on this button to add a new Group.
- **Edit Group:** Edits an existing Group. Click on this button to Edit a Group.
- **Delete Group:** Deletes an existing Group. Click on this button to Delete a Group.
- **Group ID:** Assigns a Group ID.
- **Group Name:** Assigns a Group Name.
- **Save Group:** Saves current settings to a Group.
- **Group Pane:** Displays the Receivers assigned to the group.
- **Device Pane:** Displays an available Receivers to assign to a group. Drag and drop any Receiver to the Group Pane.
- **Remove All:** Removes all Receivers in the Group.
- **All:** Assigns all Receiver to the Group.

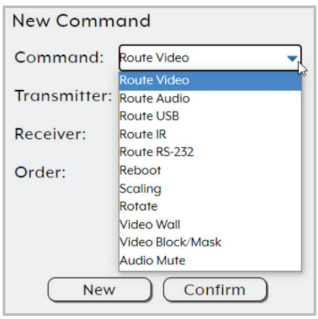
WebGUI Control Page

Preset Settings

This page allows to *Create*, *Edit* and *Delete Presets*. Saved presets can be recalled within the *Preset Recall* tab.



- **Add Preset:** Create a new Preset. Click on this button to add a new Preset.
- **Edit Preset:** Edit an existing Preset. Select the *Preset Name* or click this button to edit the Preset.
- **Delete Preset:** Deletes an existing Preset. Click on this button to delete the selected Preset.
- **Preset ID:** Assigns a Preset ID.
- **Preset Name:** Assigns a Preset Name.
- **Save Preset:** Saves current settings to a Preset.
- **Execute:** Triggers the Saved Preset.
- **Preset Command Pane:** Displays the list of Preset Commands to Edit or Delete.
- **Edit Preset Command:** Edit a Preset Command.
- **Delete Preset Command:** Delete a Preset Command.
- **New Command Pane:** Configure one or many Preset Commands.
- **Command:** Click on the drop down menu to select the following commands.



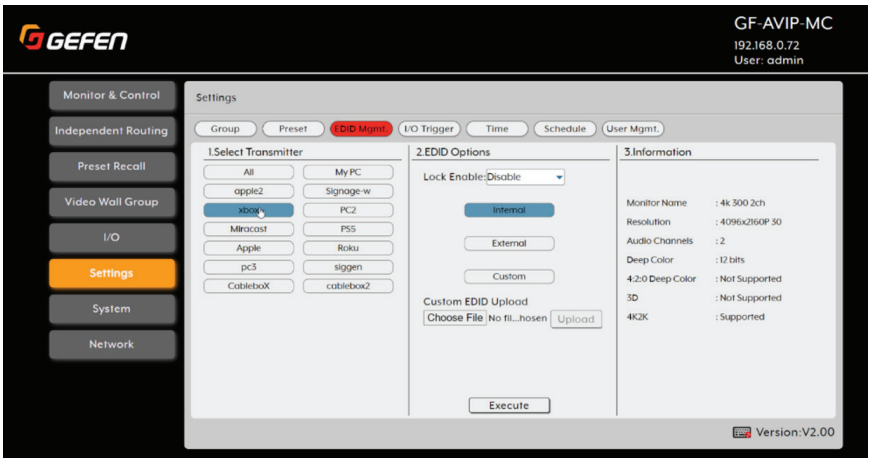
NOTE: that functions in the New Command Pane will appear different depending on what Command is selected.

WebGUI Control Page

- **Transmitter:** Click on the drop down menu select the Transmitter to route from.
- **Receiver/Group:** Click on the drop down menu select the Receiver, Group, or Video Wall Group to route to.
- **Order:** Assigns the order of each Command to be executed when multiple commands are created within a preset.
- **New:** Adds a new Command to a Preset.
- **Confirm:** Saves configuration to a Preset.

EDID Management

This page allows to configure EDID that will be used by the source that is connected to each input. *Internal*, *External* or a custom *EDID* can be selected. Clicking on any Transmitter will allow you to display limited EDID information.

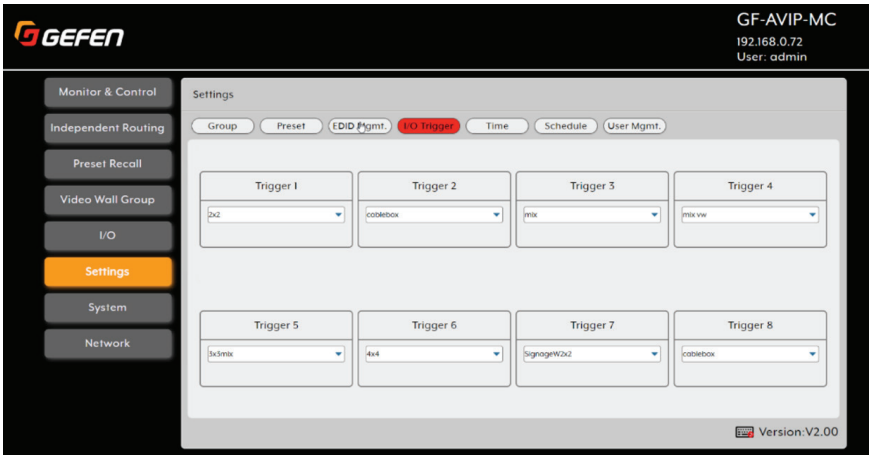


- **Information Pane:** Displays limited EDID information of any selected Transmitter.
- **Lock Enable:** Prevents EDID to be overridden.
- **Internal:** Configures the Video and KVM over IP devices to utilize Internal mode.
- **External:** Configures the Video and KVM over IP devices to utilize External mode.
- **Custom:** Configures the Video and KVM over IP devices to utilize a Custom EDID.
- **Choose File:** Available when Custom mode is set. Allows to browse for an EDID *.bin file to Upload.
- **Upload:** Uploads a Custom EDID when in Custom mode.
- **Execute:** Saves an EDID mode to a selected Transmitter. Select a Transmitter and EDID Option, then press **Execute** to save the setting.

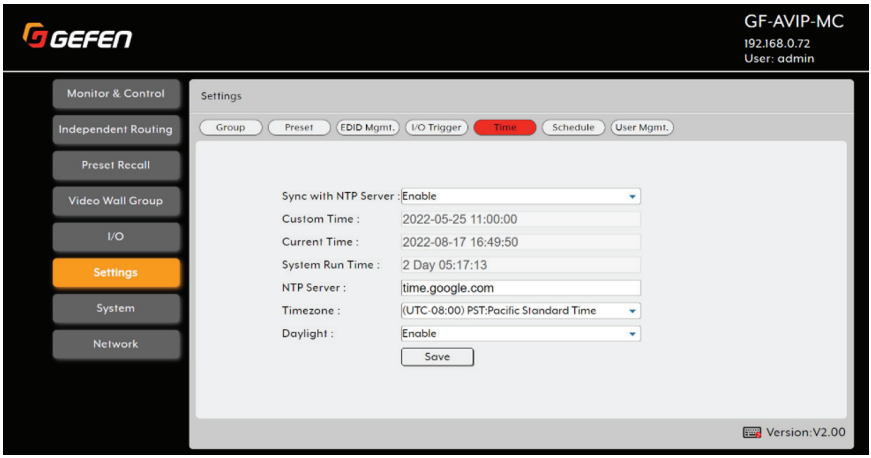
WebGUI Control Page

I/O Trigger

Assign a preset to each of the Trigger inputs which can be activated by an external trigger.



Time



- **Sync with NTP Server:** Allows to Sync time from a configured NTP server. The default setting is set to *Enable*.
- **Custom Time:** Set a custom time when an NTP server is not available to use. Sync with NTP server function needs to be set to *Disable*.
- **Current Time:** Displays the set current time.
- **System Run Time:** Displays the System Run Time based when the *AVoIP Matrix Controller* was powered on.

WebGUI Control Page

- **NTP Server:** Enter NTP Server URL. Default URL is time.google.com.
- **Timezone:** Select Timezone
- **Daylight:** Enable or Disable Daylight Savings Time.

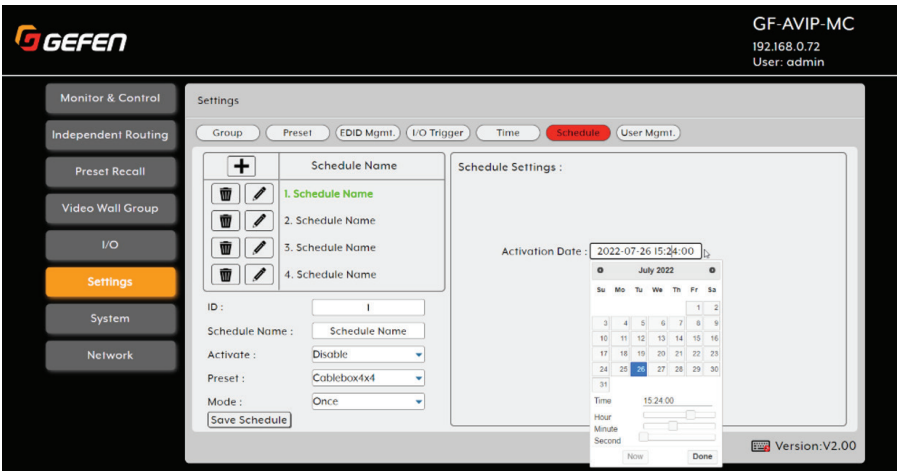
Schedule

- **Add Schedule:** Creates a new schedule. Click on this button to add a new schedule.
- **Edit Schedule:** Edits an existing schedule. Select the schedule name or click this button to edit the schedule.
- **Delete Schedule:** Deletes an existing schedule. Click on this button to delete the selected schedule.
- **Schedule ID:** Assigns a Schedule ID.
- **Activate:** Enables or Disables a schedule.
- **Preset:** Select a Preset that will be triggered based on saved Schedule.
- **Save Schedule:** Saves current configured Schedule.
- **Mode:** Three Schedule Modes can be configured: *Once*, *Repeat* and *Weekly*.

Once Mode

Schedule will be triggered once based on a specified activation date. Click on the Activation Date field which allows you select a date for the desired Preset to be triggered. You can either manually enter a time or press the **Now** button to sync to your PCs time. Press the **Done** button and *Save Schedule* to apply changes.

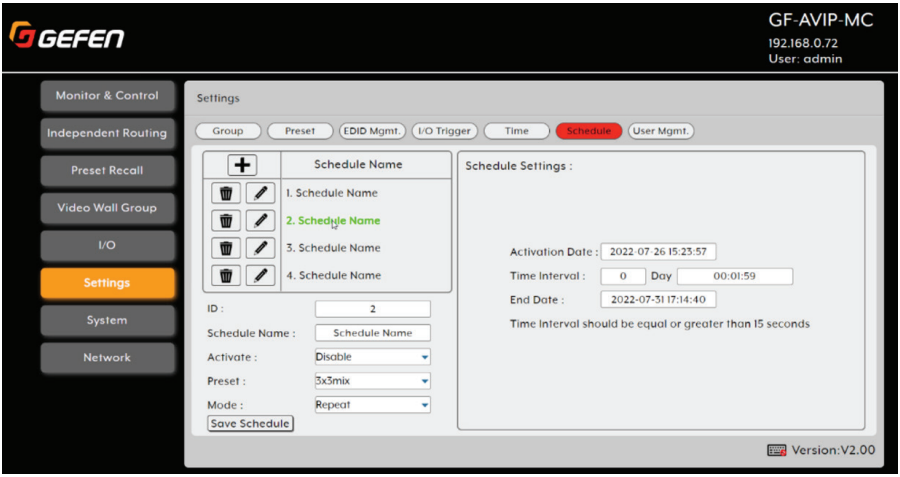
NOTE: Up 256 Schedules can be configured for each User.



WebGUI Control Page

Repeat Mode

This configures a schedule *Repeat* based on starting *Activation Date*, *Time Interval* and *End Date*. Press the **Save Schedule** button to apply changes.

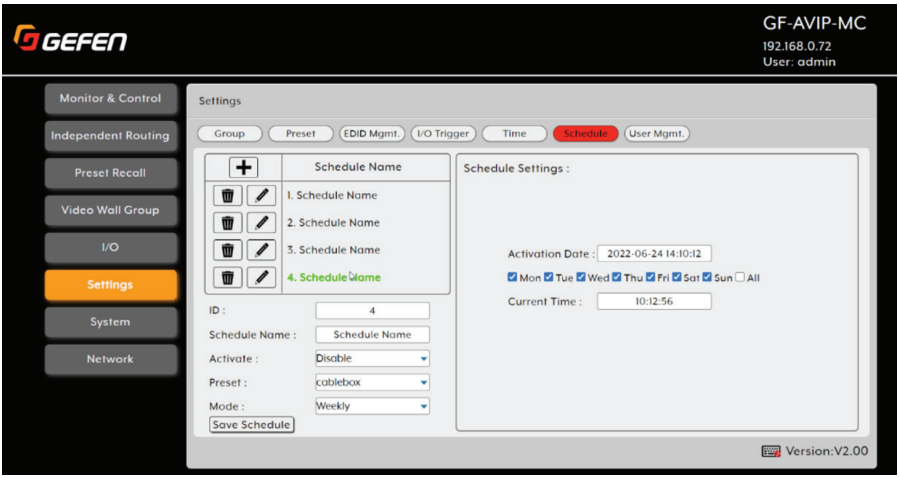


- **Activation Date:** Starting date and time to trigger a Schedule.
- **Time Interval Day:** Enter the number of days to trigger a Preset relative to the Activation Date.
- **Time Interval HH:MM:SS:** Enter the number of Hours, Minutes and Seconds to trigger a Preset relative to the Interval Day. Time Interval needs to be set to a minimum of 15 seconds.
- **End Date:** End date to end the Schedule.

WebGUI Control Page

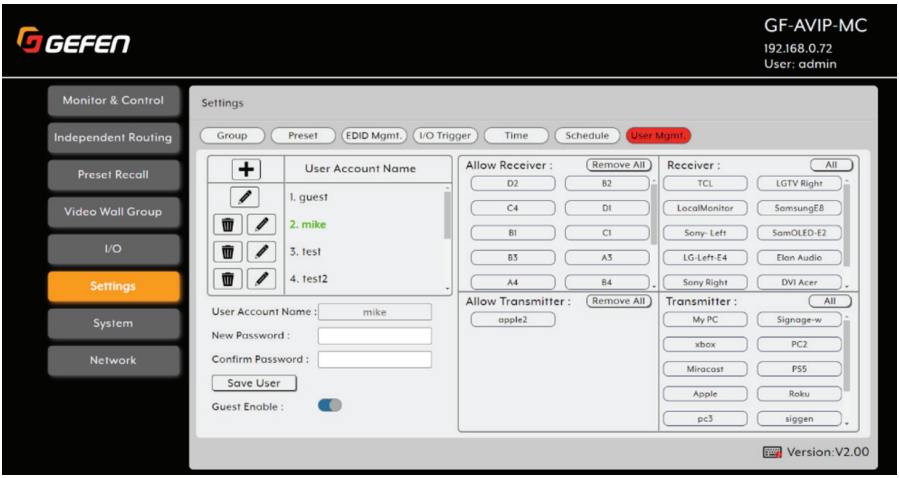
Weekly Mode

This configures a Schedule on a Weekly basis. Select the Activation date, time and Days (Monday ~ Sunday) to trigger a Preset. Press the **Save Schedule** button to apply changes.



User Management

This page allows you to *Create*, *Edit* and *Delete User* accounts. Each account can be assigned with any Transmitter or Receiver with a simple drag & drop operation.



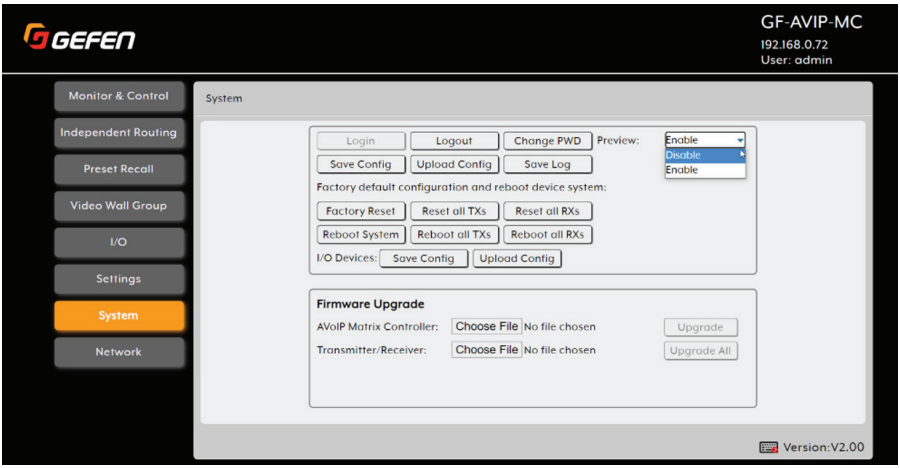
WebGUI Control Page

Access Levels

Admin – Default Username and Password for Admin is admin/admin	Full Access
User - Up to 8 maximum of users are supported	Same as Admin but excludes: EDID management, Time, User Management, IO Trigger, Network Settings, Factory Reset, Factory Reset ALL TX/RX, Auto-Assign, Discovery Device, Firmware Upgrade (Controller and KVM over IP), Save/Upload Config
Guest – Guest Mode is disabled by default. When enabled, logged off users have accessibility to devices assigned to Guest. Username and Password for Guest is guest/guest.	Same as Users but excludes Device IO Settings, Independent Routing

System Tab

This tab provides access to Save/Restore device controller configuration, Save/Restore I/O Devices configuration, *Firmware Update* functionality and *Factory Reset* functionality.



NOTE: This tab will only display system information and provide a **Login** button if the user is logged out. All other functions will be grayed out. Admin user will only have access to all functions.

System Functions

- **Login:** Click this button to log into the WebGUI interface.
- **Logout:** Click these buttons to log out of the WebGUI interface.

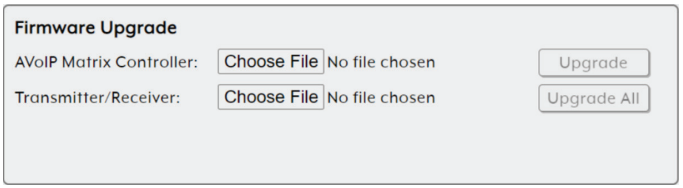
  NOTE: When logged out, available WebGUI functionality is limited.
- **Change Password:** Click this button to change the current user's login password.
- **Factory Default:** Click this button to clear all detected transmitter/ receiver information, all groups and all presets.
- **Reset all TXs:** Click this button to factory reset all Transmitters.

- **Reset all RXs:** Click this button to factory reset all Receivers.
- **Reboot System:** Click this button to reboot the controller.
- **Reboot all TXs:** Click this button to reboot all Transmitters.
- **Reboot all RXs:** Click this button to reboot all Receivers.
- **Save Config:** The current system configuration, including routing and presets, will be saved as a "***.7z**" file to the local PC. Click the **Save Config** button to save the current system configuration to your local PC.
- **Upload Config:** The system configuration may be restored from a previously saved "***.7z**" file. Click the **Upload Config** button to locate the saved .7z file (ex: GF-AVIP-MC_Config.7z), then click the **Upload** button.
- **Save Config (I/O Devices):** All Transmitter and Receiver device settings will be saved as a "***.xml**" file to the local PC.
- **Upload Config (I/O Devices):** The Transmitter and Receiver devices will be restored from a previously saved "***.xml**" configuration file (ex. GF-AVIP-MC-Devices-Config.xml). This function will also support Gefen's legacy EXT-CU-LAN configuration file.
- **Save Log:** Click this button to download a copy of the system's log file to the local PC. The file will be saved in the "***.7z**" format. It can be provided to technical support, upon request, to help troubleshoot the system.
- **Password:** Click to change the associated user's login password.

Firmware Upgrade

This section provides a way to update the firmware of the AVoIP Matrix Controller as well as the firmware of all detected Gefen Video and KVM over IP Transmitters and Receivers.

> **NOTE:** The firmware update process can take several minutes, especially if there is a large number of detected transmitters and receivers. Please ensure that the units do not lose power while the updates are in process.



Upgrade (AVoIP Matrix Controller)

To update the *AVoIP Matrix Controller*, click the **Choose File** button to open the file selection window and then select an appropriate firmware update file in a "***.bin**" format, extracted from a "***.zip**" format that is located on your local PC. After selecting the file, click the **Upgrade** button to begin the firmware update process. Once the firmware has been uploaded, the controller will reboot.

Upgrade All (Transmitter/Receiver)

To update all Transmitters and Receivers, click the **Choose File** button to open the file selection window and then select an appropriate batch firmware update file in a "***.7z**" format. (For ex. AVoIP_3.17.7z). The update process may take more than 10 minutes to complete. Once the firmware has been uploaded, the devices will reboot.

NOTE: The firmware package can be downloaded from the Gefen's downloads page from https://www.gefen.com/downloads-resources/

AVoIP Batch Update

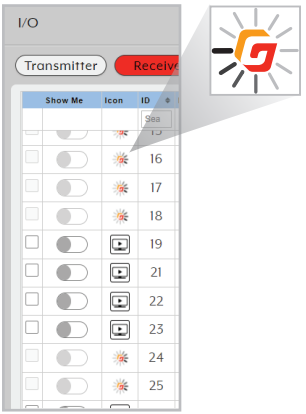
NOTE: Receiver page will list units running FW <2.x including transmitters and will be appeared disconnected.

When experiencing of units rebooting when introducing a mix set of firmware version units of <FW 2.x and FW 3.x, units will cause link problems due to incompatibility. You will need to manually route the problematic RX to an unused channel or *Factory Reset* the AVoIP unit before an update is performed.

Any duplicate device IP or Channel conflict will be listed in the end of the I/O list. Firmware update will not be applied until these conflicts are resolved. Select the devices in the I/O list and perform an *AutoAssign* or *Factory Reset* each device.

Before attempting a Firmware Upgrade to AVoIP the units, the Video Port of the controller must be configured in the same IP range as the AVoIP units.

When a firmware update is in progress, this progress icon will be displayed adjacent to the unit that is updating. This only applies to units running above FW3.x.



Upgrade Procedure

1. Configure the Video Port of the controller to Auto IP and reboot.
2. Once all AVoIP units are discovered, Perform an *Upgrade ALL* function.
3. Perform an AutoAssign to the desired IP range.
4. Make sure to configure the Video Port of the controller in the desired IP range as the AVoIP units.

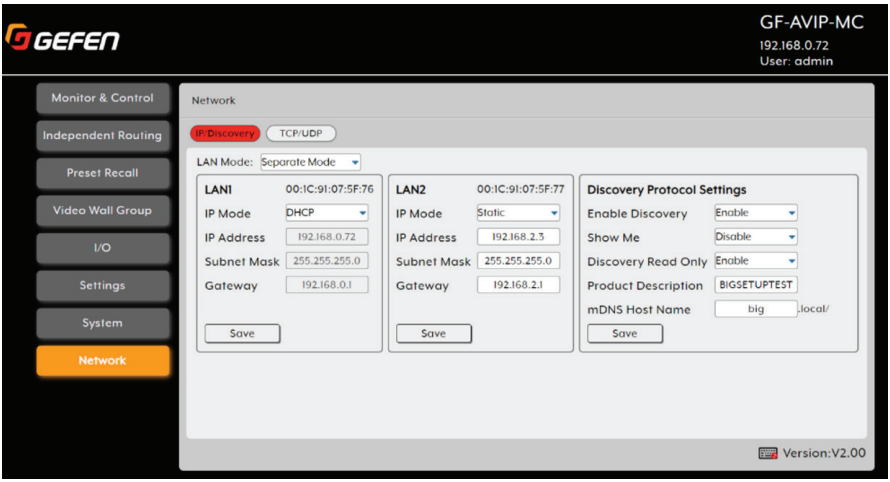
For an existing install using EXT-CU-LAN:

1. Within EXT-CU-LAN WEBGUI, perform a Save Configuration to back-up the configuration. Refer to EXT-CU-LAN manual for details.
2. Disconnect EXT-CU-LAN from the network.
3. Configure the Video Port of GF-AVIP-MC to the same IP used for EXT-CU-LAN.
4. Once all AVoIP units are discovered, perform an *Upgrade ALL* function.
5. Perform an *I/O Devices Upload Config* and browse for the EXT-CU-LAN back-up configuration *.xml file.

WebGUI Control Page

Network Settings

This tab provides access to system configuration options including IP configuration for both LAN ports, Discovery Protocol settings, TCP and UDP configurations.



- **LAN1 & LAN2 Pane:** The IP mode for each LAN port (DHCP, Static IP, or Auto IP), IP address, netmask and gateway can be set here. When a LAN port is set to Auto IP mode it will automatically assign itself an APIPA address from the 169.254.XXX.XXX range. When a LAN port is set to *DHCP* mode, it will automatically attempt to obtain proper configuration information from the local DHCP server. If no DHCP server is available, or the user wishes to configure the network settings manually, please set the LAN port to *Static IP* mode and enter the information as appropriate for the connected network. Press **Save** and perform a reboot to apply changes.
- **LAN Mode:** Click the dropdown menu to select *Separate Mode* or *Combined* mode. Press **Save** and **Reboot** to apply changes.
- **Mac Address:** Displays MAC address of the AVoIP Matrix Controller for LAN1 and LAN2.
- **IP Mode:** Selects the network Mode: *Static* or *DHCP*. Press **Save** and **Reboot** to apply changes. The Default for LAN1 is Static. LAN2 default is AutoIP.
- **IP Address:** Enter the IP address of the AVoIP Matrix Controller. Press save and reboot to apply changes. This field is only available if the Mode is set to *Static*. The Default for LAN1 is 192.168.1.72.
- **Subnet Mask:** Enter subnet mask of the managed switch. Press **Save** and **Reboot** to apply changes. This field is only available if the Mode is set to *Static*. The default Subnet Mask for LAN1 is 255.255.255.0.

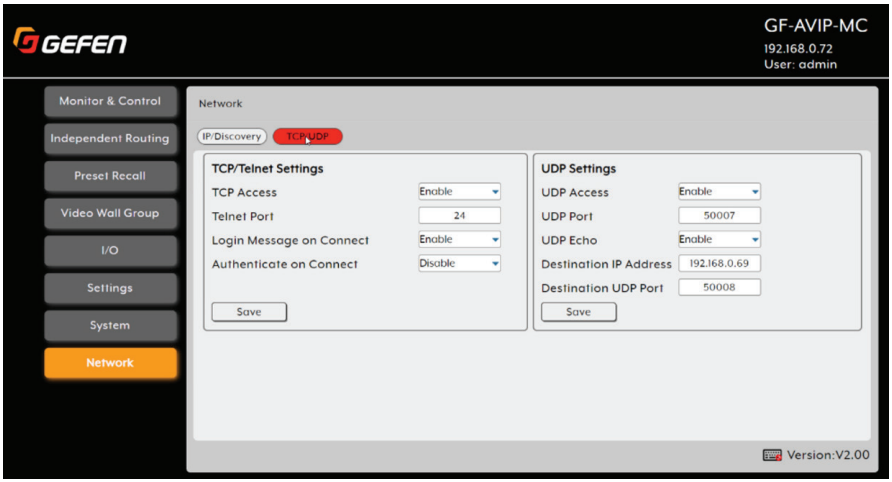
- **Gateway:** Enter gateway address of the managed switch. Press **Save** and **Reboot** to apply changes. This field is only available if the Mode is set to *Static*. The default Gateway for LAN1 is 192.168.1.1.

Discovery Protocol Settings

- **Enable Discovery:** This mode allows the AVoIP Matrix Controller to be "discovered" on a network using the Gefen Syner-G Software Suite. Disabling this mode prevents the discovery of the AVoIP Matrix Controller on the network. The Default setting is *Enabled*.
- **Show Me:** When "Show Me" feature is enabled, the Power LED on the front panel will flash Blue. This quickly identifies a unit and is useful when multiple units are being used. The default setting is *Disabled*.
- **Discovery Read Only:** This mode permits the discovery of the Matrix Controller on the network. When Disabled, the IP settings, description and other settings for the AVoIP Matrix Controller can be changed using the Syner-G Software Suite. The Default setting is *Disabled*.
- **Product Description:** The default device name will be displayed in the Description field on Gefen Syner-G Software Suite. Click in the *Description* field and change to the desired name and press save. The default name is GF-AVIP-MC.
- **mDNS Host Name:** The mDNS Host Name will be displayed in the field. Click in the field and change to the desired name and press **Save**. A reboot is required to apply changes. The default mDNS Host Name is AVIP-MC.local/

TCP/UDP (Sub Page)

Click on the **TCP/UDP** button highlighted in red to access the TCP and UDP settings page.



Menu System Summary

TCP/Telnet Settings

- **TCP Access:** Click these buttons to enable or disable TCP access.
- **Telnet Port:** Enter the Telnet listening port in this field.
- **Login Message on Connect:** Click these buttons to show or hide the Telnet welcome message at the beginning of each Telnet session.
- **Authenticate on Connect:** Click these buttons to enable or disable login credentials for TCP access.
- **Save:** Click this button to save all changes on this page.

UDP Settings

- **UDP Access:** Click these buttons to enable or disable UDP access.
- **UDP Port:** Enter the local UDP listening port in this field.
- **UDP Echo:** Click these buttons to enable or disable UDP echo.
- **Destination UDP IP Address:** Enter the remote UDP IP address in this field.
- **Destination UDP Port:** Enter the remote UDP listening port in this field.
- **Save:** Click this button to save all changes on this page.

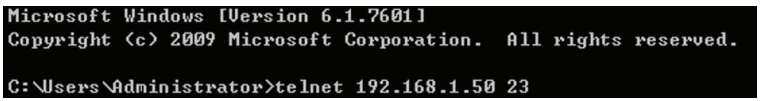
Telnet Control

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

To Access the Command Line Interface (CLI)

Windows 7	Click Start, type "cmd" in the search field and press **Enter**.
Windows XP	Click Start > Run, type "cmd", and press **Enter**.
Mac OS X	Click Go > Applications > Utilities > Terminal.

Once in the Command Line Interface (CLI) type "telnet" followed by the IP address of the unit (and the port number if it is non-standard) and then hit **Enter**. This will connect us to the unit we wish to control.



NOTE 1: 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.

NOTE 2: If the unit's IP address is changed then the IP address required for Telnet access will also change accordingly.

Menu System Summary

UDP Configuration

- Configure the desired control system for UDP.
- Click the *Network Settings* tab within the web interface and do the following.
    - » Click the **Enabled** button next to UDP Access.
    - » Enter the UDP listening port in the UDP Port field. The default UDP listening port is 50007.
    - » Click the **Enabled** button next to Remote UDP Access. This feature only needs to be enabled if feedback to the matrix is required. Otherwise, this feature can be disabled.
    - » If enabling Remote UDP Access, enter the remote UDP IP address in the Remote UDP IP Address field. This IP address should be the same as the control system. The default IP address is 192.168.1.255.
    - » If enabling Remote UDP Access, enter the remote UDP listening port in the Remote UDP Port field. The default remote UDP listening port is 50008.
    - » Click the **Save** button and reboot the controller.

RS-232 Configuration

- Configure the RS-232 port to the following settings. Note that Only TxD, RxD and GND pins are used.
- **The Default Baud rate Settings:** 115200, Data bits 8, Parity None, Stop bits 1, Hardware flow control None
    - » Connect to the RS-232 port.
    - » Type #help for a list of commands, or refer to the tables on the following pages.

General UDP Commands

Help

#HELP

Prints all available TCP/UDP commands to the screen.

Syntax	`#HELP PARAM1(OPTIONAL)`
Parameters	PARAM1 - ANY TCP/UDP COMMAND (NO '#')
Example	`#HELP SET_IP_MODE`

Example Feedback	`SET THE IP MODE TO DHCP, STATIC, OR AUTO IP`
	`#SET_IP_MODE PARAM1`
	`PARAM1 = 0 - 2 (0 = STATIC; 1 = DHCP; 2 = AUTO IP)`

Network Settings

#GET_MAC_ADDR

Print the MAC address to the screen.

Syntax	`#GET_MAC_ADDR PARAM1`
Parameters	PARAM1 = 1 ~ 2 1 - LAN1 (CONTROL PORT) 2 - LAN2 (VIDEO PORT)
Example	`#GET_MAC_ADDR 1` `#GET_MAC_ADDR 2`
Example Feedback	`LAN1 MAC ADDRESS IS: 00-1c-91-03-80-01` `LAN1 MAC ADDRESS IS: 00-1c-91-03-80-02`

#GET_IPCONFIG

Get the current IP configuration.

Syntax	
Parameters	`#GET_IPCONFIG`
Example	

Example Feedback	`CONTROL PORT SETTINGS:`
	`IP MODE: DHCP`
	`IP: 192.168.0.70`
	`NETMASK: 255.255.255.0`
	`GATEWAY: 192.168.0.1`
	`MAC ADDRESS: a6:4e:f7:2a:59:4b`
	
	`VIDEO PORT SETTINGS:`
	`IP MODE: STATIC`
	`IP: 192.168.2.75`
	`NETMASK: 255.255.255.0`
	`GATEWAY: 192.168.2.1`
	`MAC ADDRESS: ea:66:4e:bf:de:5f`

General UDP Commands

Network Settings (cont.)

#SET_LAN_MODE

Set LAN mode to combined or separate.

Syntax	`#SET_LAN_MODE PARAM1`
Parameters	PARAM1 = 1 ~ 2 1 - COMBINED 2 - SEPARATE
Example	`#SET_LAN_MODE 2`
Example Feedback	`LAN_MODE 2` `REBOOT UNIT TO APPLY CHANGES`

#GET_LAN_MODE

Get LAN mode status.

Syntax	`#GET_LAN_MODE`
Parameters	
Example	
Example Feedback	`LAN_MODE 2`

#SET_IP_MODE

Set the IP mode to DHCP or static.

Syntax	`#SET_IP_MODE PARAM1 PARAM2`
Parameters	PARAM1 = 1 ~ 2 1 - LAN1 (CONTROL PORT) 2 - LAN2 (VIDEO PORT) PARAM2 = 0 ~ 1 0 - STATIC 1 - DHCP
Example	`#SET_IP_MODE 1 0` `#SET_IP_MODE 2 1`
Example Feedback	`IP_MODE 1 0` `IP_MODE 2 1`

#GET_IP_MODE

Get the current IP mode.

Syntax	`#GET_IP_MODE PARAM1`
Parameters	PARAM1 = 1 ~ 2 1 - LAN1 (CONTROL PORT) 2 - LAN2 (VIDEO PORT)
Example	`#GET_IP_MODE 1` `#GET_IP_MODE 2`
Example Feedback	`IP_MODE 1 0` `IP_MODE 2 1`

General UDP Commands

Network Settings (cont.)

#SET_IP_ADDRESS

Set the IP address.

Syntax	`#SET_IP_ADDRESS PARAM1`
Parameters	PARAM1 = 1 ~ 2 1 - LAN1 (CONTROL PORT) 2 - LAN2 (VIDEO PORT) PARAM2 = XXX.XXX.XXX.XXX XXX - 0 ~ 255
Example	`#SET_IP_ADDRESS 1 192.168.1.72`
Example Feedback	`IP_ADDRESS 1 192.168.1.72`

#GET_IP_ADDRESS

Get the current IP address.

Syntax	`#GET_IP_ADDRESS PARAM1`
Parameters	PPARAM1 = 1 ~ 2 1 - LAN1 (CONTROL PORT) 2 - LAN2 (VIDEO PORT)
Example	`#GET_IP_ADDRESS`
Example Feedback	`IP_ADDRESS 2 192.168.2.72`

#SET_NETMASK

Set the Netmask address.

Syntax	`#SET_NETMASK PARAM1 PARAM2`
Parameters	PARAM1 = 1 ~ 2 1 - LAN1 (CONTROL PORT) 2 - LAN2 (VIDEO PORT) PARAM2 = XXX.XXX.XXX.XXX XXX - 0 ~ 255
Example	`#SET_NETMASK 1 255.255.255.0`
Example Feedback	`NETMASK 1 255.255.255.0`

#GET_NETMASK

Get the current Netmask address.

Syntax	`#GET_NETMASK PARAM1`
Parameters	PARAM1 = 1 ~ 2 1 - LAN1 (CONTROL PORT) 2 - LAN2 (VIDEO PORT)
Example	`#GET_NETMASK 1`
Example Feedback	`NETMASK 1 255.255.255.0`

General UDP Commands

Network Settings (cont.)

#SET_GATEWAY

Set the Gateway address.

Syntax	`#SET_GATEWAY PARAM1`
Parameters	PARAM1 = 1 ~ 2 1 - LAN1 (CONTROL PORT) 2 - LAN2 (VIDEO PORT) PARAM2 = XXX.XXX.XXX.XXX XXX - 0 ~ 255
Example	`#SET_GATEWAY 1 192.168.1.1`
Example Feedback	`GATEWAY 1 192.168.1.1`

#GET_GATEWAY

Get the current Gateway address.

Syntax	`#GET_GATEWAY`
Parameters	PARAM1 = 1 ~ 2 1 - LAN1 (CONTROL PORT) 2 - LAN2 (VIDEO PORT)
Example	`#GET_GATEWAY 1`
Example Feedback	`GATEWAY 1 192.168.1.1`

#SET_TELNET_ACCESS

Enable/disable Telnet Access.

Syntax	`#SET_TELNET_ACCESS PARAM1`
Parameters	PARAM1 = 0 ~ 1 0 - DISABLED 1 - ENABLED
Example	`#SET_TELNET_ACCESS 1`
Example Feedback	`TELNET_ACCESS 1`

#GET_TELNET_ACCESS

Get the current status of Telnet Access.

Syntax	`#GET_TELNET_ACCESS`
Parameters	
Example	
Example Feedback	`TELNET_ACCESS 1`

General UDP Commands

Network Settings (cont.)

#SET_TELNET_PORT

Set the Telnet Communication port.

Syntax	#SET_TELNET_PORT PARAM1
Parameters	PARAM1 = 0 ~ 65535
Example	#SET_TELNET_PORT 23
Example Feedback	TELNET_PORT 23

#GET_TELNET_PORT

Get the current Telnet Communication port.

Syntax	#GET_TELNET_PORT
Parameters	
Example	
Example Feedback	TELNET_PORT 23

#SET_UDP_ACCESS

Enable/disable UDP access.

Syntax	#SET_UDP_ACCESS PARAM1
Parameters	PARAM1 = 0 ~ 1 0 - DISABLED 1 - ENABLED
Example	#SET_UDP_ACCESS 1
Example Feedback	UDP_ACCESS 1

#GET_UDP_ACCESS

Get the current status of UDP Access.

Syntax	#GET_UDP_ACCESS
Parameters	
Example	
Example Feedback	UDP_ACCESS 1

#SET_UDP_PORT

Set the UDP communication port.

Syntax	#SET_UDP_PORT PARAM1
Parameters	PARAM1 = 0 ~ 65535
Example	#SET_UDP_PORT 50007
Example Feedback	UDP_PORT 50007

General UDP Commands

Network Settings (cont.)

#GET_UDP_PORT

Get the current UDP communication port.

Syntax	
Parameters	`#GET_UDP_PORT`
Example	
Example Feedback	`UDP_PORT 50007`

#SET_UDP_R_ACCESS

Enable/disable remote UDP access.

Syntax	`#SET_UDP_R_ACCESS PARAM1`
Parameters	PARAM1 = 0 ~ 1 0 - DISABLED 1 - ENABLED
Example	`#SET_UDP_R_ACCESS 1`
Example Feedback	`UDP_R_ACCESS 1`

#GET_UDP_R_ACCESS

Get the current status of remote UDP access.

Syntax	
Parameters	`#GET_UDP_R_ACCESS`
Example	
Example Feedback	`UDP_R_ACCESS 1`

#SET_REMOTE_UDP_IP

Set the remote UDP IP address.

Syntax	`#SET_REMOTE_UDP_IP PARAM1`
Parameters	PARAM1 = XXX.XXX.XXX.XXX XXX - 0 ~ 255
Example	`#SET_REMOTE_UDP_IP 192.168.1.29`
Example Feedback	`REMOTE_UDP_IP 192.168.1.29`

#GET_REMOTE_UDP_IP

Get the current remote UDP IP address.

Syntax	
Parameters	`#GET_REMOTE_UDP_IP`
Example	
Example Feedback	`REMOTE_UDP_IP 192.168.1.29`

General UDP Commands

Network Settings (cont.)

#SET_REMOTE_UDP_PORT

Set the remote_UDP communication port.

Syntax	`#SET_REMOTE_UDP_PORT PARAM1`
Parameters	PARAM1 = 0 ~ 65535
Example	`#SET_REMOTE_UDP_PORT 50008`
Example Feedback	`REMOTE_UDP_IP 192.168.1.29`

#GET_REMOTE_UDP_PORT

Get the current remote UDP communication port.

Syntax	`#GET_REMOTE_UDP_PORT`
Parameters	
Example	
Example Feedback	`REMOTE_UDP_IP 192.168.1.29`

Discovery Settings

#SET_DISCOVERY

Syntax	`#SET_DISCOVERY PARAM1`
Parameters	PARAM1 - 0 ~ 1 0 - DISABLED 1 - ENABLED
Example	`#SET_DISCOVERY 0` `#SET_DISCOVERY 1`
Example Feedback	`DISCOVERY 0` `DISCOVERY 1`

#GET_DISCOVERY

Get the current status of the Discovery Service.

Syntax	`#GET_DISCOVERY`
Parameters	
Example	
Example Feedback	`DISCOVERY 1`

#SET_DEVICE_DESC

Set the Discovery Description.

Syntax	`#SET_DEVICE_DESC PARAM1`
Parameters	PARAM1 = ABCDEFGH... (29 CHARACTERS MAX, NO SPECIAL CASE OR CHARACTER LIMIT)
Example	`#SET_DEVICE_DESC DEVICE`
Example Feedback	`DEVICE DESCRIPTION IS SET TO DEVICE`

General UDP Commands

Network Settings (cont.)

#GET_DEVICE_DESC

Get the Discovery Description.

Syntax	
Parameters	`#GET_DEVICE_DESC`
Example	
Example Feedback	`DEVICE DESCRIPTION IS SET TO DEVICE`

#SET_SHOWME

Enable/disable the Discovery 'SHOW ME' feature.

Syntax	`#SET_SHOWME PARAM1`
Parameters	PARAM1 = 0 ~ 1 0 - DISABLED 1 - ENABLED
Example	`#SET_SHOWME 1` `#SET_SHOWME 0`
Example Feedback	`SHOWME 1` `SHOWME 0`

#GET_SHOWME

Get the status of the Discovery SHOW ME feature.

Syntax	
Parameters	`#GET_SHOWME`
Example	
Example Feedback	`SHOWME 0`

System Settings

#GET_FW

Get firmware version.

Syntax	
Parameters	`#GET_FW`
Example	
Example Feedback	`FIRMWARE VERSION IS 1.0`

#FACTORY_RESET

Reset to Factory Defaults.

Syntax	
Parameters	`#FACTORY_RESET`
Example	
Example Feedback	`RESET TO FACTORY DEFAULTS`

General UDP Commands

System Settings (cont.)

#REBOOT

Reboot the unit.

Syntax	
Parameters	`#REBOOT`
Example	
Example Feedback	`UNIT WILL REBOOT SHORTLY`

Input Status

#GETS_INPUT_SIGNAL

Get active signal status of one or all inputs.

Syntax	`#GETS_INPUT_SIGNAL PARAM1`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL INPUTS 1 ~ N = TX CHANNEL

Example	`#GETS_INPUT_SIGNAL 0`
	`#GETS_INPUT_SIGNAL 1`
	
	`RESPONSE = N, Y`
	`N = NO CLOCK SIGNAL PRESENTS AT HDMI INPUT PORT`
	`Y = VALID CLOCK SIGNAL DETECTED AT HDMI INPUT PORT`

Example Feedback	`INPUT_SIGNAL 1 Y 5 Y 10 N` `INPUT_SIGNAL 1 Y`

#GETS_INPUT_HPD

Get HPD status of one or all inputs.

Syntax	`#GETS_INPUT_HPD PARAM1`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL INPUTS 1 ~ N = TX CHANNEL

Example	`#GETS_INPUT_HPD 0`
	`#GETS_INPUT_HPD 1`
	
	`RESPONSE = L, H`
	`L = HPD LOW`
	`H = HPD HIGH`

Example Feedback	`INPUT_HPD 1 H 5 L 10 H` `INPUT_HPD 1 H`

Input Status (cont.)

#GETS_INPUT_TIMING

Get timing of HDMI input.

Syntax	`#GETS_INPUT_TIMING PARAM1`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL INPUTS 1 ~ N - TX CHANNEL

Example	`#GETS_INPUT_TIMING 0`
	`#GETS_INPUT_TIMING 1`
	
	`RESPONSE = AAAAxBBBBCDD`
	`AAAA - HORIZONTAL RESOLUTION`
	`BBBB - VERTICAL RESOLUTION`
	`C - PROGRESSIVE/INTERLACE`
	`D - REFRESH RATE`

Example Feedback	`INPUT_TIMING 1 3840x2160P60 5 1920x1080I59 10 0000x0000000`
	
	`INPUT_TIMING 1 3840x2160P60`

#GETS_INPUT_COLOR_D

Get color depth of HDMI input.

Syntax	`#GETS_INPUT_COLOR_D`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL INPUTS 1 ~ N - TX CHANNEL

Example	`#GETS_INPUT_COLOR_D 0`
	`#GETS_INPUT_COLOR_D 1`
	
	`RESPONSE = XX`
	`XX - COLOR DEPTH EXPRESSED IN BITS`

Example Feedback	`INPUT_COLOR_D 1 08 5 12 10 10` `INPUT_COLOR_D 1 08`

Output Status (cont.)

#GETS_OUTPUT_HDCP

Get HDCP status of one or all outputs.

Syntax	`#GETS_OUTPUT_HDCP PARAM1`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL RECEIVERS 1 ~ N = RX ID

Example	`#GETS_OUTPUT_HDCP 0`
	`#GETS_OUTPUT_HDCP 1`
	
	`RESPONSE = A,U,F`
	`A = ACTIVE`
	`U = UNENCRYPTED`
	`F = FAIL`

Example Feedback	`OUTPUT_HDCP 1 A 2 A 3 A 4 A 5 U 6 F 7 A 8 A` `OUTPUT_HDCP 1 A`

#GETS_OUTPUT_RES

Get output Resolution Mode of one or all outputs.

Syntax	`#GETS_OUTPUT_RES PARAM1`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL RECEIVERS 1 ~ N = RX ID

Example	`#GETS_OUTPUT_RES 0`
	`#GETS_OUTPUT_RES 1`
	
	`RESPONSE = AAAAxBBBBCDD`
	`AAAA - HORIZONTAL RESOLUTION`
	`BBBB - VERTICAL RESOLUTION`
	`C - PROGRESSIVE/INTERLACE`
	`D - REFRESH RATE`

Example Feedback	`OUTPUT_RES 1 3840x2160P60  5 1920x1080I59 10 0000x0000000`
	
	`OUTPUT_RES 1 3840x2160P60`

Routing UDP Commands

#REBOOT_TX	
Syntax	`#REBOOT_TX PARAM1`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL INPUTS 1 ~ N - TX CHANNEL

#REBOOT_RX	
Syntax	`#REBOOT_RX PARAM1`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL INPUTS 1 ~ N - RX ID

R	
Route transmitter to a specific receiver, group, or videowall group.	
Syntax	`R PARAM1 PARAM2 (OPTIONAL PARAM3 ~ PARAM6)`
Parameters	PARAM1 = 1 - N (TX CHANNEL) PARAM2 ~ PARAM# = 0, 1 ~ N, G, V 0 - ALL RECEIVERS 1 ~ N - SPECIFIC RX ID OR MULTIPLE RX IDS CAN BE SPECIFIED G - GROUP ROUTE V - VIDEOWALL GROUP ROUTE PARAM3 = 1 ~ N 1 ~ N - GROUP ID OR VIDEOWALL GROUP ID

Example	`R 1 0`
	`R 1 1 2 3`
	`R 1 V 1`
	`R 1 G 1`

Example Feedback	`R 1 1 1 2 1 3`
	`R 1 1 1 2 1 3`
	`R 1 V 1`
	`R 1 G 1`

#GET_R	
Get receiver route status.	
Syntax	`#GET_R PARAM1`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL RECEIVERS 1 ~ N = RECEIVER ID RESPONSE = X, Y X = TRANSMITTER CHANNEL Y = RECEIVER ID
Example	`#GET_R 2`
Example Feedback	`R 1 2`

Routing UDP Commands

Routing (cont.)

A

Description	Independently route audio.
Syntax	`A PARAM1`
Parameters	A PARAM1 PARAM2 (OPTIONAL PARAM3 ~ PARAM#) PARAM1 = F, 1 - N F - FOLLOW CURRENT ROUTED TRANSMITTER CHANNEL 1 ~ N = FIXED ROUTE TO SPECIFIC TX CHANNEL PARAM2 = 1 - N (RX ID)
Example	`A 1 2`
Example Feedback	

#GET_A

Get audio route status.

Syntax	`#GET_A PARAM1`
Parameters	PARAM1 = 1 - N (RX ID)
Example	`#GET_A 2`
Example Feedback	`A 1 2`

S

Description	Independently route serial.
Syntax	`S PARAM1 PARAM2 (OPTIONAL PARAM3 ~ PARAM#)`
Parameters	PARAM1 = F, 1 - N F = FOLLOW CURRENT ROUTED TRANSMITTER CHANNEL 1 ~ N = FIXED ROUTE TO SPECIFIC TX CHANNEL PARAM2 = 0, 1 ~ N 0 - ALL RECEIVERS 1 ~ N - RX ID
Example	`S 1 2`
Example Feedback	

#GET_S

Get serial route status.

Syntax	`#GET_S PARAM1 (OPTIONAL PARAM2 ~ PARAM#)`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL RECEIVERS 1 ~ N - RX ID
Example	`#GET_S 2`
Example Feedback	`S 1 2`

Routing UDP Commands

Routing (cont.)

I

Description	Independently route IR.
Syntax	`I PARAM1 PARAM2 (OPTIONAL PARAM3 ~ PARAM#)`
Parameters	PARAM1 = F, 1 - N F = FOLLOW CURRENT ROUTED TRANSMITTER CHANNEL 1 ~ N = FIXED ROUTE TO SPECIFIC TX CHANNEL PARAM2 = 0, 1 ~ N 0 - ALL RECEIVERS 1 ~ N - RX ID
Example **Example Feedback**	`I 1 2`

#GET_I

Get IR route status.

Syntax	`#GET_I PARAM1 (OPTIONAL PARAM2 ~ PARAM#)`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL RECEIVERS 1 ~ N - RX ID
Feedback	`#GET_I 2`
Example Feedback	`S 1 2`

U

Description	Independently route USB.
Syntax	`U PARAM1 PARAM2 (OPTIONAL PARAM3 ~ PARAM#)`
Parameters	PARAM1 = F, 1 - N F = FOLLOW CURRENT ROUTED TRANSMITTER CHANNEL 1 ~ N = FIXED ROUTE TO SPECIFIC TX CHANNEL PARAM2 = 0, 1 ~ N 0 - ALL RECEIVERS 1 ~ N - RX ID
Example **Feedback Example**	`U 1 2`

#GET_U

Get USB route status.

Syntax	`#GET_U PARAM1 (OPTIONAL PARAM2 ~ PARAM#)`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL RECEIVERS 1 ~ N - RX ID
Example **Feedback Example**	`U 1 2`

Routing UDP Commands

Routing (cont.)

#SET_TX_MUTE

Mute/Unmute audio

Syntax	`#SET_TX_MUTE PARAM1 PARAM2`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL TRANSMITTERS 1 ~ N - (TX CHANNEL) PARAM1 = 0 - 1 0 - UNMUTE AUDIO 1 - MUTE AUDIO
Example	#SET_TX_MUTE 0 1; #SET_TX_MUTE 1 0
Example Feedback	`TX_MUTE 1 1 2 1 3 1` `TX_MUTE 1 0`

#GET_TX_MUTE

Get the current status of audio mute.

Syntax	`#GET_TX_MUTE PARAM1`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL TRANSMITTERS 1 ~ N - (TX CHANNEL)
Example	#GET_TX_MUTE 0; #GET_TX_MUTE 1
Example Feedback	`TX_MUTE 1 1 2 1 3 1` `TX_MUTE 1 0`

#SET_RX_MUTE

Mute/Unmute audio

Syntax	`#SET_RX_MUTE PARAM1 PARAM2`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL RECEIVERS 1 ~ N - (RX ID) PARAM1 = 0 - 1 0 - UNMUTE AUDIO 1 - MUTE AUDIO
Example	#SET_RX_MUTE 0; #SET_RX_MUTE 1
Example Feedback	`RX_MUTE 1 1 2 1 3 1` `RX_MUTE 1 0`

Routing UDP Commands

Routing (cont.)

#GET_RX_MUTE

Get the current status of audio mute.

Syntax	`#GET_RX_MUTE PARAM1`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL RECEIVERS 1 ~ N - (RX ID)
Example	#GET_RX_MUTE 0; #GET_RX_MUTE 1
Example Feedback	`RX_MUTE 1 1 2 1 3 1` `RX_MUTE 1 0`

#SET_MASK

Enable/Disable video mask

Syntax	`#SET_MASK PARAM1 PARAM2`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL RECEIVERS 1 ~ N - (RX ID) PARAM2 = 0 - 1 0 - DISABLE 1 - ENABLE
Example	`#SET_MASK 0; #SET_MASK 1`
Example Feedback	`MASK 1 1 2 1 3 1` `MASK 1 1`

#GET_MASK

Get the current video mask status.

Syntax	`#GET_MASK PARAM1`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL RECEIVERS 1 ~ N - (RX ID)
Example	`#GET_MASK 0; #GET_RX_MASK 1`
Example Feedback	`MASK 1 1 2 1 3 1` `MASK 1 1`

Routing UDP Commands

Routing (cont.)

#SET_BLOCK

Enable/Disable video block feature

Syntax	`#SET_MASK PARAM1 PARAM2`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL TRANSMITTERS 1 ~ N - (TX CHANNEL) PARAM2 = 0 - 1 0 - DISABLE 1 - ENABLE
Example	`#SET_BLOCK 0; #SET_BLOCK 1`
Example Feedback	`BLOCK 1 1 2 1 3 1` `BLOCK 1 1`

#GET_BLOCK

Get the current video block status.

Syntax	`#GET_BLOCK PARAM1`
Parameters	PARAM1 = 0, 1 ~ N 0 - ALL TRANSMITTERS 1 ~ N - (TX CHANNEL)
Example	`#GET_BLOCK 0; #GET_BLOCK 1`
Example Feedback	`BLOCK 1 1 2 1 3 1` `BLOCK 1 1`

Preset UDP Commands

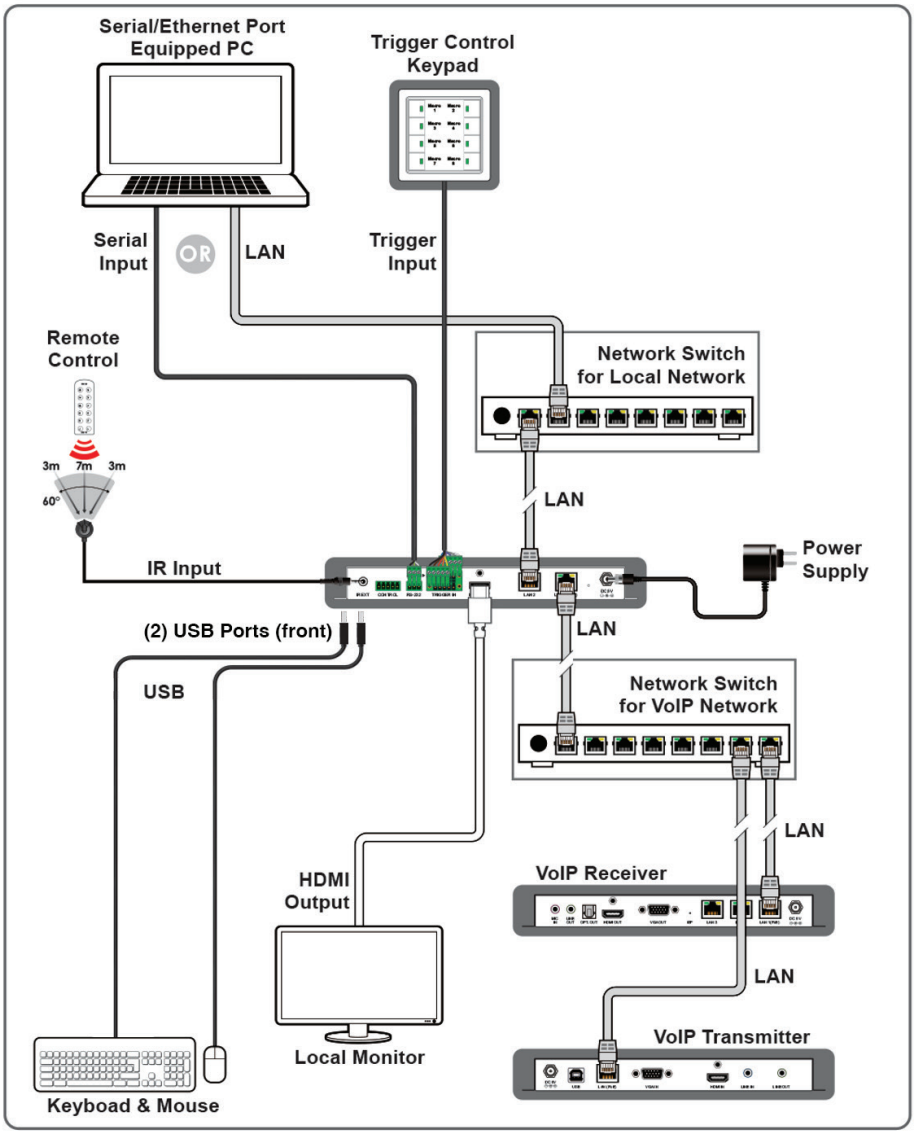
#SET_VW	
Set videowall layout.	
Syntax	`#SET_VW PARAM1 PARAM2`
Parameters	PARAM1 = 1 ~ N (VIDEOWALL ID) PARAM2 = 0 - 1 0 - DISABLE 1 - ENABLE
Example	`#SET_VW 2 1`
Example Feedback	`VW 2 1`

#GET_VW	
Get videowall status.	
Syntax	`#GET_VW PARAM1`
Parameters	PARAM = 1 ~ N
Example	`#SET_VW 2`
Example Feedback	`VW 2 1`

P	
Recall a preset.	
Parameters	P PARAM1 PARAM1 = 1 ~ 128 (PRESET ID)
Example	`P 3`
Example Feedback	

Connection Diagram

DIAGRAM



Technical Specifications

HDMI Output Resolution	1920×1080@60Hz
Output Port	1×HDMI (Type-A)
Control Ports	1×IR Extender (3.5mm) 1×RS-232 (3-pin Terminal Block) 8×Trigger (10-pin Terminal Block) 2×LAN (RJ-45) 2×USB 2.0 (Type A)
Service Port	1x MicroSD Slot
Reserved Port	1×Control (5-pin Terminal Block)
IR Frequency	38kHz
Baud Rate	115200
Power Supply	5V/2.6A DC (US/EU standards, CE/FCC/UL certified)
ESD Protection (HBM)	±8kV (Air Discharge) ±4kV (Contact Discharge)
Dimensions (W×H×D)	231.5mm×25mm×108mm [Case Only] 231.5mm×25mm×117mm [All Inclusive]
Weight	648g
Chassis Material	Metal (Steel)
Chassis Color	Black
Power Consumption	14W
Operating Temperature	0˚C – 40˚C/32˚F – 104˚F
Storage Temperature	-20˚C – 60˚C/-4˚F – 140˚F
Relative Humidity	20 – 90% RH (Non-condensing)

Warranty and Return Policy

Nice North America warrants the equipment it manufactures to be free from defects in material and workmanship. If Gefen equipment fails because of such defects and Nice North America is notified within the specified warranty period* from the documented** date of purchase, Nice North America will, at its option, repair or replace the equipment, provided that the equipment has not been subjected to mechanical, electrical, or other abuse or modifications. This warranty is in lieu of all other warranties expressed or implied, including without limitation, any implied warranty or merchantability or fitness for any particular purpose, all of which are expressly disclaimed. Warranty period begins on the date of purchase by the original end-purchaser, as indicated on the proof of purchase document**. This Limited Warranty extends to the original end-user purchaser of the product and is not transferable to any subsequent purchaser(s) or owner(s). Customers outside the continental United States of America are responsible for shipping charges to and from Nice North America. * Warranty period: Passive Copper Cables without any electronic circuitry: 30 days. Cables must be in their original condition.

Electronics

2 Years unless specified otherwise.

3 years if specifically noted as such on the store.nortekcontrol.com portal or Gefen.com website product page. Valid only for documented** purchases made on or after March 29, 2017.

** Proof of purchase must be a receipt or written document, deemed acceptable by Nice North America. Requesting an RMA. The RMA number must be obtained prior to returning any product for repair or replacement. Please contact us at support@gefen.com or 1.800.472.5555 for further instruction.

Returns for Credit

- All returns must reference an RMA number.
- Packages returned without an RMA number may be refused.
- Return packages must be properly packaged for return shipment.
- Any damages resulting from improper packaging are subject to a restocking fee.
- To obtain a full refund of the purchase price, returns must be requested within 30 days of the initial purchase date from your Gefen authorized resellers/distributors.
- All returns requested after 30 days, but no later than 60 days of purchase date are subject to a 15% restocking fee.
- Nice North America reserves the right to inspect the product condition and may apply an additional 5% restocking fee for any excessive damage or wear.
- To receive a credit on copper cables, the cables must be unopened.

All returns must include every component originally shipped with the products (power supplies, remotes, cables, etc.). The cost of any missing accessory will be deducted from the original purchase amount.

Returns for Goods Purchased through Dealers/Distributors

- All returns for credit/exchange must go through the original dealer/distributor the goods were purchased from.
- Nice North America cannot issue any credit for any Gefen merchandise not purchased directly from Nice North America.
- Nice North America can directly issue an RMA# for repair returns only for all goods purchased through a dealer/distributor.
- Proof of purchase may be required to accept an RMA request as a “warranty” repair.

Notes

Technical Support:
1-800-472-5555

Technical Support Hours:
7:00 AM to 4:00 PM
Monday through Friday, Pacific Time

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

gefen.com

This product uses UL listed power supplies.

10033414 Rev-A