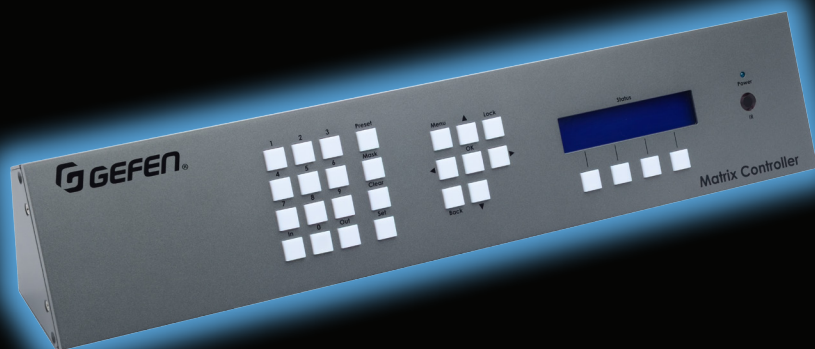




Matrix Controller

EXT-CU-LAN

Setup Guide



Release A2

Important Safety Instructions

1. Make sure to keep these instructions after reading them.
2. Follow all instructions and warnings.
3. Do not use this product near water.
4. Clean only with a dry cloth.
5. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
6. 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.
7. 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.
8. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
9. Only use attachments/accessories specified by the manufacturer.
10. 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.
11. Unplug this apparatus during lightning storms or when unused for long periods of time.
12. 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.
13. 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.

Gefen warrants the equipment it manufactures to be free from defects in material and workmanship.

If equipment fails because of such defects and Gefen is notified within two (2) years from the date of shipment, Gefen 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. Equipment that fails under conditions other than those covered will be repaired at the current price of parts and labor in effect at the time of repair. Such repairs are warranted for ninety (90) days from the day of reshipment to the Buyer.

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.

1. Proof of sale may be required in order to claim warranty.
2. Customers outside the US are responsible for shipping charges to and from Gefen.
3. Copper cables are limited to a 30 day warranty and cables must be in their original condition.

The information in this manual has been carefully checked and is believed to be accurate. However, Gefen assumes no responsibility for any inaccuracies that may be contained in this manual. In no event will Gefen be liable for direct, indirect, special, incidental, or consequential damages resulting from any defect or omission in this manual, even if advised of the possibility of such damages. The technical information contained herein regarding the features and specifications is subject to change without notice.

For the latest warranty coverage information, refer to the Warranty and Return Policy under the Support section of the Gefen Web site at www.gefen.com.

Technical Support

(818) 772-9100 (800) 545-6900
8:00 AM to 5:00 PM Monday - Friday, Pacific Time

Fax

(818) 772-9120

Email

support@gefen.com

Web

<http://www.gefen.com>

Mailing Address

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

Product Registration

Register your product here: <http://www.gefen.com/kvm/Registry/Registration.jsp>

- The Gefen Syner-G™ Software Suite is a free downloadable application from Gefen that provides network configuration assistance and automatic download and installation firmware upgrades for this product. Always make sure that the Matrix Controller is running the latest firmware.

Download the application here: <http://www.gefen.com/synerg/>

Matrix Controller is a trademark of Gefen, LLC.

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Gefen, LLC reserves the right to make changes in the hardware, packaging, and any accompanying documentation without prior written notice.



This product uses UL or CE listed power supplies.

Features

- Detects, configures, and controls all Gefen Video and KVM over IP products
- Built-in web server allows access from any web-enabled device, including phones, tablets, and PCs
- Two Ethernet ports with independent IP and MAC Addresses allow segregation of Video/KVM LAN and control LAN, and help provide separate security layers for administrators and end-users
- Seamless integration with Gefen Syner-G™ software allows for quick installation and configuration on a network
- Automatic assignment of IP addresses for all Gefen Video and KVM over IP devices on a network
- Front panel control push-buttons/display, handheld IR remote, and web server interface allow easy and convenient end-user operation
- Automation control system interface via Telnet and UDP
- POE (Power Over Ethernet) on LAN 1 port eliminates the need for an external power supply
- Password-protected independent user and administrative access
- Easy to read 2 line/20 characters per line Liquid Crystal Display
- System Configuration Upload/Download function
- Plug-and-Play installation with little to no set-up
- Locking power supply connector
- 2U tall rack-mountable enclosure, detachable rack ears included
- Slanted front panel for ergonomic push-button access and display visibility when placed on a table

Packing List

The Matrix Controller ships with the items listed below. If any of these items are not present in the box when you first open it, immediately contact your dealer or Gefen.

- 1 x Matrix Controller
- 1 x IR Remote Control Unit
- 1 x 5V DC Power Supply
- 1 x Rack Ears
- 6 x Rubber Feet
- 4 x Machine Screws
- 1 x Quick-Start Guide

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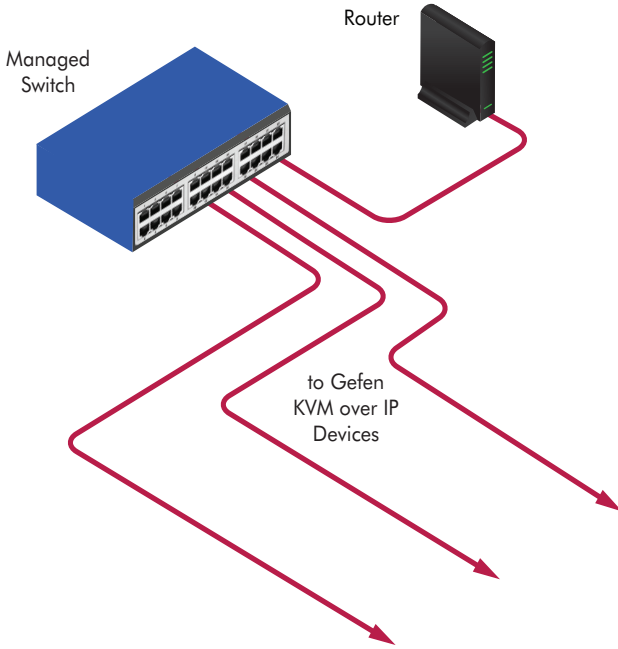
- You should have a managed gigabit switch with 8K (or greater) jumbo-frame capability.
- This Setup Guide uses the Matrix Controller in *Combined* network mode. The *Auto Assign* feature will be used to automatically configure all devices for use with the Matrix Controller.
- The “discovery” feature, used by the Matrix Controller is reliant on a proprietary network broadcast protocol that is used for identification. Broadcast packets and access using ports 53334 and 53335 is required for this feature to work.
- The Gefen Video-over-IP product line is compatible with a wide variety of data switches:
 - a. For simple installations, the **Netgear GS724T / GS748T / GS748TPS** (PoE version) are low-cost 24-port or 48-port Gigabit Smart Switches that meet all of the requirements. They have two SFP ports that can be equipped with fiber SFP modules for greater distances.
 - b. For cascaded or extended switch architecture, more than 1 Gigabit bandwidth may be required between switches. For these situations, the **Netgear PROSAFE GS728TXS Gigabit Stackable Smart Switch** offers four 10-Gigabit SFP uplink ports for expanded bandwidth between switches.
 - c. Other Gigabit managed switches, such as the **Cisco Small Business SG300 or SG500X** (“X” indicates 10G SFP uplink port) switches may also be used; however, configuration will be up to the user
- In order to properly manage the video traffic, two default settings on the switches need to be changed:
 1. “Jumbo Frames” need to be enabled.
 2. “IGMP Snooping” needs to be enabled.

To do this on the **Netgear GS7xxT-series** switches:

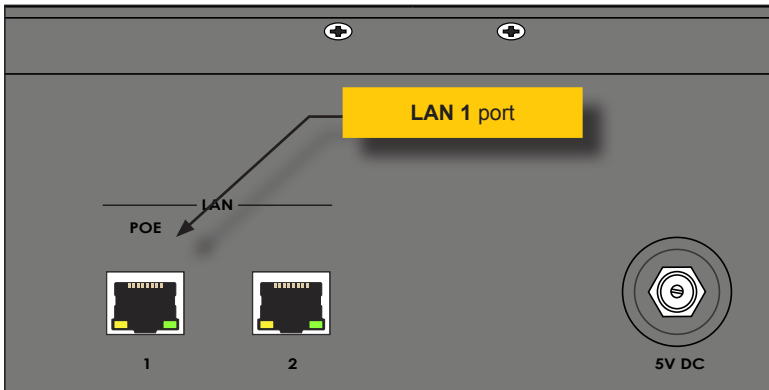
1. Login to the switch with a Web browser.
2. Under the “Switching” tab, select “Ports” and then “Port Configuration”.
3. Check the “All” checkbox, and set “Maximum Frame Size” to “9216”.
4. Click “Apply” to save the settings.
5. Still under “Switching”, select “Multicast”, “IGMP Snooping”, and then “IGMP Snooping Configuration”.
6. Enable “IGMP Snooping Status”.
7. Disable “Validate IGMP IP Header”.
8. Click “Apply” to save the settings.
9. Go to “IGMP Snooping VLAN Configuration”.
10. Enter “1” under “VLAN ID”.
11. Enable “Fast Leave Admin Mode” and “Query Mode”.
12. Click “Apply” to save the settings.

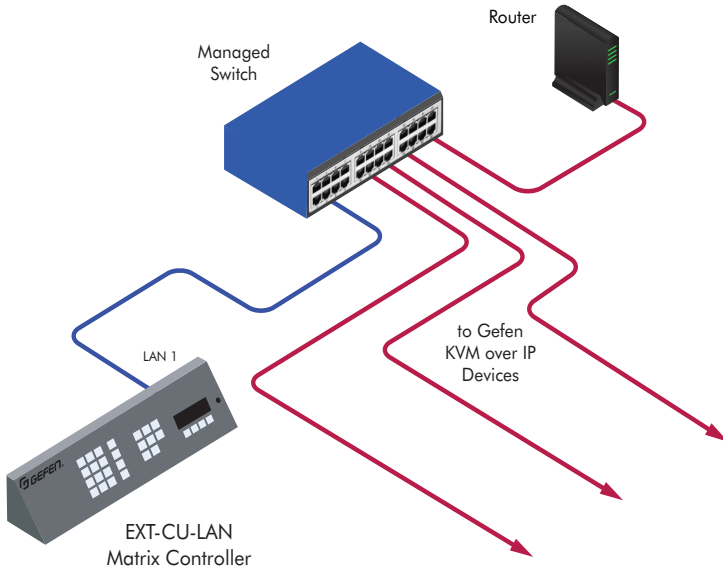
- For the **Cisco SG300** or **SG500X** series switches:
 1. Login to the switch with a Web browser.
 2. Go to “Admin” > “Port Management” > “Port Settings”.
 3. Select “Enable Jumbo Frames”.
 4. Click “Apply” to save the setting.
 5. Go to “Multicast” > “Properties”.
 6. Enable “Bridge Multicast filtering”.
 7. Click “Apply” to save the setting.
 8. Go to “Multicast” > “IGMP Snooping”.
 9. Enable “IGMP Snooping”.
 10. Click “Apply” to save the setting.

1. Connect all Gefen Video over IP units to an approved / compatible managed switch. Refer to the User Manual(s) for the Gefen Video over IP units to obtain the network requirements.

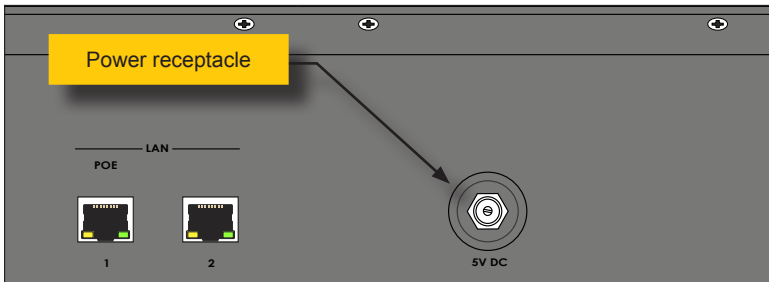


2. Connect a shielded CAT-5e (or better) Ethernet cable from the **LAN 1** port on the Matrix Controller to the same network where the Gefen Video over IP units are connected.

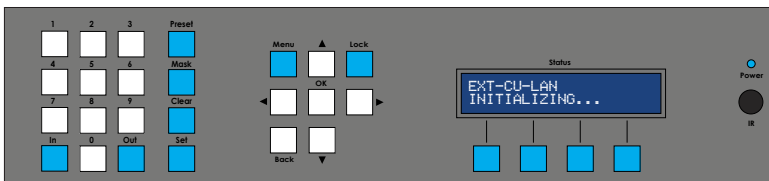




3. Connect the included 5V DC power supply to the power receptacle on the Matrix Controller. Connect the power cord to an available electrical AC outlet.
4. Alternatively, if LAN Port #1 is connected to a PoE Switch (Such as Netgear ProSafe GS748TPS), a separate power connection is not required.



5. The Matrix Controller will begin the initialization process. This will take a few moments.



- After the Matrix Controller has completed the initialization process, the following message will appear in the LCM display on the front panel:

```
ENTER PASSCODE:
_00000
```

The Matrix Controller will prompt for the passcode. Ignore this for now and continue to the next step. Most of the system setup will be done through the Web interface. The front panel is covered in the User Manual.

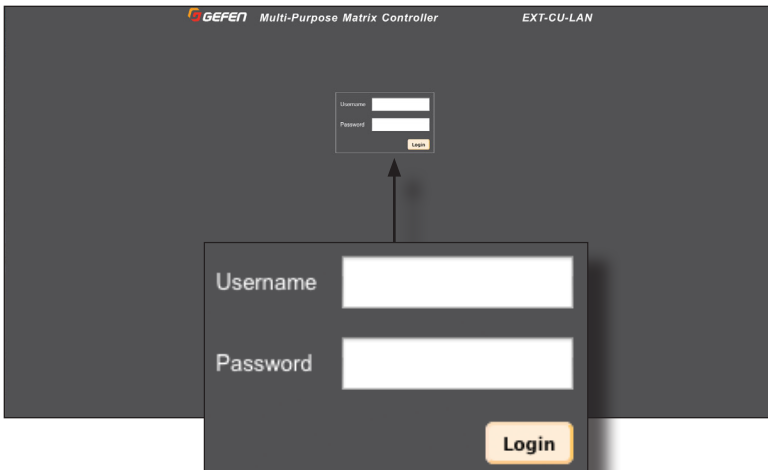
- Connect a computer to the same network as the Matrix Controller. Set the computer's IP address to 192.168.1.xxx, where xxx is a value between 1 and 254.



Important

Do not use the IP address 192.168.1.74 because this is the IP address of the Matrix Controller. If the current network configuration is already within this range, make sure that the IP address 192.168.1.74 is not assigned to another device in order to avoid conflicts.

- Set the subnet mask to 255.255.255.0.
- Open a Web browser and enter the following address: 192.168.1.74.
- The login page to the Matrix Controller will be displayed.



- Type `admin` (case-sensitive) in both the **Username** and **Password** fields, then click the **Login** button.

- Click the **I/O** tab.
- All units connected to the network should be displayed under the Input and Output columns. The Matrix Controller will automatically discover all available units.

Inputs

Search

Ch	IP	MAC	Description	Mode
1	192.168.1.80	00:1C:91:04:41:09	LG blu-ray	Auto
2	192.168.1.81	00:1C:91:04:31:01	DSPM- Coke	Auto
3	192.168.1.82	00:1C:91:04:41:03	DSMP Gefen products	Auto
5	192.168.1.84	00:1C:91:04:30:80	DSMP2	Auto
6	192.168.1.85	00:1C:91:03:D2:B8	VGA-Siggen	Auto
8	192.168.1.87	00:1C:91:03:C0:8A	none	Auto
9	192.168.1.88	00:1C:91:04:32:08	Roku3	Auto
10	192.168.1.83	00:1C:91:04:30:78	Fitzi-Teemu	Auto
11	192.168.1.86	00:1C:91:03:C2:48	DTS blu-ray	Auto

Outputs

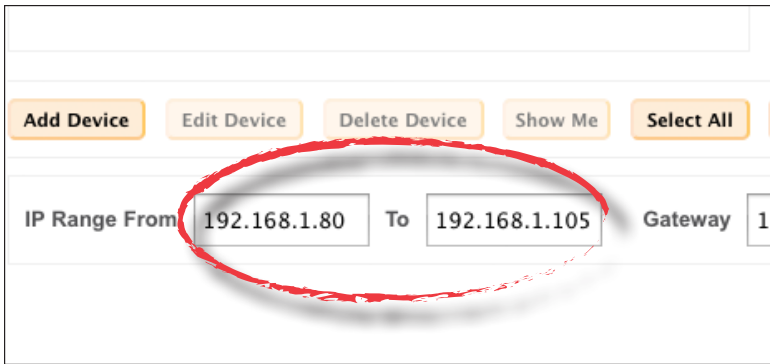
Search

ID	Ch	IP	MAC	Description	Mode
1	3	192.168.1.89	00:1C:91:04:48:5A	A2	Auto
2	9	192.168.1.90	00:1C:91:03:DA:F2	A3	Auto
3	9	192.168.1.91	00:1C:91:04:39:53	C2	Auto
4	9	192.168.1.92	00:1C:91:04:48:BE	A1	Auto
5	10	192.168.1.93	00:1C:91:04:39:3E	C1	Auto
6	5	192.168.1.94	00:1C:91:04:39:55	B1	Auto
7	1	192.168.1.95	00:1C:91:03:E8:42	D2	Auto
8	6	192.168.1.96	00:1C:91:03:EB:78	D1	Auto
9	1	192.168.1.97	00:1C:91:03:C8:53	C3	Auto

Important

Before proceeding, contact your IT administrator for a valid range of consecutive IP addresses that can be applied to the Gefen Video over IP products (e.g. 192.168.1.100 to 192.168.1.150).

1. Enter the provided IP addresses (from the IT administrator) in the IP Range From and To fields. The IP address range should meet the following requirements:
 - ⚠ The range should be large enough to include all of the devices that will eventually be added to the network, with room for possible expansion.
 - ⚠ The IP addresses should be outside of the assigned DHCP range assigned by the network router.
 - ⚠ The IP addresses should not be assigned to any existing devices in this range (including devices such as laptop computers that may currently be disconnected, but which have previously been assigned addresses in this range).



2. Click the **Select All** button to select all discovered devices under the **Input** and **Output** list. Any time a device is selected from either list, it will be highlighted in red, as shown below.

Ch	IP	MAC	Description	Mode
1	192.168.1.80	00:1C:91:04:41:09	LG blu-ray	Auto
2	192.168.1.81	00:1C:91:04:31:01	DSPM- Coke	Auto
3	192.168.1.82	00:1C:91:04:41:03	DSMP Gefen products	Auto
5	192.168.1.84	00:1C:91:04:30:80	DSMP2	Auto
6	192.168.1.85	00:1C:91:03:D2:B8	VGA-Siggen	Auto
8	192.168.1.87	00:1C:91:03:C0:8A	none	Auto
9	192.168.1.88	00:1C:91:04:32:08	Roku3	Auto
10	192.168.1.83	00:1C:91:04:30:78	Fitzi-Teemu	Auto

- Click the **Auto Assign** button on the right side of the screen, under the Outputs list.

ID	Ch	IP	MAC	Description	Mode
1	3	192.168.1.89	00:1C:91:04:48:5A	A2	Auto
2	9	192.168.1.90	00:1C:91:03:DA:F2	A3	Auto
3	9	192.168.1.91	00:1C:91:04:39:53	C2	Auto
4	9	192.168.1.92	00:1C:91:04:48:BE	A1	Auto
5	10	192.168.1.93	00:1C:91:04:39:3E	C1	Auto
6	5	192.168.1.94	00:1C:91:04:39:55	B1	Auto
7	1	192.168.1.95	00:1C:91:03:E8:42	D2	Auto
8	6	192.168.1.96	00:1C:91:03:EB:78	D1	Auto
9	1	192.168.1.97	00:1C:91:03:C8:53	C3	Auto
10	3	192.168.1.98	00:1C:91:03:C8:B3	B2	Auto
11	2	192.168.1.99	00:1C:91:03:C8:48	MTR - D3	Auto
12	3	192.168.1.100	00:1C:91:03:C8:B0	B3	Auto

Deselect All Refresh

192.168.1.1 Subnet Mask 255.255.255.0 Auto Assign

- The following message box will be displayed:

Confirmation
✕

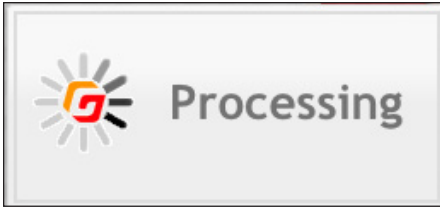
⚠ The Auto Assign feature will take several minutes to complete. Length of time will depend on the quantity of selected devices. Multiple resets on each device will occur during this process. The EXT-CU-LAN will not be accessible during this process. Would you like to continue?

OK
Cancel

As described in the message box, this process will take several minutes to complete. The Gefen Video over IP units may reboot multiple times during the procedure.

The Web interface will not be available during this process. DO NOT attempt to refresh the page during the process.

- Click the **OK** button to continue.
- The following message box will be displayed and will disappear when the process has completed:



- Provide a unique description for each input and output device. Make sure the descriptions are meaningful (e.g. "Blu-ray", "Samsung 65", etc.). This step is highly recommended and will provide easy management of devices, particularly in large-scale setups.



Important

Do not use special characters, such as double-quotes ("), asterisks (*), etc., in any text field. Only these special characters are supported: (space), underscore (_), hyphen (-), and period (.).

To change the description of an input or output unit, do the following:

- Click on the desired unit, from the Input or Output list, to select it. In this example, we will begin by selecting the input device. For clarity, we will be working with only one input and one output.

Inputs				
				Search
Ch	IP	MAC	Description	Mode
1	<u>192.168.1.220</u>	02:72:74:9B:E7:83	EXT-HDKVM-LAN-S	Auto

- When selected, the device will be highlighted in red.

Inputs				
				Search
Ch	IP	MAC	Description	Mode
1	<u>192.168.1.80</u>	00:1C:91:04:41:09	LG blu-ray	Auto
2	<u>192.168.1.81</u>	00:1C:91:04:31:01	DSMP- Coke	Auto
3	<u>192.168.1.82</u>	<u>00:1C:91:04:41:03</u>	<u>EXT-HD2IRS-LAN-S</u>	Auto
5	<u>192.168.1.84</u>	00:1C:91:04:30:80	DSMP2	Auto
6	<u>192.168.1.85</u>	00:1C:91:03:D2:B8	VGA-Singer	Auto

- c. Click the **Edit Device** button. Note that only one device can be changed at a time. If more than one device is selected, then the **Edit Device** button will be disabled.

The screenshot shows a table with the following data:

Ch	IP	MAC	Description	Mode
1	192.168.1.80	00:1C:91:04:41:09	LG blu-ray	Auto
2	192.168.1.81	00:1C:91:04:31:01	DSPM- Coke	Auto
3	192.168.1.82	00:1C:91:04:41:03	EXT-HD2IRS-LAN-S	Auto
5	192.168.1.84	00:1C:91:04:30:80	DSMP2	Auto
6	192.168.1.85	00:1C:91:03:D2:B8	VGA-Siggen	Auto
8	192.168.1.87	00:1C:91:03:C0:8A	none	Auto
9	192.168.1.88	00:1C:91:04:32:08	Roku3	Auto
10	192.168.1.83	00:1C:91:04:30:78	Fitzi-Teemu	Auto
11	192.168.1.86	00:1C:91:03:C2:48	DTS-blu-ray	Auto

Below the table is a row of buttons: **Add Device**, **Edit Device** (with a mouse cursor over it), **Delete Device**, **Show Me**, and **Select All**.

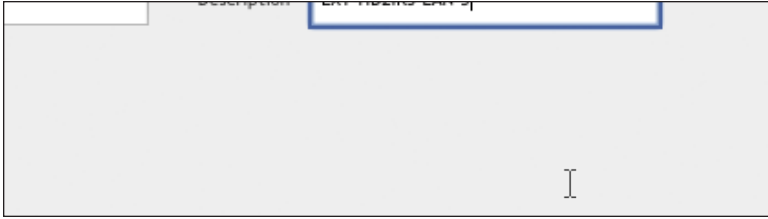
- d. The **Edit Device** dialog box will be displayed.

The Edit Device dialog box contains the following fields:

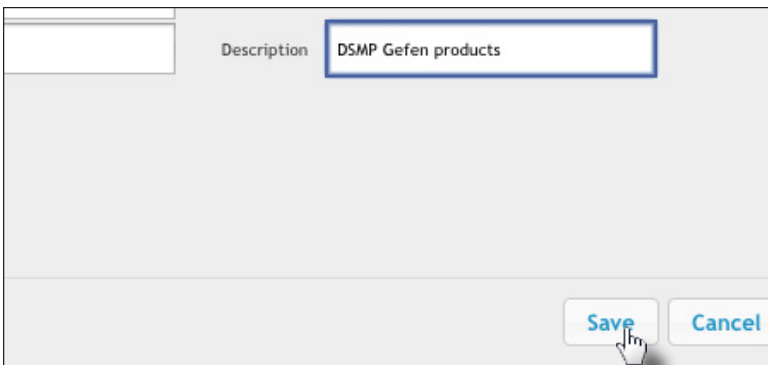
- Channel: 3
- Name: EXT-HD2IRS-LAN-S
- MAC: 00:1C:91:04:41:03
- IP: 192.168.1.82
- IP Mode: Static
- Gateway: 192.168.1.1
- Subnet: 255.255.255.0
- DNS: Optional
- Web GUI Port: 80
- Telnet Port: 23
- FW Version: V1.63hs
- HW Version: ast1510hv
- Web GUI: http://192.168.1.82:80
- Description: EXT-HD2IRS-LAN-S

At the bottom right are **Save** and **Cancel** buttons.

- e. The default device name will be displayed in the **Description** field. Click in the **Description** field and change the name.



- f. Click the **Save** button on the **Edit Device** dialog.



- g. The *processing* message box will be displayed and after a few seconds, the device description will be updated.

Ch	IP	MAC	Description	Mode
1	192.168.1.80	00:1C:91:04:41:09	LG blu-ray	Auto
2	192.168.1.81	00:1C:91:04:31:01	DSPM- Coke	Auto
3	192.168.1.82	00:1C:91:04:41:03	DSMP Gefen products	Auto
5	192.168.1.84	00:1C:91:04:30:80	DSMP2	Auto

- h. Repeat steps a - g for each device under both the Input and Output list.

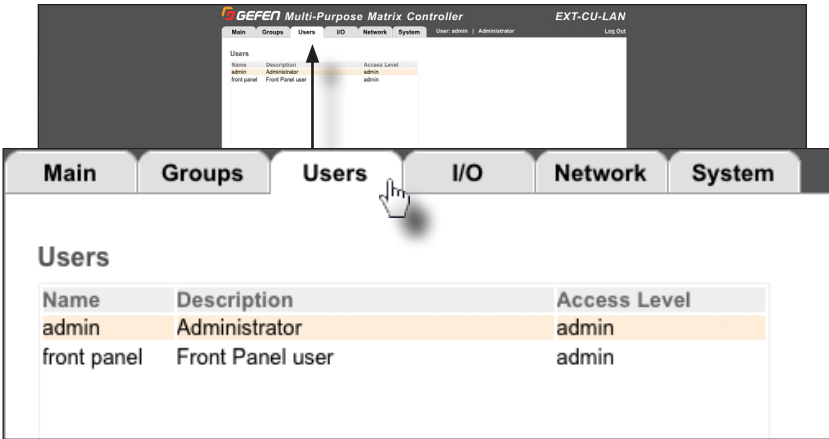


Important

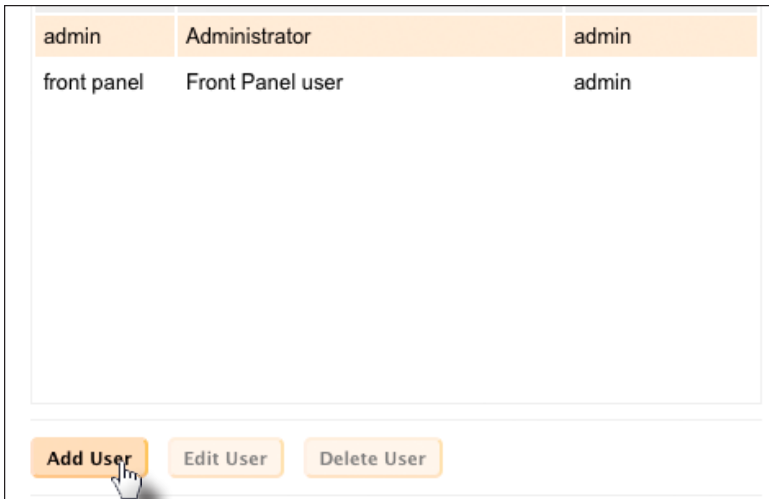
Before continuing, verify that all units have an IP address that is within the specified range. Each input device should have a unique Channel number. Each output device should have a unique ID number.

Information
The Administrator and Front Panel user names cannot be deleted. However, the access level of the Front Panel username can be changed.

1. Click the **Users** tab.



2. Click the **Add User** button.



3. The **Add User** dialog will be displayed.
 - d. Type the name of the *user* in the **Name** field.
 - e. Enter a description for the *user* in the **Description** field.
 - f. Click on the **Access Level** drop-down list to select the access for the *user*. There are three levels: **Operator**, **Group Administrator**, and **Administrator**.
 - ▶ **Operator**
Access to routing within the web interface and the ability to manage *user presets* within their group.
 - ▶ **Group Administrator**
Access to routing within the web interface and the ability to manage both *user presets* and *group presets* within their *group*.
 - ▶ **Administrator**
Access to all features within the web interface.
 - g. Create a password for the *user*. The password can be between four and ten characters in length. The password will be masked when entered.
 - h. Click the **Add** button.

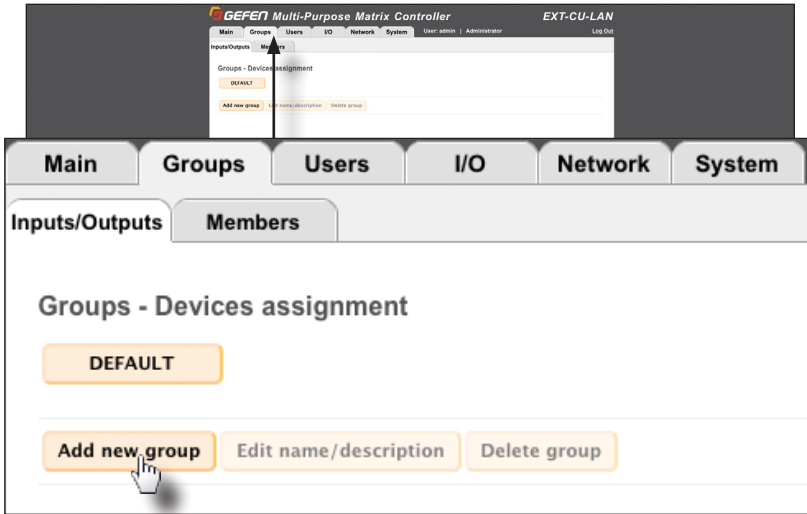
The screenshot shows the 'Add User' dialog box with the following fields and values:

- Name:** Berenice
- Description:** Sales Administrator
- Access Level:** A dropdown menu is open, showing three options: Operator, Group Administrator (highlighted), and Administrator.
- Password:** (Empty, masked)
- Group Memberships:** (Empty)

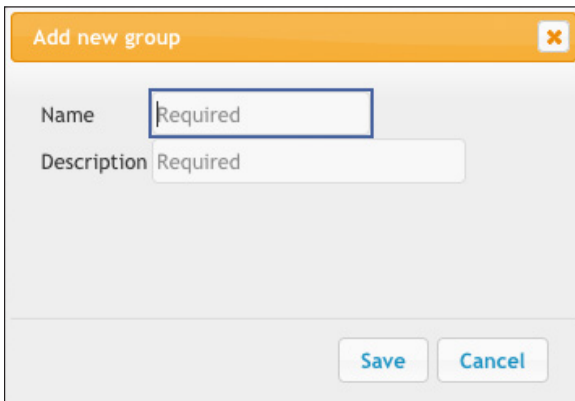
At the bottom of the dialog, there are two buttons: **Add** and **Cancel**.

Creating groups allows the administrator to restrict user-access to specified inputs and outputs. When using a large number of KVM over IP devices, it will be necessary to create and manage groups of devices for tracking, management, and ease-of-use.

1. Click the **Groups** tab.
2. Click the **Input/Output** tab.

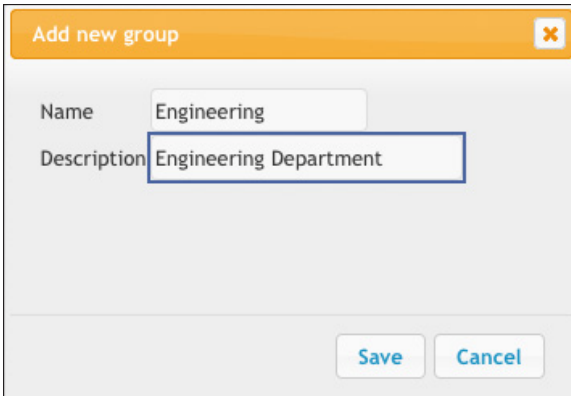


3. Click the **Add new group** button to view the **Add new group** dialog.



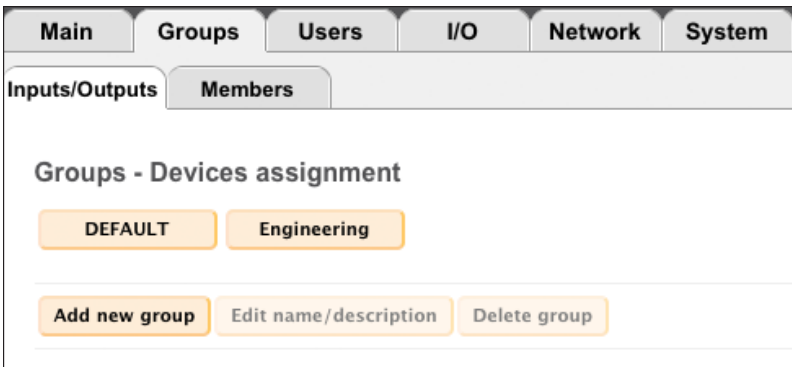
4. Enter the name of the *group* in the **Name** field.

5. Enter the description for the *group* in the **Description** field.



The screenshot shows a dialog box titled "Add new group" with a close button (X) in the top right corner. It contains two text input fields: "Name" with the value "Engineering" and "Description" with the value "Engineering Department". The "Description" field is highlighted with a blue border. At the bottom of the dialog are two buttons: "Save" and "Cancel".

6. Click the **Save** button to create the group. Each group that is created will appear as a button.



The screenshot shows a web interface with a navigation bar at the top containing tabs: "Main", "Groups", "Users", "I/O", "Network", and "System". The "Groups" tab is selected. Below the navigation bar are two sub-tabs: "Inputs/Outputs" and "Members". The "Members" sub-tab is selected. The main content area is titled "Groups - Devices assignment" and displays two buttons: "DEFAULT" and "Engineering". Below these buttons are three more buttons: "Add new group", "Edit name/description", and "Delete group".

Click the arrow icon, pointing to the right.

Add new group
Edit name/description
Delete group

Available Inputs

Name	IP	MAC	Description
EXT-HD2IRS-...	192.168.1.80	00:1C:91:04:4...	LG blu-ray
EXT-DVIKVM-...	192.168.1.81	00:1C:91:04:3...	DSPM- Coke
EXT-HD2IRS-...	192.168.1.82	00:1C:91:04:4...	DSMP Gefen ...
EXT-DVIKVM-...	192.168.1.83	00:1C:91:04:3...	Fitzi-Teemu
EXT-DVIKVM-...	192.168.1.84	00:1C:91:04:3...	DSMP2
EXT-HDKVM-...	192.168.1.86	00:1C:91:03:C...	DTS-blu-ray
EXT-DVIKVM-...	192.168.1.87	00:1C:91:03:C...	none
EXT-DVIKVM-...	192.168.1.88	00:1C:91:04:3...	Roku3
EXT-VGAKVM...	192.168.1.85	00:1C:91:03:D...	VGA-Siggen

The selected inputs will be displayed under the **Associated Inputs** list.

Associated Inputs

Name	IP	MAC	Description
EXT-HDKVM-...	192.168.1.86	00:1C:91:03:C...	DTS-blu-ray
EXT-DVIKVM-...	192.168.1.88	00:1C:91:04:3...	Roku3
EXT-VGAKVM...	192.168.1.85	00:1C:91:03:D...	VGA-Siggen

9. Select the desired outputs, under the **Available Outputs** list, to be associated with this group.

Available Outputs

Name	IP	MAC	Description
EXT-HDKVM-...	192.168.1.99	00:1C:91:03:C...	MTR - D3
EXT-DVIKVM-...	192.168.1.95	00:1C:91:03:E...	D2
EXT-HDKVM-...	192.168.1.100	00:1C:91:03:C...	B3
EXT-HD2IRS-...	192.168.1.92	00:1C:91:04:4...	A1
EXT-DVIKVM-...	192.168.1.93	00:1C:91:04:3...	C1
EXT-DVIKVM-...	192.168.1.94	00:1C:91:04:3...	B1
EXT-HD2IRS-...	192.168.1.89	00:1C:91:04:4...	A2
EXT-DVIKVM-...	192.168.1.96	00:1C:91:03:E...	D1
EXT-HDKVM-...	192.168.1.97	00:1C:91:03:C...	C3
EXT-HDKVM-...	192.168.1.98	00:1C:91:03:C...	B2
EXT-DVIKVM-...	192.168.1.91	00:1C:91:04:3...	C2
EXT-VGAKVM...	192.168.1.90	00:1C:91:03:D...	A3

10. Press the arrow icon, pointing to the right, to move the selected outputs under the **Associated Outputs** list.

Associated Outputs

Name	IP	MAC	Description
EXT-HD2IRS-...	192.168.1.92	00:1C:91:04:4...	A1
EXT-DVIKVM-...	192.168.1.94	00:1C:91:04:3...	B1
EXT-DVIKVM-...	192.168.1.96	00:1C:91:03:E...	D1
EXT-HDKVM-...	192.168.1.97	00:1C:91:03:C...	C3

Information

After a "User" is added to a "Group", that User is a "Member" of that Group (A User can be a Member of multiple Groups).

1. Click the **Groups** tab.
2. Click the **Members** tab.
3. Click on the desired *group*.

Groups - Users assignment

DEFAULT Engineering **Sales**

Add new group Edit name/description Delete group

Available users

Name	Description	Access
admin	Administrator	admin
front panel	Front Panel user	admin
Berenice	Sales Administrator	group administrator
John	Sales Representative	operator
Erica	Accounting AR	group administrator

4. Click the desired *user(s)* to be assigned to the selected *group*.

Available users

Name	Description	Access
admin	Administrator	admin
front panel	Front Panel user	admin
Berenice	Sales Administrator	group administrator
John	Sales Representative	operator
Erica	Accounting AR	group administrator
Kayla	Accounting AP	operator




Important

The `admin` user must be added to the group in order for the group to appear under the **Main** tab. In addition, the `front panel` user must be added to a group in order to allow routing from the front panel of the Matrix Controller.


- Click the arrow icon, pointing to the right, to move the selected *user(s)* under the **Members** list. Users can belong to multiple groups.

Description	Access	Name
Administrator	admin	
Front Panel user	admin	
Sales Administrator	group administrator	
Sales Representative	operator	
Accounting AR	group administrator	
Accounting AP	operator	

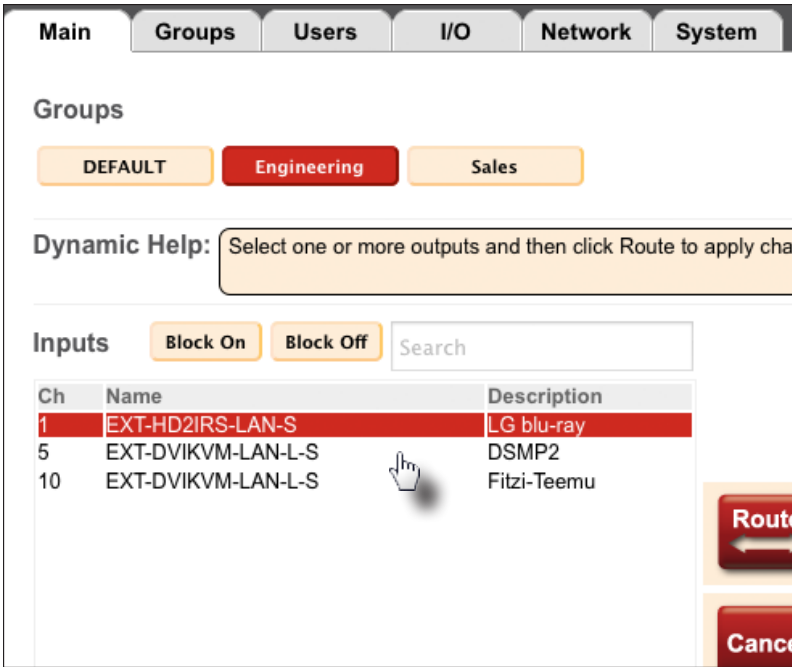


- The selected *users* (`admin`, `front panel`, `john`, and `kayla`) are now *members* of this *group*.

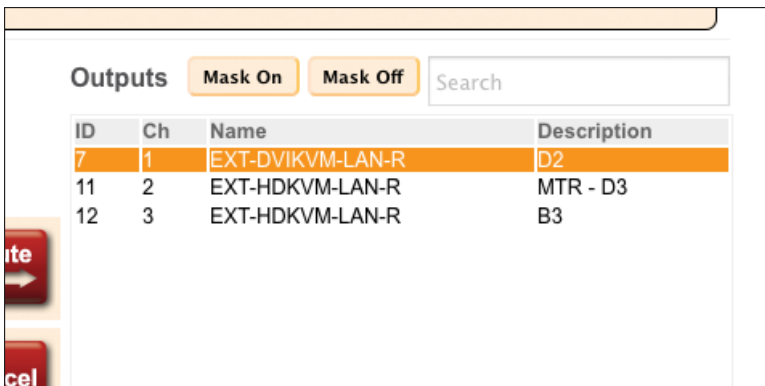
Members			Search
Name	Description	Access	
admin	Administrator	admin	
front panel	Front Panel user	admin	
Berenice	Sales Administrator	group administrator	
John	Sales Representative	operator	



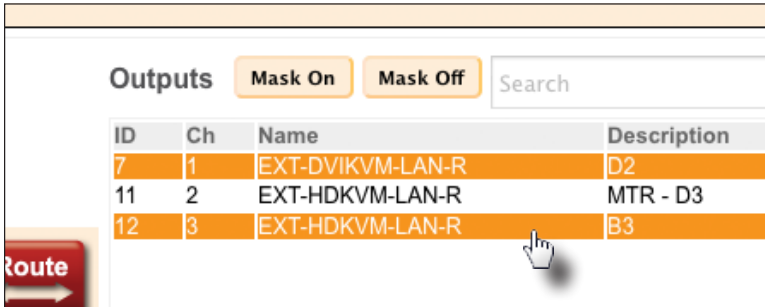
1. Click **Main** tab.
2. Click the desired *group* button.



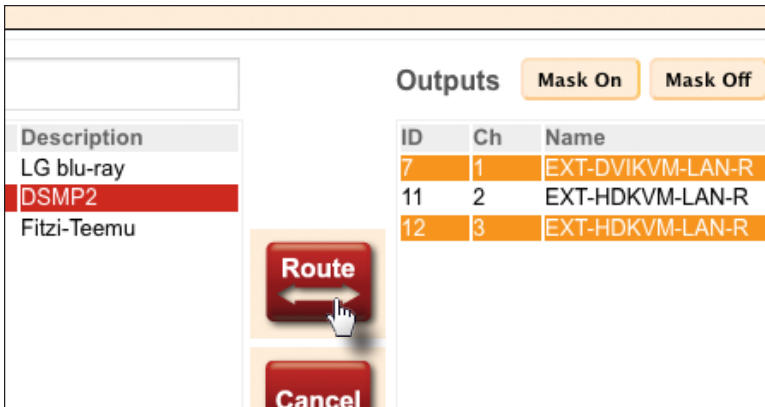
3. Click to select an input from the **Inputs** list. To deselect the input, click on it again. Only one input can be selected at a time. If the selected input is already routed to one or more outputs, the outputs will be highlighted in orange, as shown below:



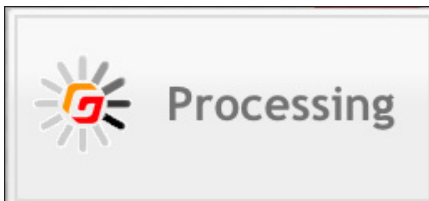
- Click to select the desired outputs, under the **Outputs** list.



- Click the **Route** button.



- The processing message box will be displayed, while the new routing process takes effect. This message box will disappear when the routing process is complete.



7. To assign an output to an input, do the following:
 - a. Click the desired output from the **Output** list. The input that is currently routed to the selected output will be highlighted in orange, under the **Input** list.

The screenshot shows the GEFEN Multi-Purpose Matrix Controller interface. The top navigation bar includes 'Main', 'Groups', 'Users', 'I/O', 'Network', and 'System'. The 'Groups' section shows 'DEFAULT', 'Engineering', and 'Sales'. A 'Dynamic Help' box contains the instruction: 'Select one or more outputs and then click Route to apply changes.' Below this are 'Inputs' and 'Outputs' tables. The 'Inputs' table has columns 'Ch', 'Name', and 'Description'. The 'Outputs' table has columns 'ID', 'Ch', 'Name', and 'Description'. A 'Route' button with a right-pointing arrow and a 'Cancel' button are positioned between the tables. A legend indicates that a black square represents 'Blocked/Masked'. At the bottom, there are sections for 'Presets - User' and 'Presets - Group', both with '+Add' buttons. A hand cursor is pointing at the 'Select All' button in the bottom right.

- b. Select the desired input. Only one input can be selected at a time. Select additional outputs, as desired.
- c. Click the **Route** button.



Information

Routing can also be performed using Matrix View mode. Refer to the User Manual for more information on this feature.

Connectors, Controls, and Indicators	
LAN 1	• 1 x RJ-45, POE-enabled
LAN 2	• 1 x RJ-45
Power Connector	• 1 x locking
Front-panel buttons	• 28 x push button, tact-type
IR Sensor	• 1 x sensor, front panel
Display	• 1 x LCM display 2 lines, 20 characters per line
Power Indicator	• 1 x LED, blue

Operational	
Power Input	• 5V DC
Power Consumption	• 4.3W (max.)
Operating Temperature	• +32 to +122 °F (0 to +50 °C)
Operating Humidity	• 5% to 90% RH, non-condensing
Storage Temperature	• -4 to +185 °F (-20 to +85 °C)
Storage Humidity	• 0% to 95% RH, non-condensing
MTBF	• 50000 Hours

Physical	
Dimensions (W x H x D) without rack ears	• 17" x 3.5" x 2.7" (432mm x 88mm x 68mm)
Dimensions (W x H x D) with rack ears	• 19" x 3.5" x 2.7" (482mm x 88mm x 68mm)
Unit Weight	• 3.7 lbs (1.7 kg)



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