

Matrix™ 1024 Installation

Matrix overview

The Matrix is a network management switch that can filter, de-duplicate, trim and time stamp inbound traffic and replicate, aggregate, or load-balance outbound traffic before sending it to your network and security monitoring tools.

License	The device is pre-licensed at the factory. The license enables ports in blocks of four starting at port 1. It also indicates the number of blocks that are 10 Gb-capable. If you have eight ports licensed, you may only use ports 1-8. Ports 9-24 remain dark and unusable even if you insert an SFP module. If you need more ports or blocks of 10 Gb, you can request a license upgrade.
IP Address	192.168.1.10 . Must use HTTPS in a web browser or SSH. HTTP will fail.
Default User/ password	admin/admin
Self-signed certificate	VIAVI uses a self-signed certificate . When connecting to the device, your web browser may issue a warning about the site being "untrusted" or that there is a problem with the "security certificate." This is a harmless message that may be ignored. You see that message because the site uses a self-signed certificate. See your web browser's documentation for adding the IP address as a trusted source.

How to connect Matrix to your network

Before you can configure or use the Matrix, you must complete the basic installation by connecting power cables and inserting SFP modules. (See images on other side.)

1. Insert the two power cables (F).
2. Connect an RJ-45 Ethernet cable to the MGMT port (J).
3. Insert the SFP or SFP+ modules into the ports (C).
4. Connect the appropriate network cables to the SFP or SFP+ modules.
5. Press the Power switch (D) on the front of the device.

How to set IPv4 network settings

The Matrix must be added to your network like other devices. Use the network settings page to set IPv4 settings for IP address and netmask, gateway, host name, and more.

The Matrix is an active network device (unlike a typical optical TAP for instance). The Matrix has a hardware address and requires an IPv4 address assignment to join your network. However, IPv6 can optionally be enabled and used side-by-side with IPv4—the matrix supports native dual-stack. Address assignments can be manually configured or dynamically assigned using DHCP or DHCPv6.

1. Starting in the dashboard, click **System**.
2. Click **Network**.
3. In **Hostname**, type a host name for the Matrix.
4. (Optional) Use DHCP for address assignments:
 - a. Select **DHCP**.
 - b. Click **Save**.
5. In **IP Address**, type the IP address the Matrix must use.
6. In **Netmask**, type the full netmask associated with the chosen IP address.
7. In **Gateway**, type the IP address of the gateway the Matrix must use.
8. In **DNS Address 1**, type the IP address of a DNS server.
9. (Optional) In **DNS Address 2**, type the IP address of a DNS server.
10. Click **Save**.

How to change the administrator password

The default *admin* user has full permissions and cannot be deleted. For these reasons, change the *admin* password as soon as possible.

The *admin* user in the Matrix is similar to the "root" user in other products.

To change the administrator password:

1. Starting in the dashboard, click **System**.
2. Click **Authentication**.
3. Click the **Users** tab.
4. Search for and click the **admin** user to select it.
5. In the menu bar, click **Edit**.
6. In the **Set Password** box, type a password.
7. In the **Confirm Password** box, re-type the same password.
8. Click **OK**.

How to add users

You can add users so they have the ability to authenticate and log in.

When adding a user, be aware that each user of the Matrix must be assigned group membership. You are able to assign group membership during the creation of the user.

To add a user:

1. Starting in the dashboard, click **System**.
2. Click **Authentication**.
3. Click the **Users** tab.
4. Click **Add**.
5. Configure the settings of the user.

How to set the system time and date

You can set or change how the current date and time is acquired. Doing so ensures log events have correct dates and times and that packet trailer timestamps are accurate.

The Matrix must acquire its time and date from a *clock source*.

To set which clock source acquires the system time and date:

1. Starting in the dashboard, click **System**.
2. Click **General**.
3. In the **Clock Source** list under **System Time Configuration**, click a clock source.

If you select NTP, you must type an NTP server IP address in **Server 1**.
4. Click **Save**.

How to upgrade the firmware

You can upgrade the firmware to ensure maximum performance and stability of the system, and to update the documentation and tooltips.

Prerequisite(s):

VIAVI continually releases improvements through firmware updates. Ensure you have the latest firmware by downloading it from <http://update.viavisolutions.com/pub/Matrix/1024/firmware/matrix1024-1.0.15.0.fw>.

Firmware upgrades consist of two simultaneous updates:

1. An update to the user interface
 2. An update to the switch board
- Both updates are performed simultaneously during a single firmware upgrade.
- ◆ Network traffic continues processing during the upgrade, except for a momentary interruption at the end of the switch board update which takes approximately 20 minutes.
 - ◆ The user interface is unavailable for approximately 5 minutes while it is updating.
 - ◆ The overall process may take up to 30 minutes to complete.

1. Starting in the dashboard, click **System**.
2. Click **Firmware**.
3. Click **Browse**.
4. Browse to a firmware file using the dialog box and click **Open**.
5. Click **Upload**.

The file uploads in the background, so do not close your browser. After the upload is complete, the file is verified and unpacked.

6. Click **Upgrade**.

How to set a user authentication scheme

You can leverage your organization's existing authentication service in the Matrix. Set a user authentication scheme to command your Active Directory, LDAP, TACACS+, or other server, to perform authentication duties for the Matrix.

Most organizations use some type of server for user authentication. One of these authentication servers can be used by the Matrix to authenticate its users.

1. Starting in the dashboard, click **System**.
2. Click **Authentication**.
3. In the **Authentication Scheme** list, click an authentication scheme.
4. Provide the information needed to connect to the authentication service.

Tooltips are available by pausing your pointer on each option, and the boxes highlight any missing details after you click **Accept**.

5. Click **Save**.

Matrix™ 1024 Reference

Dimensions	19 in (W) x 1.73 in (H) x 18 in 48.26 cm (W) x 4.39 cm (H) x 45.72 cm	Power consumption	Input voltage: 100V-240V auto select Input frequency: 50/60Hz 93w (317 Btu/h)
Weight	17 lbs (7.7 kg)	Supported media	
Operating Temperature	32° F (0° C) to 104° F (40° C)	Optical/Fiber	Multimode or Single-mode 1 Gb (SX or LX) 10 Gb (SR, LR, ZR)
Humidity	35-85% (non-condensing)	Copper	100/1000 Ethernet 10 Gb Twinaxial (CX4) ¹

1. Twinax cable must be 2 meters or s cables.



Figure 1: Front



A	Port Block Speed	Light that indicates the speed for the port block. If no light is lit for the port block, that port block is unlicensed.
B	Port Status	Light that shows whether that specific port is active. When it blinks, there is traffic on the port. The faster the blinking, the faster the traffic. When it is dark, the port is not enabled.
C	Port Block	Group of four ports that are assigned a speed (for instance, 1 Gb or 10 Gb). All ports in the port block must be of the same speed; it cannot have mixed speeds. The 10 Gb licenses float, meaning that if you insert a 10 Gb SFP+ into a port, that port block will be 10 Gb. If you license two 10 Gb port blocks, the first two port blocks with 10 Gb SFP+s in them are licensed at 10 Gb. If you insert a 10 Gb SFP+ into a third port block, it remains at 1 Gb and there will be a warning in the logs and web interface. If you remove one of the first two 10 Gb SFP+s, the third port block upgrades to 10 Gb. If you require mixed speeds, use 1 Gb in one port block and 10 Gb in a different port block. You can then combine them using rules and filters.
D	Power	Press and hold for three seconds to turn the device ON or OFF. To reset to factory defaults, unplug the power cables. Press and hold the Power button. While holding the Power button, insert the power cable. Continue holding until the device beeps twice.
E	RESET/PWR/ MGMT	RESET: Reset button. Press to clear the memory and restart the device when the device is not responding. Use instead of turning off or unplugging the device if there is a problem or before restoring to factory defaults. PWR: Power. When solid green, both power supplies are functioning as expected. When solid orange, one of the power supplies is OFF or not functioning properly. Different from the PWR light on the rear of the device. MGMT: Ethernet (management) port. When solid green, an Ethernet cable is connected. When unlit, no cable is connected and no changes can be made to the settings through either the web UI or CLI.

Figure 2: Rear



F	Power supplies	Redundant auto-selecting 100-240 volt power supplies are standard.
G	MUTE	Mute button to silence the alarm.
H	RST	Reset button. Use to clear the memory and restart the device when the device is not responding. Use instead of turning off or unplugging the device if there is a problem or before restoring to factory defaults.
I	PWR/RDY/ ALARM	PWR: Power. Different than the PWR light on the front of the case and useful when troubleshooting web or CLI interface connectivity issues. When solid green, the web and SSH servers are running. When unlit, no power is present for those servers. RDY: Ready. This light indicates that the web server and SSH server are running so that the web UI and CLI are accessible. This light blinks during a factory reset; otherwise it is solid green. ALARM: Alarm. When this green light flashes, the device is in an alarmed state (for example, failed power supply). There are no current alarms if the light is dark.
J	MGMT	Ethernet (management) port. Used when configuring the device, which is done through the web user interface (HTTPS) or command line interface (SSH). The left light is solid yellow when an Ethernet cable is connected. The right light blinks green with activity.

Additional Help ?

Tooltips appear when you hover your mouse over each field.

See these topics and others in the help for details about how to accomplish many tasks:

- ◆ How to define a tool port
- ◆ How to connect ingress and egress ports
- ◆ How to create a rule
- ◆ How to create a filter

Technical Support

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