CIS-SW-POE User Manual

Table of Contents

Welcome to Custom Integration Solutions

Thank you for purchasing CIS devices. Our solutions make it easy for integrators to deploy networks in home and business settings with minimal configuration. Our support team is here to assist with setting up equipment and answering your network related questions.

Overview

The CIS-SW-POE is an affordable way to provide PoE support and advanced networking features. It is equipped with five Gigabit Ethernet ports and one SFP port, compatible with 1 Gb modules. It integrates easily with existing CIS network devices. The QuickConnect system lets you add the switch alongside a CIS-NW-POE router into a single rack space if desired.

Package Contents

Switch

24v DC Adapter

Rack ears (2)

Screws (8)

Power

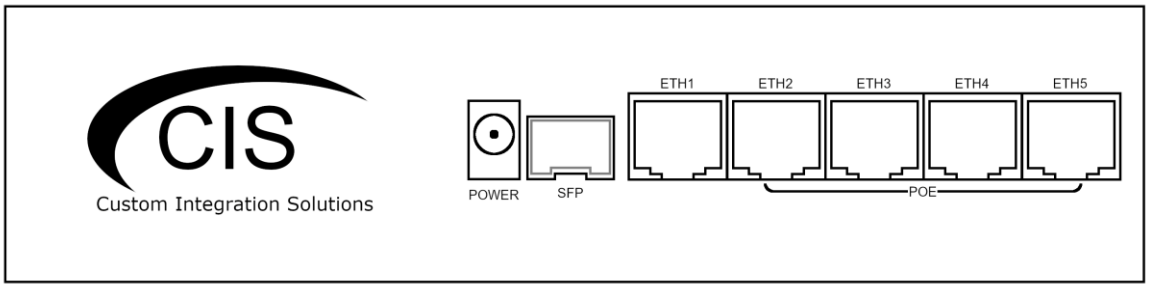
The CIS-SW-POE is powered via a 24V 2-Amp Power supply or via PoE on port 1 (11–57V DC). The 24v power supply provides passive power to the 4 PoE output ports. A 48v power supply can be purchased to enable additional PoE capabilities.

PoE Output

The CIS-SW-POE can supply PoE to external devices. The output voltage will be selected automatically depending on the voltage the connected device requires, or you can set it manually. The device can power both 802.3af/at devices (with optional 48v power supply) and devices that accept passive PoE power.

By default, the PoE mode is set to auto. It will not damage non-PoE devices and will auto-detect devices with PoE support and their required voltage. This unit provides a maximum current of 450mA for each port regardless of the device's power class, with a total maximum total output of 2 A. The device consumes 6 W without any attachments, and up to a maximum of 59 W.

Device Details



Ports

- 5 Gigabit Ethernet ports (with Auto MDI/X). ETH1 supports PoE in.
- 1 SFP cage, which accepts 1 GB SFP modules.
- USB Port (disabled).
- Power – connect the included 24v or optional 48v DC adapter.

LED Indicators

- PWR – Indicates the router is receiving power.
- USR – An LED that can be customized by CIS. Default is off.
- SFP – Indicates network activity on the SFP port.
- 1-5 – Indicates Ethernet activity on ports 1 through 5.
    - Green indicates activity. Red indicates active PoE.

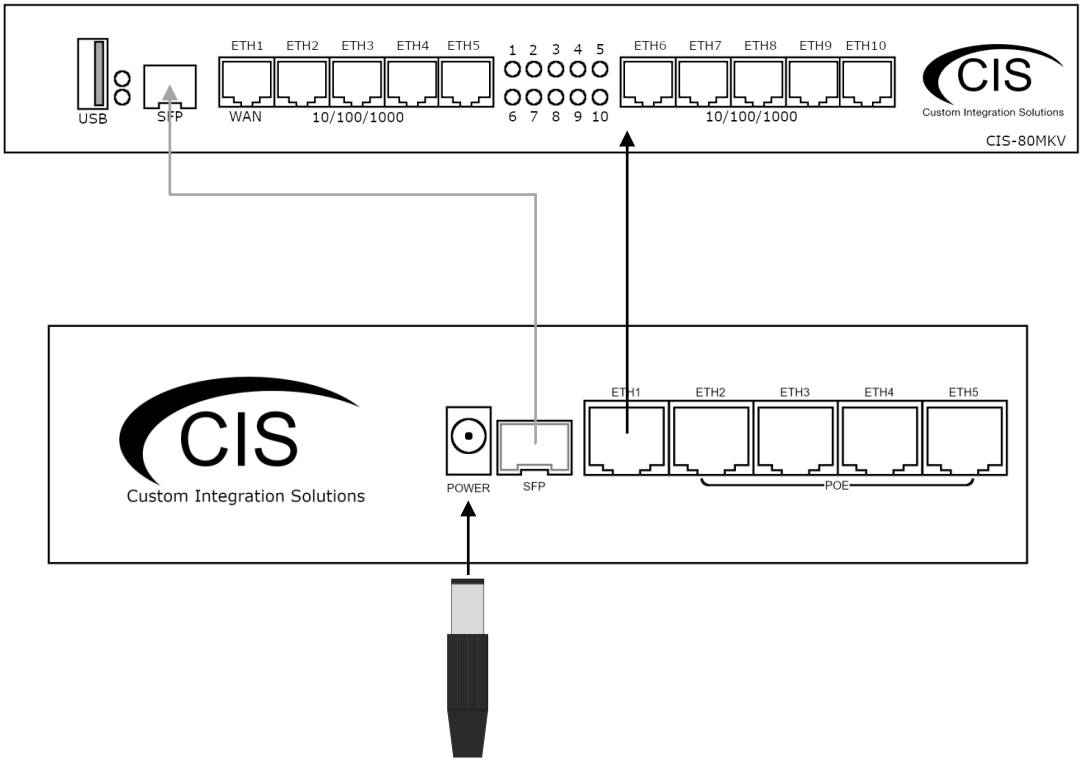
Buttons

Reset button: This button is located on the side next to the USB port. Hold this button while the device is powered off, then apply power. Keeping holding until the USR LED light starts flashing, (5 seconds) then release the button to reset to the default CIS configuration. You can use this procedure if you have forgotten the password to access the device, or simply wish to return the unit to its default configuration state.

Input Power Requirements

The CIS-SW-POE accepts 11 to 57v DC via the DC jack or PoE on ETH1.

Quick Setup



1. Connect the included 24V DC Adapter or power the device via PoE on ETH1.
2. Connect the switch to the router with an Ethernet cable or SFP cable. Do not connect both cables at the same time.
3. Connect your network devices to the remaining ports on the switch.

Setup and Accessing the Web Interface

1. Connect the switch to your router using either an Ethernet or SFP cable. Do not connect both to the router.

2. Connect your laptop or PC to any remaining Ethernet port on the front of the CIS switch (excluding the console port). You can also access the web interface plugged directly into the router.

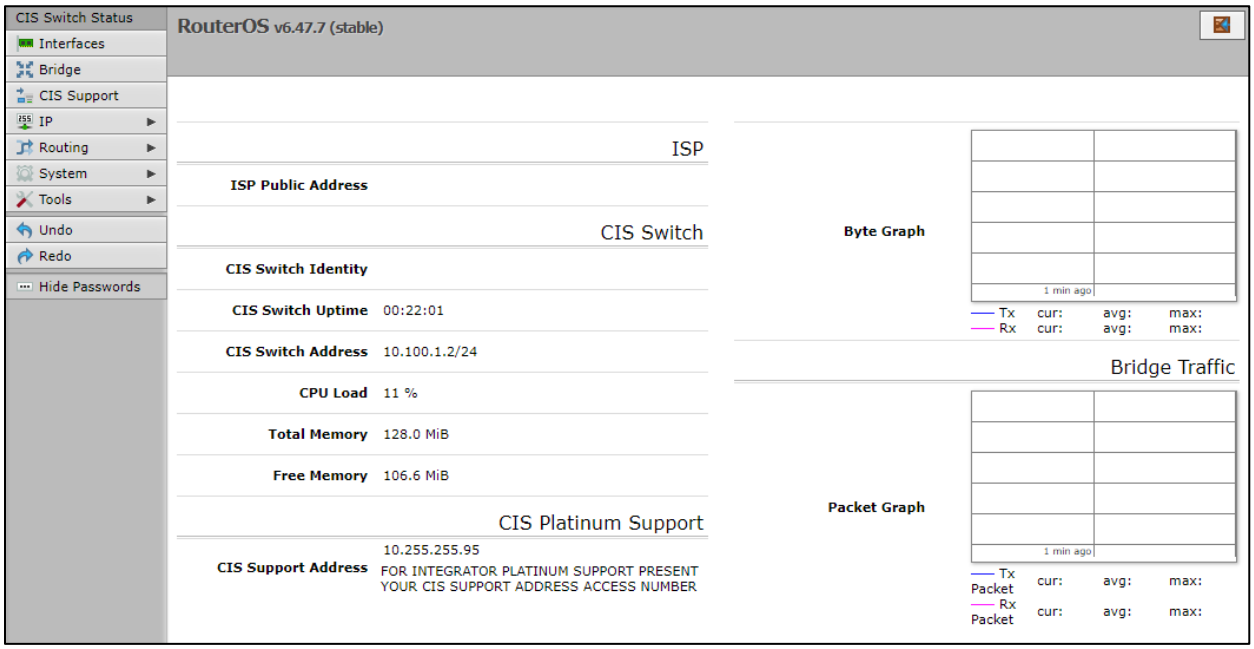
3. To access the web interface, you must obtain the IP address assigned to the switch. Access your router's configuration page, then find the IP address assigned to the switch in the DHCP leases.

4. Launch a web browser and navigate to the IP address of the switch. To login, enter the username **cis** and password **integration**.

5. Integrators may use the Get TeamViewer link if remote assistance is required.

The Status Page

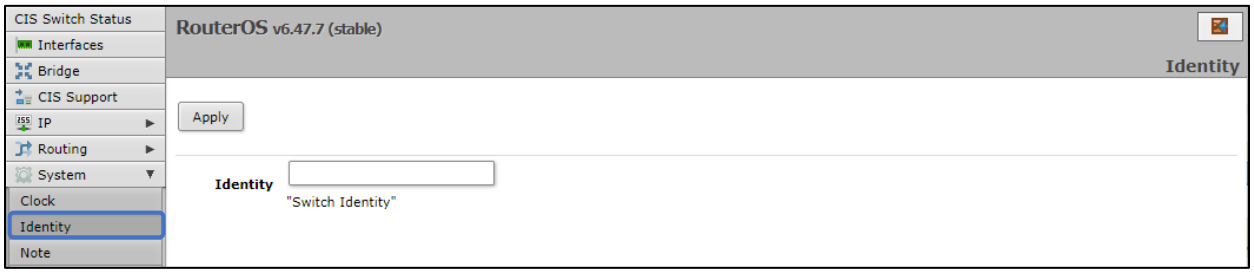
The status page provides basic diagnostic information. There is a CIS Support Address should you require assistance. The switch's Identity will show you which device you are accessing on your network. You can view uptime, memory usage and load on the CPU.



Setting the Switch's Identity

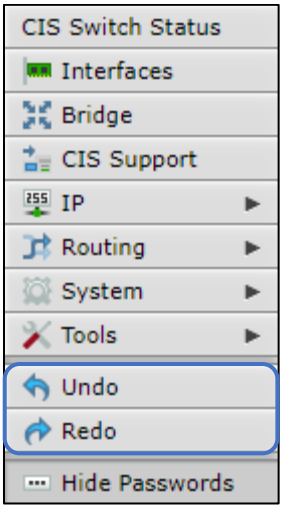
The identity is used to identify your device on the network. If you have multiple switches of the same model, it is recommended you use a naming scheme to identify them.

The **Identity** setting can be found in the **System** tab in the left toolbar.



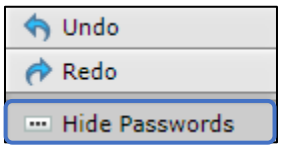
Undo / Redo

Undo and Redo buttons are located in the left toolbar. You may use them to quickly undo/redo any changes made to configuration.



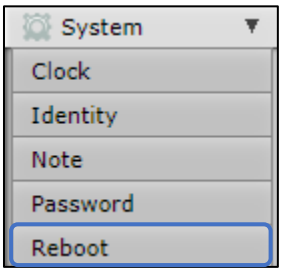
Show / Hide Passwords

Selecting the **Hide Passwords** button in the left toolbar will toggle the displaying of passwords related to Wi-Fi, Hotspot, and more.



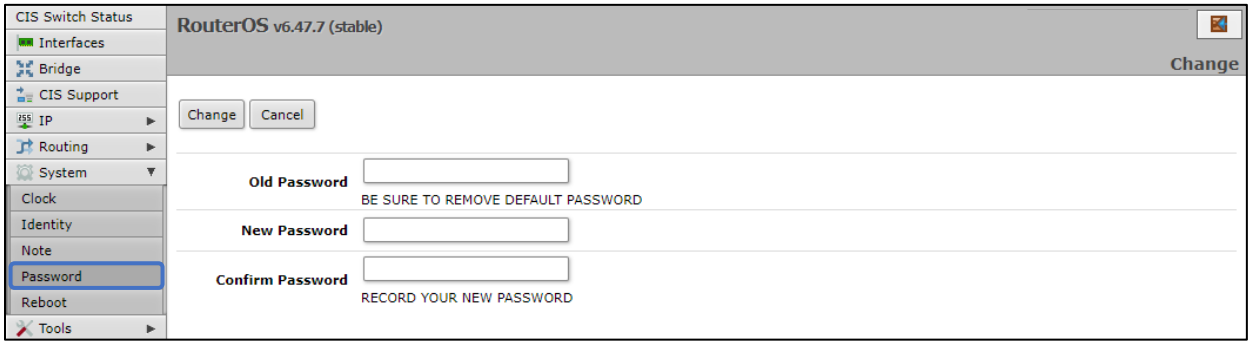
Rebooting the Device

If you are having ongoing issues with your network and suspect a reboot will help, the **Reboot** option can be found in the **System** tab in the left toolbar. Clicking reboot will ask for confirmation before proceeding.



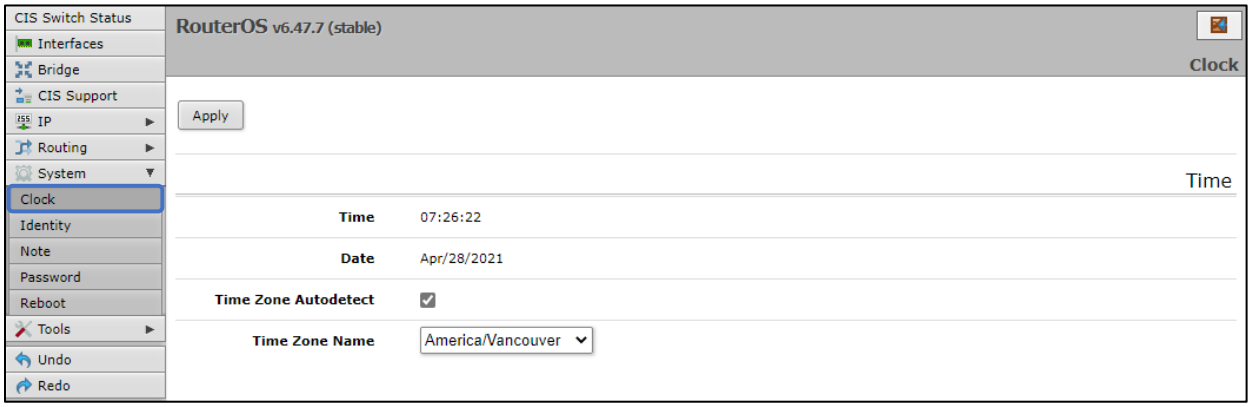
Changing the Default Password

After you log in for the first time, please create a new a password to increase the security of the device. Enter the old password in the top field and a secure password in the new and confirm password fields.



Setting the Time Zone

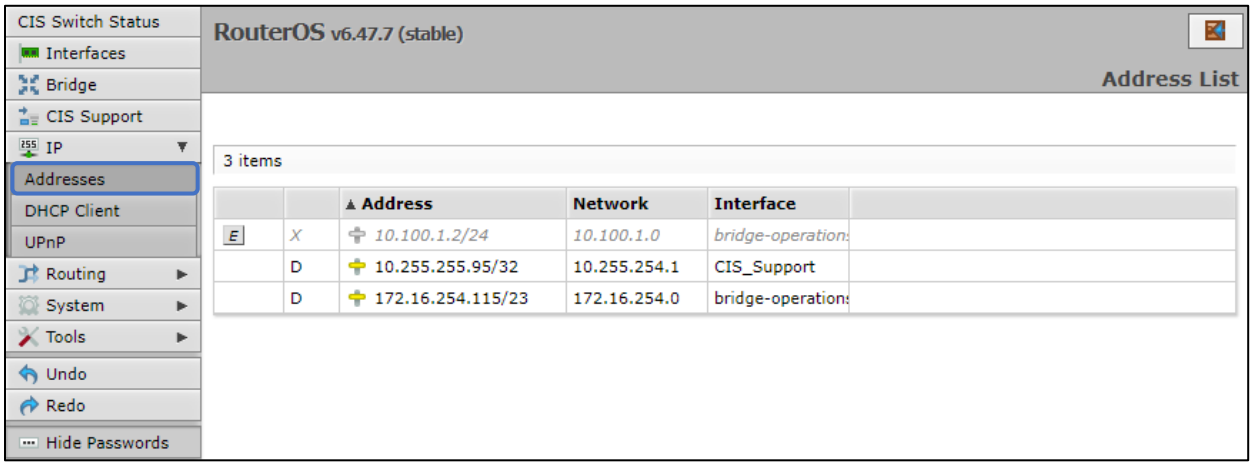
You can find the Clock settings under the System tab in the left toolbar. Select your time zone from the drop-down menu.



IP Addressing

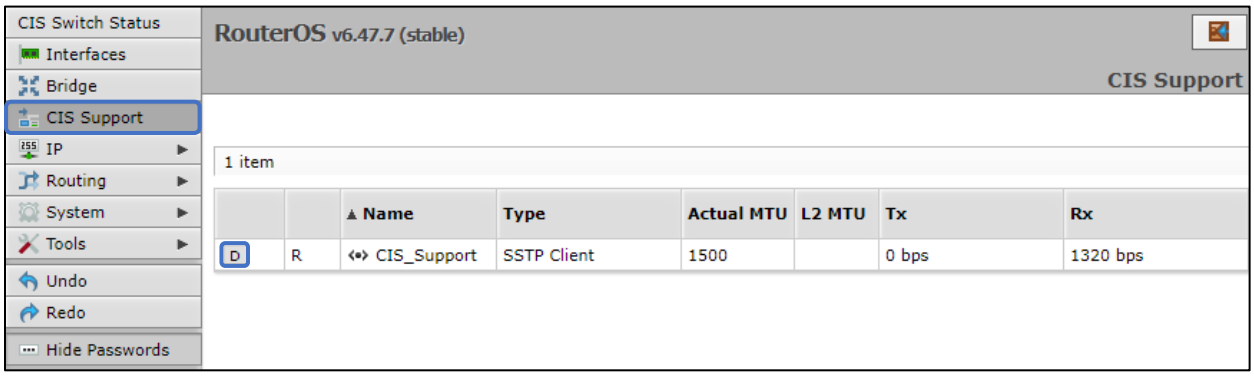
View the Switch's IP Addresses

By default, the switch will acquire an IP address through DHCP. You can view the IP addresses in the **IP** > **Addresses** section. In the picture below, there is an entry for a static address (optional), an entry for your support IP address (if the support tunnel is enabled), and an entry for the IP address received via DHCP.



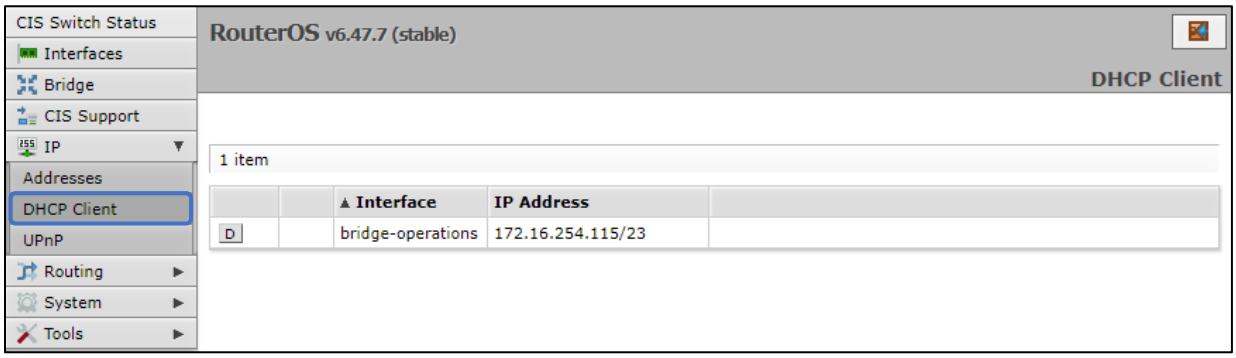
CIS Support

With the CIS Support tunnel activated, the CIS team can make configuration changes, push updates, and troubleshoot your network. Press the button to the left of the entry. "D" stands for disable, while "E" stands for enable.

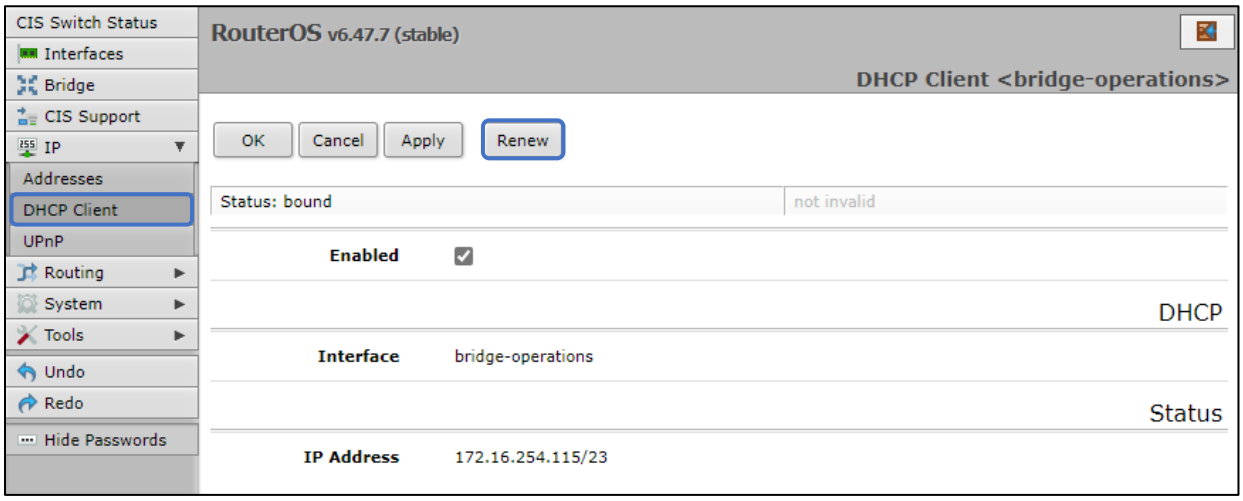


Renewing the IP Address

To renew the IP address, select the **DHCP Client** section under the **IP** tab.

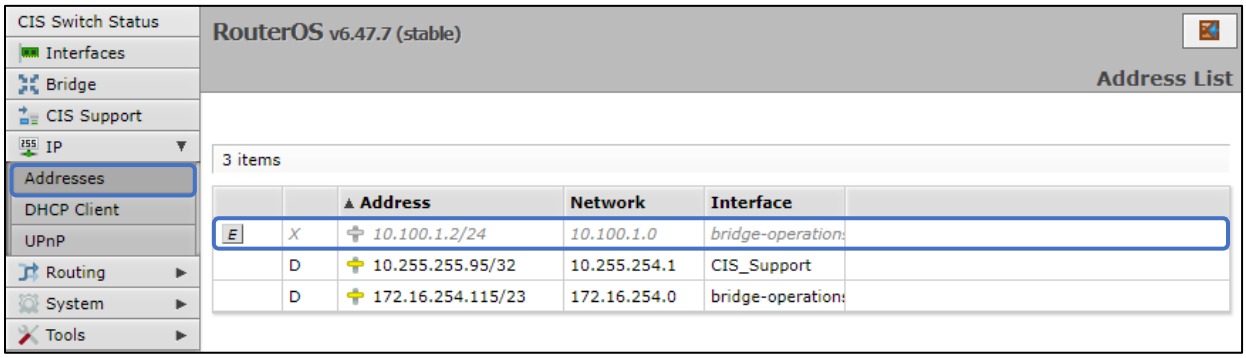


Click on the entry to bring up the options. Click the **Renew** button to obtain a new lease.



Setting a Static IP address

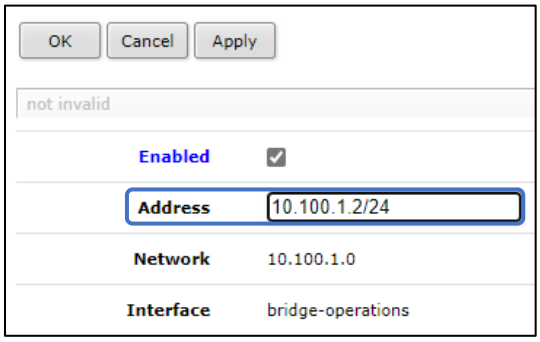
To set a static IP, select **Addresses** from the **IP** tab. Click on the field containing the disabled IP address.



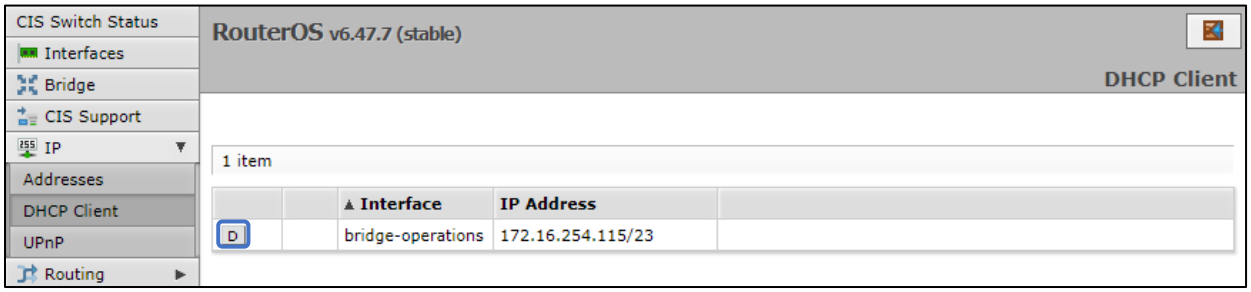
If your network falls in one of the ranges below, you can set the static IP address yourself. If it is outside of these ranges, you must call CIS to have a route created!

Available address ranges:			
172.16.1.0/24	10.100.1.0/24	192.168.1.0/24	192.168.0.0/24

Enter the IP address to assign to the switch. Ensure that it is outside of the DHCP pool, and not in use by other devices. The format must include **/24** at the end. This is the subnet mask, which determines how many devices can be connected to this network.

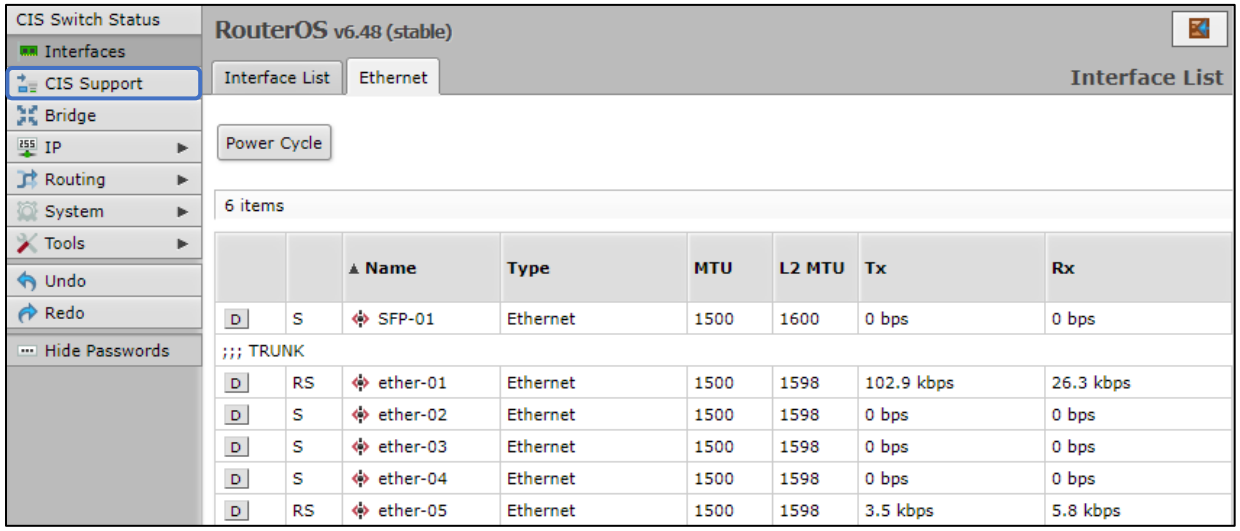


Once you have set the static IP address, disable the DHCP client. Go to the **DHCP Client** tab located under **IP** in the toolbar. Click the "D" to disable the DHCP client.



Interfaces

To view the interface status, select **Interfaces**, then the **Ethernet** tab. The Ethernet tab provides an overview of the activity on all ports. You can view the traffic sent and received, the status of PoE, PoE settings, PoE priority and current being drawn by PoE devices.



Power Cycling an Ethernet Port

Click the **Power Cycle** button in the Interfaces > Ethernet section. Select the port and duration, then click **Power Cycle**.

VLANs

VLANs provide isolation between your network devices. This can keep traffic from designated devices secure and restricted from other devices on the network and reduce the overall congestion. It is highly recommended to deploy VLANs for VoIP applications and systems that handle sensitive data.

Purchase VLAN configuration

For a complete VLAN model, the router, access points and switching all require additional configuration.

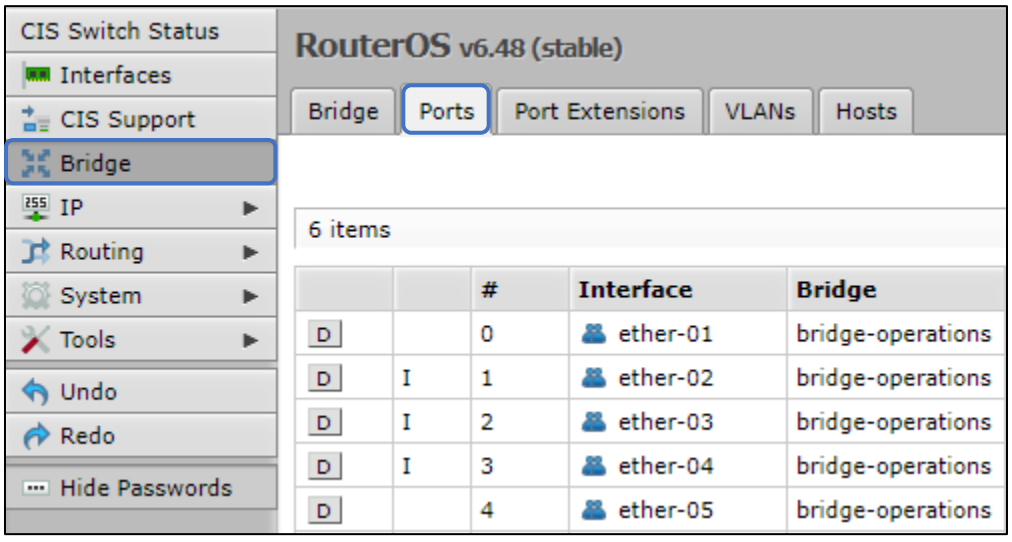
VLANs and additional networks are available on the CIS Store.

https://www.custom-integration-solutions.com/store/cis-vlan-interface/

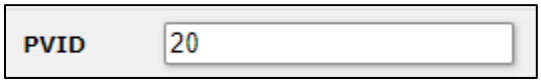
https://www.custom-integration-solutions.com/store/cis-additional-network/

Changing the VLAN on a Port on a Preconfigured System

Select **Bridge** from the left toolbar, then click on the **Ports** tab. Select the port you wish to change the VLAN on.



Enter the VLAN you wish the port to be a member of in the **PVID** field.

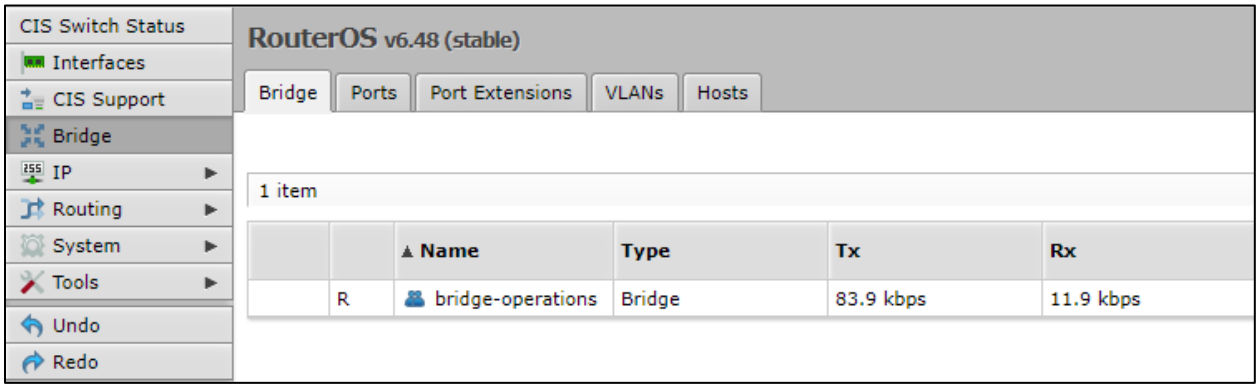


Manually Configuring the Switch for VLANs

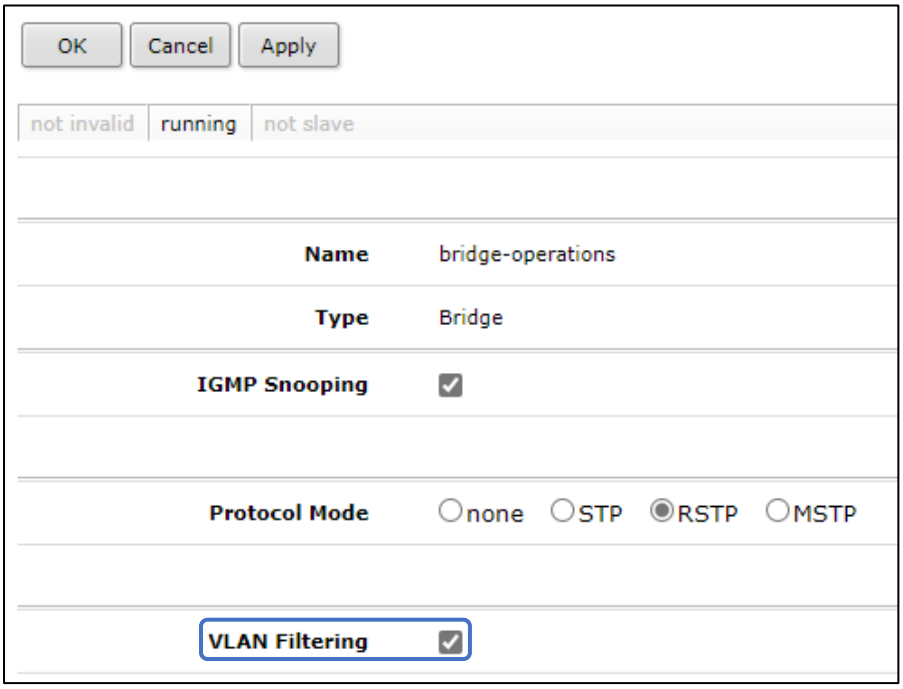
When you purchase a VLAN configuration from CIS, these configuration changes will already be implemented. If you wish to implement these changes yourself, follow the instructions below.

Step 1 – Enable VLAN Filtering on the Bridge

Select **Bridge** from the left toolbar. Select the bridge entry.



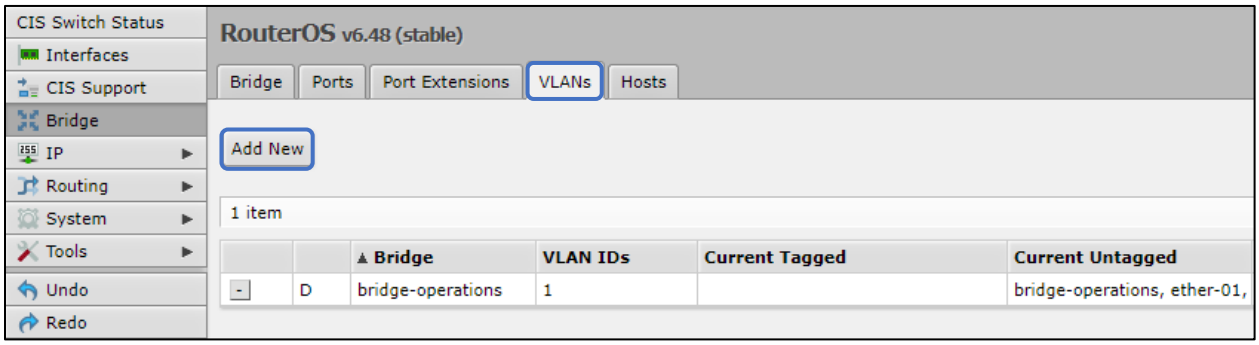
Enable the **VLAN Filtering** option. Click Apply, then OK.



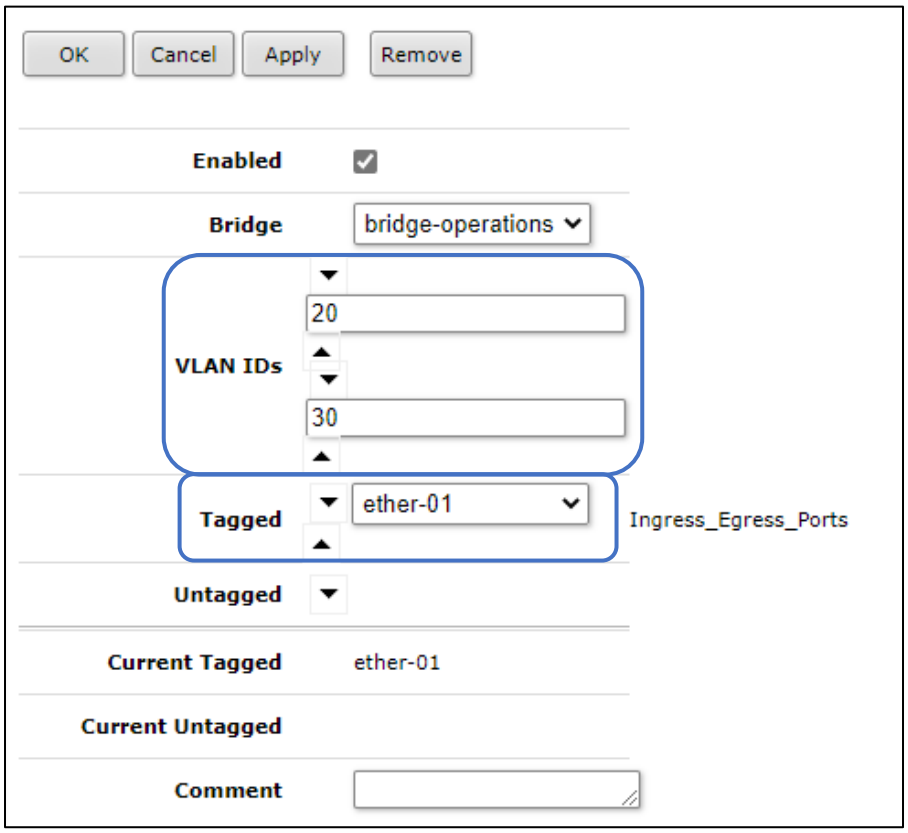
Step 2 – Assign the Trunk Port(s)

Trunk ports carry traffic from all VLANs between your switches and routers. You must configure a trunk port between the router and the switch.

With **Bridge** selected in the left toolbar, select the **VLANs** tab. Click **Add New**.

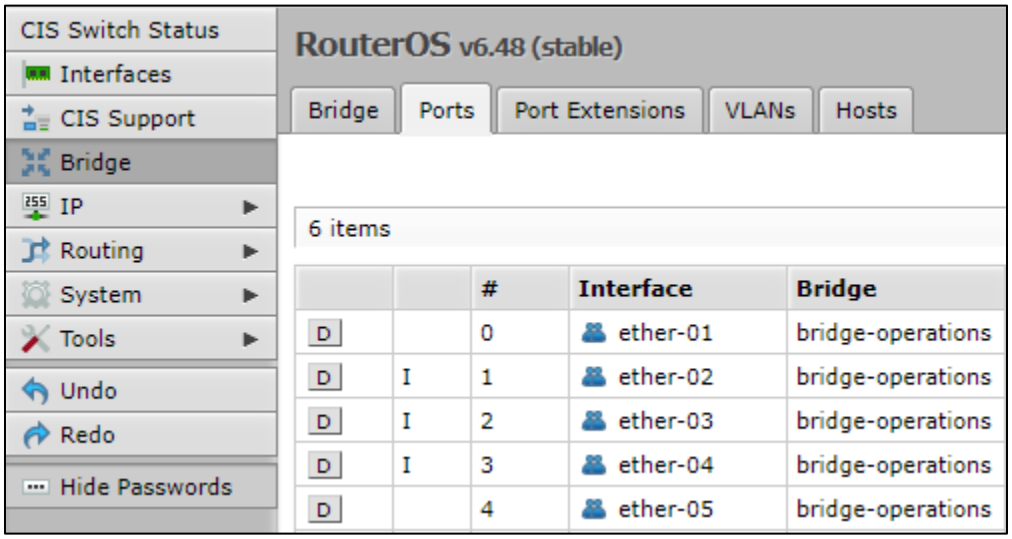


Enter the VLAN IDs the trunk will carry. You should enter the VLAN ID of every VLAN that will be present on the network. Use the up/down arrows to add and remove VLAN IDs. Set each trunk port to be **Tagged**.

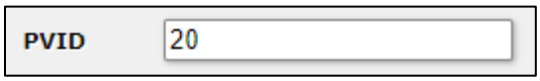


Step 3 – Assign Ports to VLANs

The ports that connect to your devices will be “untagged” ports or access ports. The final step is to set which VLAN they will be a member of. With the **Bridge** section selected in the left toolbar, select the **Ports** tab. Click on a port below.



Enter the VLAN number in the **PVID** field and click Apply, then OK.



Multicast Filtering – Prior to 6.48

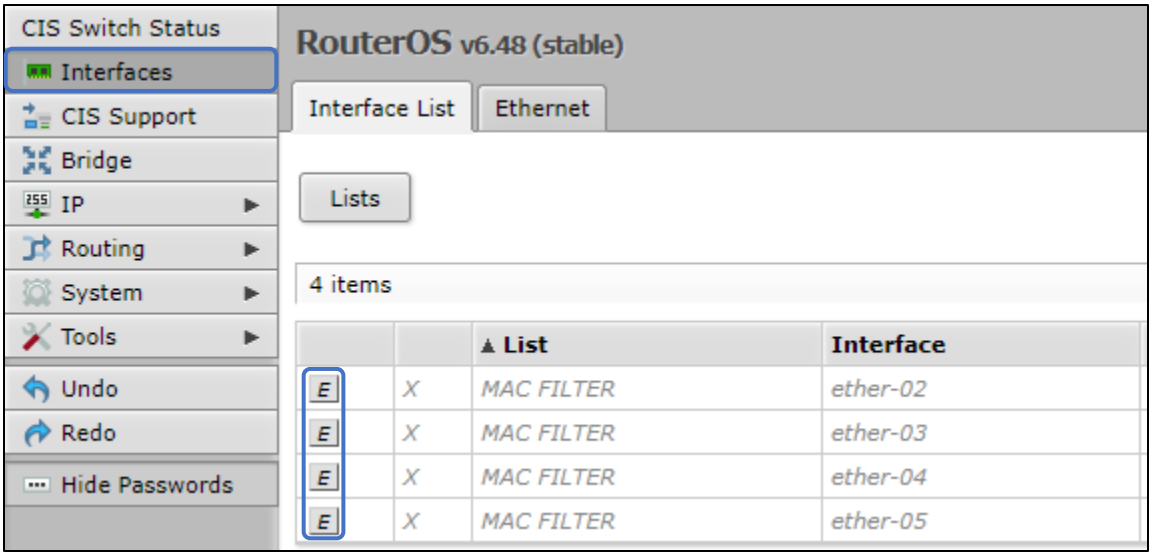
Multicast traffic conserves network resources. If one device were to send a single stream of data to multiple other devices on the network, it would take many times the amount of bandwidth. Multicast traffic reduces the load on the transmitting device by duplicating the traffic instead.

However, the switches in the system must be configured to handle multicast traffic or the network can become flooded with this traffic. Without a solution in place, this traffic will be sent to every port – often bringing the network down. Use the following methods to prevent this from happening.

Note: This method is deprecated and will be removed in future firmware versions!

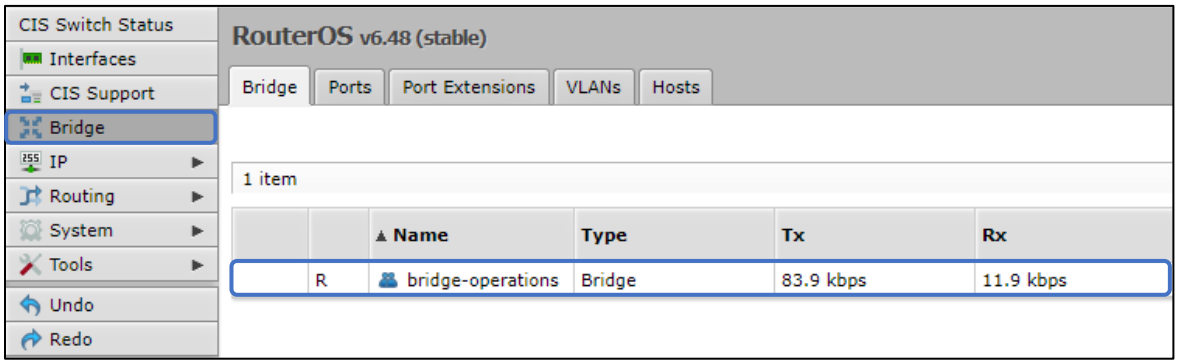
On systems prior to version 6.48:

Select the **Interfaces** option from the left toolbar. Select the **Interface List** tab. Enable the MAC Filter for each port that will receive multicast traffic and ONLY the ports that will receive multicast traffic.

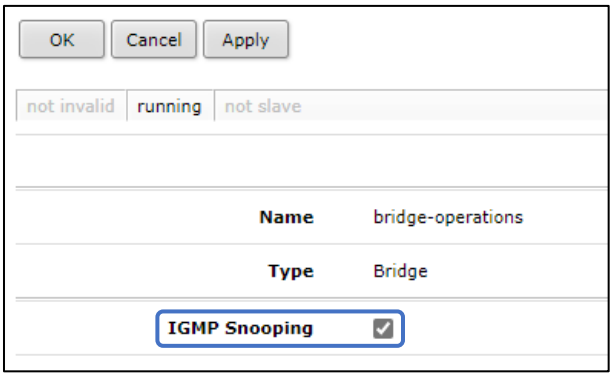


Multicast Filtering – 6.48 and Newer

Switches 6.48 and newer only – By enabling **IGMP Snooping**, multicast traffic will be automatically forwarded to only the devices that request it. Select the **Bridge** option from the left toolbar. Click on the bridge entry.



Enable **IGMP Snooping**. Click Apply, then OK.



Multicast Querier

The multicast querier option is required for many multicast systems to function correctly. With this enabled, the switch will periodically check to determine if devices are still requiring a multicast stream.

PoE Information and Settings

PoE-Out Modes:

Auto-on mode (default)

When selected, auto-on mode checks for resistance on the host device and will automatically supply power to devices that require it. It will not damage non-PoE devices.

Forced-on mode

When selected, the switch applies power on pins 4,5 (+) and 7,8 (-), even if no cable is attached.

Be careful plugging non-PoE devices into a port when Forced-on is selected. **You may damage your device!**

Off mode

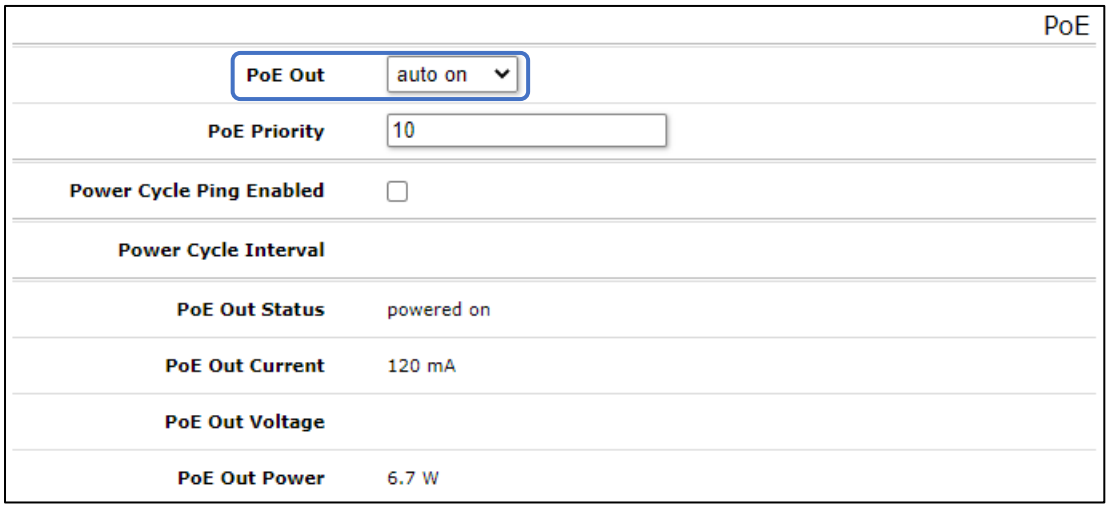
When selected, the switch will not supply power to connected devices.

PoE-Out limitations

The CIS-SW-POE provides 450 mA for PoE per port and a maximum output of 2A.

Enable/Disable PoE

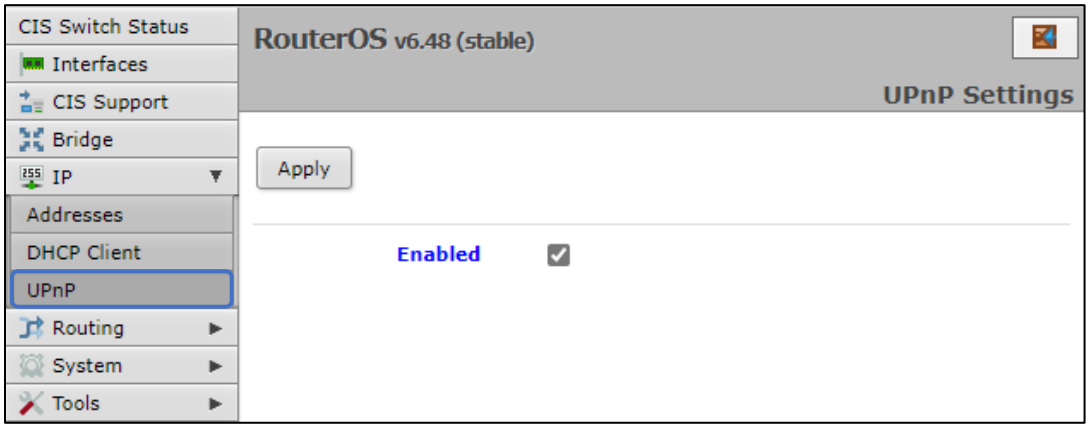
Select the port from the **Interfaces** tab. Change the PoE Out option accordingly.



Tools

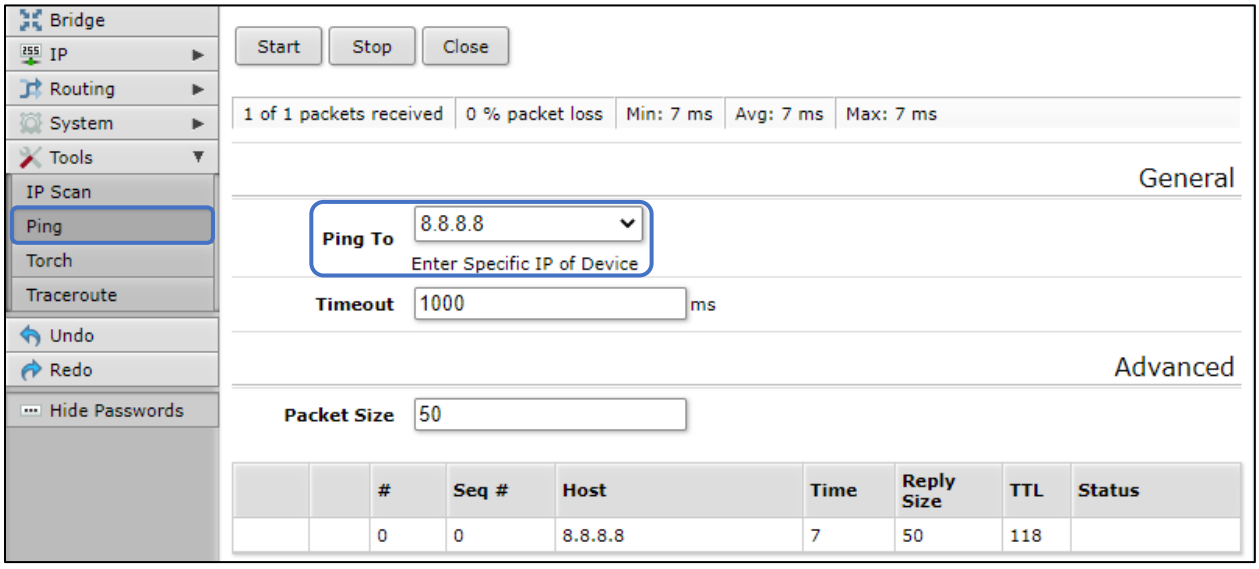
UPnP

Universal Plug and Play enables your switch to easily discover other devices located on the network and vice-versa. If you require UPnP, select it under the **IP** tab in the toolbar, then enable it. UPnP has implications on the security of the device, and it is recommended you leave it disabled unless required.



Ping

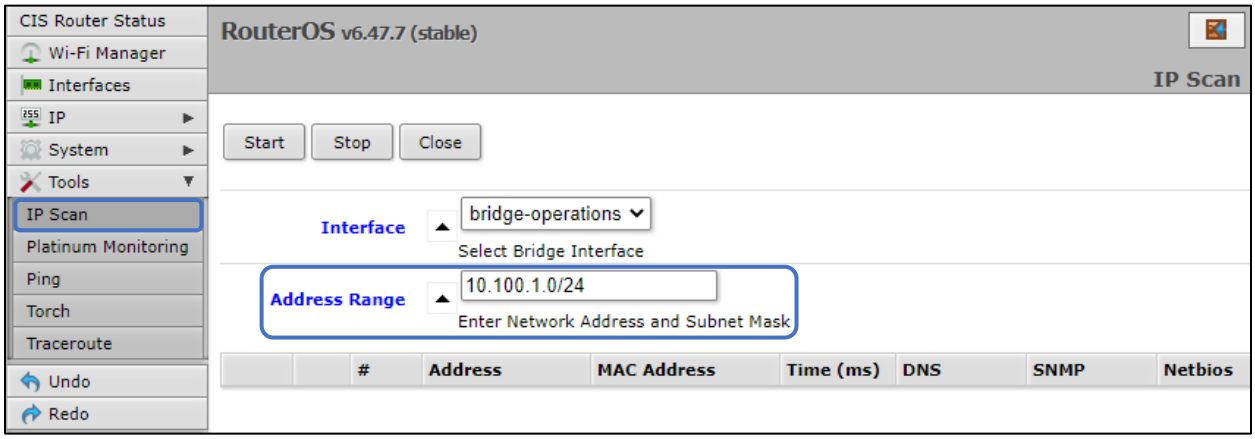
Ping uses Internet Control Message Protocol (ICMP) echo messages to determine if a remote device is active. It will also provide the round-trip time between the hosts. Enter the IP address of the device and select Start to begin. Ping devices on your network to see if they are online, or ping devices over the internet to confirm connectivity. Google's DNS server at 8.8.8.8 is a common target.



IP Scan

The IP scan tool locates devices on the network. It can also locate devices that have a static IP set internally if they are on the same network as the switch.

To use the IP scan tool, select the network you wish to scan on (bridge-operations is default), then enter the network address and subnet mask using CIDR notation.



*Select **bridge-operations** and enter **10.100.1.0/24** as the address range. You may have multiple interfaces and address ranges depending on your configuration. Most use a /24 network size.*

Troubleshooting

Symptom	Possible causes
The PoE access point, switch, or other powered device will not turn on.	• The CIS-SW-POE requires the 48v power supply to power non-CIS devices (802.3af/at devices). • Try changing the PoE mode to "forced on" from the interfaces menu. Remember, never force PoE on a non-PoE device! • Select the appropriate voltage when setting the power to "forced on". 802.3af/at devices will require "high" voltage.
I can't get VLANs to work correctly.	• The router must be configured to work with VLANs for most operations. • Ensure the trunk ports are tagged correctly. • Contact CIS for assistance.
I can't get a connection when using the SFP port.	• CIS recommends DAC SFP cables such as the CIS-SFP-001 and 003, though other SFP modules are compatible. • Ensure the SFP cables are inserted completely. There should be a slight click as they are inserted. They will slide in most of the way when upside down but will not fit completely. • Check the interface status. Click Interfaces, then the Ethernet tab. Click on the SFP port in question. Determine if it is passing traffic. Consider disabling auto negotiation and setting the speed and duplex manually.
I can't enable IGMP Snooping.	• Some features are unavailable before firmware version 6.48. Contact CIS to perform a firmware upgrade your equipment.

Warranty Information

Custom Integration Solutions™ products have a 2-Year Limited Warranty. This warranty includes parts and labor repairs on all components found to be defective in material or workmanship under normal conditions of use. This warranty shall not apply to products that have been abused, modified, or disassembled. Products to be repaired under this warranty must be returned to Custom Integration Solutions™ or a designated service center with prior notification and an assigned return authorization (RA) number.

Contact Information

Web: www.custom-integration-solutions.com

Phone: Technical Support - (888) 976-3651

Email: activations@custom-integration-solutions.com

The CIS-SW-POE is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EC.