Custom Integration Solutions

CIS-CRS112-8P L2-L3 MANAGED NETWORK SWITCH PRODUCT MANUAL

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1. 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 can provide assistance in setting up the equipment and answering your questions.

2. Package Contents

Switch (1)

DC Adapter (1)

Rack Ears (2)

3. Overview

The CIS-CRS112-8P switch is equipped with eight Gigabit Ethernet ports and four SFP ports.

The switch is pre-configured, with all ports switched together. We recommend you to set up a password to secure your device.

The device is capable of powering other devices through PoE.

Power

The CIS-CRS112-8P is powered by the included power supply.

PoE output

This device can supply PoE power to external devices from its ethernet ports. The output voltage will be selected automatically, depending on what kind of voltage the connected device requires. The device can power both 802.3af/at devices and devices that accept passive PoE power. If necessary, the output voltage can be switched manually.

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. Once a PoE device is detected, it will be powered and the PoE LEDs will turn on.

The CIS-CRS112-8P can power 802.3af/at devices if 48-57V DC input is used (unit will automatically detect and provide correct power to devices). Max Current is 1 A per port if input the voltage is 18-28 V, and 450 mA if the input voltage is 48-57 V. Total limit is 2.8A@24V and 1.4A@48-57V.

Ports

- 8 Gigabit Ethernet ports (with Auto MDI/X—you can use either straight or cross-over cables for connecting to other network devices).
- 4 SFP ports.
- RJ45 serial port—disabled by default.

LED indicators

- PWR LED - lit when the switch is powered on.
- USR LED - an custom LED that can be configured by CIS. Disabled by default.
- The top row LEDs indicate PoE out status. A green LED indicates that the respective port uses low voltage, a red LED indicates high voltage.
  - A flashing green LED - indicates a problem with a low voltage device.
  - A flashing red LED - indicates a problem with a high voltage device.
- The bottom row LEDs indicate ethernet and SFP port activity.

Buttons

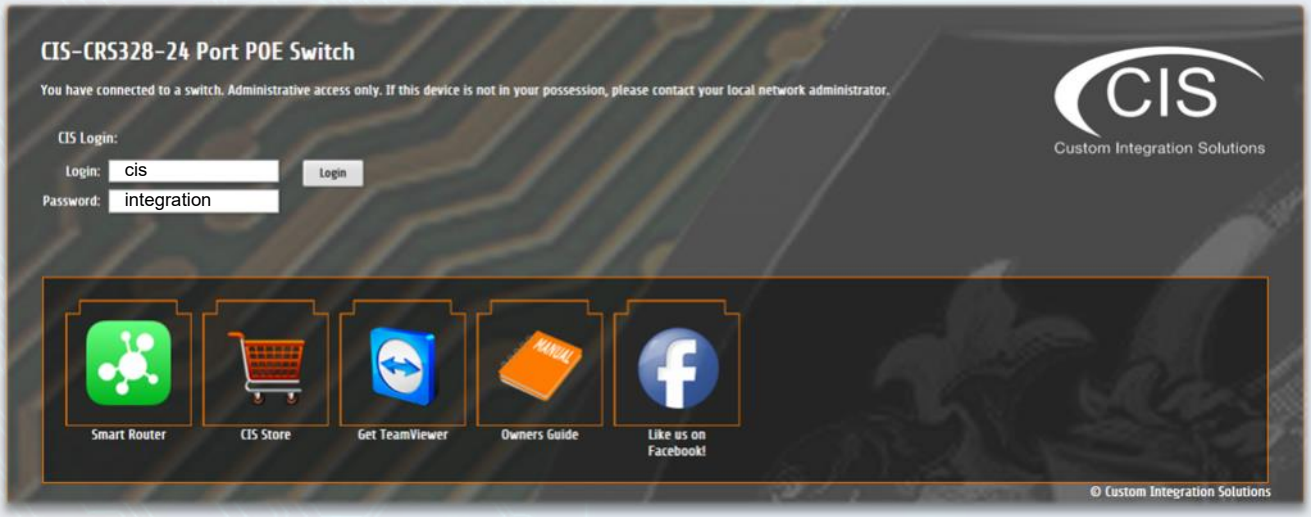
Reset button: Hold this button while the device is powered off, then apply power. Keep holding until the USR LED light starts flashing, (5 seconds) then release the button to reset to the default CIS configuration. You can use this procedure if you have forgotten the password to access the device, or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

Input Power Requirements

Supported input voltage-100V AC-240V AC

4. Accessing the Web Interface

1. Connect your laptop to any remaining port on the front of the CIS Switch. Ensure your computer is set to DHCP mode.
2. Obtain the IP address of the CIS switch in the DHCP leases of your CIS router. Open a web browser and enter the IP address in the address bar.
3. To login, enter the username **cis** and password **integration**.
4. Integrators may use the Get TeamViewer link if remote assistance is required.



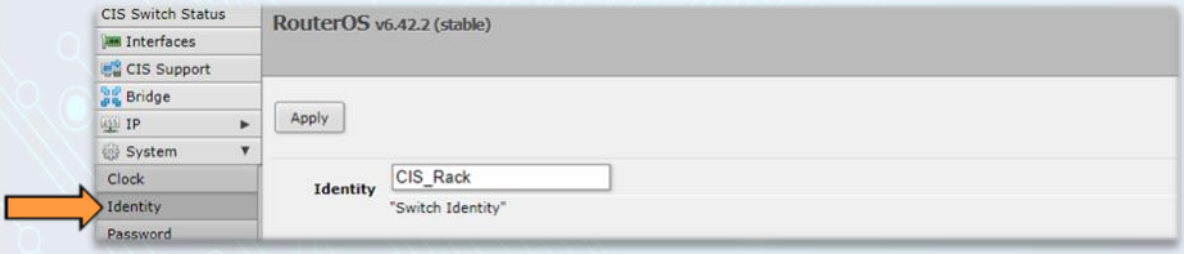
The Status Page

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 switch you are accessing on your network. You can view uptime, memory usage and load on the CPU.

Set the System Identity

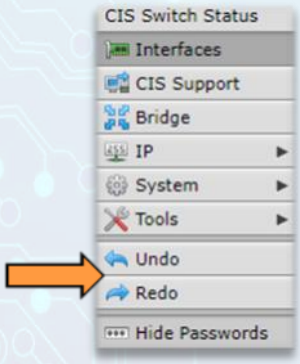
The system identity is used to identify your device on the network. Set the switch to something that can uniquely identify it.

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

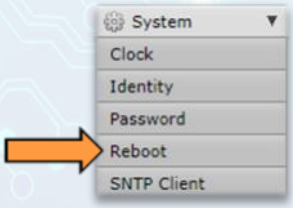
Selecting the **Hide Passwords** button in the left toolbar will reveal or hide passwords related to Wi-Fi, Hotspot, and more.

Changing the Default Password

The default username is **cis** and the password is **integration**. After you log in for the first time, please create a new a password to increase the security of the device.

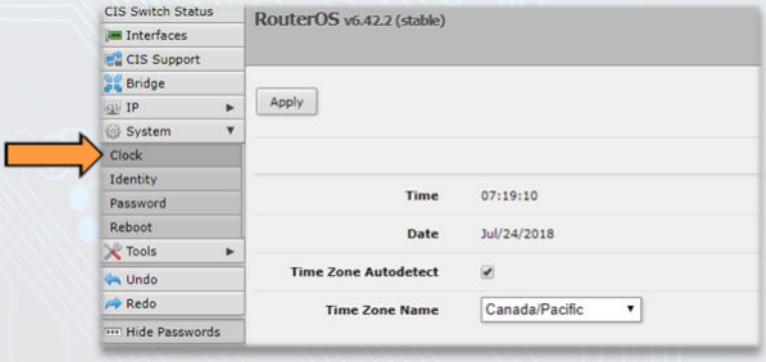
Rebooting the Device

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



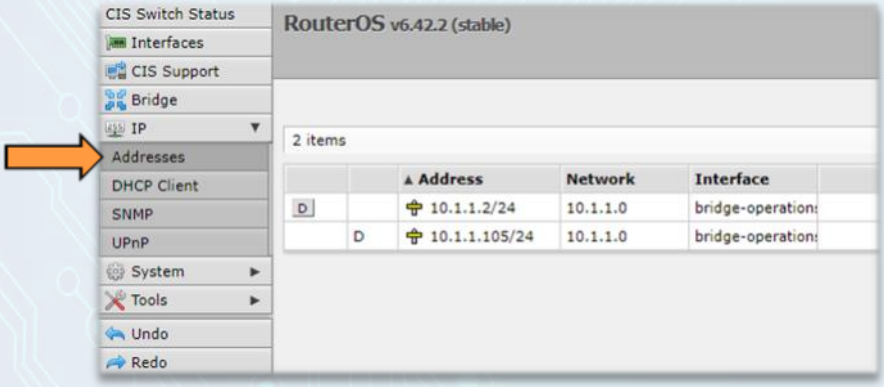
Setting the Clock

You can find the **Clock** settings under the **System** tab in the left toolbar. Ensure the time zone is set correctly.



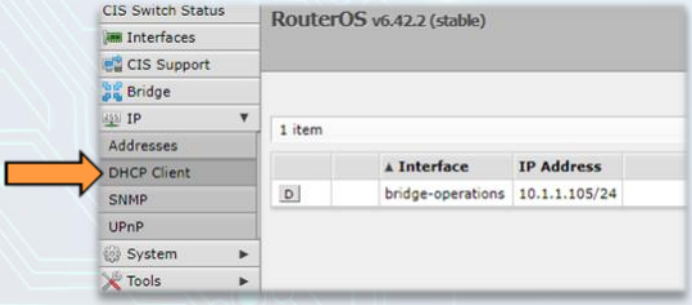
5. IP Addressing

The IP address is the master interface for the switch. By default, the switch is set to DHCP and will acquire an IP address. The switch will support 172.16.1.0/24, 10.100.1.0/24, 192.168.1.0/24, and 192.168.0.0/24 networks by default. Should you require a different network address, please contact CIS Services for assistance.



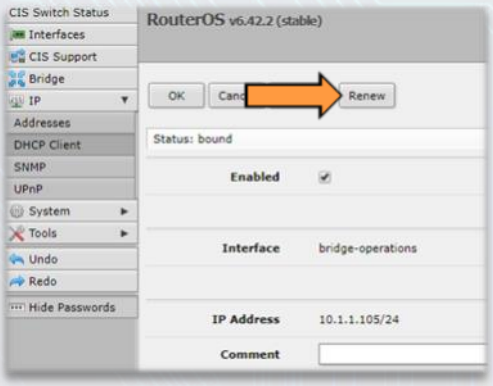
The DHCP Client tab

The DHCP Client tab will present you with the IP address assigned to the switch from your router. This interface can be enabled or disabled by clicking on the "D" on the left column. You may view the DHCP options by clicking on the IP address.



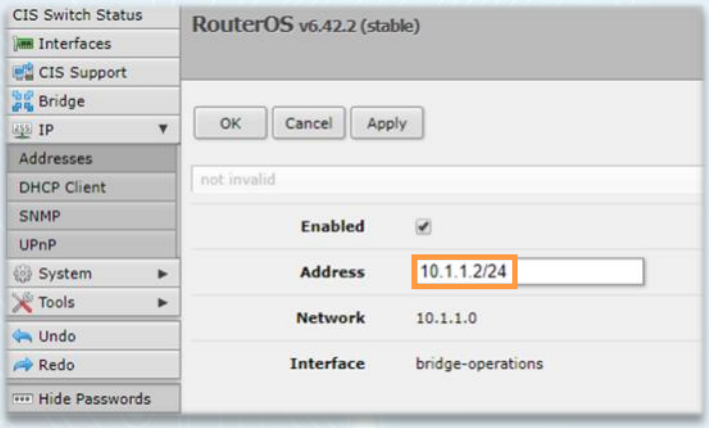
Renewing the DHCP lease

To renew the DHCP lease for the switch, click on the entry in the DHCP client tab. click renew and the IP will populate with the current IP on the switch.

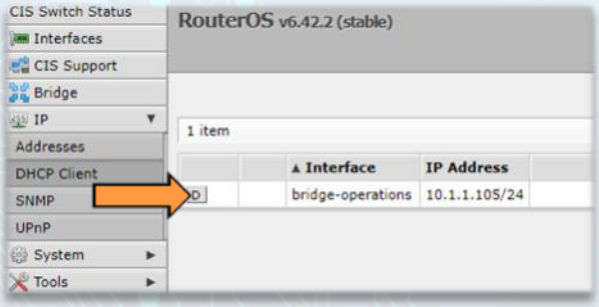


Setting a Static IP Address

To set a static IP, select the disabled interface. Prior to setting a static address, perform an IP scan on the LAN to confirm available addresses (see the tools section). In the address field, set the address you would like to use for the switch. Ping the switch to confirm the IP address responds. The format must include /24. This is the subnet mask.

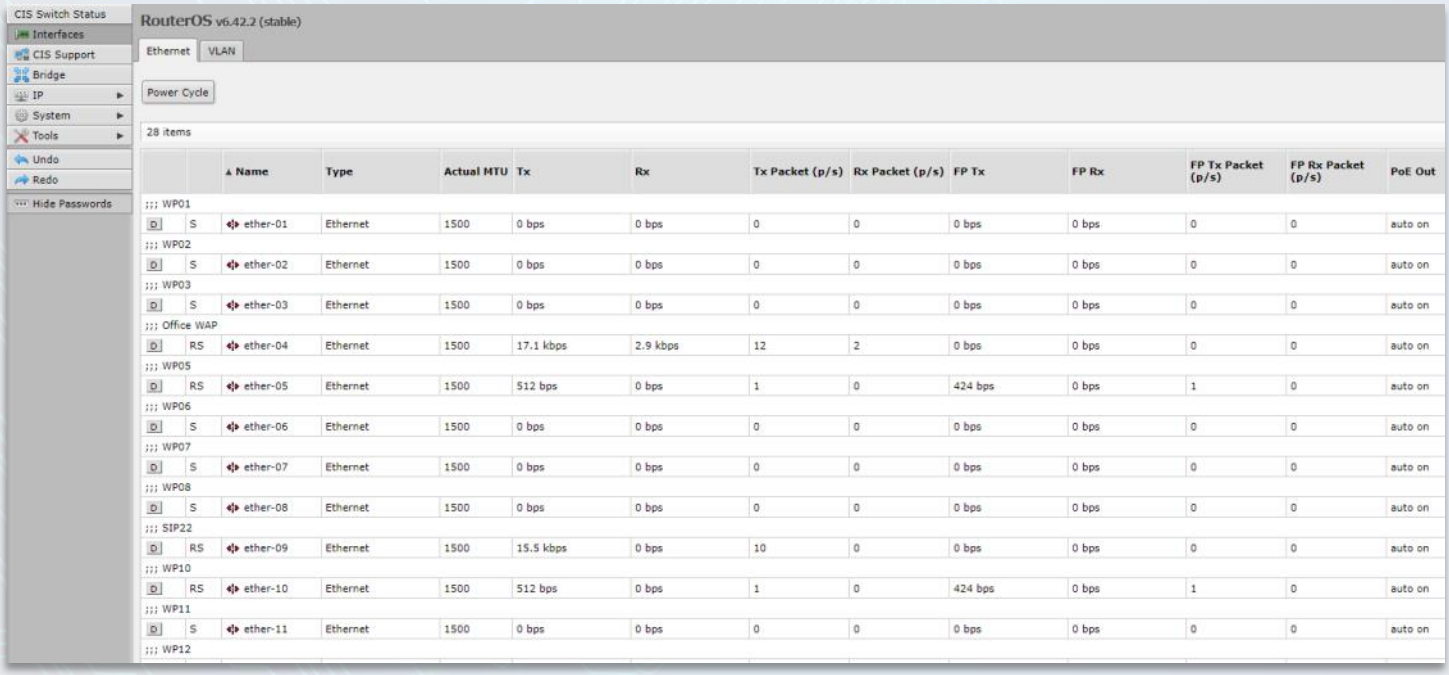


You must disable the DHCP client once the static address is set.



6. View and Set Interfaces

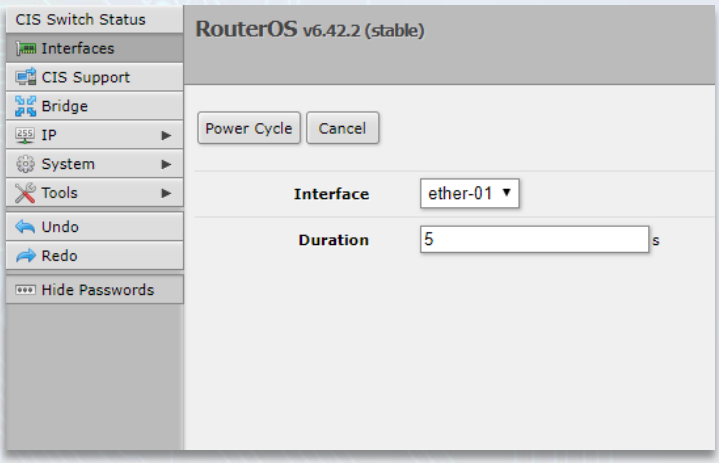
The Interfaces tab provides a glance at the activity on all ports. You can view the traffic sent and received, the status of PoE, PoE settings, PoE priority and current being drawn by PoE devices.



		Name	Type	Actual MTU	Tx	Rx	Tx Packet (p/s)	Rx Packet (p/s)	FP Tx	FP Rx	FP Tx Packet (p/s)	FP Rx Packet (p/s)	PoE Out
;;; WP01													
D	S	ether-01	Ethernet	1500	0 bps	0 bps	0	0	0 bps	0 bps	0	0	auto on
;;; WP02													
D	S	ether-02	Ethernet	1500	0 bps	0 bps	0	0	0 bps	0 bps	0	0	auto on
;;; WP03													
D	S	ether-03	Ethernet	1500	0 bps	0 bps	0	0	0 bps	0 bps	0	0	auto on
;;; Office WAP													
D	RS	ether-04	Ethernet	1500	17.1 kbps	2.9 kbps	12	2	0 bps	0 bps	0	0	auto on
;;; WP05													
D	RS	ether-05	Ethernet	1500	512 bps	0 bps	1	0	424 bps	0 bps	1	0	auto on
;;; WP06													
D	S	ether-06	Ethernet	1500	0 bps	0 bps	0	0	0 bps	0 bps	0	0	auto on
;;; WP07													
D	S	ether-07	Ethernet	1500	0 bps	0 bps	0	0	0 bps	0 bps	0	0	auto on
;;; WP08													
D	S	ether-08	Ethernet	1500	0 bps	0 bps	0	0	0 bps	0 bps	0	0	auto on
;;; SIP22													
D	RS	ether-09	Ethernet	1500	15.5 kbps	0 bps	10	0	0 bps	0 bps	0	0	auto on
;;; WP10													
D	RS	ether-10	Ethernet	1500	512 bps	0 bps	1	0	424 bps	0 bps	1	0	auto on
;;; WP11													
D	S	ether-11	Ethernet	1500	0 bps	0 bps	0	0	0 bps	0 bps	0	0	auto on
;;; WP12													

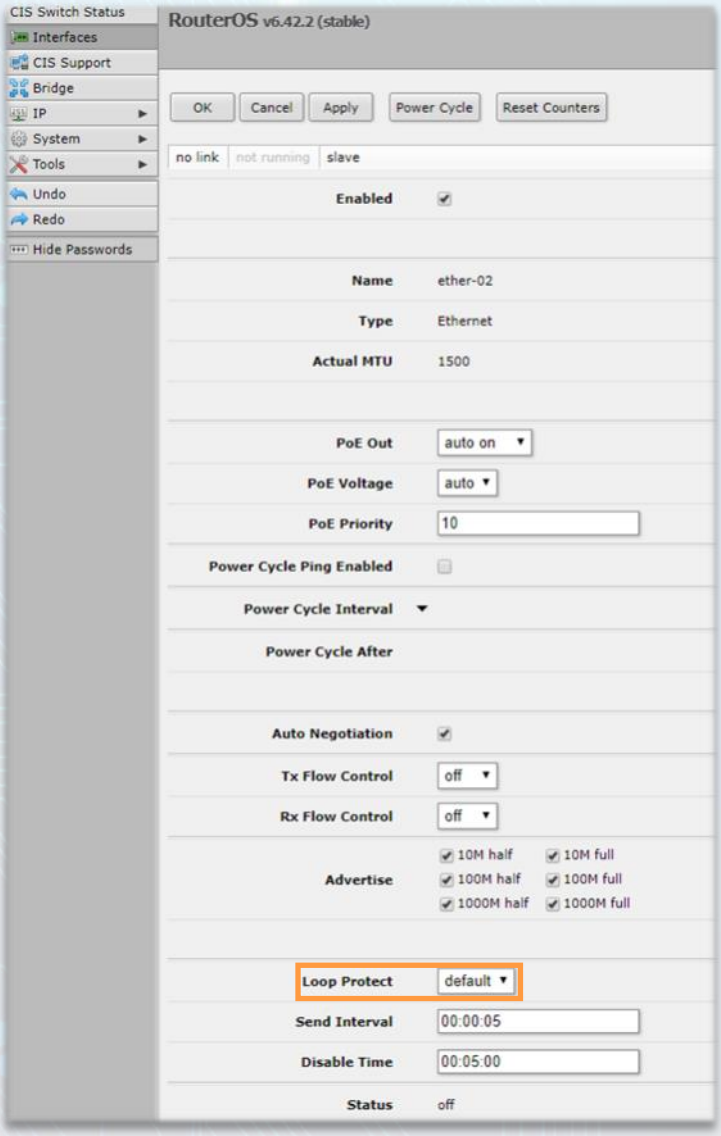
Power Cycling

To power cycle a port, select the Power Cycle button in the interfaces tab. Select the interface and the duration. The port will shut off for the designated time, then re-enable itself.



Loop Protect

The Loop Protect feature can prevent Layer 2 loops by sending loop protect protocol packets and disabling interfaces in the event they receive loop protect packets originating from themselves. The feature works by checking the source MAC address of received loop protect packet against MAC addresses of loop protect enabled interfaces. If the match is found, loop protect disables the interface that received the loop protect packet. Loop protect works on ethernet, VLAN, EOIP and EOIPv6 interfaces. You can adjust the loop protect packet sending interval and interface disable time. Configuration changes or expiration of the disable time resets loop protection on the interface.



7. VLANs

Purchase VLAN configuration

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

VLANs and additional networks are available on the CIS Store.

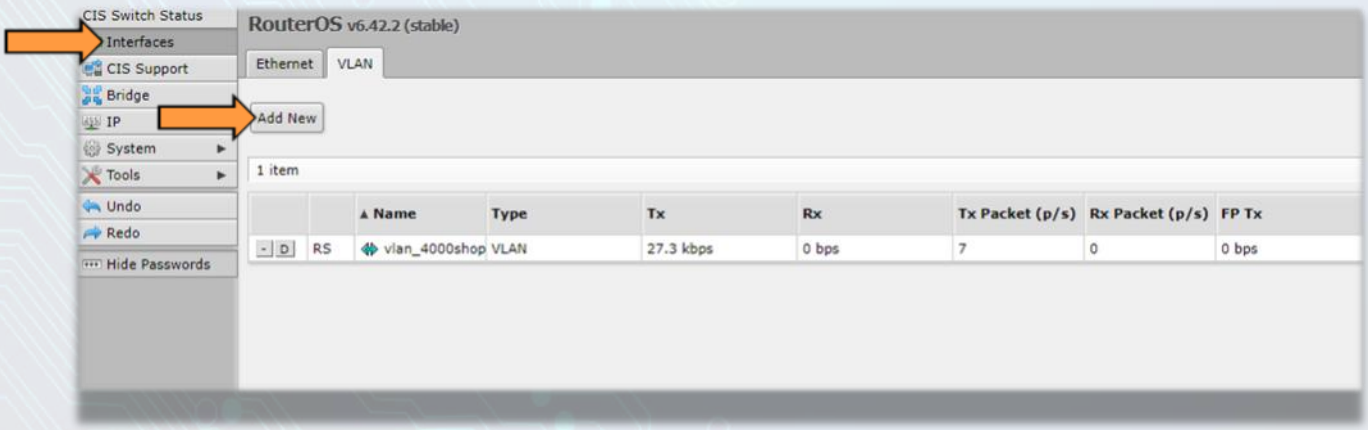
Additional components are required for VLANs to function.

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

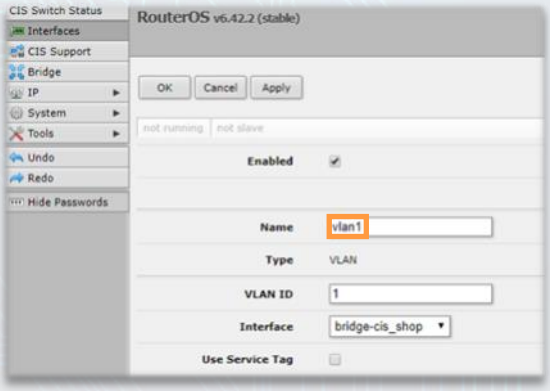
https://www.custom-integration-solutions.com/store/cis-additional-network/

VLAN Configuration

If you have purchased the VLAN service, you can edit the settings in the VLAN tab of the Interfaces section.
Select Add New to create a VLAN interface.

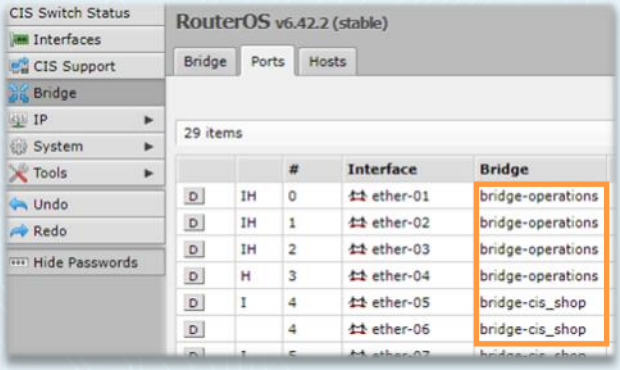


Give the VLAN a specific name and add it to the interface.

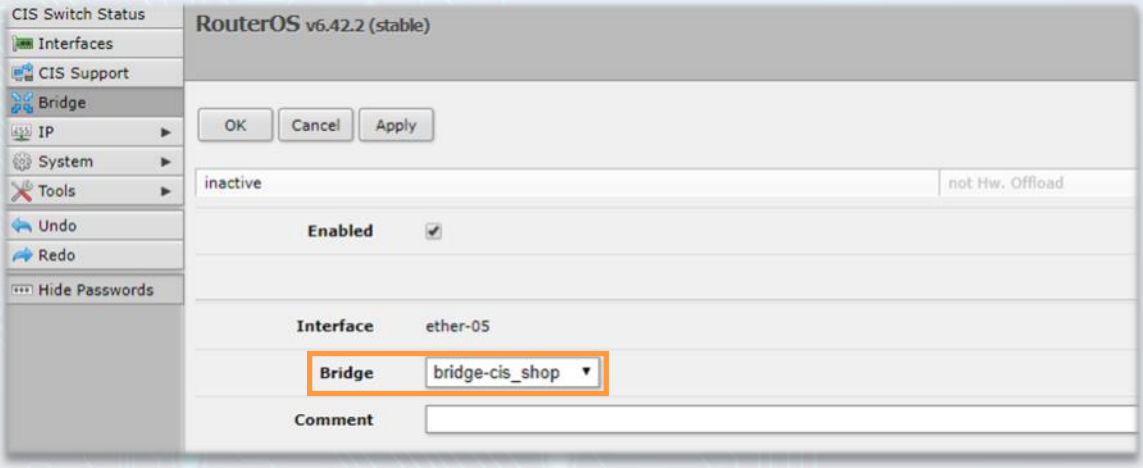


Adding Ports to the VLAN(s)

Once an additional network has been created, a bridge interface will be selectable on the Bridge Ports tab. Select the ethernet port to link to your VLAN.



Select the bridge from the drop down menu. This port will now access the IP address and configuration broadcast by the router. You may select any remaining ports to host this specific configuration.



8. PoE Information and Settings

PoE-Out Modes:

Auto-on mode

If auto-on is selected on a PoE-Out interface, then the port operates in this strict order:

- The switch checks for resistance on the connected port. If the detected resistance range is between (3kΩ to 26.5kΩ), the power is turned on.
- When power is applied, the switch continuously checks if the overload limit is reached, or if a short circuit is detected.
- If the cable is unplugged, the port returns to the detection state, and will remain off until suitable power draw is detected.

Forced-on mode

If forced-on is selected, then the port operates in this strict order:

- There is no resistance check on the port. The switch applies power on pins 4,5 (+) and 7,8 (-), even if no cable is attached.
- When power is applied, the switch continuously checks if an overload or a short circuit is detected.
- After the cable is unplugged, the power still remains enabled on the port.

Off mode

If off mode is used, PoE-Out on the port will be turned off, no detection will take place, and the interface will behave as a simple Ethernet port.

PoE-Out limitations

It is important to check the PoE-Out specifications for hardware limitations because it can differ between models.

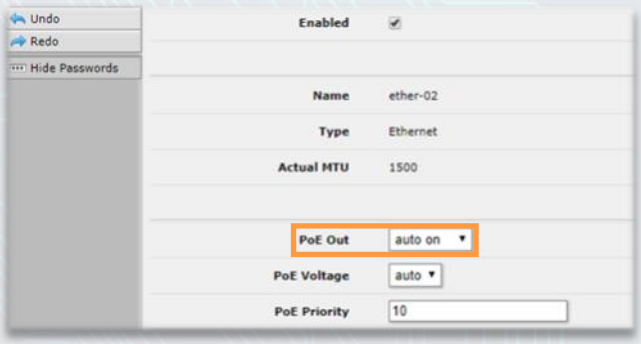
PoE-Out ports are limited with maximum amp values which are supported for a particular voltage. Usually max current will differ for low voltage devices (up to 30 V), and for high voltage devices (31 to 57 V).

PoE supplying devices also have a total current limitation which can't be exceeded, even if individual port limit allows it.

All CIS equipment uses the same PoE-Out pin polarity Mode B 4,5 (+) and 7,8 (-), however other vendors can use opposite o r Mode A pinout on PD, this requires using a special crossover cable

Enable/Disable PoE on a Specific Port

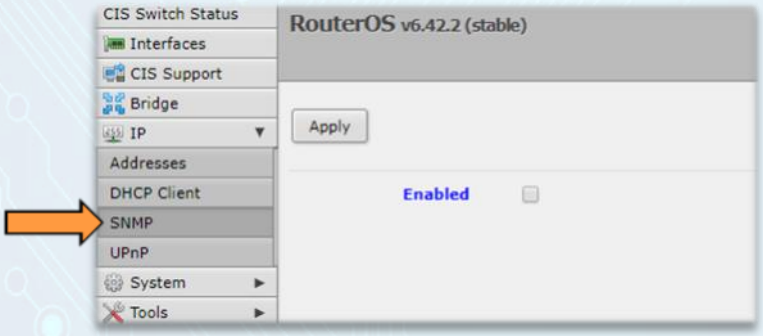
Select the port from the **Interfaces** tab. Change the PoE Out option accordingly.



9. Tools and Other Protocols

SNMP

Simple Network Management Protocol (SNMP) is an Internet-standard protocol for managing devices on IP networks. It can be found and enabled/disabled under the **IP** tab in the left toolbar.



UPnP

CIS devices support Universal Plug and Play architecture for transparent peer-to-peer network connectivity of network-enabled intelligent devices or appliances. UPnP allows a wide range of devices to seamlessly discover each other's presence on the network and establish communications.

UPnP may be appropriate for residential applications, but it can also increase traffic on the network and can add a security vulnerability. CIS recommends UPnP remain disabled.

The IP Scan Tool

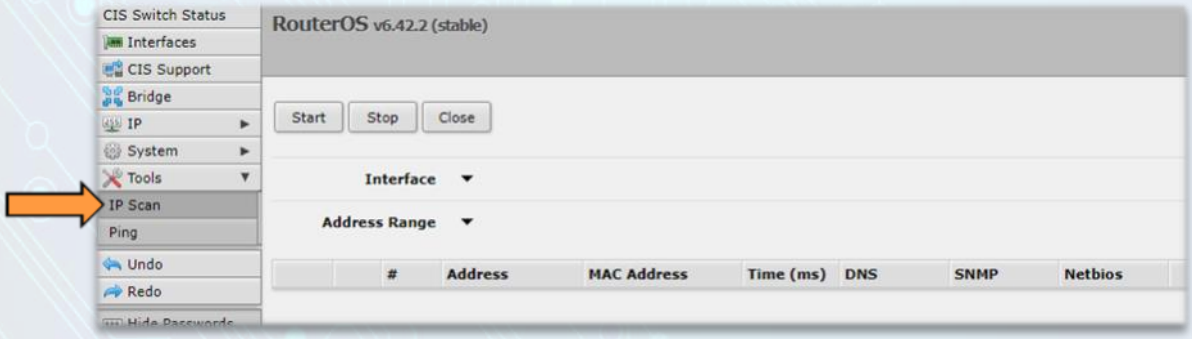
The IP Scan tool can scan the network based on a network prefix or setting an interface to listen to. When using IP scan tool the user must choose what they would like to scan for:

IPv4 range

- The tool will attempt to scan all addresses or addresses in a specific range. (For example, 10.100.1.0/24)

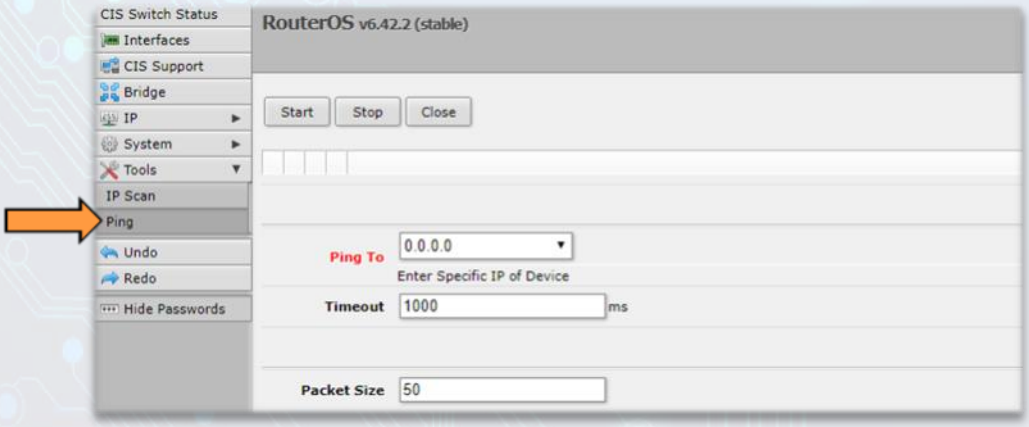
Device interfaces

- The tool will listen to packets that are "passing by" and attempt to compile results when something is found



The Ping Tool

Ping uses Internet Control Message Protocol (ICMP) echo messages to determine if a remote host 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.



10. 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

CE

The CIS-CRS112-8P is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EC.