

GS-7405

Smart- Lite Switch User Manual

Version 1.0.0, December 2016



FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction, may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

The changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

To comply with the FCC RF exposure compliance requirements, this device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

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NOTE: This document is subject to change without notice.

Protect Our Environment



This symbol indicates that when the equipment has reached the end of its useful life, it must be taken to a recycling center and processed separately from domestic waste.

The cardboard box, the plastic container in the packaging, and the parts that make up this router can be recycled in accordance with regionally established regulations. Never dispose of this electronic equipment along with your household waste; you may be subject to penalties or sanctions under the law.

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Safety and Regulatory

Audience

This manual is for networking professionals managing the standalone GS-7405 gigabit network switch. It is recommended that only professionals with experience working with Comtrend's networking devices attempt to configure this device. Experience with Ethernet and local area networking terminology and service equipment is recommended.

Conventions

The following conventions are used in this manual to convey instructions and information:

Command descriptions use these conventions:

- Commands and keywords are in boldface text.
- Parameters for which you supply values are in italic text.
- Square brackets ([]) mean optional elements.
- Braces ({ }) group required choices, and vertical bars (|) separate the alternative elements.
- Braces and vertical bars within square brackets ({ | }) mean a required choice within an optional element.

Interactive examples use these conventions:

- Nonprinting characters, such as passwords or tabs, are in angle brackets (<>).

Notes and cautions use the following conventions and symbols:



Note: Means additional information. Notes contain additional useful information or references to material available outside of this document.



Caution: Indicates that the reader must be careful. In a situation where a Caution is listed, a user may cause equipment damage or loss of data.

Introduction

Thank you for purchasing a Comtrend Gigabit Ethernet Smart-Lite switch. The GS-7405 is powered by Comtrend's Web Smart interface.

This document is intended to provide hardware installation instructions as well as an overview of the interface and management functions of the Web Smart web-based software.

Overview

The Comtrend GS-7405 is a fanless smart-lite switch supporting 5 Gigabit Ethernet ports.

Package contents

Before using the product, check that the items listed below are included and in good condition. If any items are missing, please contact your dealer.

- Comtrend GS-7405 Gigabit Ethernet Switch
- External Power Adapter
- Quick Installation Guide
- Manual CD
- Foot pads

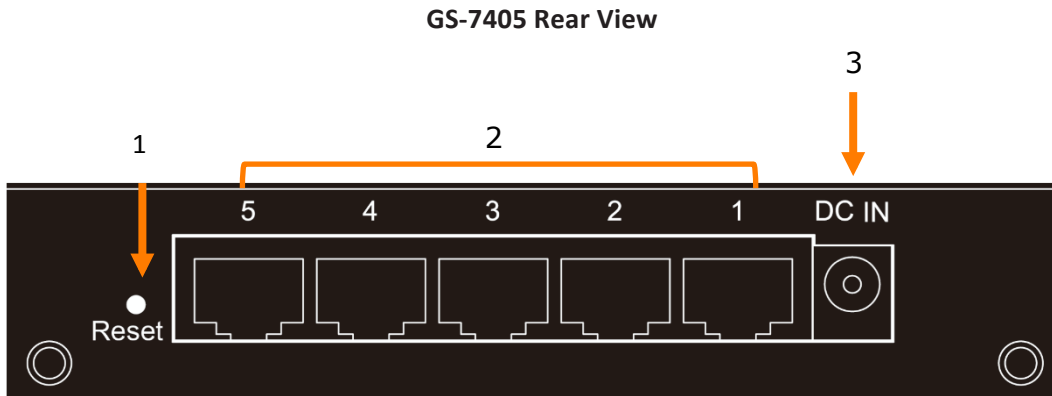
Features

- Supports up to 5 10/100/1000Mbps Gigabit Ethernet ports
- IEEE 802.1Q VLAN allows network segmentation to enhance performance and security
- IEEE 802.1p QoS with 4 priority queues
- Supports access control list (ACL)
- Switch capacity: 10Gbps, forwarding rate: 11.9Mbps
- Supports IGMP Snooping V1 / V2 / V3
- 2K MAC address table and 9K jumbo frames

Product Components

Switch Views

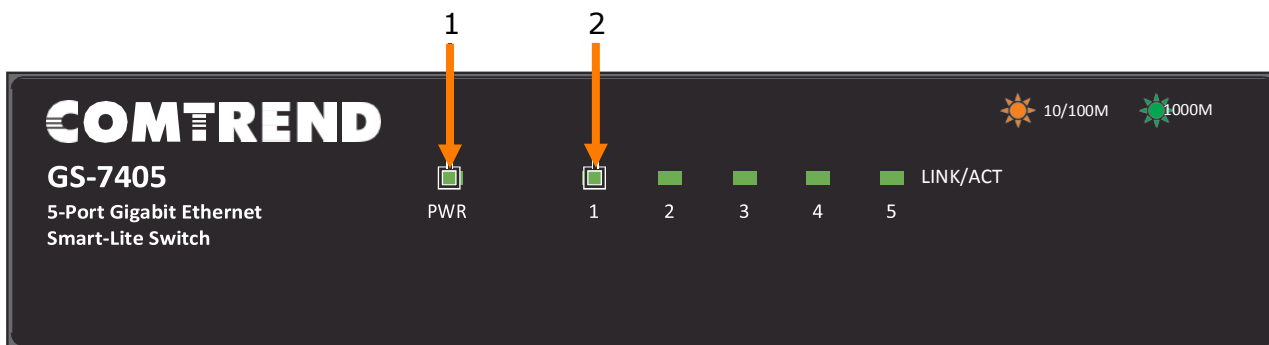
The following view applies to the GS-7405.



No.	Name	Description
1	Reset button	Press (10 sec.) to restore factory default parameters.
2	Ethernet (LAN) ports	Designed to connect to network devices with a bandwidth of 10Mbps, 100Mbps or 1000Mbps. Each has a corresponding 10/100/1000Mbps LED.
3	DC power in	Supports 5V DC/1A

LED Indicators

The following view applies to the GS-7405.



GS-7405 LED Indicators

No.	Name	Description
1	Power	Green LED: <ul style="list-style-type: none">• Off: power off or fail• On: power on• Blinking: system rebooting
2	Port LED	LINK/ACT bi-color LED: <ul style="list-style-type: none">• Off: port disconnected or link fail• Green on: 1000M connected• Amber on: 10/100M connected• Blinking: sending or receiving data

Installation

This chapter describes how to install and connect your Comtrend GS-7405 Switch. Read the following topics and perform the procedures in the indicated order. Incorrect installation may cause damage to the product.

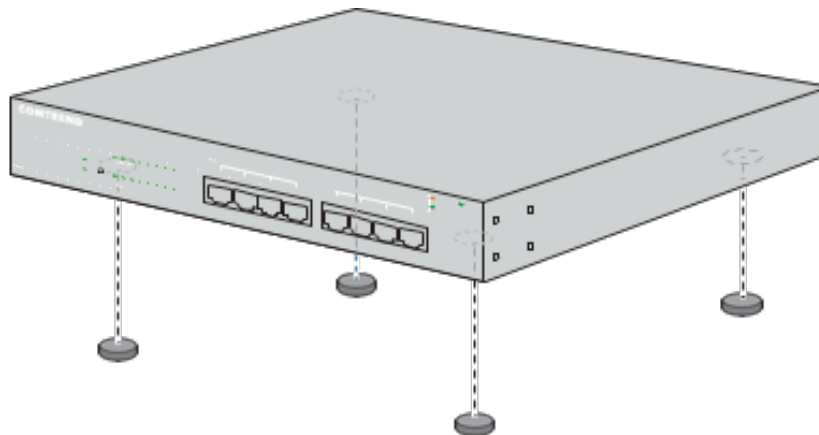
Placement Tips

- Ambient Temperature - To prevent the switch from overheating, do not operate it in an area that exceeds an ambient temperature of 122°F (50°C).
- Air Flow - Assure that there is adequate air flow around the switch.
- Mechanical Loading - Assure that the switch is level and stable to avoid any hazardous conditions.
- Circuit Overloading – Avoid powering the switch from an overloaded power circuit.

Desktop Installation

To place the switch on a desktop:

- 1.** Install the four foot pads (included) on the bottom of the switch.
- 2.** Place the switch on a flat surface.



Desktop Installation

Getting Started

This section provides an introduction to the web-based configuration utility, and covers the following topics:

- Powering on the device
- Connecting to the network
- Starting the web-based configuration utility

Power

Installing Power



Power down and disconnect the power cord before wiring a switch.



Do not disconnect modules or cabling unless the power is first switched off. The device only supports the voltage outlined in the type plate. Do not use any other power components except those specifically designated for the switch.



Disconnect the power cord before installation or cable wiring.

The Gigabit Ethernet Smart-Lite switch is powered by an external power adapter (5V DC/1A). Connect the power adapter to an external power source and check the power LED is on.

Connecting to the Network

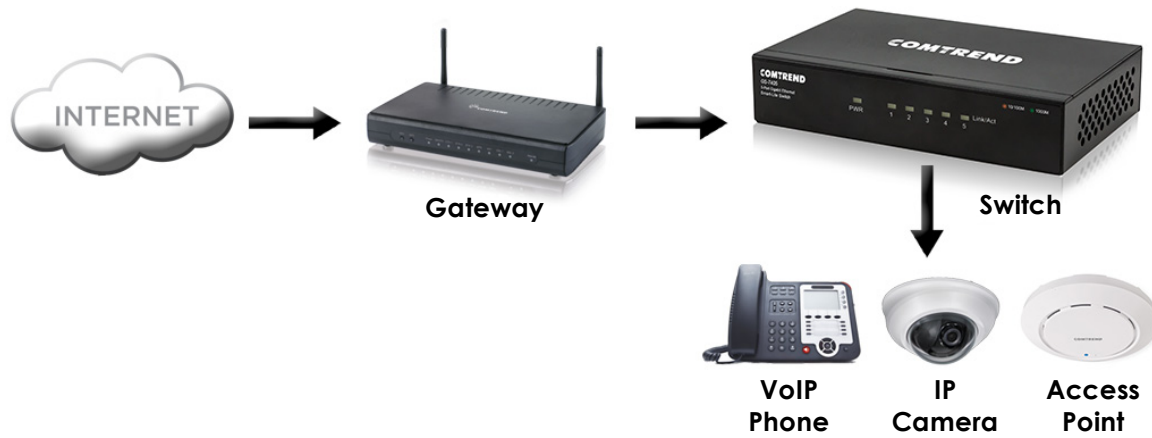
To connect your switch to the network:

Connect the switch to local power with the included power adapter.

Use a standard Cat 5/5e Ethernet cable to connect the switch to end devices as shown below. Switch ports will automatically adjust to the link rate of the device to which it's connected.

Optionally, any port can be used to uplink to an existing network.

Application Diagram



Starting the Web-based Configuration Utility

This section describes how to navigate the web-based switch configuration utility.

If you are using a pop-up blocker, make sure it is disabled.

Browser Restrictions

- If you are using older versions of Internet Explorer, you cannot directly use an IPv6 address to access the device. You can, however, use the DNS (Domain Name System) server to create a domain name that contains the IPv6 address, and then use that domain name in the address bar in place of the IPv6 address.
- If you have multiple IPv6 interfaces on your management station, use the IPv6 global address instead of the IPv6 link local address to access the device from your browser.

Launching the Configuration Utility

To open the web-based configuration utility:

- 1.** Open a Web browser.
- 2.** Enter the IP address of the device you are configuring in the address bar on the Browser (the factory default IP address is 192.168.169.1) and then press Enter.



Your computer's IP address must be in the same subnet as the switch. For the default IP address this is any IP address in the range 192.168.169.x (x= 2 – 254). Modify the IP address of your computer as need.

The login window displays.

User Name:

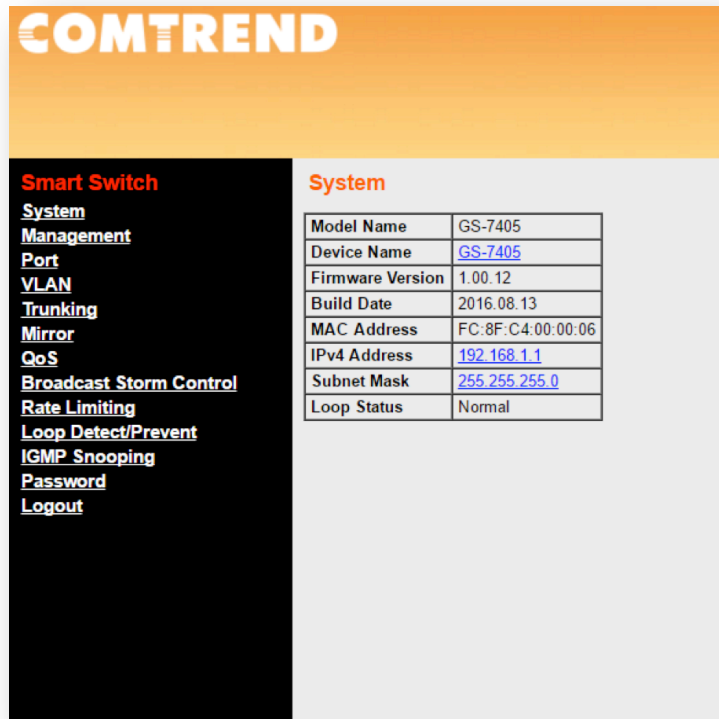
Password:

Logging In

To log in to the device configuration utility:

1. Enter the default user ID (admin) and the default password(admin).
2. If this is the first time that you logged on with the default user ID (admin) and the default password (admin) it is recommended that you change your password immediately. See [Password](#) for additional information.

When the login attempt is successful, the **System Status** window displays.



The screenshot shows the COMTREND configuration utility interface. At the top is the COMTREND logo. Below it, there is a navigation menu on the left with the following items: Smart Switch, System, Management, Port, VLAN, Trunking, Mirror, QoS, Broadcast Storm Control, Rate Limiting, Loop Detect/Prevent, IGMP Snooping, Password, and Logout. The main content area is titled "System" and contains a table with the following data:

System	
Model Name	GS-7405
Device Name	GS-7405
Firmware Version	1.00.12
Build Date	2016.08.13
MAC Address	FC:8F:C4:00:00:06
IPv4 Address	192.168.1.1
Subnet Mask	255.255.255.0
Loop Status	Normal

If you entered an incorrect username or password, the “Login” page remains displayed on the window. If you are having problems logging in, please see the “Launching the Configuration Utility” section in the User Manual for additional information.

Logging Out

By default, the application logs out after ten minutes of inactivity.

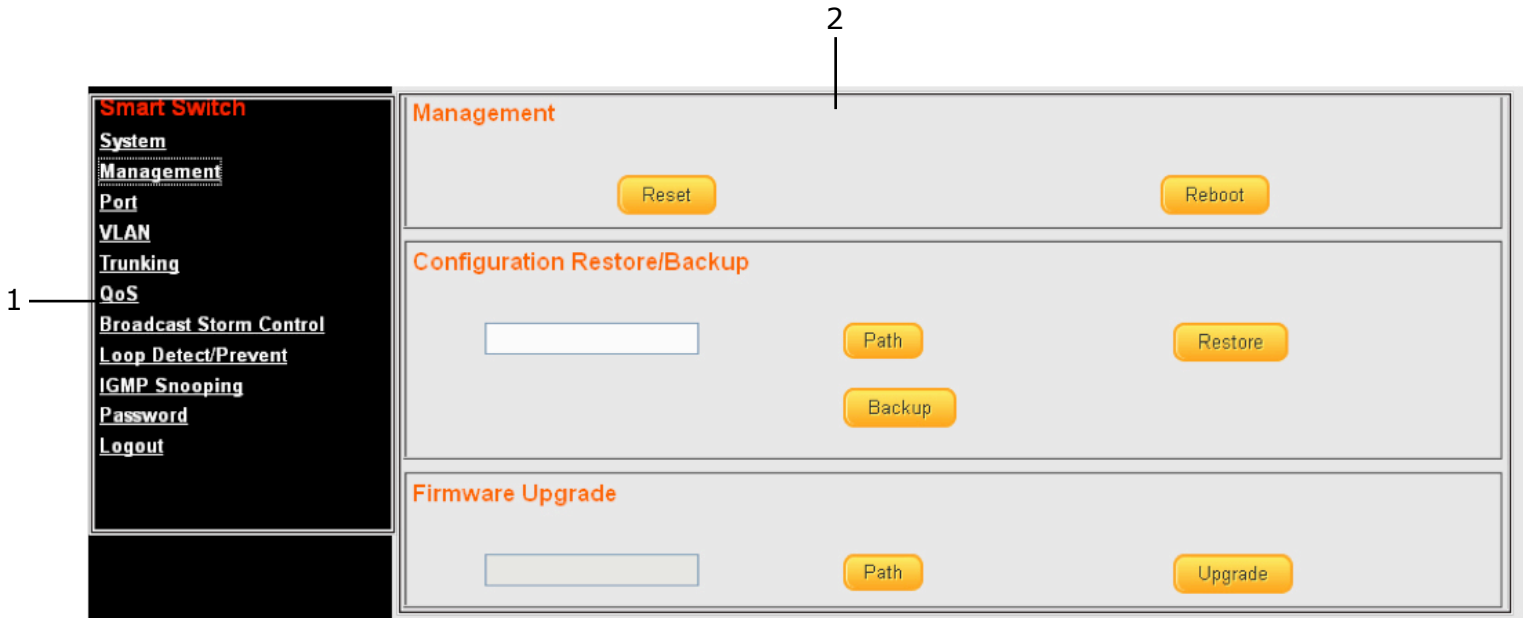
To manually logout, click Logout on the bottom of the menu sidebar.

When a timeout occurs or you intentionally log out of the system, a message appears and the Login page appears, with a message indicating the logged-out state. After you log in, the application returns to the initial page.

Web-based Switch Configuration

The Smart-Lite switch software provides rich Layer 2 functionality for switches in your network. This chapter describes how to use the web-based management interface (Web UI) to configure the switch's features.

For the purposes of this manual, the user interface is separated into two sections, as shown in the following figure:



No.	Name	Description
1	Configuration menu	Navigate to locate specific switch functions.
2	Configuration settings	Edit specific function settings.

System

Use this page to view status information such as Device Name, MAC address, IP Address and Firmware Version.

System	
Model Name	GS-7405
Device Name	GS-7405
Firmware Version	1.00.12
Build Date	2016.08.13
MAC Address	FC:8F:C4:00:00:05
IPv4 Address	192.168.169.1
Subnet Mask	255.255.255.0
Loop Status	Normal

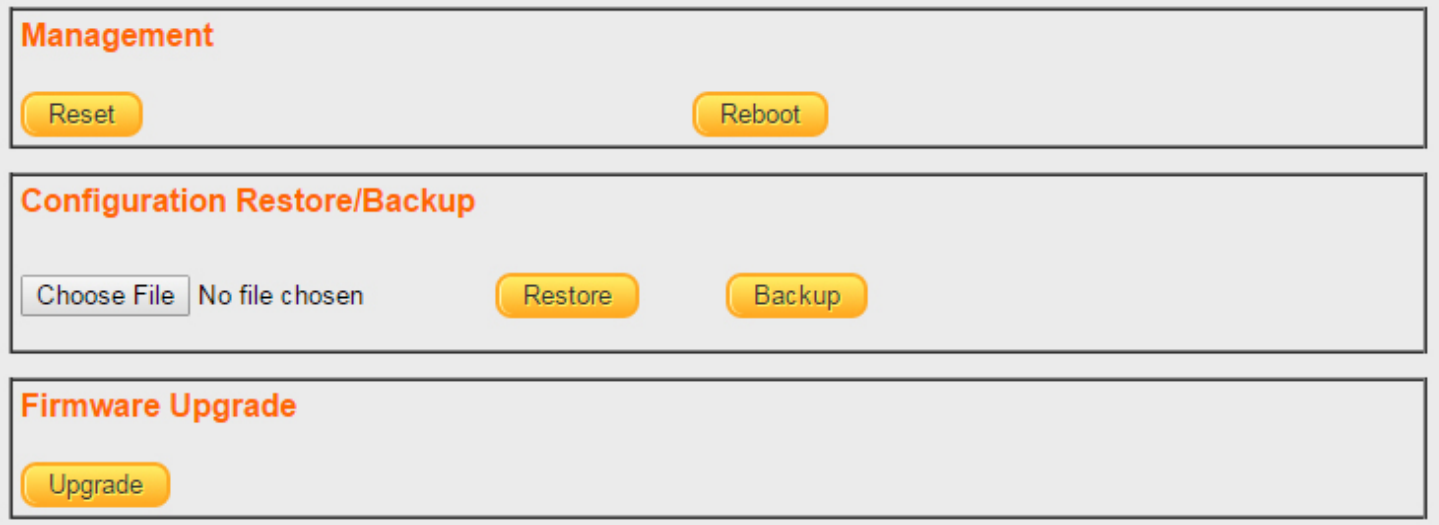
To view the System menu, navigate to System.

Item	Description
Model Name	Switch model name.
Device Name	System name of the switch. Configurable per user's convenience.
Firmware Version	Current firmware version of the device.
Build Date	Device production date.
MAC Address	A unicast MAC address for which the switch has forwarding and/or filtering information. The format is a six-byte MAC address, with each byte separated by colons.
IPV4 Address	Switch IPV4 address on the network.
Subnet Mask	A 32-bit number that masks an IP address.
Loop Status	Displays whether or not loops exist in the network.

Management

Use this page to reset the switch to original factory default settings, reboot the switch, backup and restore switch settings and upgrade firmware.

To view the Management menu, navigate to Management.



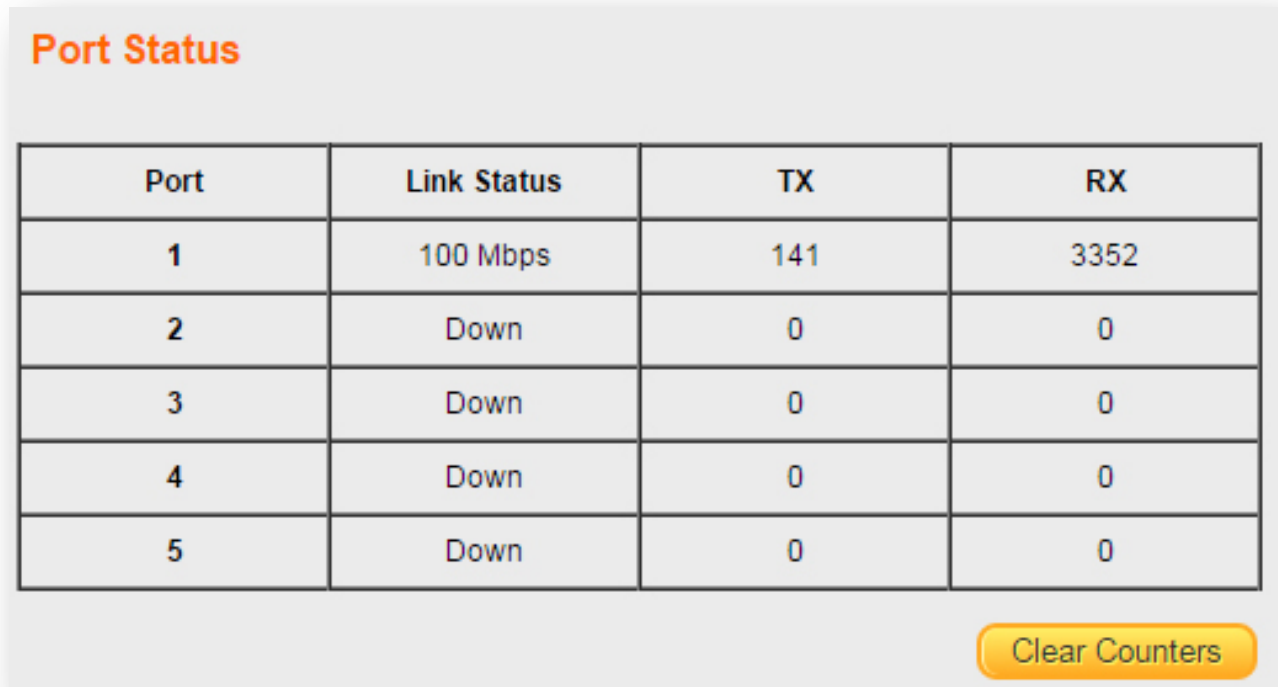
The screenshot displays a web interface with three main sections. The first section, titled "Management", contains two yellow buttons: "Reset" and "Reboot". The second section, titled "Configuration Restore/Backup", features a "Choose File" button followed by the text "No file chosen", and two yellow buttons: "Restore" and "Backup". The third section, titled "Firmware Upgrade", contains a single yellow button labeled "Upgrade".

Item	Description
Management	
Reset	Restore switch to original factory default settings.
Reboot	Reboot switch.
Configuration Restore/Backup	
Choose File	Click to browse a remote TFTP server or on local storage, to locate a file with a previously saved switch setting configuration.
Restore	Install selected switch setting configuration file.
Backup	Save current switch setting configuration as a backup file.
Firmware Upgrade	
Upgrade	Click to "Upgrade" enter "Loader Mode". Once in "Loader Mode", click "Choose File" and navigate to the firmware file you intend to load. Click "Upgrade" to begin the firmware upgrade process.

Port

Use this page to view traffic information such as Link Status, TX, RX, Loop Status and Loop Reset, on each port. The tracking data on each port can also be reset.

To view the Port menu, navigate to Port.



Port Status

Port	Link Status	TX	RX
1	100 Mbps	141	3352
2	Down	0	0
3	Down	0	0
4	Down	0	0
5	Down	0	0

Clear Counters

Item	Description
Port	Designated port number.
Link Status	Displays whether or not port is in use and link speed if it is in use.
TX	The total number of packets transmitted by the port.
RX	The total number of packets received by the port.
Clear Counters	Click to reset tracking data.

VLAN

Use this section to create and modify VLANs.

IEE 802.1Q VLAN

To view the IEE 802.1Q VLAN menu, navigate to VLAN > IEE 802.1Q VLAN.

IEEE 802.1Q VLAN
 Port-Based VLAN

PVID Apply

Port	01	02	03	04	05
PVID	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>	<input type="text" value="1"/>

Maximum number of IEEE 802.1Q VLAN : 5 Create New VLAN

VLAN ID	Non-Member	Tag Egress Member	Untag Egress Member			Modify	Delete
	01	02	03	04	05		
1						Modify	Delete

Click on button to change member state or remove vlan.

Item	Description
IEE 802.1Q VLAN	Click to enter IEE 802.1Q VLAN settings.
Port-Based VLAN	Click to enter port-based VLAN settings.
Apply	Click Apply to save the values and update the screen.
Port	Designated port number.
PVID	Enter a VLAN ID for each port.
Create New VLAN	Click Create New VLAN to enter new VLAN settings.
VLAN ID	Virtual LAN ID.
Non-Member	Port is not a member of a VLAN.
Tag Egress Member	Tag outgoing packets of a port that is a member of the VLAN.
Untag Egress Member	Untag outgoing packets of a port that is a member of the VLAN.
Modify	Modify port settings of a specific VLAN.
Delete	Delete a specific VLAN.

Port-Based VLAN

To view the Port-Based VLAN menu, navigate to VLAN > Port-Based VLAN.

IEEE 802.1Q VLAN Port-Based VLAN

Add VLAN **Apply**

Maximum number of Port-Based VLAN : 2

Group ID	Member Port					Delete
	01	02	03	04	05	
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Delete

Click on checkbox to change group member.
A port can belong to only one group !

Item	Description
Add VLAN	Click Add VLAN to enter new VLAN settings.
Apply	Click Apply to save the values and update the screen.
Member Port	Click to assign specific ports as members of a VLAN.
Group ID	Identifier of the group of ports in a VLAN.
Delete	Delete a specific VLAN.

Trunking

Use this option to aggregate multiple Ethernet ports together to form a logical port. This feature supports static allocation and Link Aggregation Control Protocol (LACP).

To view the Trunking menu, navigate to Trunking.

LACP Apply

LACP Global State	Disable ▾	
Link Aggregation Algorithm	MAC SA & DA ▾	
Link Group Activity	Passive ▾	
Link Group Member	Port 4	Port 5
	<input type="checkbox"/>	<input type="checkbox"/>

If Trunking enable,Please verify VLAN configurations in trunk port.

Item	Description
Apply	Click Apply to save the values and update the screen.
LACP Global State	Enable/disable LCAP.
Link Aggregation Algorithm	Select a link aggregation algorithm: <ul style="list-style-type: none"> MAC SA & DA: distribute traffic based on a combination of the packet's source and destination MAC addresses. MAC DA: distribute traffic based on the packet's destination MAC MAC SA: distribute traffic based on the packet's source MAC address.
Link Group Activity	Select link group activity status: <ul style="list-style-type: none"> Passive Active
Link Group Members	The ports that are members of a port channel.

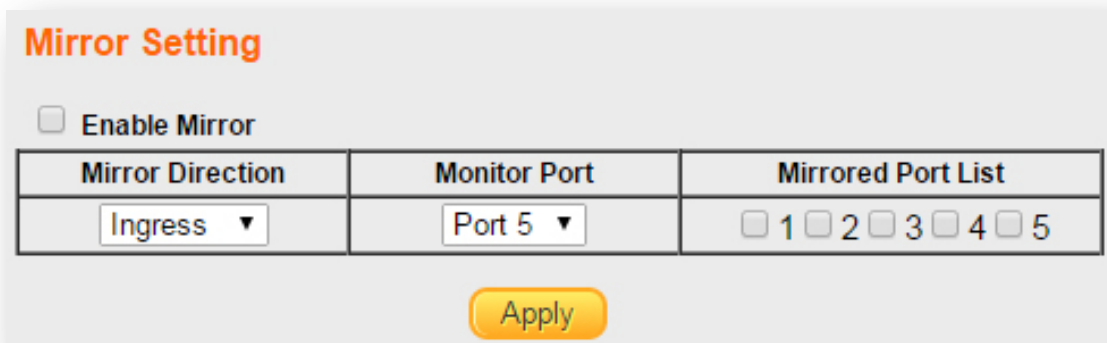


1. You must connect all ports point-to-point to the same Ethernet switch and configure the ports for LACP trunking.
2. LACP only works on full-duplex links.
3. All ports in the same trunk group must have the same media type, speed, duplex mode and flow control settings.
4. Configure trunk groups or LACP before you connect the Ethernet switch to avoid causing network topology loops.

Mirror

Port mirroring selects the network traffic for analysis by a network analyzer. This is done for specific ports of the switch. As such, many switch ports are configured as source ports and one switch port is configured as a destination port.

To view the Mirror menu, navigate to Mirror.



The screenshot shows a configuration window titled "Mirror Setting". At the top, there is a checkbox labeled "Enable Mirror" which is currently unchecked. Below this, there are three main sections: "Mirror Direction" with a dropdown menu set to "Ingress", "Monitor Port" with a dropdown menu set to "Port 5", and "Mirrored Port List" which contains five checkboxes labeled 1 through 5, all of which are currently unchecked. At the bottom center of the window is a yellow "Apply" button.

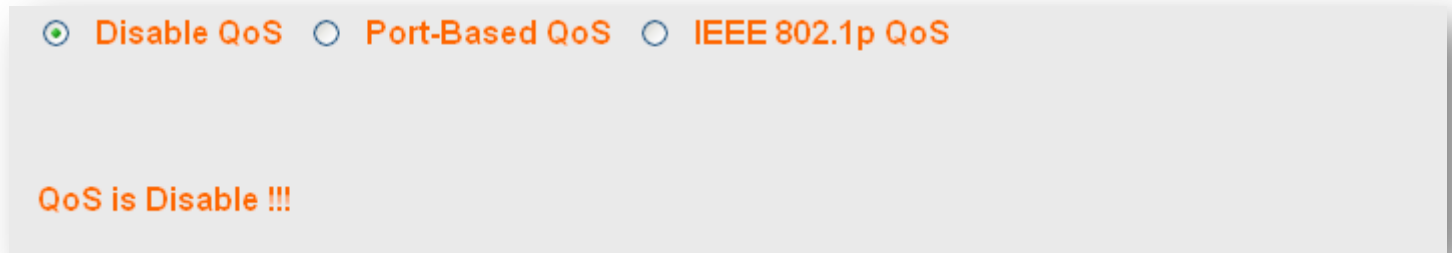
Item	Description
Enable Mirror	Enable/disable port mirroring.
Mirror Direction	Select the mirror direction: <ul style="list-style-type: none">• Ingress• Egress
Monitor Port	Select the mirror destination port.
Mirrored Port List	The ports or configured to mirror traffic to the destination. Multiple source ports can be configured.
Apply	Click Apply to save the values and update the screen.

QoS

Use this section to configure Quality of Service (QoS) settings.

Disable QoS

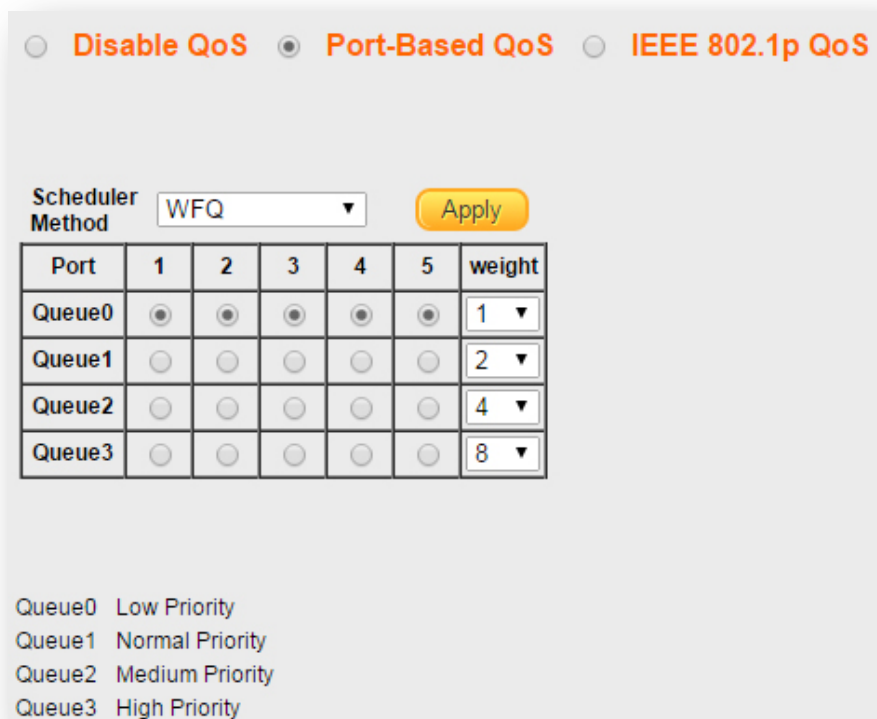
To view the Disable QoS menu, navigate to QoS > Disable QoS.



Item	Description
Disable QoS	Enable/disable QoS.
Port-Based QoS	Click to select port-based QoS settings.
IEEE 802.1p QoS	Click to enter IEE 802.1Q QoS settings.

Port-Based QoS

To view the Port-Based QoS menu, navigate to QoS > Port-Based QoS



Item	Description
Disable QoS	Enable/disable QoS.
Port-Based QoS	Click to select port-based QoS settings.
IEEE 802.1p QoS	Click to enter IEEE 802.1Q QoS settings.
Port	Designated port number.
Weight	Queue priority value. More packets are sent from a queue with a higher weight value.
Queue 0-3	Queues used to store traffic until it can be processed or serialized.

IEEE 802.1p QoS

To view the IEEE 802.1p QoS menu, navigate to QoS > IEEE 802.1p QoS.

Disable QoS
 Port-Based QoS
 IEEE 802.1p QoS

Priority	0(low)	1	2	3	4	5	6	7(height)	weight
Queue0	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	1
Queue1	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	2
Queue2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	4
Queue3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	8

Queue0 Low Priority
 Queue1 Normal Priority
 Queue2 Medium Priority
 Queue3 High Priority

Item	Description
Disable QoS	Enable/disable QoS.
Port-Based Qos	Click to select port-based QoS settings.
IEEE 802.1p QoS	Click to enter IEE 802.1Q QoS settings.
Port	Designated port number.
Weight	Queue priority value. More packets are sent from a queue with a higher weight value.
Queue 0-3	Queues used to store traffic until it can be processed or serialized.

Broadcast Storm Control

This page allows you to set ingress port monitoring.

To view the Broadcast Storm Control menu, navigate to Broadcast Storm Control.

Broadcast Storm Control

Broadcast	no limit	▼
Multicast	no limit	▼
DLF	no limit	▼

Apply

Item	Description
Broadcast	Set Broadcast storm control limit: <ul style="list-style-type: none"> No limit 512K/s to 512M/s
Multicast	Set Multicast storm control limit: <ul style="list-style-type: none"> No limit 512K/s to 512M/s
DLF	Set DLF storm control limit: <ul style="list-style-type: none"> No limit 512K/s to 512M/s
Apply	Click Apply to save the values and update the screen.

Rate Limiting

This page allows you to display and configure ingress and egress port monitoring settings.

Rate Limiting

This page displays ingress and egress port limits.

To view the Rate Limiting menu, navigate to Rate Limiting.

Rate Limiting

Port	Ingress rate	Egress rate
1	no limit	no limit
2	no limit	no limit
3	no limit	no limit
4	no limit	no limit
5	no limit	no limit

Item	Description
Port	Designated port number. Click individual port numbers to enter rate limit configuration menu for each port.
Ingress rate	The upper limit on how much traffic can enter a port.
Egress rate	The upper limit on how much traffic can exit a port.

Change Rate Limit

Use this page to configure ingress and egress rate limit settings.

To view the Change Rate Limit menu, navigate to Rate Limiting > port number.

Change Rate Limit

Apply

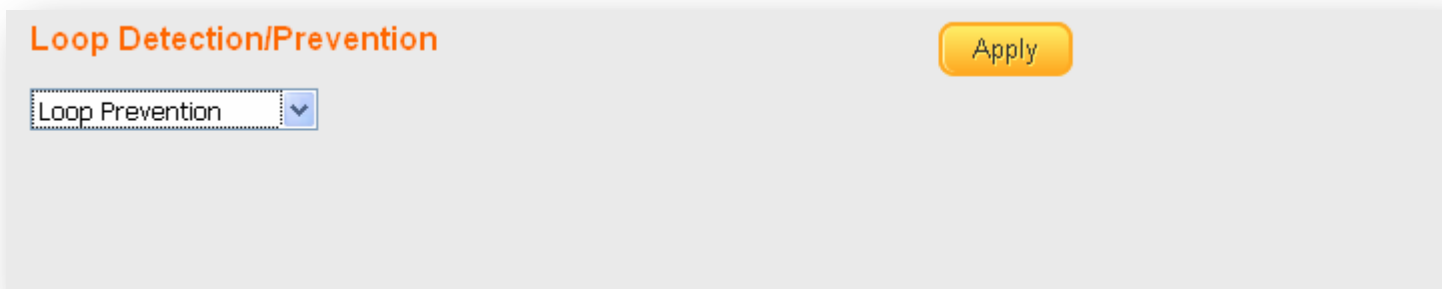
Port	Ingress rate	Egress rate
1	no limit ▼	no limit ▼
2	no limit ▼	no limit ▼
3	no limit ▼	no limit ▼
4	no limit ▼	no limit ▼
5	no limit ▼	no limit ▼

Item	Description
Apply	Click Apply to save the values and update the screen.
Port	Designated port number.
Ingress rate	Select to configure the upper limit on how much traffic can enter a port: <ul style="list-style-type: none">• No limit• 512K/s to 512M/s
Egress rate	Select to configure the upper limit on how much traffic can exit a port: <ul style="list-style-type: none">• No limit• 512K/s to 512M/s

Loop Detect/Prevent

Use this section to enable/disable and configure network routing loop detection. Select the desired setting from the drop down menu.

To view the Loop Detection/Prevention menu, navigate to Loop Detection/Prevention.



Loop Detection/Prevention

Apply

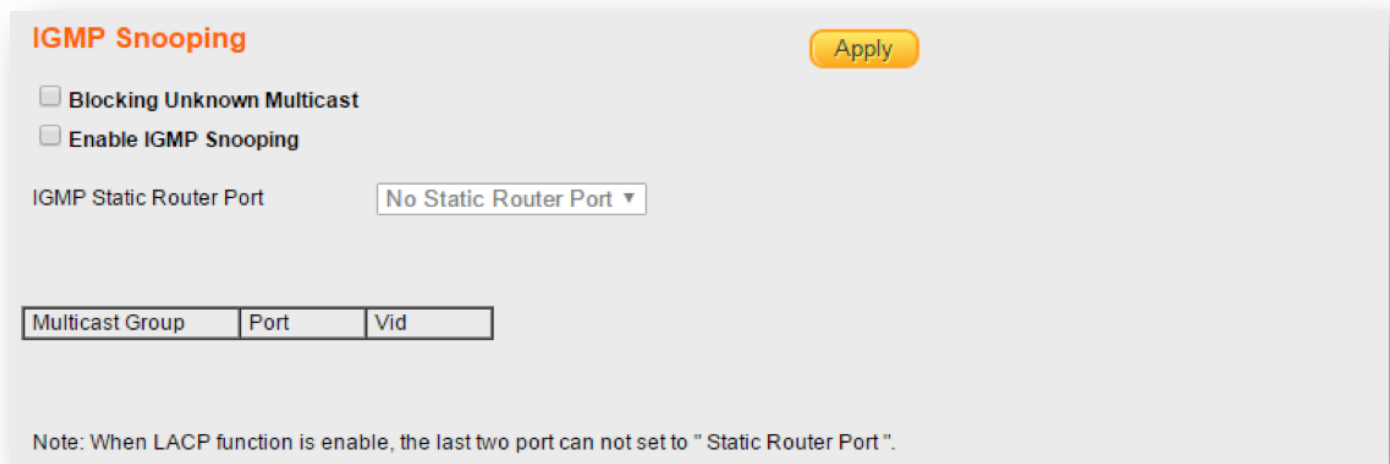
Loop Prevention

Item	Description
Off	Disable loop detection and prevention.
Loop Detection	Enable loop detection. When it detects a loop, this feature does not repair the loop, but only issues a warning.
Loop Prevention	Enable loop prevention. When it detects a loop, this feature will disable loop ports and down port LED, and the system LED will be blinking.
Apply	Click Apply to save the values and update the screen.

IGMP Snooping

Use this section to create an IGMP Snooping Profile. Internet Group Management Protocol (IGMP) Snooping is a feature that allows a switch to forward multicast traffic intelligently on the switch. Multicast IP traffic is traffic that is destined to a host group. Host groups are identified by class D IP addresses, which range from 224.0.0.0 to 239.255.255.255. Based on the IGMP query and report messages, the switch forwards traffic only to the ports that request the multicast traffic. This prevents the switch from broadcasting the traffic to all ports and possibly affecting network performance.

To view the IGMP Snooping menu, navigate to IGMP Snooping.



IGMP Snooping Apply

Blocking Unknown Multicast

Enable IGMP Snooping

IGMP Static Router Port No Static Router Port ▾

Multicast Group	Port	Vid

Note: When LACP function is enable, the last two port can not set to "Static Router Port".

Item	Description
Blocking Unknown Multicast	Block unknown multicast packets.
Enable IGMP Snooping	Enable/disable IGMP snooping.
IGMP Static Router Port	Select a static port on which to snoop, either No Static Router Port , or one of ports 1-5.
Apply	Click Apply to save the values and update the screen.

Password

Use these settings to change an account password.

To view the password menu, navigate to Password.

Change Password

New User Name:

New Password:

Confirm New Password:

Note:
Password can only use "a-z", "A-Z", "0-9" and the length is at least 4, max is 20.

Item	Description
Confirm	Click Confirm to save the values and update the screen.
Old Password, New User Name	Enter new user name.
New Password	Enter new password.
Confirm New Password	Enter new password again to confirm.

Logout

Click **Logout** to leave the switch management menu and close the web management session.

FOR MORE INFORMATION:

YouTube: <https://www.youtube.com/user/ComtrendConnection>

Facebook: <https://facebook.com/Comtrend>

Website: <http://us.comtrend.com/>

Support: Visit our website or call 1-877-COMTREND (1-877-266-8736)