

# **8-Port Gigabit Web Smart Switch**

**NSH-9308P**

## **User Manual**

**Version: 2.3**

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# 1 Introduction

The NSH-9308P Switch is a high performance web-smart managed switch, which provides up to 8 10/100/1000Mbps copper Ethernet ports. This device provides a great flexibility for nowadays variety of network application at lower cost. User doesn't have to learn many sophisticated management function which are usually shown in SNMP switch, but just need to learn some simple setting procedures through either out-of-band RS232 port or in-band Ethernet port. However, some advanced and important function such as Tag-based VLAN, Trunking, RSTP and IGMP are also supported in this Switch. This means, user doesn't have to pay high cost as tradition layer 2 SNMP switches, when he wants to get advanced function to meet requirement of network application. This makes the Switch very suitable for small or medium size company to build up simple network at beginning phase with lower cost. Besides, an optional long-ear accessory also makes it possible to operate in the rack mount environment.

The NSH-9308P Switch was designed to operate at non-blocking and line speed performance, auto-negotiation and auto-MDI/MDIX function are also supported on all 10/100/1000Mbps RJ-45 Gigabit copper ports. No matter running with half or full duplex mode, these function make user easy to use, and reduce the matching effort between straight and cross-over cable issues.

The NSH-9308P Switch supports both port-based and 802.1Q (tag-based) VLAN to catch-up the application needed. To increase bandwidth application, it supports up to 4 trunk groups with maximum 8 ports on one trunk, and these trunk ports are with fair-over function to provide redundant link when one or more trunk ports were malfunction. In addition, Rapid STP (RSTP) and multicast application IGMP were also supported at the software function. A reset button was provided to make user easy to go back to default settings.

# 1.1 Main Features

This switch provides the following main features:

- Non-blocking, line speed, store-and-forward
- Support jumbo frame, Max. packet length 9k bytes
- Auto-Negotiation and Auto-MDI/MDIX on all 10/100/1000Mbps copper ports
- 8 10/100/1000Mbps RJ-45 copper ports
- 144K bytes packet buffer, 8K MAC entries
- Support port-based VLAN and tag-based (802.1Q) VLAN
- Support RSTP, IGMP, DHCP
- Support “relocate port number” on “ http operation “
- Port trunk with fail-over capability
- Support flow control for both full/half duplex operation modes
- Support Multicast storm, Broadcast Storm control as well as Flooding Control
- Support port mirroring
- LED display for each port to show link and activity status
- Desktop and optional Rack mountable kit
- Reset to default “ push button “ and field code upgradeable

## 1.2 Start to Manage This Switch

User can start to manage this switch by ether web mode through Ethernet port or terminal mode through RS232 port.

### 1.2.1 Web mode default settings are:

```
Default IP Address: 192.168.223.100
Default IP mask:    255.255.255.0
Default gateway:    192.168.223.254
Default Password:   no preset value
```

### 1.2.2 Terminal mode default settings are:

```
Baud rate:         115,200
Data size:         8bits
Parity:            None
Stop bits:         1
Flow Control:     None
```

Once terminal is connected, the basic operation rules are shown below:

Press “ ? “ to find root operation page, then choose command by typing little alphabets.

After enter command page, press “ ? “ to find command parameters and format, further more, type “ command ? “ to get explanation.

Type “ up “ or “ / “ to go back to previous page.

## 2 Web management

After login through Web Browser, the switch's main management page will show up. The left part on the page provides the function menus, while the right part provides the individual configuration value or system parameters' value. Function menus are divided into three categories, they are **Configuration**, **Monitoring** and **Maintenance**, and all functions are shown briefly below.

### **Configuration:**

**System** – system values, such as H/W, F/W version, IP, MAC address...etc

**Ports** – port status and configure port parameters

**Port-based VLAN** – to setup the port-based VLAN

**Tag-based VLAN** – to setup the tag-based VLAN

**Port Trunking** – to setup the trunk function

**Port Mirroring** – to setup the port mirroring function

**Quality of Service** – to set the Quality of Service function

**Storm Control** – to setup storm limitation parameter

**LACP** – to setup LACP parameter

**RSTP** – to setup RSTP parameter

**IGMP** – to setup IGMP parameter

**802.1x** – to setup 802.1x parameter

### **Monitoring:**

**Port Statistics** – display general statistic traffic information on each ports

**Detailed Port Statistics** – display more detailed statistic traffic information on each ports

**LACP status** – display LACP status

**RSTP status** – display RSTP status

**IGMP status** – display IGMP status

**Ping** – provide ping function and result

### **Maintenance:**

**Warm Reboot** – restart system

**Factory Default** – reset parameters back to factory default

**Firm Upgrade** – upgrade Switch firmware

**Config File** – backup Switch configuration

**Logout** – disconnect current session

## 2.1 Configurations

### 2.1.1 System information

The system diagram shows common system information, they are H/W, F/W version, MAC address, IP address, subnet mask, IP gateway, default VLAN value of management port, name, password, timeout value, and SNMP communities...etc. Once you changed the settings, it's needed to press the "Apply" button to implement these settings, and you can press the "Refresh" button to get updated status of system information.

#### System Configuration

Model Name	8G_PoE_Smart
MAC Address	00-0a-17-02-1a-22
F/W Version	2.0
H/W Version	1.0
DHCP Enabled	<input type="checkbox"/>
IP Address	192.168.223.100
Subnet Mask	255.255.255.0
Gateway	192.168.223.254
HTTP Listening Port Number	80 (1024 - 65535)
Tag VLAN Management Group	1
Name	
Password	
Inactivity Timeout (secs)	0
SNMP enabled	<input checked="" type="checkbox"/>
SNMP Trap destination	0.0.0.0
SNMP Read Community	public
SNMP Write Community	private
SNMP Trap Community	public

#### 2.1.1.1 DHCP

The default DHCP setting is disabled, so default IP address or user defined IP address was used when powered on this switch. If this switch needs an IP address assigned by DHCP server, you should check the square field and then press "Apply" to implement. User must be aware that if DHCP setting was enabled from web page, and the DHCP server is working, the connection will be lose,

because the IP address of this Switch has been changed.

### **2.1.1.2 Relocate HTTP port number**

The default port number of HTTP access is 80, but unauthorized user may intrude this switch if he knows the IP address of this switch. You may relocate this port number to other value, from 1024 to 65535. Once you change the port number of HTTP access and implement new setting, you will lost current connection and you must access the Switch by new setting:

**http://192.168.223.100:port\_value**

### **2.1.1.3 Tag VLAN management group**

At first time you turn on this Switch, all ports belong to default VLAN ID group (VID=1), so they can communicate to each other, and any port can be used as web management port to access this Switch. But, for example, if you create VLAN ID=10 and assign port 7, 8 to this VLAN, then create another VLAN ID = 20 and assign port 5, 6 to this VLAN, 3 VLAN groups will be shown on VALN group table after you implement these settings. At this time, the management VLAN still remains on VID=1 group, you can only perform web management through ports assigned to this VLAN (port 1, 2, 3, 4). If you want to perform web management from other port in existing different VLAN group, for example port 8 in VID =10, you must go to system configuration page, and select Tag VLAN Management Group to 10, then press "Apply" to implement new setting. Therefore, you can perform web management from ports assigned to management VLAN.

IF you forget the setting about management, there are two ways to solve this condition below.

- (1) Through console port, change VLAN ID of management VLAN.
- (2) Press "Reset" button few seconds, let system return to default settings.



## 2.1.2 Ports

Port status page always shows current port status of all 8 ports. User can set link mode, enable or disable flow control and jumbo frame. However, be noticed that the jumbo frame is setting globally, it can't be set on one port individually. A default diagram is shown below,

### Port Configuration

Port	Link Status	Link Mode	Flow Control
1	Down	Auto Speed ▼	<input type="checkbox"/>
2	Down	Auto Speed ▼	<input type="checkbox"/>
3	Down	Auto Speed ▼	<input type="checkbox"/>
4	Down	Auto Speed ▼	<input type="checkbox"/>
5	Down	Auto Speed ▼	<input type="checkbox"/>
6	Down	Auto Speed ▼	<input type="checkbox"/>
7	Down	Auto Speed ▼	<input type="checkbox"/>
8	100FDX	Auto Speed ▼	<input type="checkbox"/>

Enable Jumbo Frames

Apply

Refresh

## 2.1.3 Port-based VLAN

Port-based VLAN is a kind of VLAN, which is a group of ports marked by same group ID, different VLAN (different ID) can't communicate to each other.

A default diagram is shown below.

### Port-based VLAN (User Group) Configuration

Port-based VLAN Group (User Group) Table									
No.	Group ID	Member Port							
		1	2	3	4	5	6	7	8
1	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add/Edit a VLAN (User) Group									
Group ID	Member Port								
	1	2	3	4	5	6	7	8	
1 <input type="text"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

Refresh

Delete

Apply

## 2.1.4 Tag-based VLAN

Tag-based VLAN is another kind of VLAN, which is a group of ports assigned to the same VLAN ID. Different VLAN (different ID) can't communicate to each other. By default, all ports of the switch were belonged to same VLAN, which ID is 1 (VLAN ID=1).

A default diagram is shown below.

### Tag-based (802.1q) VLAN Configuration

Tag-based (802.1q) VLAN Group Table										
Select	No.	VLAN ID	Member Port							
			1	2	3	4	5	6	7	8
<input type="radio"/>	1	1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Add/Edit a VLAN Group								
VLAN ID (1-4094)	Member Port							
	1	2	3	4	5	6	7	8
<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Port Config

Refresh

Delete

Apply

There are some attributes can be assigned for advanced tag-based VLAN application. Click "Port Config" button to modify these attributes.

### Tag VLAN Per Port Configuration

Port	VLAN aware Enabled	Ingress Filtering Enabled	Acceptable Packet Type	Port VID
1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1 <input type="text"/>
2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1 <input type="text"/>
3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1 <input type="text"/>
4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1 <input type="text"/>
5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1 <input type="text"/>
6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1 <input type="text"/>
7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1 <input type="text"/>
8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1 <input type="text"/>

Apply

Cancel

1. VLAN Aware mode:

Enabled - Strip VLAN tag from received frame and insert VLAN tag in transmitted frame, except ingress frames which's VID is the same as PVID.

Disabled – Default state, switch doesn't do VLAN tag stripping and inserting.

2. Ingress filtering:

Enabled - Check ingress frame VLAN ID. Ingress frame will be dropped if frame's VID is not the same as the VID of the ingress port.

Disabled – Don't do ingress VLAN frame checking, frames will be flood as normal.

3. Accept Packet Type:

ALL - Accept all ingress frames

Tagged only - Only accept ingress frames with VLAN tag

4. Port VID:

Set port VLAN ID for untagged ingress frames. Set "None" for trunk port member.

## 2.1.5 Port Trunking

Port Trunking defines how to create a single high-speed logical link that combines several low-speed physical links. By default, all ports were set to normal state. You can group multiple ports to a trunk; up to 4 groups are supported.

### Port Trunking (Aggregation) Configuration

Group\Port	1	2	3	4	5	6	7	8
Normal	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Group 1	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Group 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Group 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Group 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

For example, choose port 1 and port 2 into group 1. After implementation, diagram will show as below.

### Port Trunking (Aggregation) Configuration

Group\Port	1	2	3	4	5	6	7	8
Normal	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Group 1	<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"/>
Group 2	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Group 3	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Group 4	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 2.1.6 Port Mirroring

Set the port mirroring option to monitor data being transmitted through a specific port. A default diagram is shown below.

### Port Mirroring Configuration

Mirror Port	1 ▾
-------------	-----

  

Port	Mirror Source
1	<input type="checkbox"/>
2	<input type="checkbox"/>
3	<input type="checkbox"/>
4	<input type="checkbox"/>
5	<input type="checkbox"/>
6	<input type="checkbox"/>
7	<input type="checkbox"/>
8	<input type="checkbox"/>

Choose the association of ports you want to implement mirroring function. For example, choose port 2 to be monitored, and port 1 to monitor.

### Port Mirroring Configuration

Mirror Port	1 ▾
-------------	-----

  

Port	Mirror Source
1	<input type="checkbox"/>
2	<input checked="" type="checkbox"/>
3	<input type="checkbox"/>
4	<input type="checkbox"/>
5	<input type="checkbox"/>
6	<input type="checkbox"/>
7	<input type="checkbox"/>
8	<input type="checkbox"/>

## 2.1.7 Quality of Service

QoS (Quality of Service) refers to the mechanisms in the Switch's network software that make the actual determinations of which packets have priority.

There are three QoS mode in the Switch: **Port-based**, **802.1p** and **DSCP**.

### Quality of Service (QoS) Configuration

QoS Mode

Port	Default Class
1	<input type="text" value="high"/>
2	<input type="text" value="high"/>
3	<input type="text" value="high"/>
4	<input type="text" value="high"/>
5	<input type="text" value="high"/>
6	<input type="text" value="high"/>
7	<input type="text" value="high"/>
8	<input type="text" value="high"/>

## Quality of Service (QoS) Configuration

QoS Mode	802.1p
Prioritize Traffic	Custom

User Priority Table								
Port	1	2	3	4	5	6	7	8
Priority	0	0	0	0	0	0	0	0

802.1p Priority - Class Mapping Table							
Priority	Class	Priority	Class	Priority	Class	Priority	Class
0	normal	1	low	2	low	3	normal
4	medium	5	medium	6	high	7	high

Apply Cancel

## Quality of Service (QoS) Configuration

QoS Mode	DSCP
Prioritize Traffic	All High Priority

DSCP-Class Mapping Table	
DSCP Value(0..63)	Class
	high
	high
	high
	high
	high
	high
	high
All others	high

Apply Cancel



## 2.1.8 Storm Control

Set storm control limitation to prevent abnormal traffic.

### Storm Control Configuration

Storm Control Number of frames per second	
Broadcast Rate	No Limit ▼
Multicast Rate	No Limit ▼
Flooded Unicast Rate	No Limit ▼

Choose frame types that you want to control, and select the limitation. For example, choose Broadcast storm with 3,964 frames per second as upper limit, once the Broadcast frame rate higher than 3,964 frames per second at any of the ports, the special port will be disabled.

## 2.1.9 LACP

Different from the static port trunking, LACP provides another way to aggregate ports to a group (trunk) dynamically according to IEEE 802.3ad standard.

### LACP Port Configuration

Port	Protocol Enabled	Key Value
1	<input type="checkbox"/>	auto
2	<input type="checkbox"/>	auto
3	<input type="checkbox"/>	auto
4	<input type="checkbox"/>	auto
5	<input type="checkbox"/>	auto
6	<input type="checkbox"/>	auto
7	<input type="checkbox"/>	auto
8	<input type="checkbox"/>	auto

- Protocol Enabled – to enable/disable LACP protocol on a port.
- Key Value – a number (1~255) to identify the LACP group for a port. All member ports in a LACP group have the same key values. Key value will be generated automatically if the value was set to “auto”.

Choose and click the trunk ports you want to group. For example, select port 7 and port 8 to group into a LACP group with key value 20 for both ports, then press “Apply” to implement the setting.

## 2.1.10 RSTP

The Spanning-Tree Protocol (STP) is IEEE 802.1d standardized method for avoiding loops in switched networks. Enable STP to ensure that only one path at a time is active between any two nodes on the network.

The Rapid-Spanning-Tree-Protocol (RSTP) is a more advanced protocol than STP according to IEEE 802.1w standard. RSTP can shorten spanning tree convergent time while network topology is changed.

### RSTP Configuration

System Configuration	
System Priority	32768 ▾
Hello Time	2
Max Age	20
Forward Delay	15
Force version	Normal ▾

Port Configuration			
Port	Protocol Enabled	Edge	Path Cost
Aggregations	<input type="checkbox"/>		
1	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
2	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
3	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
4	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
5	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
6	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
7	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto
8	<input type="checkbox"/>	<input checked="" type="checkbox"/>	auto

You can modify the following parameters of RSTP function to accommodate your network.

### **System Configuration**

- System Priority – A value to identify the root bridge. The bridge (switch) with lowest value has the highest priority and will be selected as the root. 16 numbers are provided in this field from 0 to 61440 in increments of 4096, default value is 32768.
- Hello Time -- the time interval (seconds) between Spanning-Tree Protocol configuration messages transmitting. Enter a value between 1 and 10, default value is 2.
- Max Age – the time interval (seconds) bridge (switch) will wait before attempting to reset STP parameters when missing Spanning-Tree Protocol configuration messages. Enter a value between 6 and 40, default value is 20.
- Forward Delay -- the time before bridge (switch) changes its ports from STP learning and listening states to the forwarding state. Enter a value between 4 and 30, default value is 15.
- Force Version – normal: use RSTP; compatible: compatible with old STP protocol

### **Port Configuration**

- Aggregations – Enable/disable the RSTP protocol on aggregation links.
- Protocol Enabled – Enable/disable the RSTP protocol per port basis.
- Edge – Enable/disable a port to be an edge port (connect to an end station).
- Path Cost – A value on a port that switch uses to determine which port will be the forwarding port, if there are more than one path to the root bridge. The port with lowest path cost will be the forwarding port. The value can be set from 1 to 200000000 or “auto” to be automatically generated.

## 2.1.11 IGMP

This switch provides IGMP snooping feature to detect IGMP queries and report packets. This feature can limit the forwarding of multicast frames to certain ports that are members of multicast group. Only IPv4 IGMP frames are recognized for this system.

### IGMP Configuration

IGMP Enabled	<input type="checkbox"/>
Router Ports	1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/>
Unregistered IPMC Flooding enabled	<input checked="" type="checkbox"/>

VLAN ID	IGMP Snooping Enabled	IGMP Querying Enabled
1	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

The following parameters are provided for configuring IGMP snooping for this system:

- IGMP Enabled – enable/disable IGMP snooping function globally.
- Router Ports – specify administrative router ports for IGMP frames.
- Unregistered IPMC Flooding Enabled – set forwarding option of unregistered (not joined) IP multicast traffic. Enabled: flood frames; Disabled: forward frames to router ports only.

Two options can be set for each existing VLAN group:

- IGMP Snooping Enabled – enable/disable snooping IGMP frames on this VLAN.
- IGMP Querying Enabled – enable/disable sending IGMP querying frames on this VLAN.

## 2.1.12 802.1x

Before you enable the 802.1x function, contact the administrator of RADIUS server to get IP address, UDP port number and secret.

### 802.1X Configuration

<b>Mode</b>	Disabled ▾
<b>RADIUS IP</b>	0.0.0.0
<b>RADIUS UDP Port</b>	1812
<b>RADIUS Secret</b>	

Port	Admin Mode	Port State	Action		
1	Force Authorized ▾	802.1X Disabled	<a href="#">Re-authenticate</a>	<a href="#">Force Reinitialize</a>	<a href="#">Statistics</a>
2	Force Authorized ▾	802.1X Disabled	<a href="#">Re-authenticate</a>	<a href="#">Force Reinitialize</a>	<a href="#">Statistics</a>
3	Force Authorized ▾	802.1X Disabled	<a href="#">Re-authenticate</a>	<a href="#">Force Reinitialize</a>	<a href="#">Statistics</a>
4	Force Authorized ▾	802.1X Disabled	<a href="#">Re-authenticate</a>	<a href="#">Force Reinitialize</a>	<a href="#">Statistics</a>
5	Force Authorized ▾	802.1X Disabled	<a href="#">Re-authenticate</a>	<a href="#">Force Reinitialize</a>	<a href="#">Statistics</a>
6	Force Authorized ▾	802.1X Disabled	<a href="#">Re-authenticate</a>	<a href="#">Force Reinitialize</a>	<a href="#">Statistics</a>
7	Force Authorized ▾	802.1X Disabled	<a href="#">Re-authenticate</a>	<a href="#">Force Reinitialize</a>	<a href="#">Statistics</a>
8	Force Authorized ▾	802.1X Disabled	<a href="#">Re-authenticate</a>	<a href="#">Force Reinitialize</a>	<a href="#">Statistics</a>
			<a href="#">Re-authenticate All</a>	<a href="#">Force Reinitialize All</a>	

Parameters

Apply

Refresh

## 2.1.13 PoE status and command operation

PoE status definitions:

**Non-PD:** The connected device is an Ethernet device but not a PD device.

**No Load:** No device has been connected to this port.

**Loaded:** A PD device was connected, and class level and allocated power would be displayed.

**PD Error:** Current was overloaded (exceed 350 mA), and this port had been disabled automatically.

**Dedicated class:** Display the class level of PD device.

**Allocated power:** Maximum allocated power.

### PoE Port Configuration

Port	PSE Power	Detected Class	Allocated Power	PoE Status
1	Enable ▾	N/A	0 W	No Load
2	Enable ▾	N/A	0 W	No Load
3	Enable ▾	N/A	0 W	No Load
4	Enable ▾	N/A	0 W	No Load
5	Enable ▾	N/A	0 W	No Load
6	Enable ▾	N/A	0 W	No Load
7	Enable ▾	N/A	0 W	No Load
8	Enable ▾	N/A	0 W	Non-PD

System Max. Supplied Power (A)	120 Watt
Total Allocated Power (B)	0 Watt
Power Balance (C = A - B)	120 Watt

Apply Refresh

### IEEE 802.3af Class - Power Table

IEEE 802.3af Class	0	1	2	3	4
PSE Output Power	15W	4W	7W	15W	Reserved

## 2.2 Monitoring

### 2.2.1. Port Statistics

Select “Port Statistics” to display overview information of all ports.

#### Statistics Overview for all ports

Port	Tx Bytes	Tx Frames	Rx Bytes	Rx Frames	Tx Errors	Rx Errors
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	0	0	0	0	0	0
8	298252	408	74046	620	0	0

### 2.2.2 Detailed Port Statistic

To display statistics of an individual port, select “Detailed Port Statistics” and click on the links for each port.

#### Statistics for Port 1

[Port 1](#)
[Port 2](#)
[Port 3](#)
[Port 4](#)
[Port 5](#)
[Port 6](#)
[Port 7](#)
[Port 8](#)

Receive Total		Transmit Total	
Rx Packets	0	Tx Packets	0
Rx Octets	0	Tx Octets	0
Rx High Priority Packets	-	Tx High Priority Packets	-
Rx Low Priority Packets	-	Tx Low Priority Packets	-
Rx Broadcast	-	Tx Broadcast	-
Rx Multicast	-	Tx Multicast	-
Rx Broad- and Multicast	0	Tx Broad- and Multicast	0
Rx Error Packets	0	Tx Error Packets	0
Receive Size Counters		Transmit Size Counters	
Rx 64 Bytes	-	Tx 64 Bytes	-
Rx 65-127 Bytes	-	Tx 65-127 Bytes	-
Rx 128-255 Bytes	-	Tx 128-255 Bytes	-
Rx 256-511 Bytes	-	Tx 256-511 Bytes	-
Rx 512-1023 Bytes	-	Tx 512-1023 Bytes	-
Rx 1024- Bytes	-	Tx 1024- Bytes	-
Receive Error Counters		Transmit Error Counters	
Rx CRC/Alignment	-	Tx Collisions	-
Rx Undersize	-	Tx Drops	-
Rx Oversize	-	Tx Overflow	-
Rx Fragments	-		
Rx Jabber	-		
Rx Drops	-		



## 2.2.3 LACP Status

Select "LACP Status" to display information about LACP.

### LACP Status

LACP Aggregation Overview							
Group/Port	1	2	3	4	5	6	7 8
State							

#### Legend

0	Down	Port link down
0	Blocked	Port Blocked by RSTP. Number is Partner port number if other switch has LACP enabled
0	Learning	Port Learning by RSTP
0	Forwarding	Port link up and forwarding frames
0	Forwarding	Port link up and forwarding by RSTP. Number is Partner port number if other switch has LACP enabled

Refresh

LACP Port Status			
Port	Protocol Active	Partner Port Number	Operational Port Key
1	no		
2	no		
3	no		
4	no		

## 2.2.4 RSTP Status

Select "RSTP Status" to display information about RSTP.

### RSTP Status

RSTP VLAN Bridge Overview						
VLAN Id	Bridge Id	Hello Time	Max Age	Fwd Delay	Topology	Root Id
1	32769:00-0a-17-02-1a-23	2	20	15	Steady	This switch is Root!

Refresh

RSTP Port Status						
Port/Group	Vlan Id	Path Cost	Edge Port	P2p Port	Protocol	Port State
Port 1						Non-STP
Port 2						Non-STP
Port 3						Non-STP
Port 4						Non-STP
Port 5						Non-STP
Port 6						Non-STP
Port 7						Non-STP
Port 8						Non-STP

## 2.2.5 IGMP Status

Select "IGMP Status" to display information about IGMP.

### IGMP Status

VLAN ID	Querier	Queries transmitted	Queries received	v1 Reports	v2 Reports	v3 Reports	v2 Leaves
1	Idle	0	0	0	0	0	0

Refresh

## 2.2.6 Ping

Use this tool to test reach ability to a remote host.

### Ping Function

Ping parameters	
Target IP address	<input type="text"/>
Count	1 ▼
Time Out (in secs)	1 ▼

Apply

Ping Results	
Target IP address	0.0.0.0
Status	Test complete
Received replies	0
Request timeouts	0
Average Response Time (in ms)	0

Refresh

## 2.3 Maintenance

### 2.3.1 Warm Reboot

Reboot system remotely, without changing current configuration.

#### Warm Reboot

Are you sure you want to perform a warm reboot?

### 2.3.2 Factory Default

Reset system configuration to default value, all of modified configuration will be lost.

#### Factory Default

Are you sure to reset configurations to factory default?

### 2.3.3 Firmware Update

Click “Browse...” to select firmware residing in your desktop or other network device, then press “Upload” to upgrade system firmware.

#### Software Upload

## 2.3.4 Config File

Click “Backup” and select a device path to store configuration file. The default file name is “switch.cfg”.

### Configuration File Backup/Restore

#### Configuration File Backup

Backup

Click “Browse...” to select configuration file residing in your desktop or other network device, then press “Restore” to overwrite system configuration.

#### Configuration File Restore

Browse...

Restore

## 3.0 Terminal Mode management

Terminal mode is easy to operate; it is useful when in-band Ethernet communication was malfunction.

No password is needed in terminal mode operation. Set up the terminal parameters, such as “Hyper Terminal” in Microsoft Windows System before you start the terminal mode connection.

1. Select COM #: COM 1, COM 2 ...
2. Set “Baud rate” to 115,200 per second
3. Set “Attributes” to 8, None, 1, None (8 bit, No parity, 1 stop bit, No flow control).

After you login into this system, the basic operation rules are shown below.

Type “?” and press “Enter” to display usable commands, type “up” or “/” to go back previous level of commands.

```
>?
```

```
Commands at top level:
```

```
System      - System commands
Console     - Console commands
Port        - Port commands
MAC         - MAC commands
VLAN        - 802.1q (Tag-based) VLAN commands
Aggr        - Aggregation commands
LACP        - IEEE 802.3ad Link Aggregation commands
RSTP        - IEEE 802.1w Rapid Spanning Tree commands
User Group  - User Group (Port-based VLAN) commands
QoS         - QoS commands
Mirror      - Mirror commands
IP          - IP commands
Dot1x       - Dot1x commands
IGMP        - IGMP Snooping commands
Debug       - Debug commands
>
```

```
System commands:
```

```
System>?
```

```
Commands at System level:
```

```
System Configuration [all]
System Restore Default [keep IP]
System Name [<name>]
System Reboot
System Xmodem
System SNMP [enable|disable]
System Trap [<IP Address>]
System Read community [<community string>]
System Write community [<community string>]
System Trap community [<community string>]
```

Further more, type command to get more information, such as the following.

```
System>configuration
System Configuration:
  Name:
  S/W Version: 1.1
  CVS Tag: sw_8051_2_29e
  Compile Date: Dec 18 2006 12:26:43
  H/W Version: 1.0
  MAC address: 00-0a-17-02-10-06
  SNMP: enabled
  Trap IP: 0.0.0.0
  Read community: public
  Write community: private
  Trap community: public
```

All other commands are operated likewise.

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