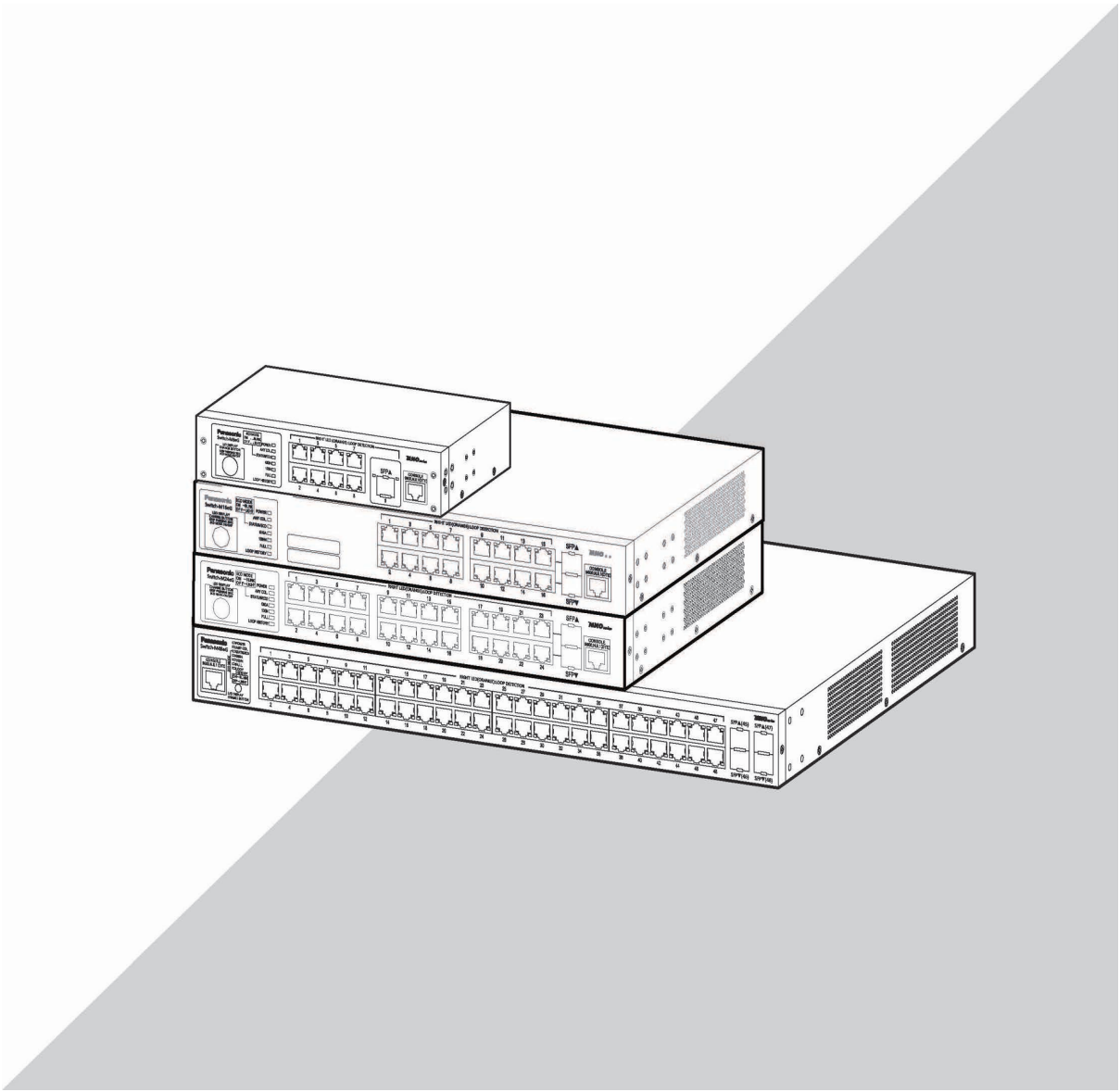
Panasonic®

Operation Manual
for Web Interface

Layer 2 Switching Hub

Model No. PN28080K/PN28160K/
PN28240K/PN28480K



The target model for this Operation Manual is as follows.

Model name	Model number	Firmware version
Switch-M8eG	PN28080K-ID PN28080K-TH PN28080K-MY PN28080K-SG	2.0.1.07 or later
Switch-M16eG	PN28160K-ID PN28160K-TH PN28160K-MY PN28160K-SG	2.0.1.07 or later
Switch-M24eG	PN28240K-ID PN28240K-TH PN28240K-MY PN28240K-SG	2.0.1.07 or later
Switch-M48eG	PN28480K-ID PN28480K-TH PN28480K-MY PN28480K-SG	2.0.1.06 or later

Table of Contents

1. Product Outline

Thank you for purchasing Switch-M8eG/M16eG/M24eG/M48eG (hereinafter referred to as this switch) . This manual provides information required to use the Web control function of this switch.

2. Web Browser-based Control

The Web browser-based control function (hereinafter called the Web control function) allows you to easily perform administration tasks, such as configuration and monitoring, from a web browser, Microsoft Edge (Internet Explorer mode) .
The Web control function allows you to configure and monitor this switch over the network via the user interface of your Web browser. You can also control this switch from a remote location as if it is at your fingertips because statuses can be displayed.

2.1. System Requirements

You need to configure the network settings before using the Web control function of this switch.

1. Configuring the System IP Address
   Using the console, configure the IP address of this switch.
   Select "Basic Switch Configuration..." > "System IP Configuration" > "Set IP Address" to configure the IP address. Then, select "Set Subnet Mask" to configure the subnet mask. If required, select "Set Default Gateway" to configure the default gateway address.
2. Enabling the Web Control Function
   Enable the Web control function of this switch.
   From the main menu, select "Basic Switch Configuration..." > "System Security Configuration" > "Web Server Status" and the command prompt changes to "Enable or Disable web server (E/D) ." Enter "e" to enable the Web control function. "Disable" is the factory default setting.

The recommended web browser to access the terminal is
Microsoft Edge (Internet Explorer mode) .
Also, the terminal needs to directly connect to a network or this switch.

Note: The active window may not be correctly displayed if you use a proxy. Direct access without a proxy is recommended.

2.2. Access to Web Control Function

To use the Web control function, enter the IP address of this switch in the address bar of your Web browser and press the Enter key. Then, a login screen, similar to Figure 2-1, is displayed. Enter your user name and password.
The factory default user name is "manager" and password is "manager."

Figure 2-1 Login Screen

Note: If the login screen is not displayed, check the following:
(1) Are the IP address, subnet mask and default gateway of this switch properly configured?
(2) Is the IP address of this switch entered on the Web browser?
(3) Is the Web control function enabled?
(4) Is the IP address of the terminal to be accessed equal to the network address of this switch?

When the above information has been authenticated properly, the screen shown in Figure 2-2 will appear for selecting a display language.
Select the type of the language in which you want to show menus, and press "OK."

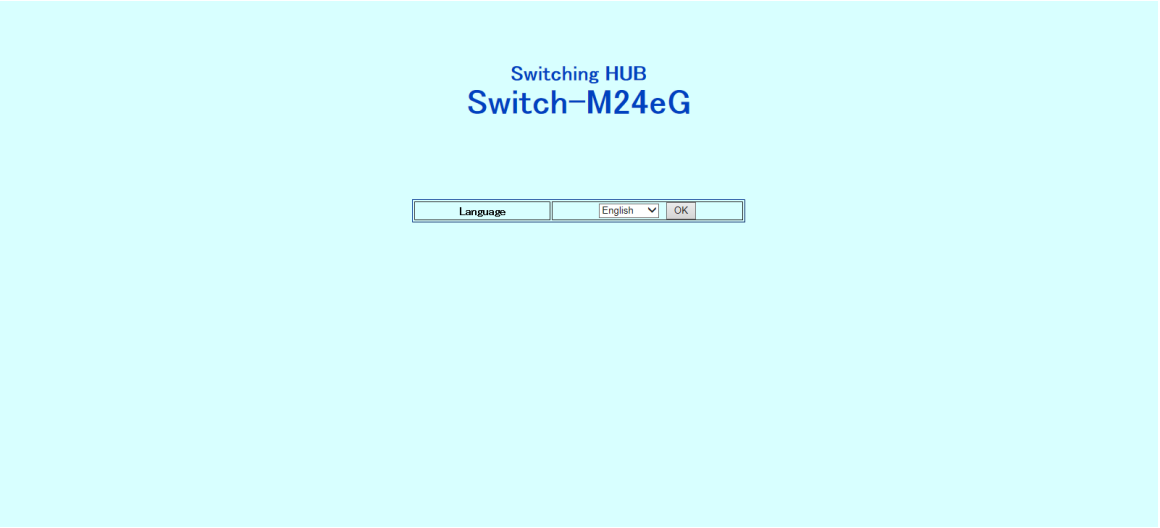


Figure 2-2 Select Screen for Display Language

Select a language, and the screen shown in **Figure 2-3** will appear.

Figure 2-3 Main Screen

The left side of the main screen shows a list of actions available to you on this screen.

(1) General Info
Displays a list of basic information of this switch.

(2) Basic Config
Configure the basic settings such as IP address and port settings.

(3) Advanced Config
Configure the advanced settings such as VLAN, QoS, and IGMP snooping.

(4) System Tools
Use these management tools to update the firmware and browse system logs.

To conduct operation management, it is recommended to conduct the "Basic Config" first, before configuring other advanced settings.

2.3. Displaying Basic Information

Selecting "General Info" opens the screen shown in Figure 2-4. This screen shows a list of basic information of this switch.

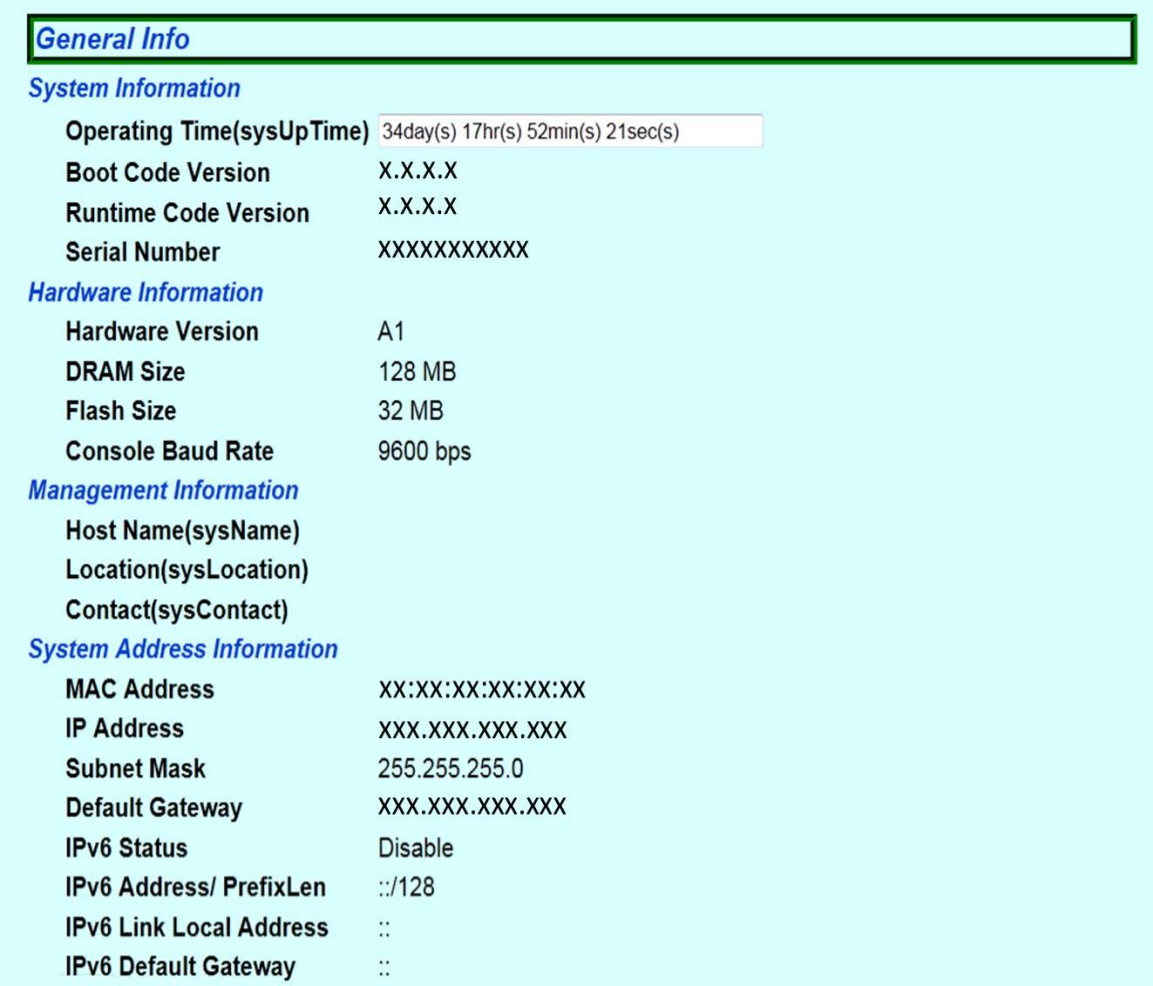


Figure 2-4 General Info

Screen Description

System Information	Displays the operating time and firmware version of this switch.	
	Operating Time	Displays the cumulative time since the power on of this switch.
	Boot Code Version	Displays this switch's firmware version. * The firmware update described in Section 3.3.1 is available only for runtime codes.
	Runtime Code Version	
	Serial Number	Displays the switch's se rial number.
Hardware	Displays the hardware information.	
	Hardware Version	Displays the hardware version.
	DRAM Size	Displays the size of the installed DRAM.
	Flash Size	Displays the size of the installed Flash memory.
	Console Baud Rate	Displays the baud rate of the console.
	System Fan Status	Displays the operation status of the installed fan. Displays "Good" when the fan is operating normally and "Fail" when it fails or stops.
	System Temperature	Displays the internal temperate of the switch. The temperature sensors measure the temperatures of the CPU and system.
Management	Configure the items shown here in accordance with "Administration Configration" in Section 3.1.1.	
	Host Name	Displays the switch name. The factory default setting is blank. For configuration details, refer to Section 3.1.1.
	Location	Displays the switch's location. The factory default setting is blank. For configuration details, refer to Section 3.1.1.
	Contact	Displays the contact information. The factory default setting is blank. For configuration details, refer to Section 3.1.1.
System Address	Configure the items shown here in accordance with "IP Config" in Section 3.1.2.	
	MAC Address	Displays the MAC address of this switch. This value is uniquely assigned to each device and cannot be changed.
	IP Address	Displays the switch's current IP address. "0.0.0.0" is the factory default setting. For configuration details, refer to Section 3.1.2.
	Subnet Mask	Displays the switch's current subnet mask. "0.0.0.0" is the factory default setting. For configuration details, refer to Section 3.1.2.
	Default Gateway	Displays the IP address of the router for the default gateway. "0.0.0.0" is the factory default setting. For configuration details, refer to Section 3.1.2.
	★ IPv6 アクセス	Displays whether the IPv6 address is enabled or disabled.
	★IPv6アドレス／プレフィックス長	Displays the current IPv6 address and prefix length of this switch. "::/128" is the factory default setting. For configuration details, refer to Section 3.1.2.
	★ IPv6 リンク★ローカルアドレス	Displays the current IPv6 link local address of this switch. "::" is the factory default setting. For configuration details, refer to Section 3.1.2.
	★IPv6デフォルトゲートウェイ	Displays the IPv6 address of the router for the default gateway. "::" is the factory default setting. For configuration details, refer to Section 3.1.2.

3. Switch Configuration

After completing configuration, you must save the configuration information in accordance with Section 3.3.3. Unless the configuration information is saved, the settings configured so far will not be reflected after restart.

3.1. Basic Config

3.1.1. Administration Configration

Select "Basic Config" and "Administration Config" to open the screen shown in **Figure 3-1**. Select this screen to display this switch's information. On this screen, you can configure the administrative information, such as device name.

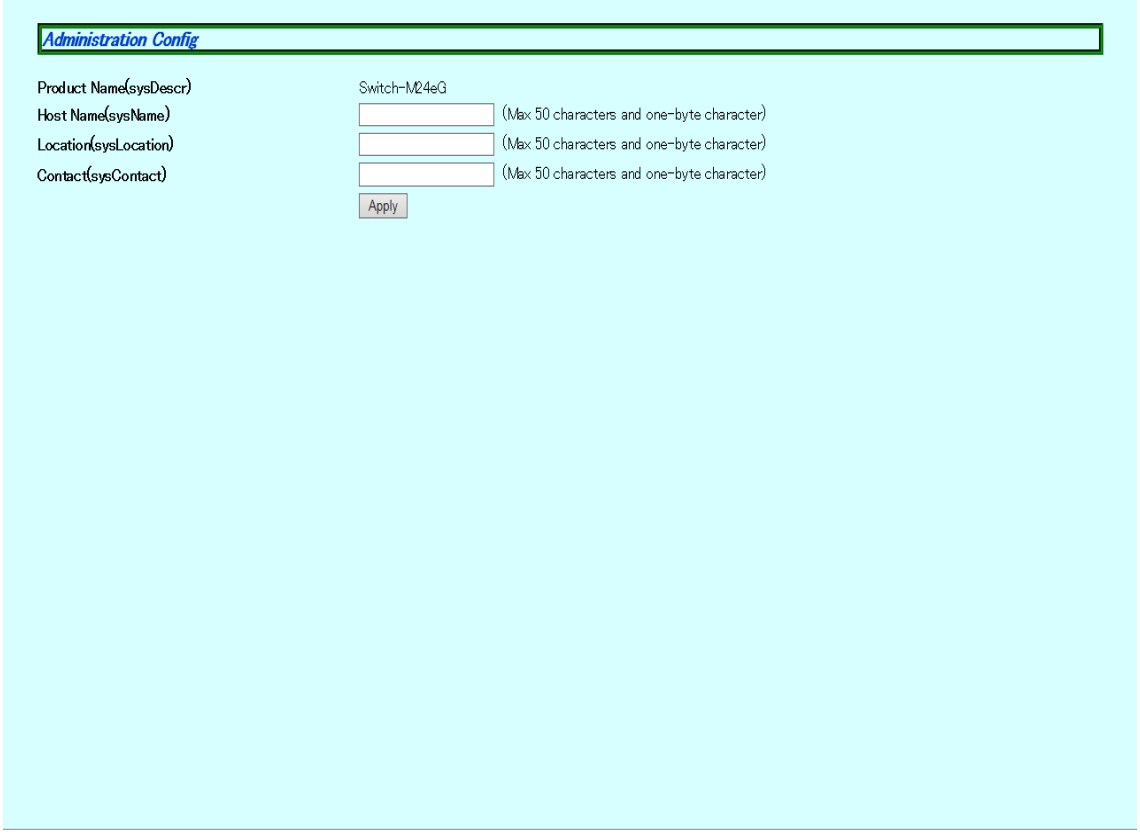


Figure 3-1 Administration Configration

Screen Description

Products Name	Displays the system information. This item is not editable.
Host Name	Displays the system name. The factory default setting is blank.
Location	Displays the device installation location. The factory default setting is blank.
Contact	Displays the contact information. The factory default setting is blank.

3.1.2. IP Config

Select "Basic Config" and "IP Config" to open the screen shown in **Figure 3-2**. On this screen, you can configure the IP address of this switch.

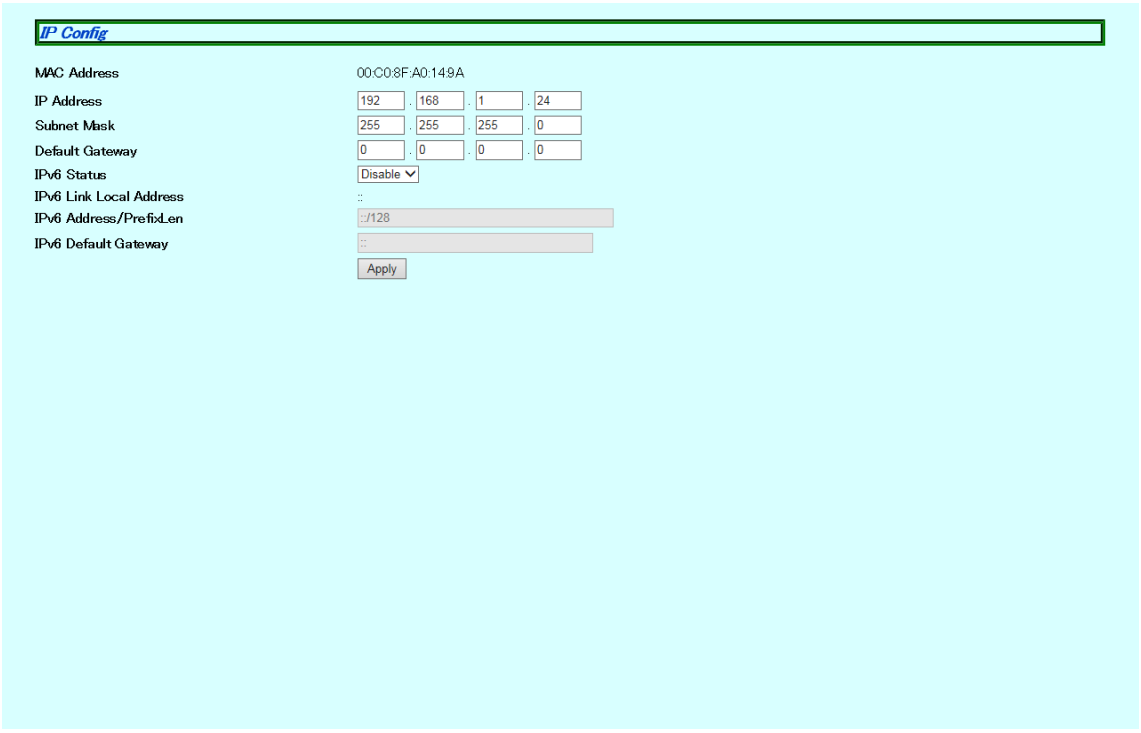


Figure 3-2 IP Config

Screen Description

MAC Address	Displays the MAC address of this switch. This item is uniquely assigned to each device and cannot be changed.	
IP Address	Displays the current IP address. "0.0.0.0" is the factory default setting.	
Subnet Mask	Displays the current subnet mask. "0.0.0.0" is the factory default setting.	
Default Gateway	Displays the IP address of the router, set as a current default gateway. "0.0.0.0" is the factory default setting.	
IPv6 Status	Displays whether access via IPv6 is enabled or disabled.	
	Enable	Enables access via IPv6.
	Disable	Disables access via IPv6 (factory default setting) .
IPv6 Link Local Address	Displays the current IPv6 link local address. "::" is the factory default setting.	
IPv6 Address /Prefix Length	Displays the current IPv6 address and prefix length. "::/128" is the factory default setting.	
IPv6 Default Gateway	Displays the IPv6 address of the router, set as a current default gateway. "::" is the factory default setting.	

Note: Unless you configure these settings, you cannot use the SNMP management functions and remotely connect to the switch via Telnet or SSH. Be sure to configure them. If you are unsure, consult the network administrator. All IP addresses on the local network must be unique, and no duplications are allowed. In addition, you need to set the subnet mask and the default gateway, which are the same for other devices on the same subnet using this switch.

3.1.3. SNMP Config

Select "Basic Config" and "SNMP" and then "SNMPConfig" to open the screen shown in **Figure 3-3**. On this screen, you can configure the SNMP manager settings.

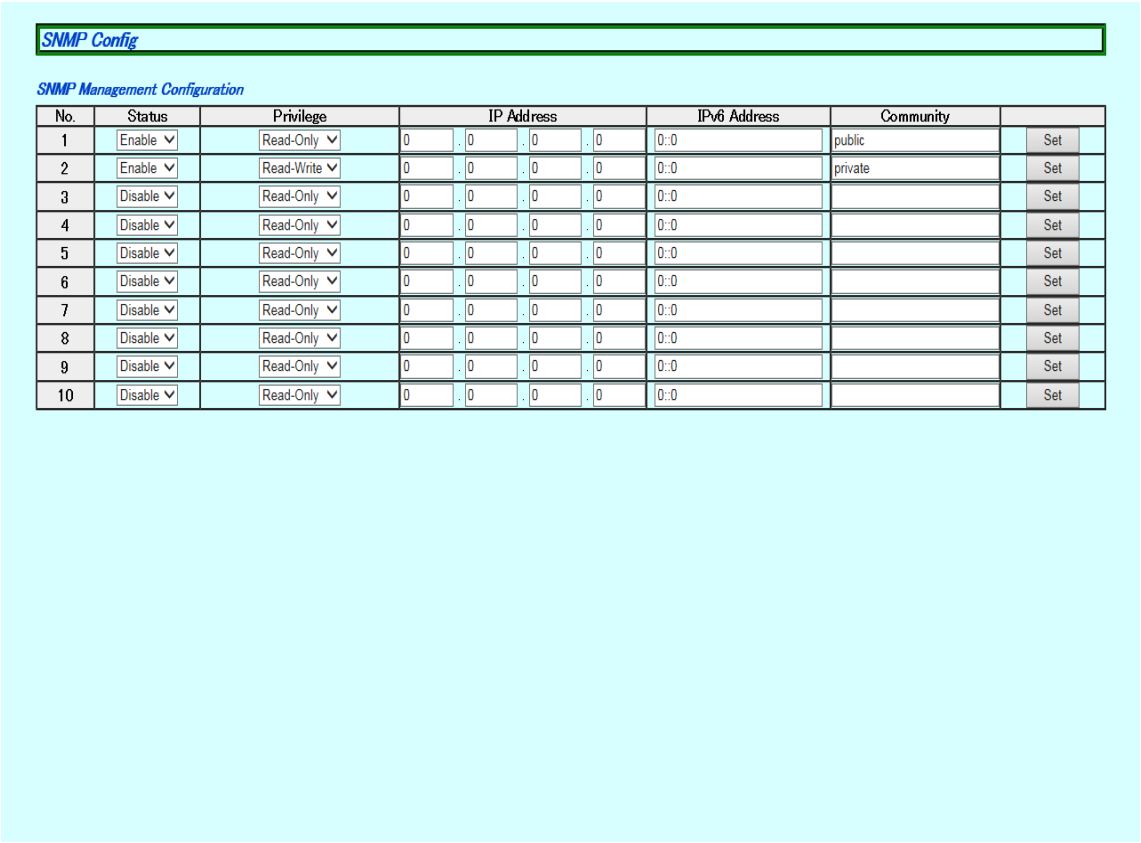


Figure 3-3 snMP Config

Screen Description

No.	Displays the entry number on the SNMP manager List.	
Status	Displays the SNMP manager status.	
	Enable	The SNMP manager is enabled.
	Disable	The SNMP manager is disabled.
Privilege	Displays the access privilege of the SNMP manager.	
	Read-Write	Both the read and write operations are allowed.
	Read-Only	Only the read operation is allowed.
IP Address	This is the IP address for an SNMP manager.	
Community	This is the community name used for SNMP access.	

3.1.4. SNMP Extend User Configuration

Select "Basic Config," "SNMP," and then "SNMP Extend User Config" to open the screen shown in **Figure 3-4**. On this screen, you can configure the SNMP manager settings.

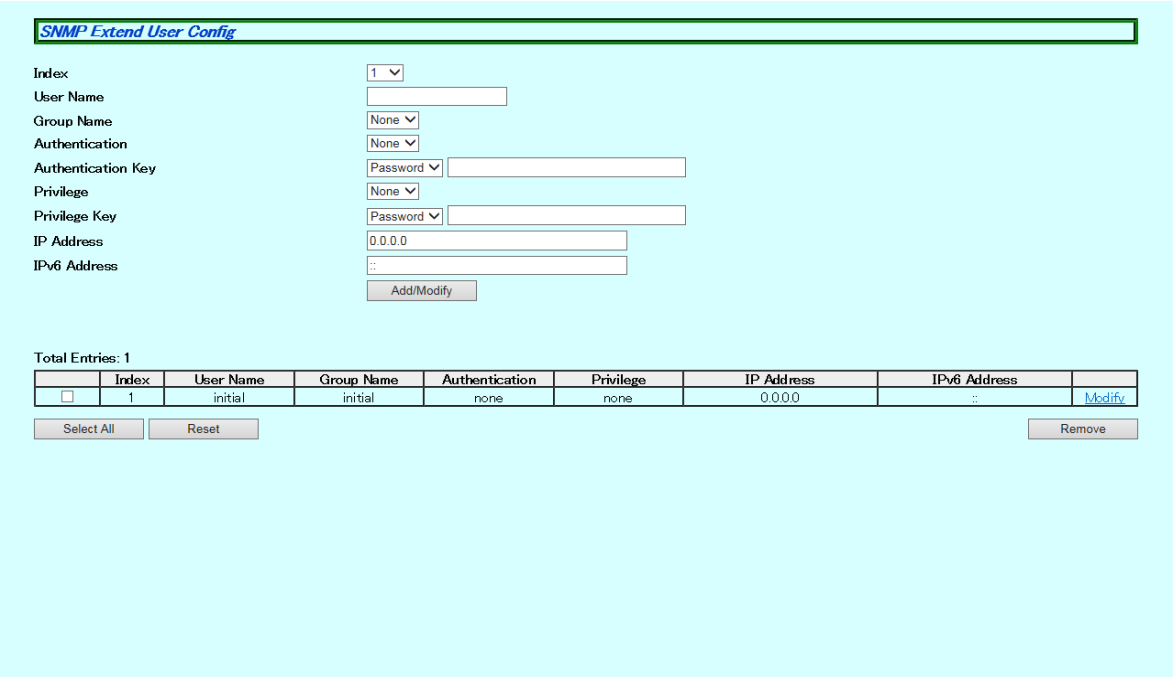


Figure 3-4 SNMP Extend User Config

Screen Description

Total Entry	Displays the number of created SNMP users (number of indexes) .
Index	This is the entry number of the SNMP user.
User Name	Displays the name of the SNMP user.
Group Name	Displays the name of the SNMP group.
Authentication	Displays the authentication method. The following options are used: "none," "MD5," and "SHA."
Authentication Key	Sets an authentication key. Specify "Password" or "Key," and enter a password or key.
Privilege	Displays the encryption system. The options "none" and "DES" are used.
Privilege Key	Sets a privilege key. Specify "Password" or "Key," and enter a password or key.
IP Address	Displays the IPv4 address accessible via SNMP.
IPv6 Address	Displays the IPv6 address accessible via SNMP.

3.1.5. SNMP Extend View Config

Select "Basic Config," "SNMP," and then "SNMP Extend View Config" to open the screen shown in **Figure 3-5**. On this screen, you can configure the SNMP manager settings.

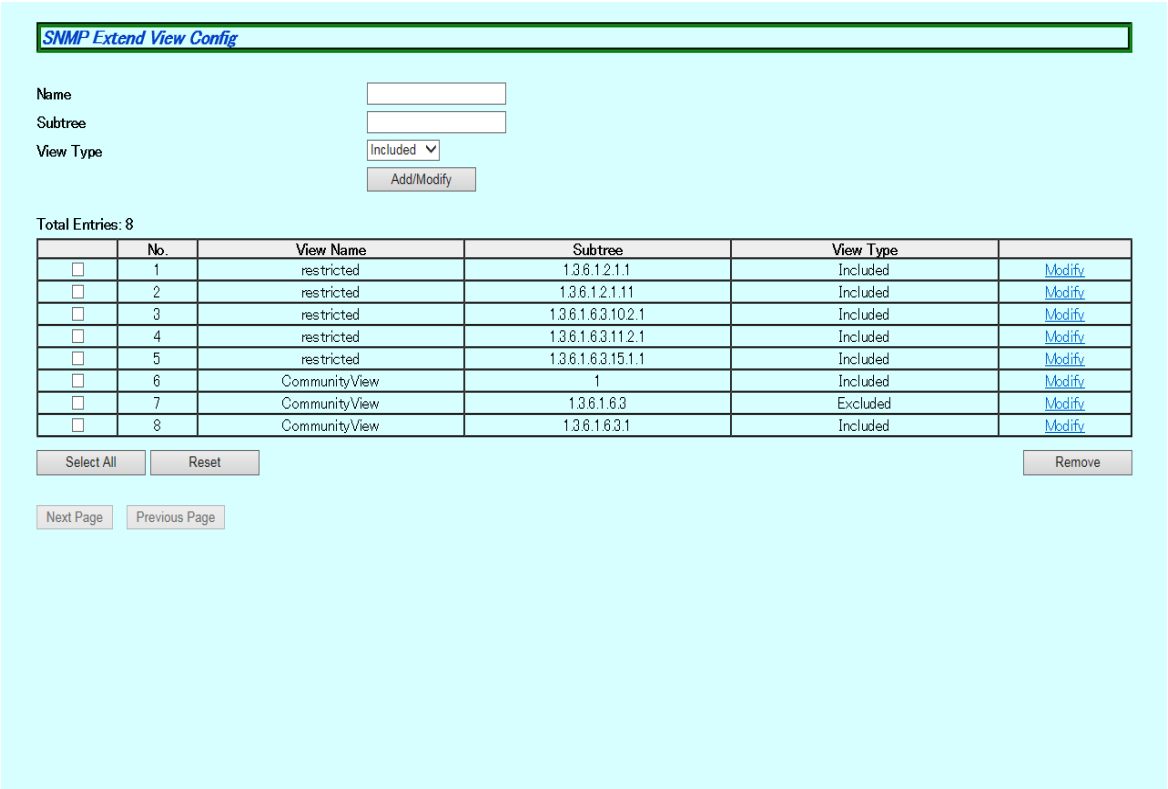


Figure 3-5 SNMP Extend View Config

Screen Description

Total Entry	Displays the number of created SNMP view entries.
No	This is the entry number of the SNMP view.
View Name	Displays the name of the SNMP view.
Subtree	Displays the subtree of the SNMP view.
View Type	Displays the type of the SNMP view. The options "Included" and "Excluded" are used.

3.1.6. SNMP Extend Group Config

Select "Basic Config," "SNMP," and then "SNMP Extend Group Config" to open the screen shown in **Figure 3-6**. On this screen, you can configure the SNMP manager settings.

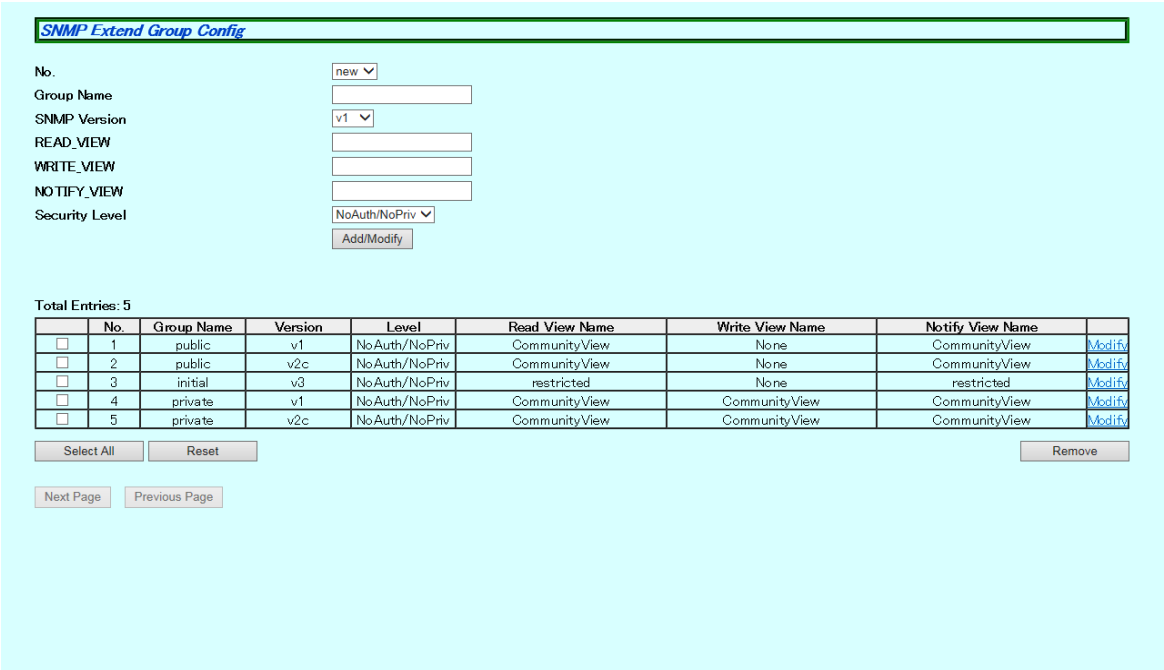


Figure 3-6 SNMP Extend Group Config

Screen Description

Total Entry	Displays the number of created SNMP group entries.
No	This is the entry number of the SNMP group.
Group Name	Displays the name of the SNMP group.
SNMP Version	Displays the version of the SNMP group. The following options are used: "v1," "v2c," and "v3."
READ_VIEW	Displays the name of the view to be read.
WRITE_VIEW	Displays the name of the view to be written.
NOTIFY_VIEW	Displays the name of the view to be notified.
Security Level	Displays the security level of the SNMP group. The following options are used: "NoAuth/NoPriv," "Auth/No Priv," and "Auth/Priv."

3.1.7. Basic Trap Configuration

Select "Basic Config" and "SNMP" and then "Basic Trap Configuration" to open the screen shown in **Figure 3-7**. On this screen, you can configure the SNMP Trap settings.

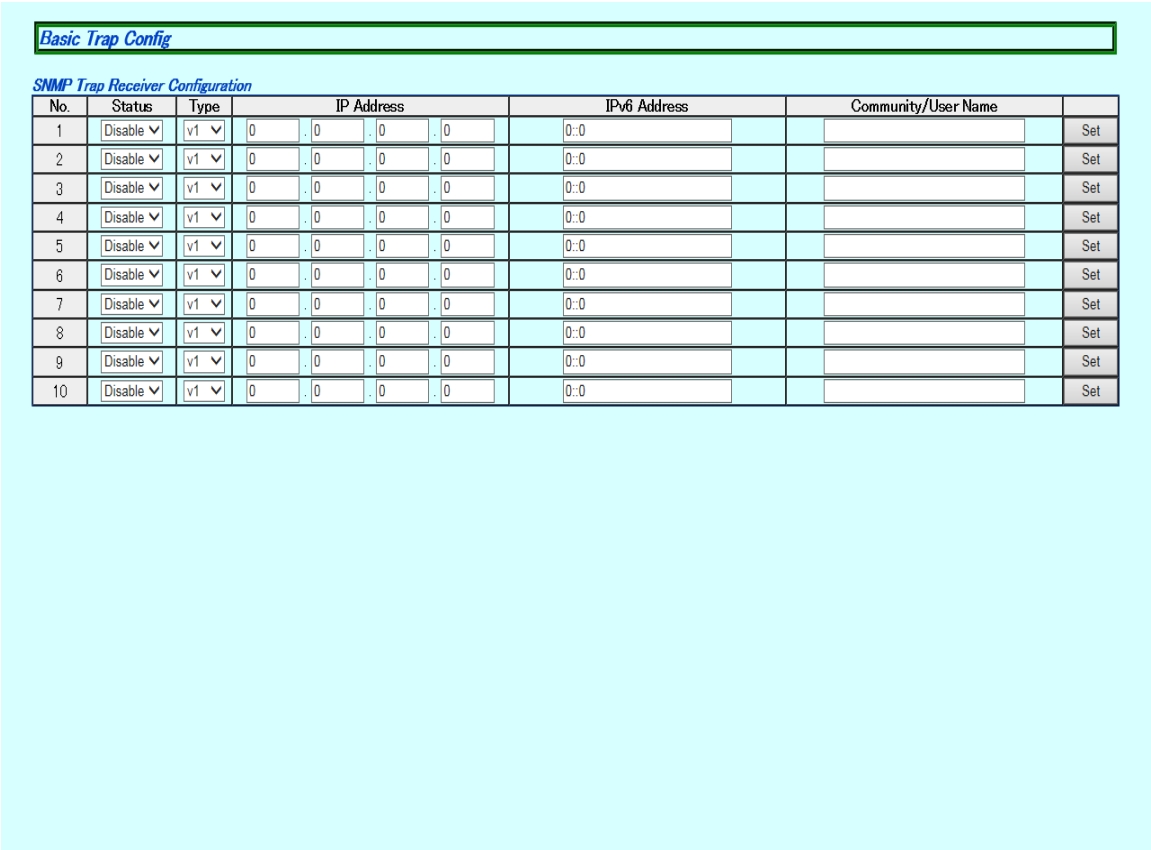


Figure 3-7 Basic Trap Configuration

Screen Description

No.	Displays the entry number for the trap receiver.	
Status	Displays the trap sending setting.	
	Enable	Sends traps.
	Disable	Does not send traps (factory default setting) .
Type	Displays the type of traps.	
	v1	Sends traps of SNMP v1 (factory default setting) .
	v2c	Sends traps of SNMP v2c.
	v2	Sends traps of SNMP v3.
IP Address	This is the IP address for the trap receiver.	
IPv6 Address	This is the IPv6 address for the trap receiver.	
Community	This is the community name used for trap sending.	

3.1.8. Advanced Trap Configuration

Select "Basic Config" and "SNMP" and then "Advanced Trap Configuration" to open the screen shown in Figure 3-8. On this screen, you can configure the operations for sending traps.

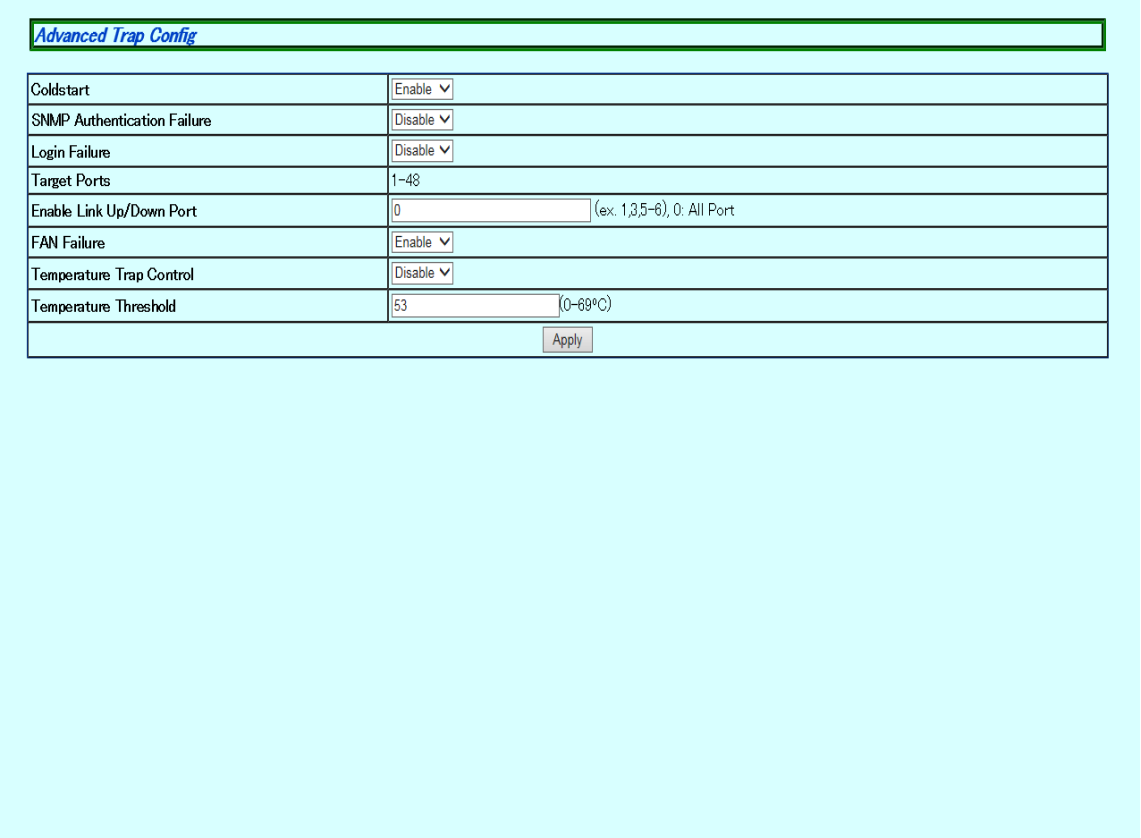


Figure 3-8 Advanced Trap Configuration

Screen Description

SNMPAuthentication Failuer	Displays the trap sending settings for an SNMP authentication failure.	
	Enable	Enables the trap sending.
	Disable	Disables the trap sending (factory default setting) .
Target Ports	Displays and configures a port to which the trap is sent when its link status changes.	
	Target Port Number	Displays a target port that has been configured.
	Enable Link UP/	Configures a port to which the trap is sent.
Temperature Trap	Displays whether the trap sending is enabled or disabled at an abnormal system temperature.	
	Enable	Enables the trap sending.
	Disable	Disables the trap sending (factory default setting) .
Temperature	Displays the threshold temperature value to send the trap.	
Fan Failure	Displays whether the trap sending is enabled or disabled for an abnormal system fan.	
	Enable	Enables the trap sending (factory default setting) .
	Disable	Disables the trap sending.

3.1.9. Basic Port Config

Select "Basic Config" and "Port Config" and then "Basic Port Configuration" to open the screen shown in **Figure 3-9**. On this screen, you can configure port status display settings and mode and other settings.

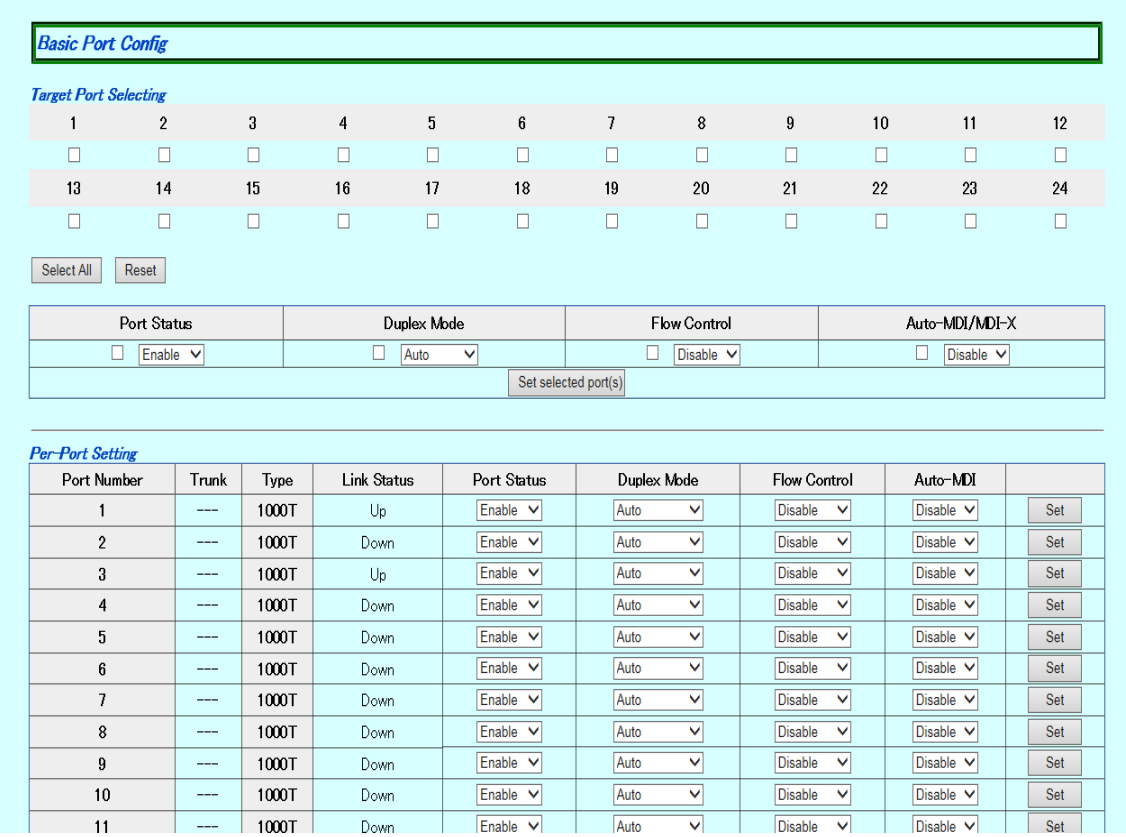


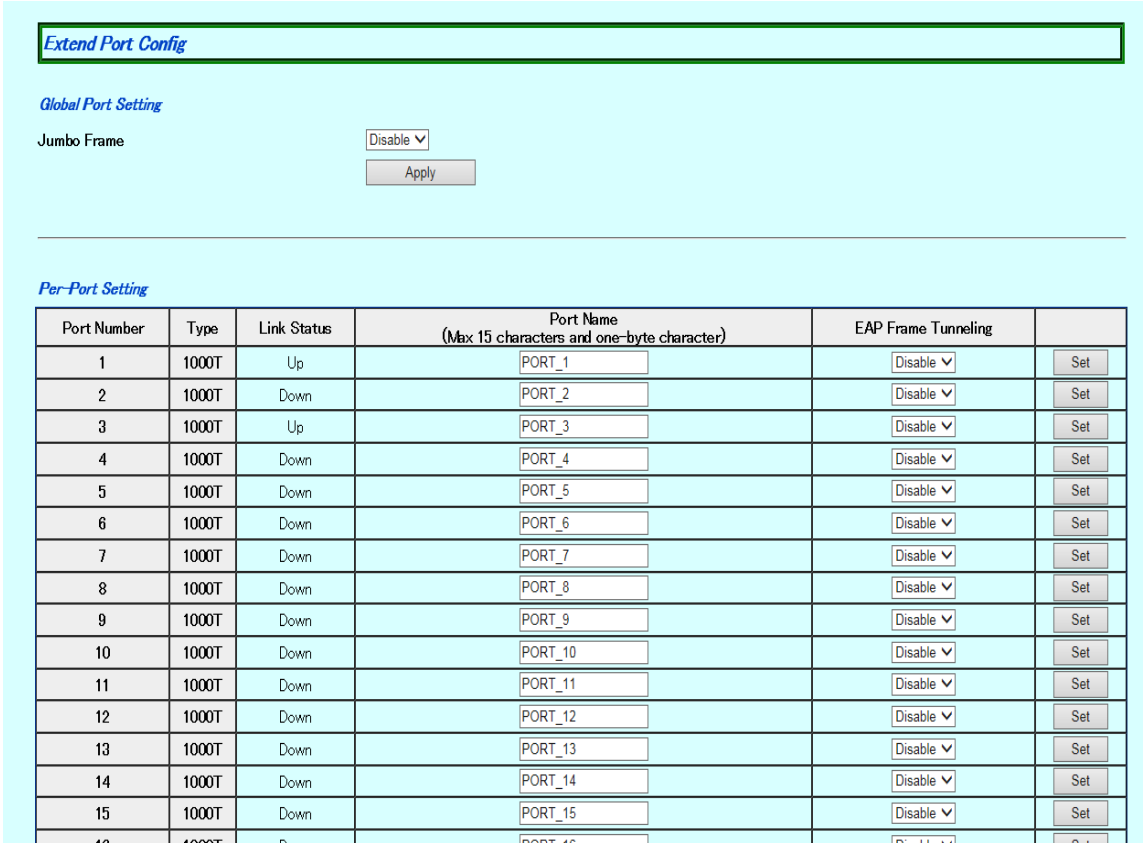
Figure 3-9 Basic Port Config

Screen Description

Target Port Selecting	Select multiple target ports for configuring settings at a time. Click the "Select All" button, and all ports will be selected. Click the "Reset" button, and all ports will be deselected. Click the "Set selected port (s) " button after selecting and changing the items for configuring settings at a time, and the same settings will apply to the selected ports.	
Port Number	Displays the port number.	
Trunk	Displays the group number for a trunked port.	
Type	Displays the port type.	
	1000T	The port type is 1000BASE-T.
	1000X	The port type is SFP port.
Port Status	Displays the current port status. For all ports, "Enable" is the factory default setting.	
	Enable	The port is available.
	Disable	The port is not available.
Link Status	Displays the current link status.	
	Up	A link has been established successfully.
	Down	A link has not been established.
Duplex Mode	Displays the communication speed and full-duplex/half-duplex settings. For all ports, "Auto" is the factory default setting.	
	Auto	Auto negotiation mode
	100M/Full	100 Mbps full-duplex
	100M/Half	100 Mbps half-duplex
	10M/Full	10 Mbps full-duplex
	10M/Half	10 Mbps half-duplex
Flow Control	Displays the flow control settings. For all ports, "Disable" is the factory default setting.	
	Enable	The flow control is enabled.
	Disable	The flow control is disabled.
Auto-MDI	Displays the Auto MDI/MDI-X function settings. The factory default setting is "Disable" for a downlink port and "Enable" for an uplink twisted pair port.	
	Enable	The Auto-MDI/MDI-X function is enabled.
	Disable	The Auto-MDI/MDI-X function is disabled.

3.1.10. Extend Port Config

Select "Basic Config" and "Port Config" and then "Extend Port Config" to open the screen shown in **Figure 3-10**. On this screen, you can configure port status display settings and mode and other settings.



Extend Port Config

Global Port Setting

Jumbo Frame: Disable | Apply

Per-Port Setting

Port Number	Type	Link Status	Port Name (Max 15 characters and one-byte character)	EAP Frame Tunneling	
1	1000T	Up	PORT_1	Disable	Set
2	1000T	Down	PORT_2	Disable	Set
3	1000T	Up	PORT_3	Disable	Set
4	1000T	Down	PORT_4	Disable	Set
5	1000T	Down	PORT_5	Disable	Set
6	1000T	Down	PORT_6	Disable	Set
7	1000T	Down	PORT_7	Disable	Set
8	1000T	Down	PORT_8	Disable	Set
9	1000T	Down	PORT_9	Disable	Set
10	1000T	Down	PORT_10	Disable	Set
11	1000T	Down	PORT_11	Disable	Set
12	1000T	Down	PORT_12	Disable	Set
13	1000T	Down	PORT_13	Disable	Set
14	1000T	Down	PORT_14	Disable	Set
15	1000T	Down	PORT_15	Disable	Set

Figure 3-10 Extend Port Config

Screen Description

Global Jumbo Status	Displays the jumbo frame settings.	
	Enable	The jumbo frame is enabled.
	Disable	The jumbo frame is disabled (factory default setting) .
Port Number	Displays the port number.	
Type	Displays the port type.	
	1000T	The port type is 1000BASE-T.
	1000X	The port type is SFP expansion port.
Link Status	Displays the current link status.	
	Up	A link has been established successfully.
	Down	A link has not been established.
Port Name	Displays the port name.	

Eap Frame Fowerd-ing	Displays the EAP Packet Forwarding function settings. The factory default setting is "Disable" for all ports. Setting this item to "Enable" forwards EAP frames used in IEEE802.1X authentication. Setting this item to "Disable" destroys EAP frames.	
	Enable	Indicates that the EAP frame forwarding function is enabled.
	Disable	Indicates that the EAP frame forwarding function is disabled.

3.1.11. Power Saving Port Configration

Select "Basic Config" and "Port Config" and then "Power Saving Port Config" to open the screen shown in **Figure 3-11**. On this screen, you can configure the power saving settings of ports.

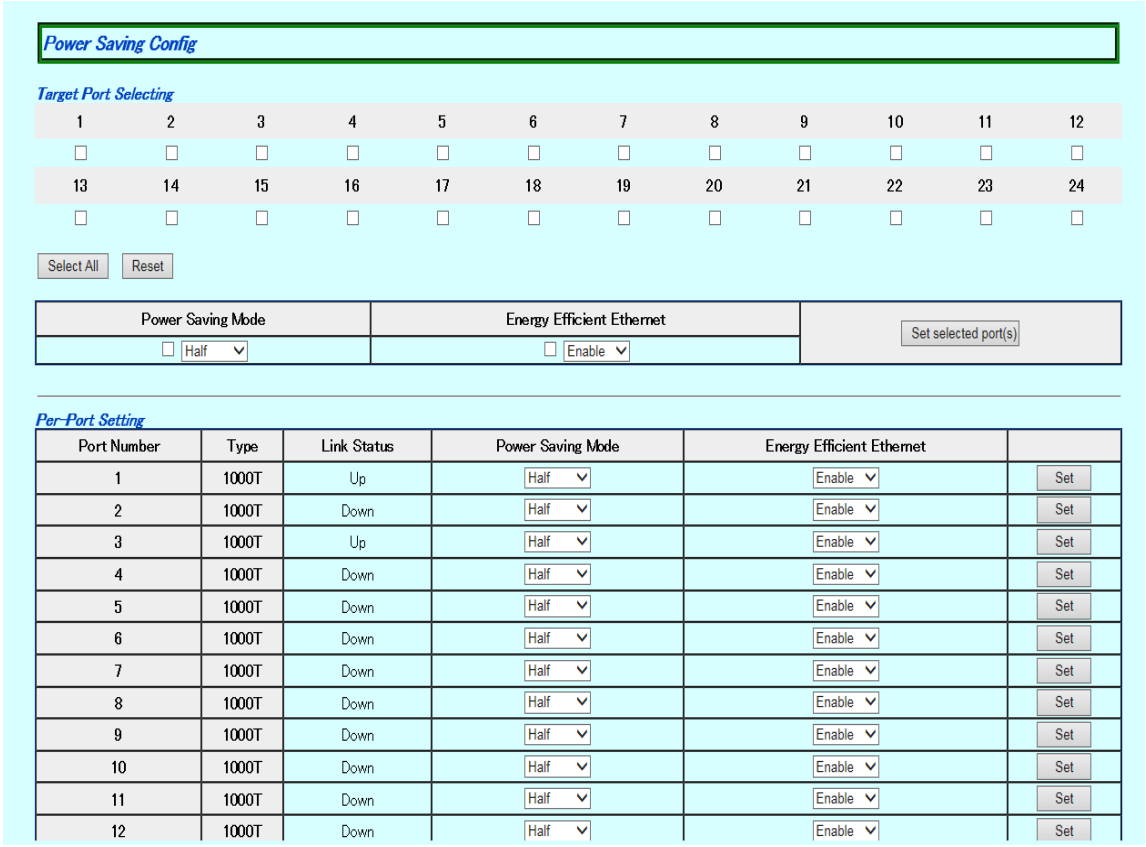


Figure 3-11 Power Saving Port Configration

Screen Description

Target Port Selecting	Select multiple target ports for configuring settings at a time. Click the "Select All" button, and all ports will be selected. Click the "Reset" button, and all ports will be deselected. Click the "Set selected port (s) " button after selecting and changing the items for configuring settings at a time, and the same settings will apply to the selected ports.	
Port Number	Displays the port number.	
Type	Displays the port type.	
	1000T	The port type is 1000BASE-T.
	1000X	The port type is SFP expansion port.
Link Status	Displays the current link status.	
	Up	A link has been established successfully.
	Down	A link has not been established.

Power Saving	Displays the power saving mode settings. For all ports, "Half" is the factory default setting.	
	Full	The MNO series power saving mode status is enabled (Full).
	Half	The MNO series power saving mode status is enabled (Half) .
	Disable	The MNO series power saving mode status is disabled.
Energy Efficient	Displays the EEE (Energy Efficient Ethernet) status. For all ports, "Disabled" is the factory default setting.	
	Enabled	The EEE is enabled.
	Disabled	The EEE is disabled.

3.1.12. System Security

Select "Basic Config" and System Security" and then "System Security" to open the screen shown in Figure 3-12. On this screen, you can configure the various settings for accessing this switch for configuration and management.

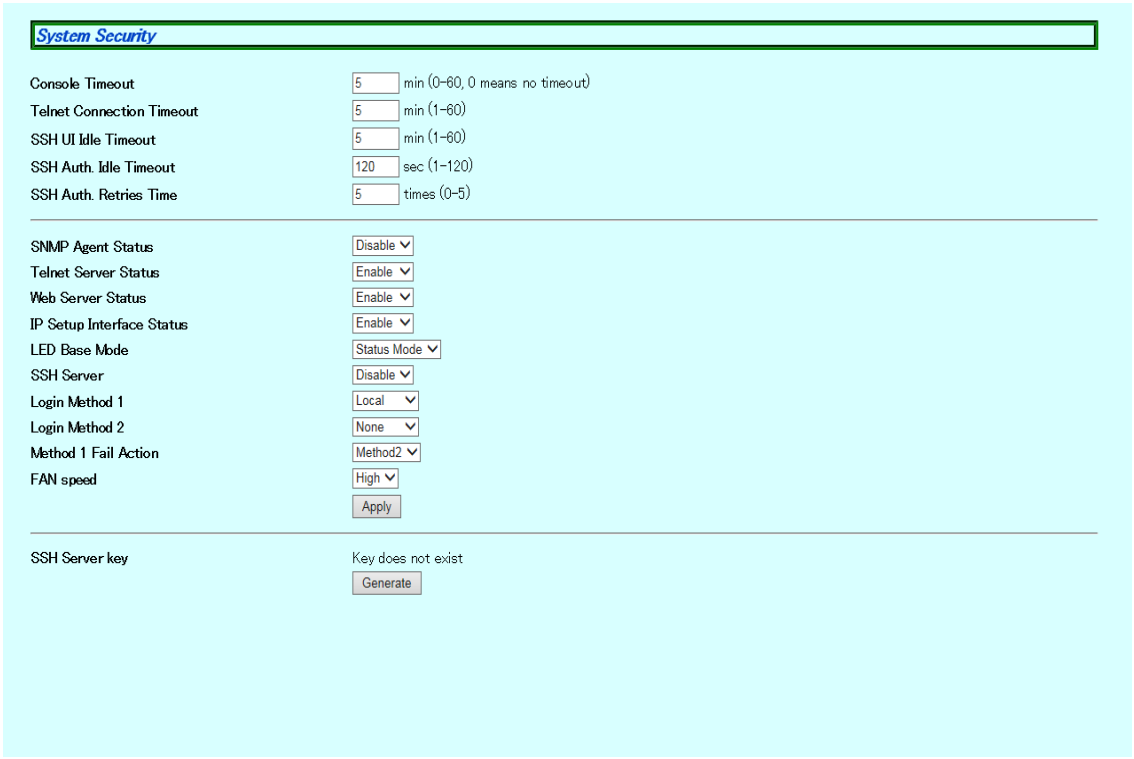


Figure 3-12 System Security

Screen Description

Console	Displays the idle timeout settings (in minutes) for terminating a console-connected session if no input is made. The factory default setting is 5 minutes.	
Telnet	Displays the idle timeout settings (in minutes) for terminating a Telnet-connected session if no input is made. The factory default setting is 5 minutes.	
SSH UI Idle	Displays the timeout settings (in seconds) terminating a SSH-connected session if no input is made. The factory default setting is 5 minutes.	
Idle	Displays the time to want for response to SSH authentication. The factory default setting is 120 seconds.	
Retries Time	Displays the number of times of retransmission of SSH authentication. The factory default setting is 5.	
SNMP Agent Status	Displays the SNMP access settings. "Disabled" is the factory default setting.	
	Enable	Access is enabled.
	Disable	Access is disabled.
Telnet Server Status	Displays the Telnet access settings. "Enable" is the factory default setting.	
	Enable	Access is enabled.
	Disable	Access is disabled.
Web Server Status	Displays the Web access settings. "Disable" is the factory default setting.	
	Enable	Access is enabled.
	Disable	Access is disabled.

IP Setup	Displays the access settings for the IP address configuration software. "Enable" is the factory default setting.* For instructions, refer to Appendix.B.	
	Enable	Access is enabled.
	Disable	Access is disabled.
LED Base Mode	Displays the current LED base mode. "Status Mode" is the factory default setting.	
	Status Mode	Operating in the Status mode.
	Eco Mode	Operating in the ECO mode.
SSH Server	Displays the SSH access settings. "Disable" is the factory default setting.	
	Enable	Access is enabled.
	Disable	Access is disabled.
Login Method 1/2	Displays how to check the username and password for login. The factory default setting is "Local" for 1 and "None" for 2.	
	Local	Login with the username and password set for this switch.
	RADIUS	Login with authentication from the RADIUS server.
	None	"Login Method 2" is not used.
SSH Server key	Displays the SSH server key status. Click the "Generate" button, and an SSH server key will be generated.	
	key exists	The server key exists.
	key does	The server key does not exist.

3.1.13. Syslog Transmission Configration

Select "Basic Config" and "System Security" and then "Syslog Transmission Configration" to open the screen shown in **Figure 3-13**. On this screen, you can configure the settings of the Syslog server to which a system log is sent.

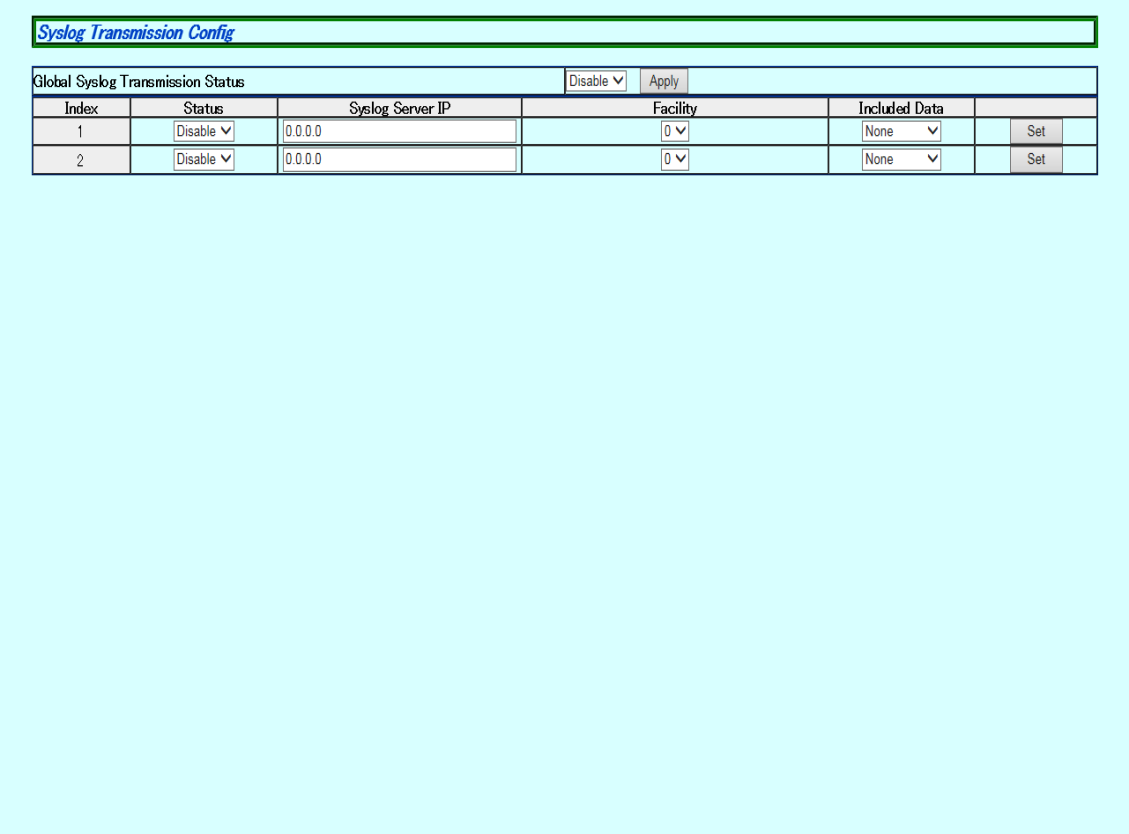


Figure 3-13 Syslog Transmission Configration

Screen Description

Global Syslog Transmission Status	Displays the settings for sending system logs to the Syslog server. "Disable" is the factory default setting.	
	Enable	Sends system logs to the Syslog server.
	Disable	Does not send system logs to the Syslog server.
Index	This is the entry number for the Syslog transmission configuration.	
Status	Displays the status of each entry. "Disable" is the factory default setting.	
	Enable	Setting of the entry is enabled.
	Disable	Setting of the entry is disabled.
Syslog Server IP	Displays the IP address of the Syslog server.	
Facility	Displays the Facility value.	
Included data	Displays information to be added.	
	SysName	Adds the SysName of this switch to the system log to be transmitted.
	IP address	Adds the IP address of this switch to the system log to be transmitted.

3.1.14. RADIUS Configuration

Select "Basic Config" and "System Security" and then "RADIUS Configuration" to open the screen shown in **Figure 3-14**. On this screen, you can configure the settings of the RADIUS server that is used in IEEE802.1X authentication.

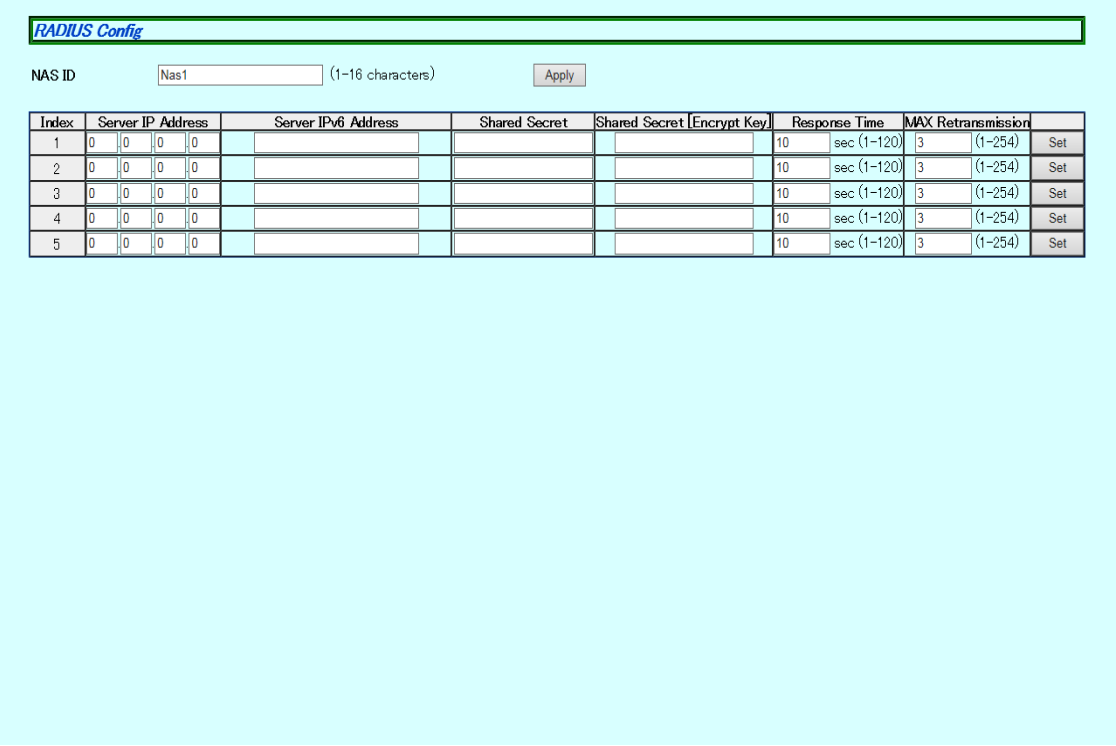


Figure 3-14 RADIUS Configuration

Screen Description

NAS ID	Displays the authentication ID (NAS Identifier) .
Index	This is the entry number for the RADIUS settings.
Server IP Address	Displays the IP address of the RADIUS server. "0.0.0.0" is the factory default setting.
Server IPv6 Address	Displays the IPv6 address of the RADIUS server. "::" is the factory default setting.
Shared Secret	Displays the common key (Shared Secret) that is used in authentication. The same key must be set in the server and the client. In general, the system manager sets this secret key. The factory default setting has no secret key. Displays "encrypted" if the key is encrypted.
Response Time	Displays the maximum response time for the authentication request to the RADIUS server. The factory default setting is 10 seconds.
Maximum Retransmission	Displays the number of times of retransmission for the authentication request to the RADIUS server. The factory default setting is 3.

3.1.15. Telnet Access Limit

Select "Basic Config" and "System Security" and then "Telnet Access Limit" to open the screen shown in **Figure 3-15**. On this screen, you can configure limitation of equipment accessing this switch via Telnet.

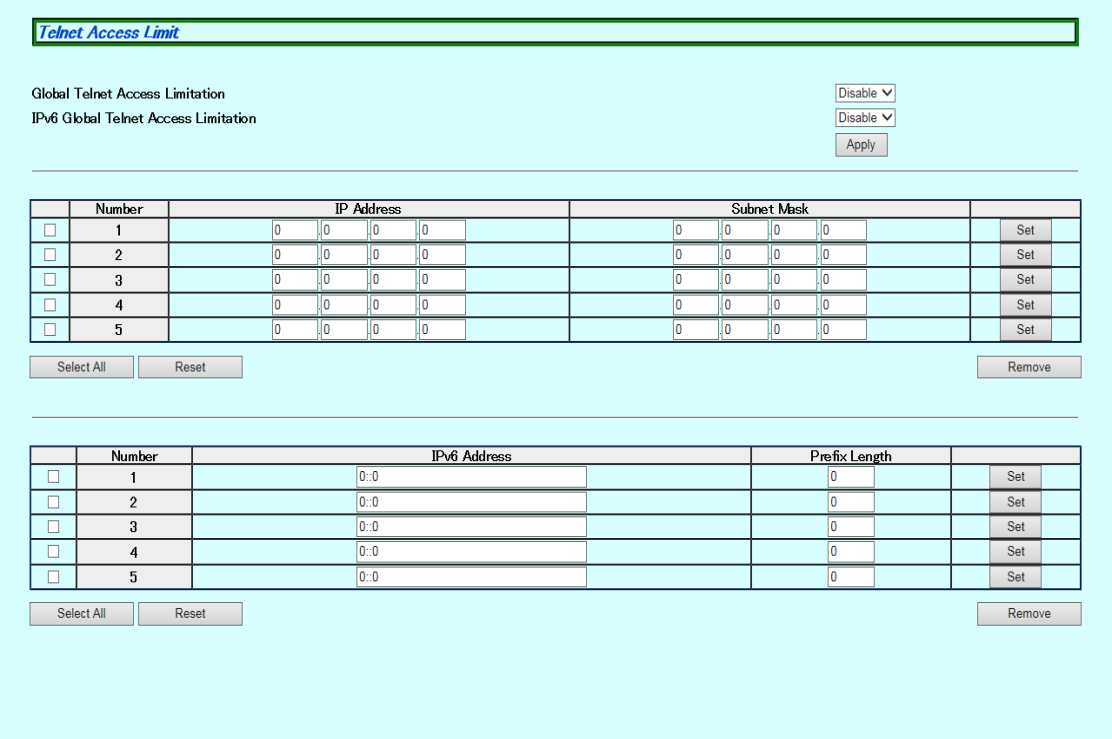


Figure 3-15 Telnet Access Limit

Screen Description

Telnet Access Limitation	Displays the IPv4 Telnet access limit. "Disable" is the factory default setting.	
	Enable	Enables the Telnet access limitation.
	Disable	Disables the Telnet access limitation.
IPv6 Telnet Access Limitation	Displays the IPv6 Telnet access limit. "Disable" is the factory default setting.	
	Enable	Enables the Telnet access limitation.
	Disable	Disables the Telnet access limitation.
Number	This is the entry number for the Telnet access limit.	
IP Address /Subnet Mask	Displays the information on accessible IPv4 networks to be added. There is no factory default setting. "0" is displayed for all of IPv4 Addresses and Subnet Masks.	
IPv6 Address /Prefix Length	Displays the information on accessible IPv6 networks to be added. There is no factory default setting. "::" is displayed for all of IPv6 Addresses and Subnet Masks.	

3.1.16. ID/Password Change

Select "Basic Config" and "System Security" and then "ID/Password Change" to open the screen shown in **Figure 3-16**. On this screen, you can configure the user-name/password.

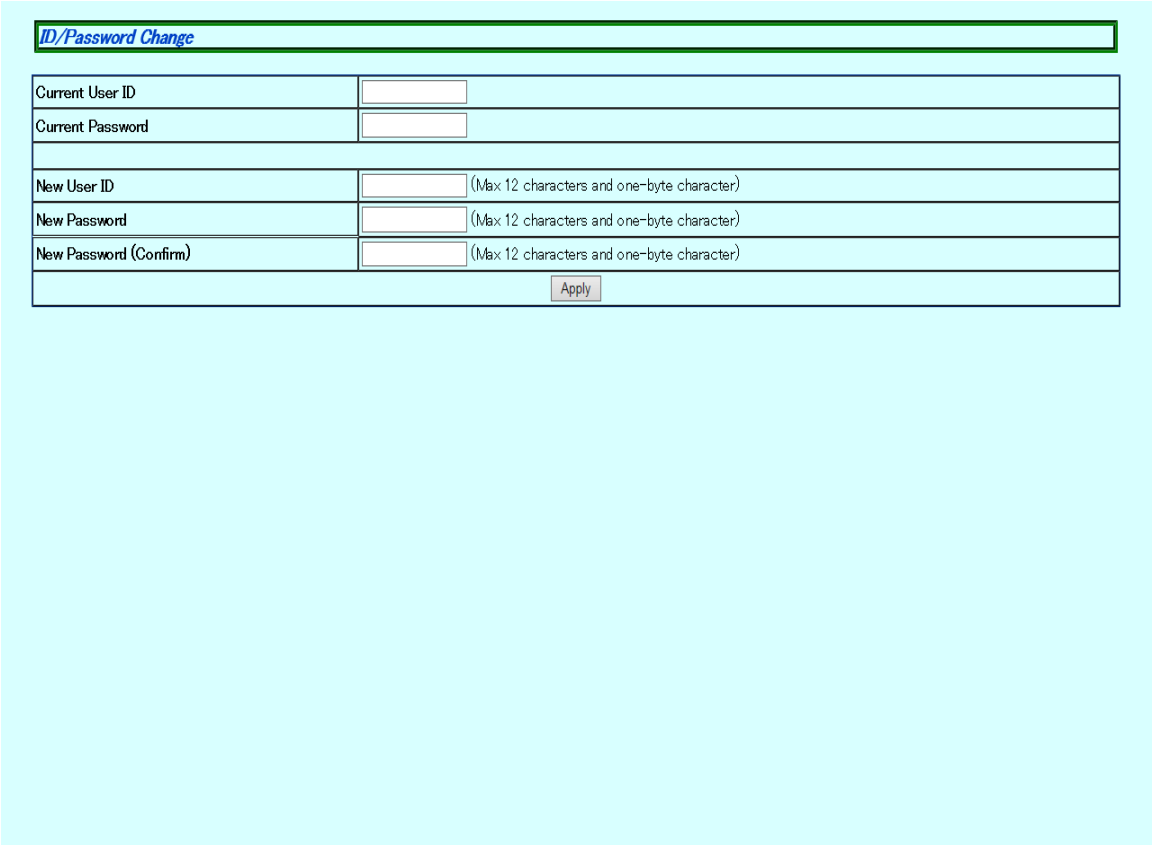


Figure 3-16 ID/Password Change

Screen Description

Current User ID	Enter the current username. This setting is used to log in to this switch. "manager" is the factory default setting.
Current Password	Enter the current password. This setting is used to log in to this switch. "manager" is the factory default setting.
New User ID	Enter a new username.
New Password	Enter a new password.
New Password (Confirm)	Enter a password again to prevent erroneous password input.

Note: Do not forget your username and password.
These settings are required to log in to the console, SSH, Telnet, and Web.

3.1.17. MAC Learning

Select "Basic Config" and "Forwarding Database" and then "MAC Learning" to open the screen shown in **Figure 3-17**. On this screen, you can configure the MAC Learning settings for each port.

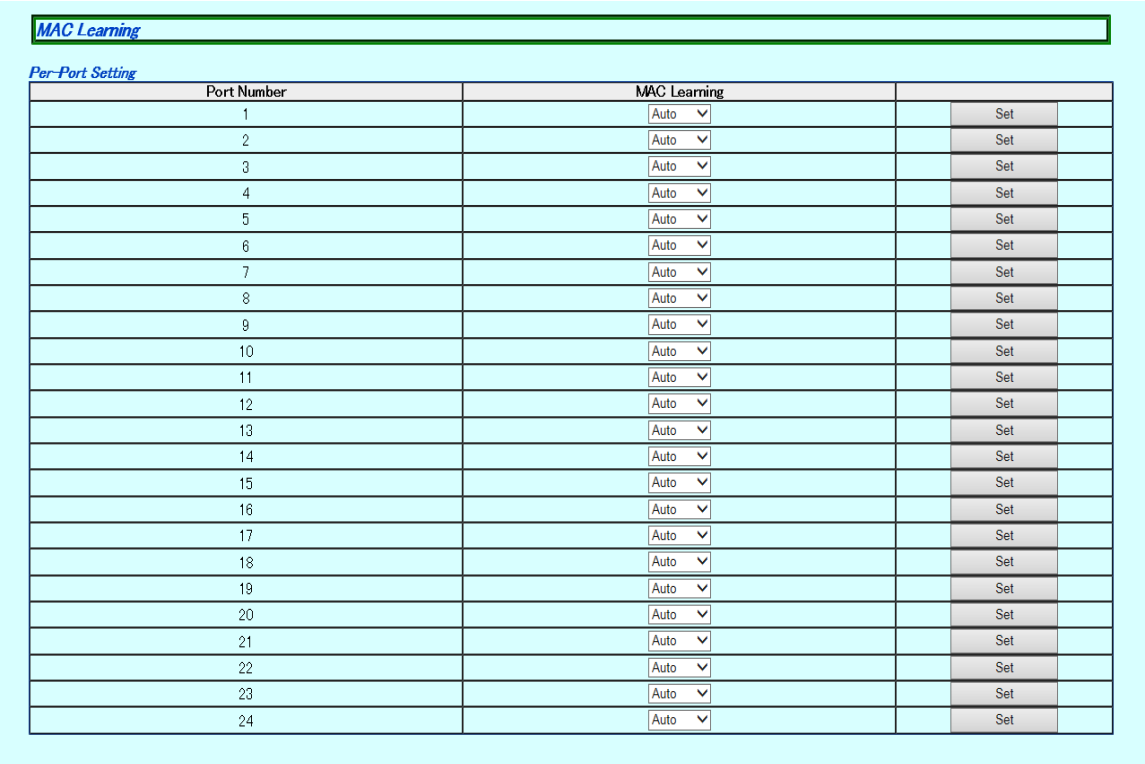


Figure 3-17 Telnet Access Limit

Screen Description

Port Number	Displays the port number.	
MAC Learning	Displays the MAC Learning statuses of ports. "Auto" is the factory default setting.	
	Auto	The MAC address is automatically learned, and the packet transmission is executed.
	Disable	Auto-learning of MAC address is disabled, and packet transmission is not executed unless the MAC address is registered statically.

Note: When IEEE802.1X port-based authentication is activated, MAC Learning cannot be disabled.

3.1.18. Static FDB Table

Select "Basic Config" and "FDB" and then "FDB Manual Setting" to open the screen shown in **Figure 3-18**. On this screen, you can manually register the MAC address in the FDB table.

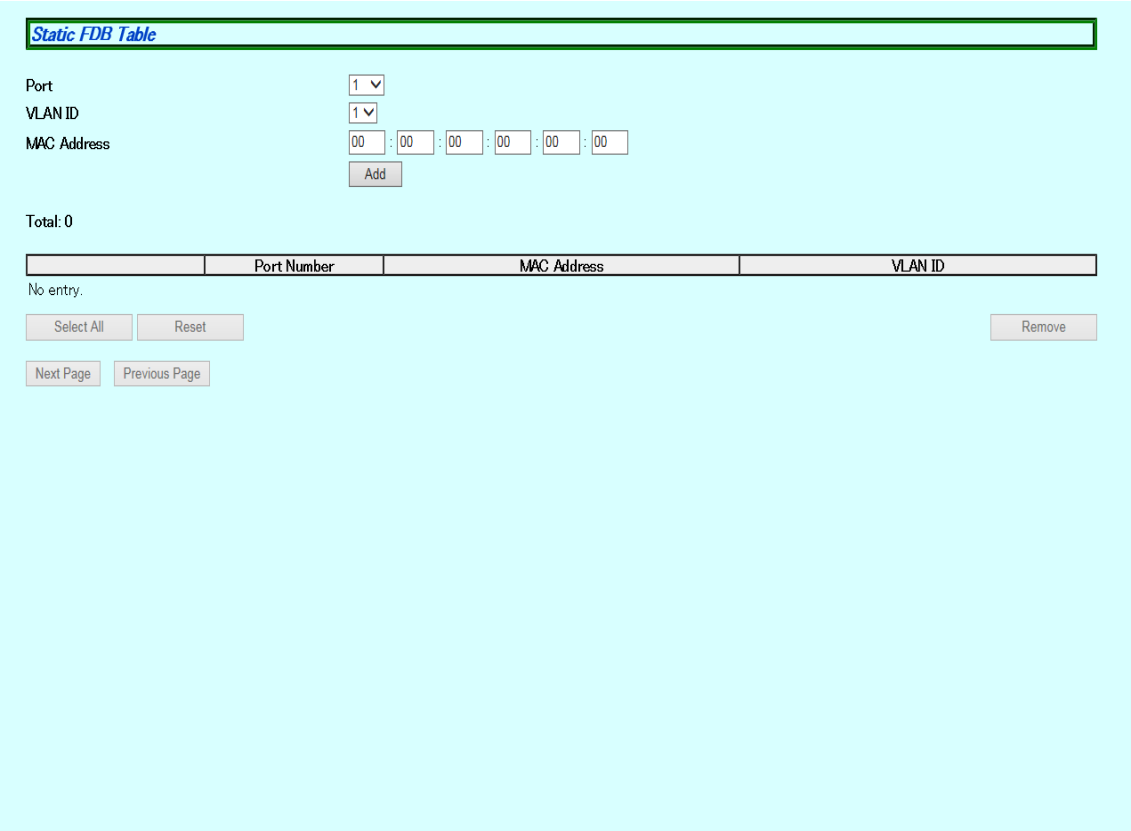


Figure 3-18 FDB Manual Setting

Screen Description

Add	Click the "Add" button, and the information specified in the following items will be registered with the FDB table.	
	Port	Select a port to which a MAC address is to be added.
	VLAN ID	Select the VLAN ID of a MAC address to be added.
	MAC Address	Enter the MAC address to be added.
Remove	Displays the list of manually registered FDB entries. Click the "Next Page" and "Previous Page" buttons, and the display range of the list will be switched. Select the entry to be deleted and click the "Remove" button, and it will be removed from the FDB table. Click the "Select All" button, and all entries will be selected. Click the "Reset" button, and all entries will be deselected.	

3.1.19. FDB Table

Select "Basic Config" and "FDB" and then "FDB Table" to open the screen shown in **Figure 3-19**. This screen shows the MAC addresses registered with the FDB table.

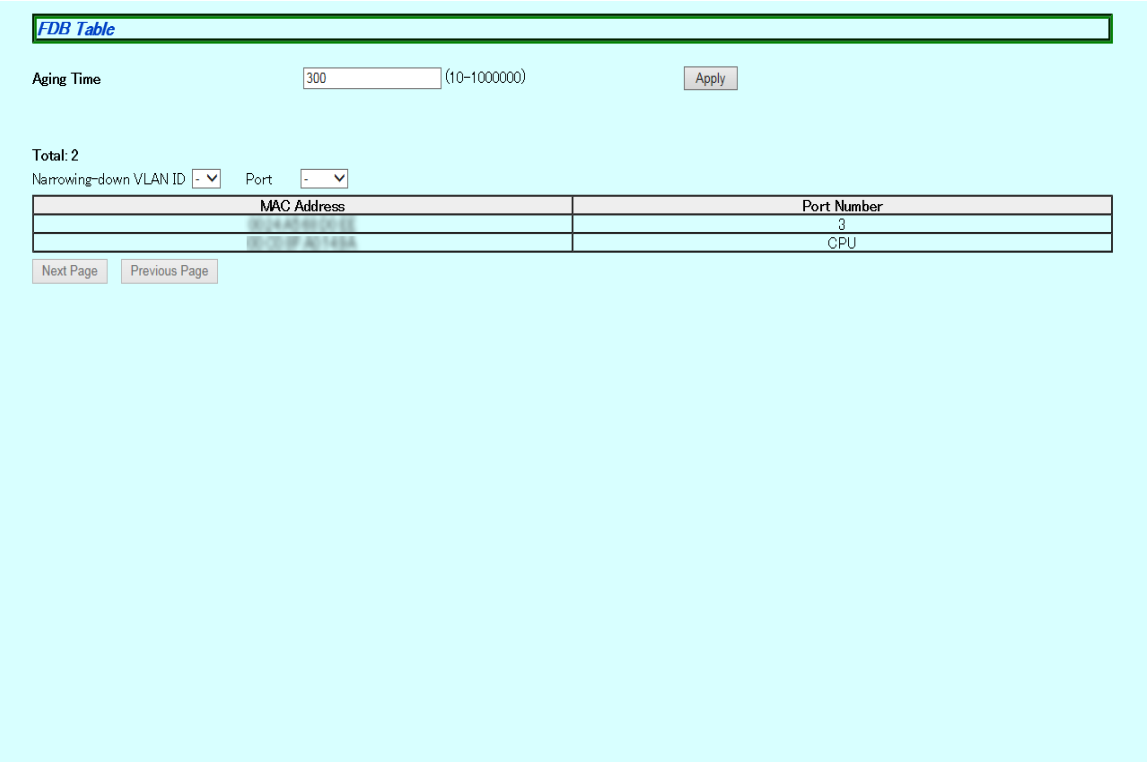


Figure 3-19 FDB Table (by Port)

Screen Description

Aging Time	Displays the time for which an automatically learned FDB entry is retained. It is equal to the time after receiving the last packet. The factory default setting is 300 seconds (5 minutes) .
Narrowing-down VLAN ID	Narrows down records by the specified VLAN ID.
Narrowing-down Port	Narrows down records by the specified port number.
MAC Address	Displays the MAC address in the FDB table.
Port Number	Displays the port to which the MAC address has been assigned.
Next Page	Switches the display range of a list.
Previous Page	

3.1.20. Time Configration

Select "Basic Config" and "Time Config" to open the screen shown in Figure 3-20. On this screen, you can configure the time settings and the SNTP settings.

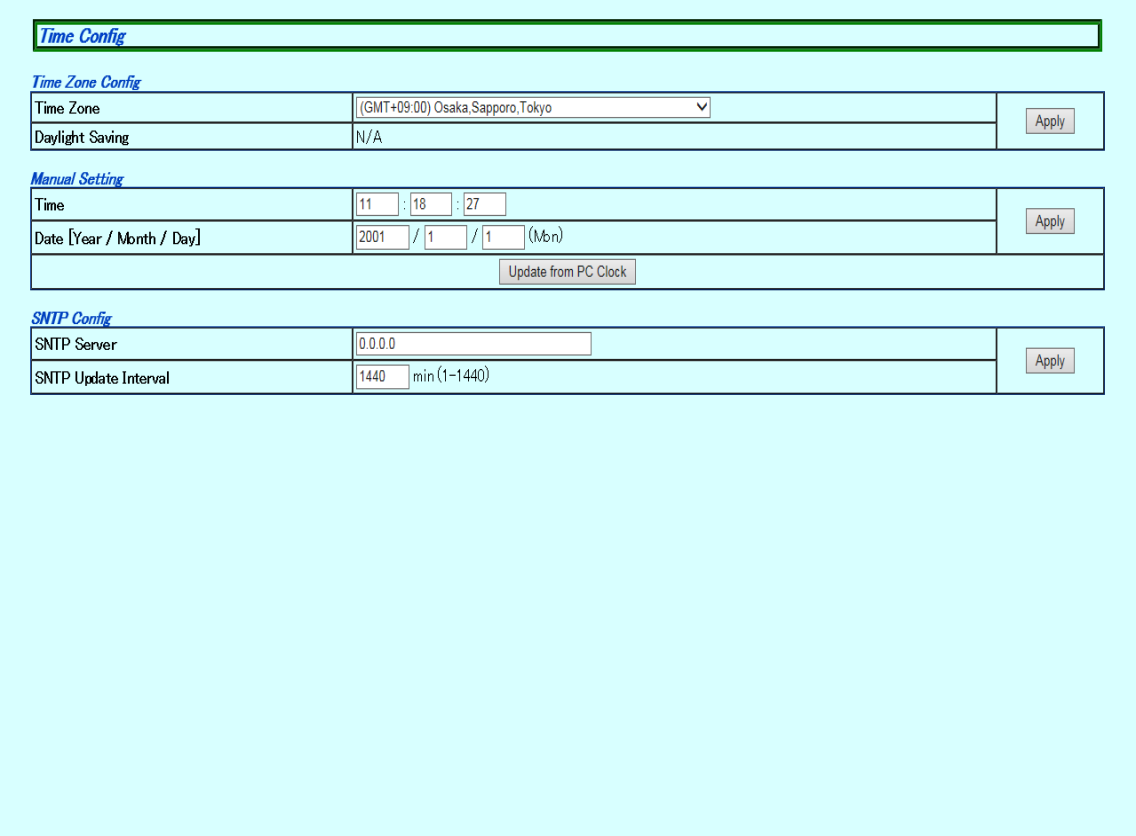


Figure 3-20 Time Configuration of This Switch

Screen Description

Time Zone	Displays the time zone.
Daylight Saving	Displays the application status of Daylight Saving (Summer time) . In case the set time zone is a zone where Daylight Saving is not applied, "N/A" is displayed, and this configuration is not available. When this switch is used domestically, this configuration is not required.
SNTP Server	Displays the IP address of the SNTP server that executes time synchronization.
SNTP Update	Displays the interval of time synchronization with the SNTP server.

Note: In case the SNTP server is located outside of the firewall, connection with the SNTP server may not be possible depending on settings by the network administrator. For details, ask your network administrator.
If you wish to disable the time synchronization function, set the SNTP server IP to "0.0.0.0."

3.1.21. Static ARP Table

Select "Basic Config" and "ARP Table" and then "Static ARP Table" to open the screen shown in Figure 3-21. On this screen, you can manually register the relationship between the IP address and the MAC address with the ARP table.

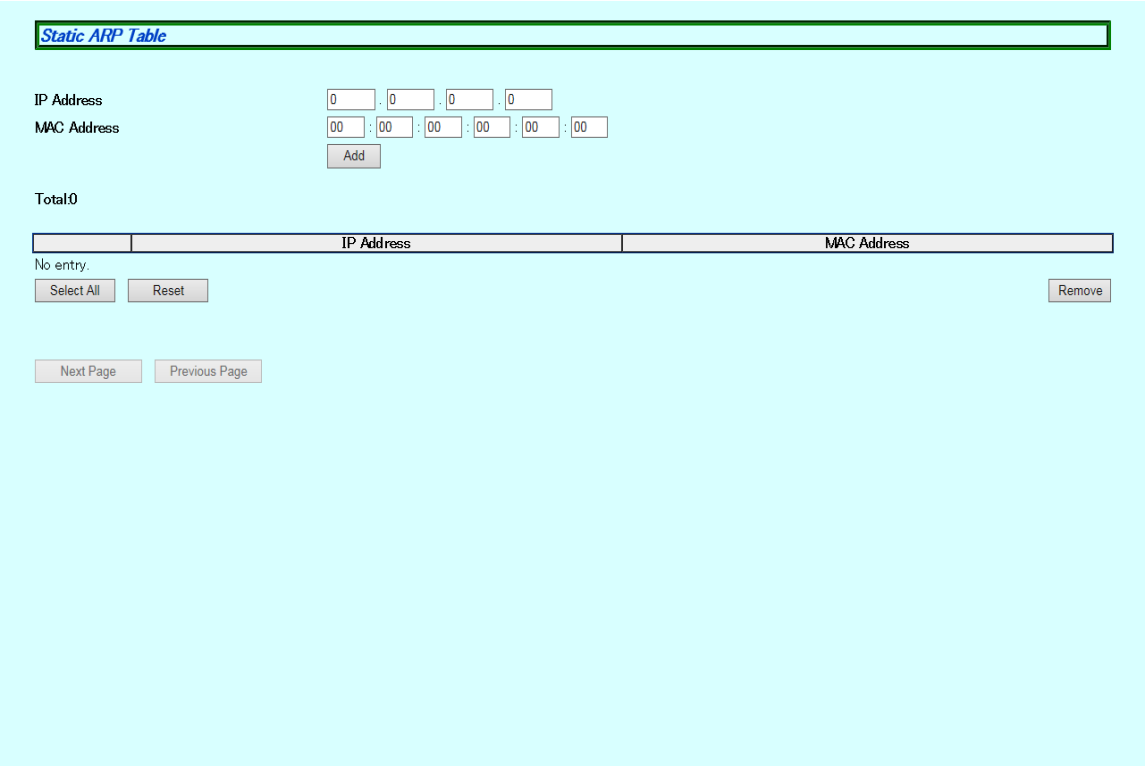


Figure 3-21 Static ARP Table

Screen Description

Add	Click the "Add" button, and the information specified in the following items will be registered with the ARP table.	
	IP Address	Enter the IP address to be added.
	MAC Address	Enter the MAC address to be added.
Remove	Displays the list of the manually registered ARP entries. Click the "Next Page" and "Previous Page" buttons, and the display range of the list will be switched. Select the entry to be deleted and click the "Remove" button, and it will be removed from the ARP table. Click the "Select All" button, and all entries will be selected. Click the "Reset" button, and all entries will be deselected.	

3.1.22. ARP Table

Select "Basic Config" and "ARP Table" and then "ARP Table" to open the screen shown in **Figure 3-22**. This screen shows the ARP Table.

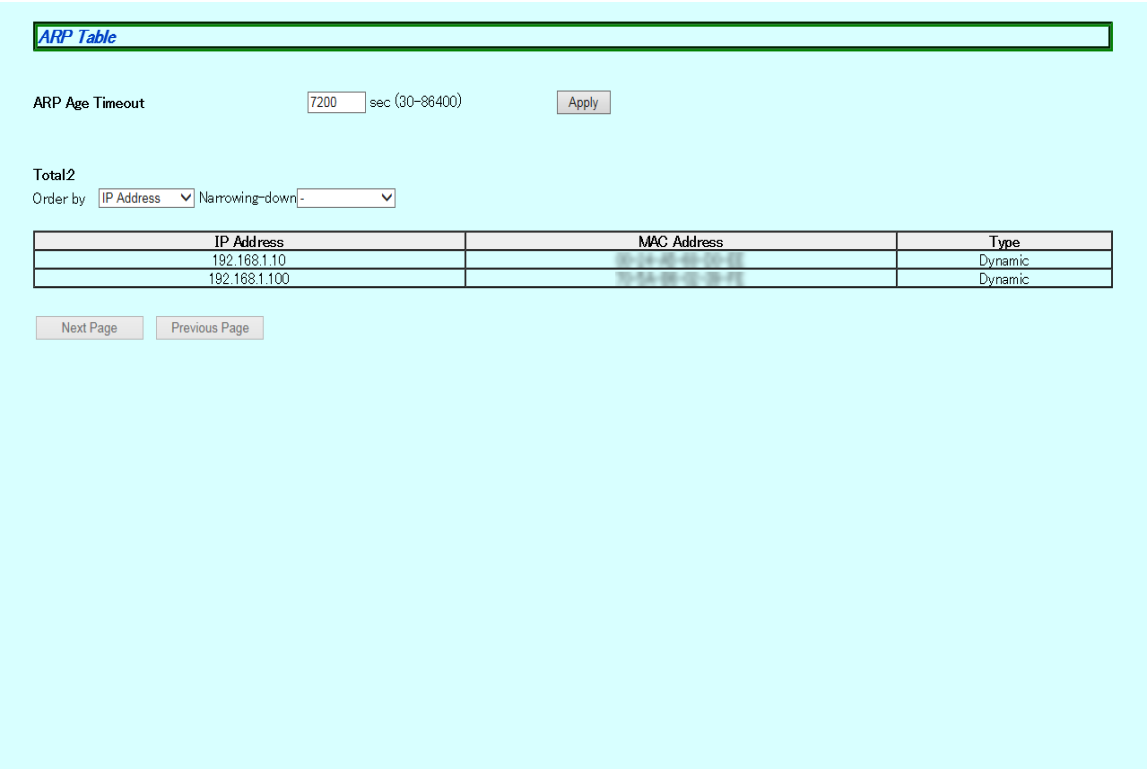


Figure 3-22 ARP Table

Screen Description

ARP Age Time-out	Displays the time for which an automatically learned ARP table is retained. It is equal to the time after receiving the last packet. The factory default setting is 7200 seconds (2 hours) .	
Order by	Sorts the list in a specified order.	
	IP Address	Sorts the list by IP address.
	MAC Address	Sorts the list by MAC address.
	Type	Sorts the list by type.
IP Address	Displays the IP address entries on the ARP table.	
MAC Address	Displays the MAC address entries on the ARP table.	
Type	Displays the type of the registered ARP entry.	
	Static	Indicates that the ARP entry has been registered manually.
	Dynamic	Indicates that the ARP entry has been learned automatically.
Next Page	Switches the display range of a list.	
Previous Page		

3.1.23. NDP Table

Select "Basic Config" and then "NDP Table" to open the screen shown in **Figure 3-23**. On this screen, you can refer to and configure the NDP table.

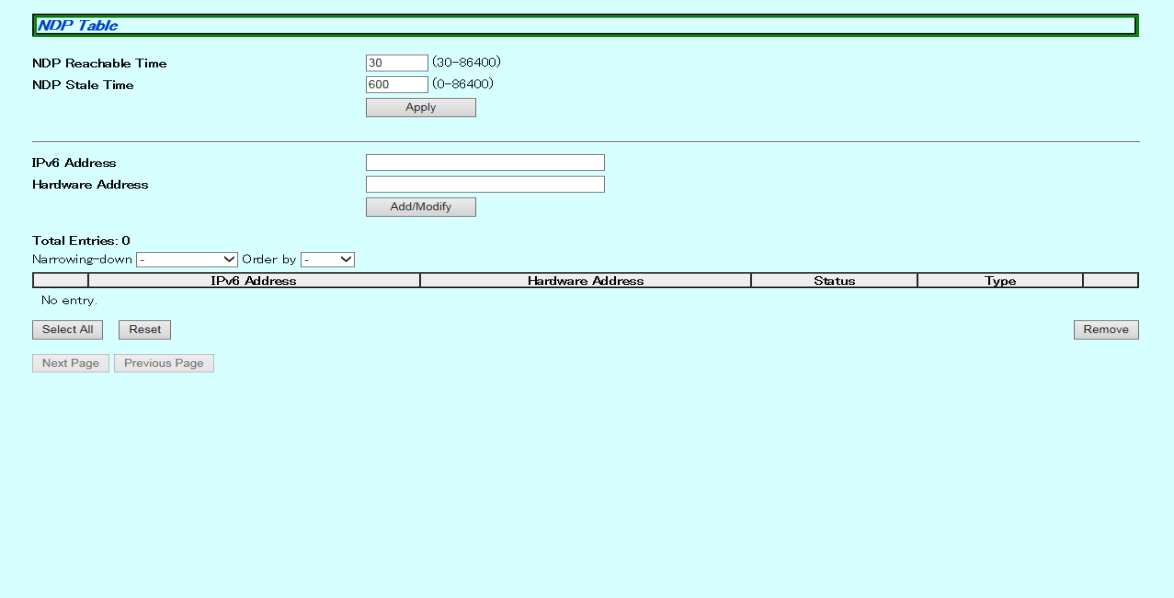


Figure 3-23 NDP Table

Screen Description

NDP Reachable Time	Displays the timeout value of a reachable time.	
NDP Stale Time	Displays the timeout value of a stale time.	
Total Entry	Displays the number of created NDP table entries.	
IPv6 Address	Displays the IPv6 address on the NDP table.	
Hardware Address	Displays the hardware address on the NDP table.	
Status	Displays the status of an adjacent cache.	
Type	Displays the type on the NDP table.	
	Static	Indicates that the ARP entry has been set manually.
	Dynamic	Indicates that the ARP entry has been learned automatically.

3.2. Advanced Config

3.2.1. VLAN Management

Select "Advanced Config" and "VLAN" and then "VLAN Management" to open the screen shown in **Figure 3-24**. On this screen, you can configure the VLAN-related settings.

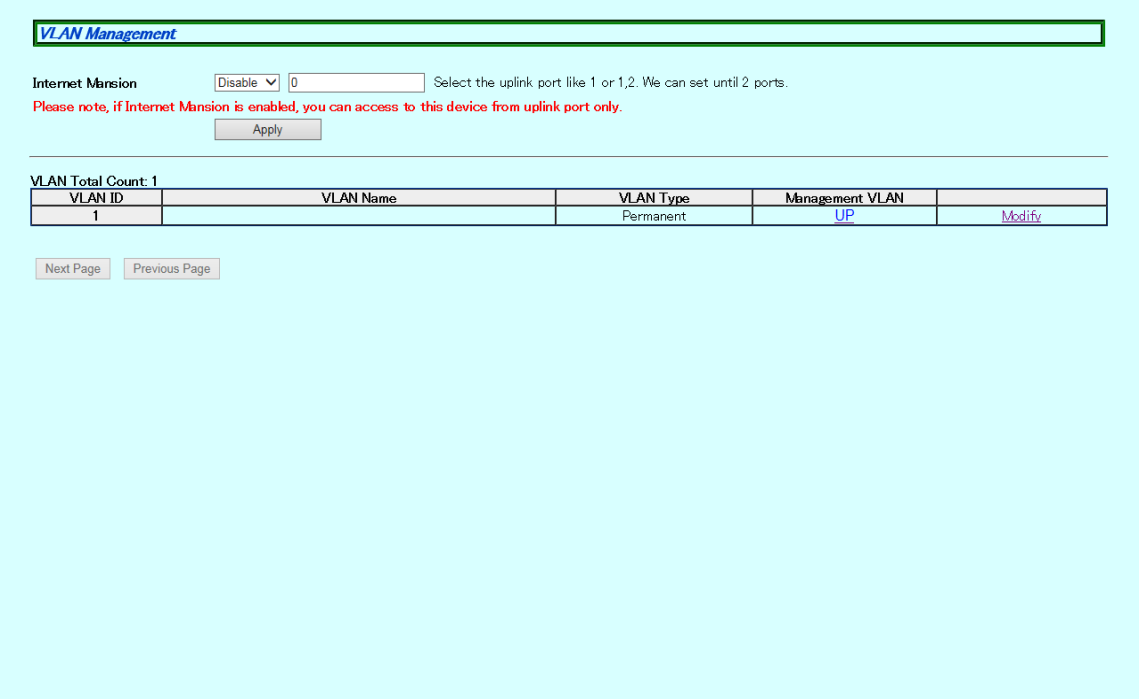


Figure 3-24 VLAN Management

Screen Description

Internet Mansion	Displays Internet Mansion function.	
	Enable	Internet Mansion function is enabled.
	Disabled	Internet Manstion function is disabled (factory default setting) .
VLAN Total Count	Displays the switch's current number of VLANs. Click the "Remove" button of each entry, and the setting of that VLAN will be removed.	
VLAN ID	Displays the VLAN ID of a VLAN.	
VLAN Name	Displays the VLAN name.	
VLAN Type	Displays the VLAN type.	
	Permanent	This is the initial setting VLAN. This VLAN cannot be removed.
	Static	This is a newly provided VLAN.
Management VLAN	Displays whether or not the VLAN is the management VLAN.	
	UP	This VLAN is the management LAN (VLAN that can communicate with CPU) .
	DOWN	This VLAN is not the management VLAN.
Next Page	Switches the display range of a list.	
Previous Page		

3.2.1.a. VLAN Modification

On the "VLAN Management" screen, select "Modify" to open the screen shown in Figure 3-25. On this screen, you can modify the VLAN configuration information.

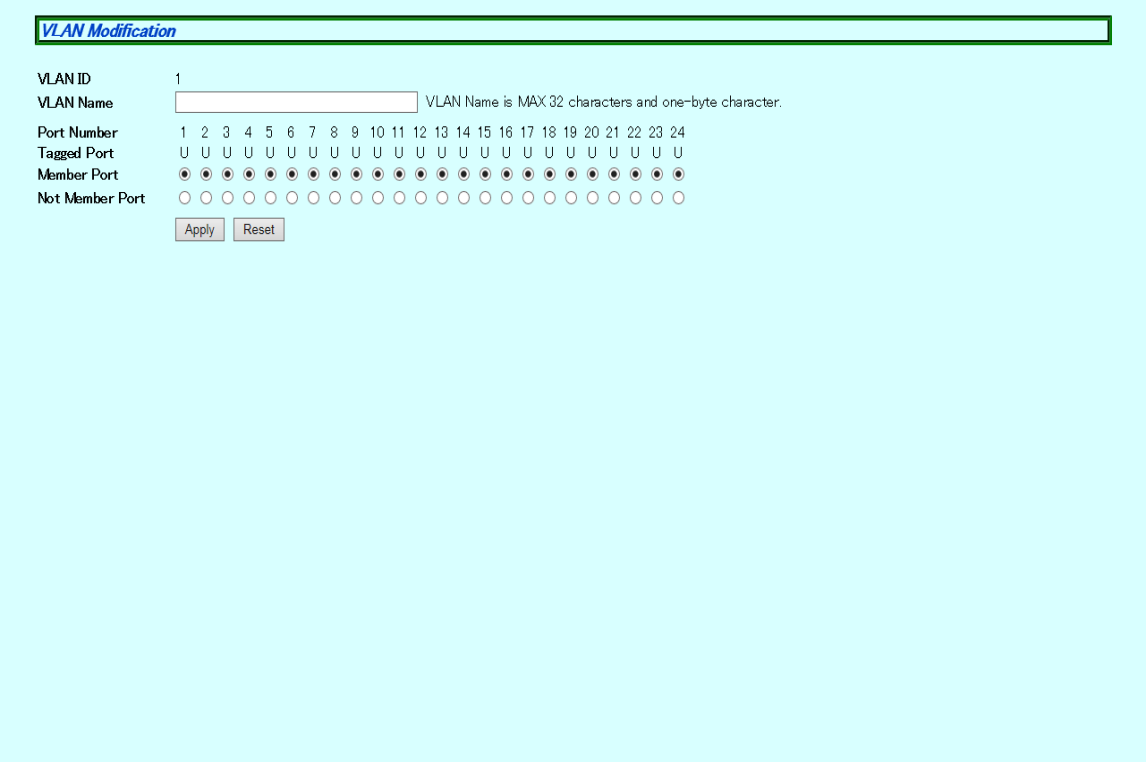


Figure 3-25 VLAN Modification

Screen Description

VLAN ID	Displays the VLAN ID.
VLAN Name	Displays the VLAN name.
Tagged Port	Indicates that no tag is used for the frame transmitted from that port.
Member Port Not Member Port	Select whether to assign each port to that VLAN. Click the "Reset" button, and the assignment of each port will return to the current status.

3.2.2. VLAN Creation

Select "Advanced Config" and "VLAN" and then "VLAN Creation" to open the screen shown in **Figure 3-26**. On this screen, you can create a new VLAN.

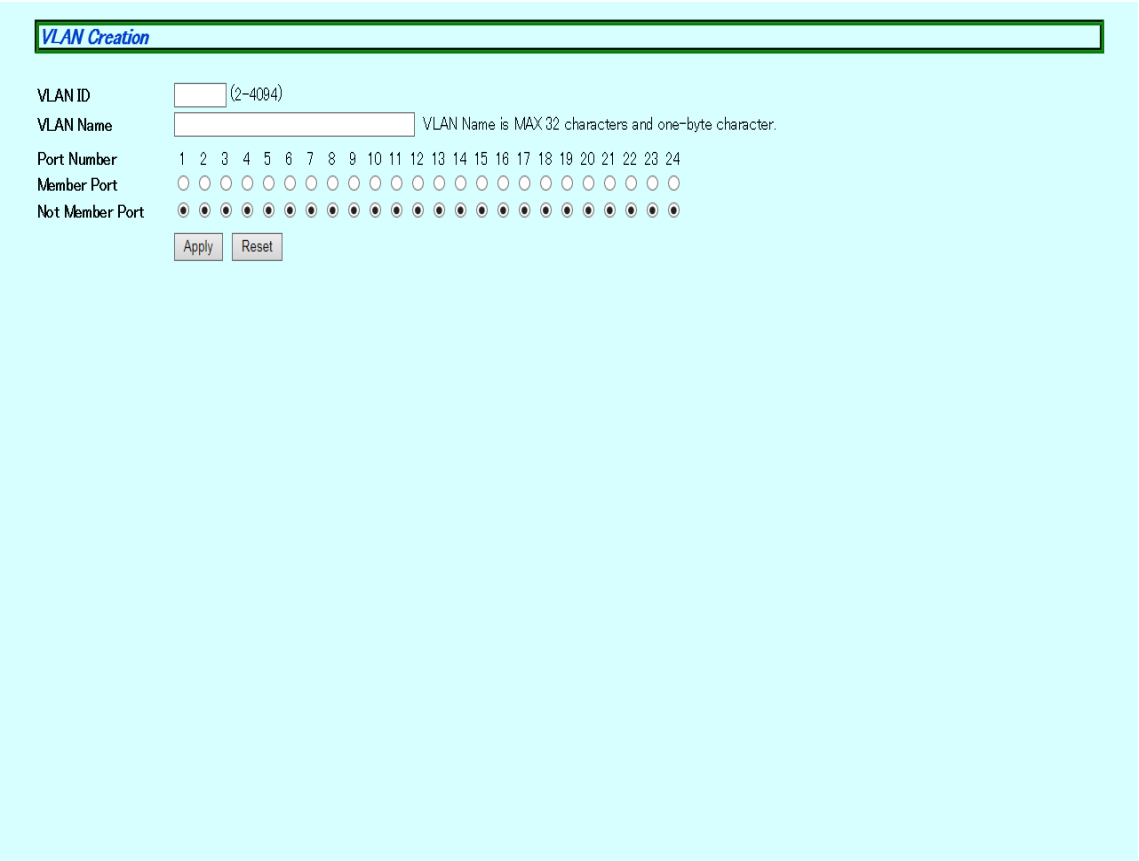


Figure 3-26 VLAN Creation

Screen Description

VLAN ID	Set the VLAN ID.
VLAN Name	Set the VLAN name.
Member Port Not Member Port	Select whether to assign each port to that VLAN. Click the "Reset" button, and the assignment of each port will return to the current status.

3.2.3. VLAN Port Config

Select "Advanced Config" and "VLAN" and then "VLAN Port Config" to open the screen shown in **Figure 3-27**. On this screen, you can configure the specified VLAN port settings.

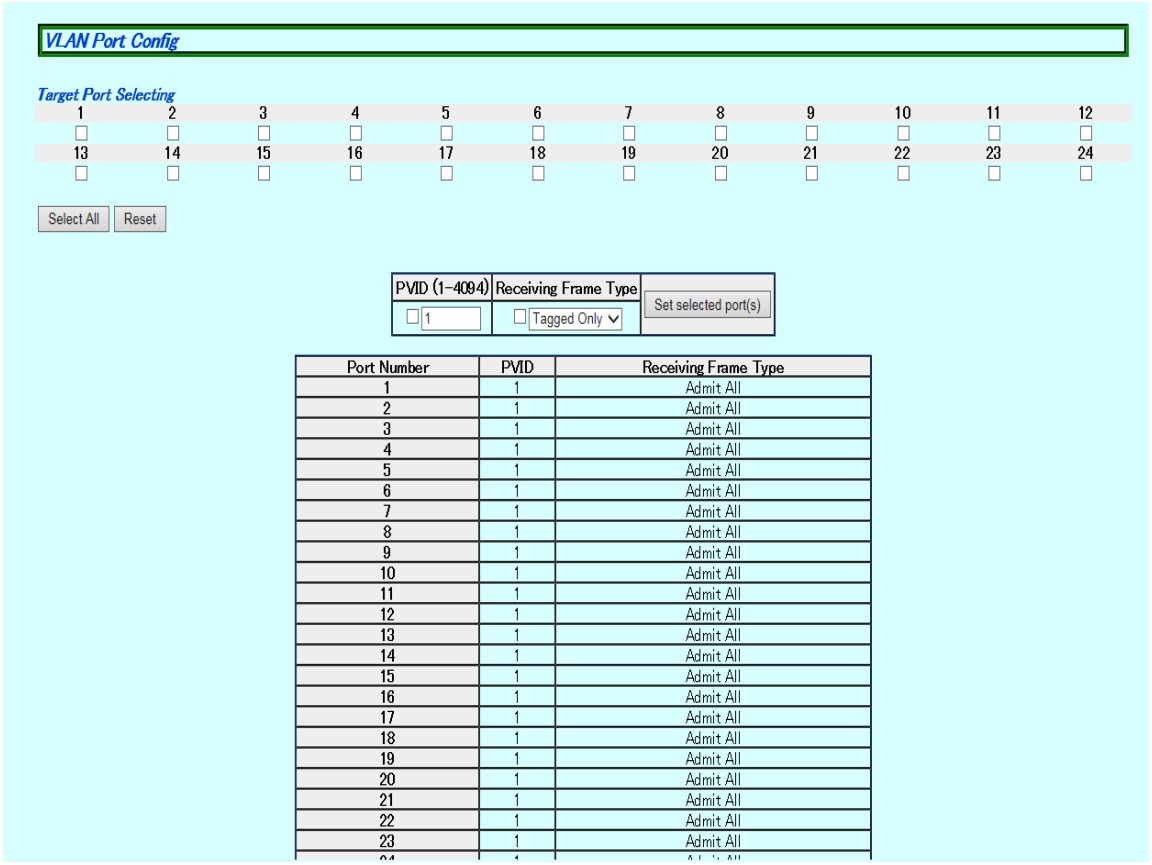


Figure 3-27 VLAN Port Config

Screen Description

Target Port Selecting	Select multiple target ports for configuring settings at a time. Click the "Select All" button, and all ports will be selected. Click the "Reset" button, and all ports will be deselected. Click the "Set selected port (s) " button after selecting and changing the items for configuring settings at a time, and the same settings will apply to the selected ports.	
Port Number	Displays the port number.	
PVID	Displays the port's current PVID (Port VLAN ID) . The PVID displays the VLAN ID to which an untagged frame should be transferred when it was received. The factory default setting is 1. If a tagged frame is received, the tag is referenced regardless of this value to determine the destination port.	
Receiving Frame	Displays the type of frames to be received. For all ports, "Admit All" is the factory default setting.	
	Admit All	All frames are received.
	Tagged Only	Only tagged frames are received.

3.2.4. Traffic Class Config

Select "Advanced Config" and "QoS Config" and then "Traffic Class Config" to open the screen shown in **Figure 3-28**. On this screen, you can configure the QoS and Traffic Class settings.

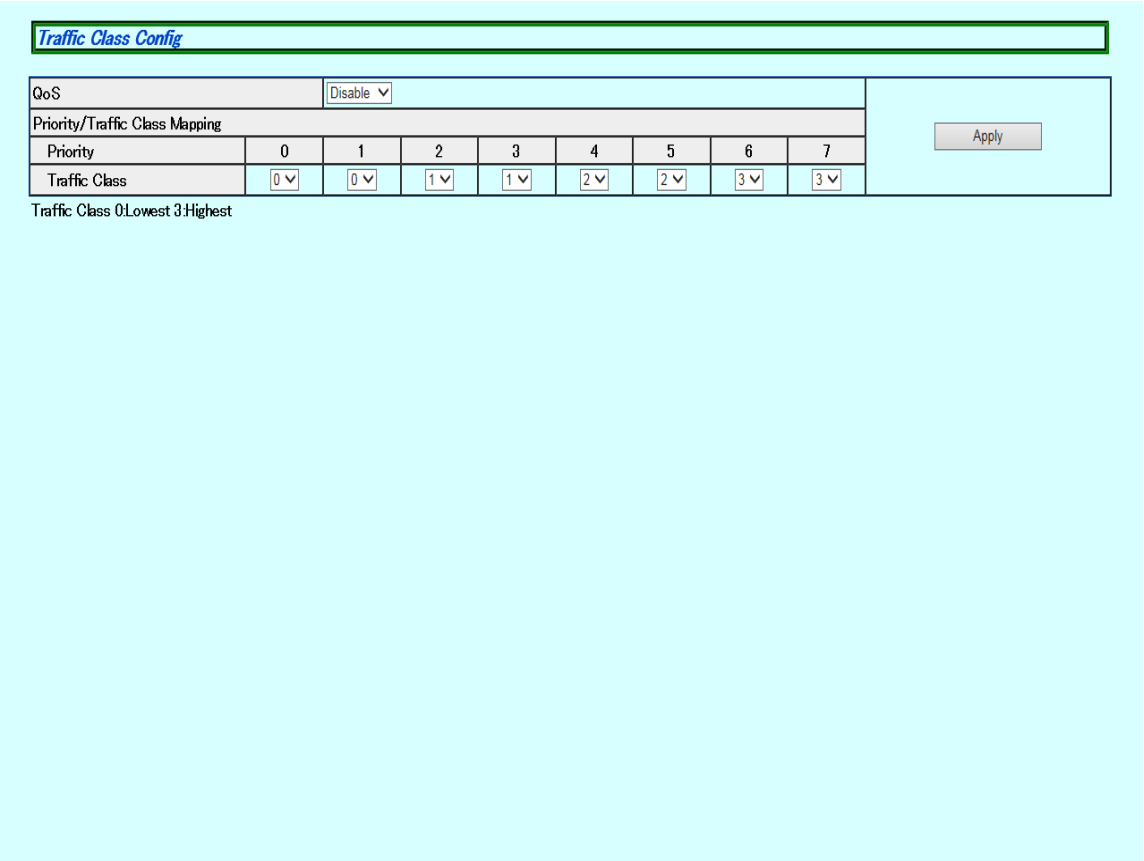


Figure 3-28 QoS Config

Screen Description

QoS	Displays the setting of the QoS function using IEEE802.1p. "Disable" is the factory default setting.	
	Enable	QoS is enabled.
	Disable	QoS is disabled.
Priority	Displays the priority value in the VLAN tag.	
Traffic Class	Displays the priority with which a frame is transferred.	

3.2.5. Egress Rate Limiting Config

Select "Advanced Config" and "QoS Config" and then "Egress Rate Limiting Config" to open the screen shown in **Figure 3-29**. On this screen, you can configure the Egress Rate settings.

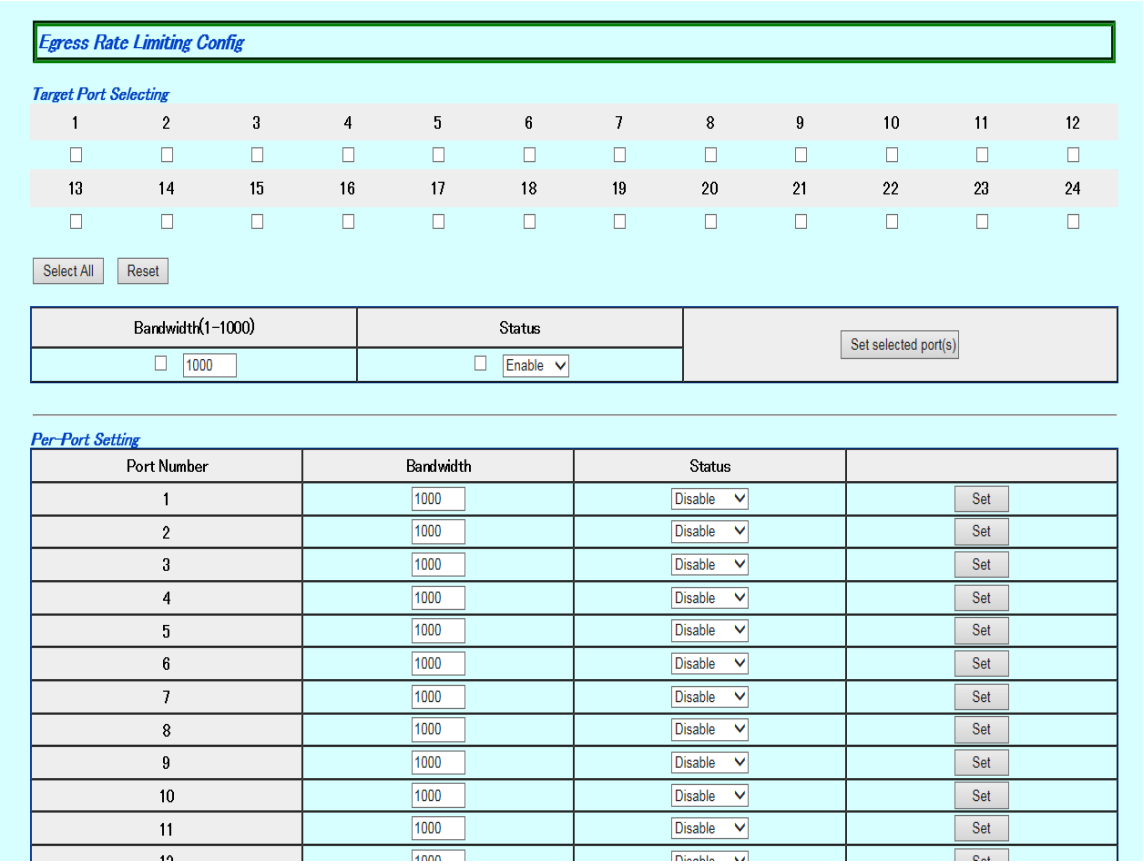


Figure 3-29 Egress Rate Limiting Config

Screen Description

Target Port Selecting	Select multiple target ports for configuring settings at a time. Click the "Select All" button, and all ports will be selected. Click the "Reset" button, and all ports will be deselected. Click the "Set selected port (s) " button after selecting and changing the items for configuring settings at a time, and the same settings will apply to the selected ports.	
Port Number	Displays the port number.	
Bandwidth	Displays the bandwidth. The factory default setting is 1000. (The unit is Mbps)	
Status	Displays whether the bandwidth control settings are enabled or disabled.	
	Enable	The bandwidth control settings are enabled.
	Disable	The bandwidth control settings are disabled.

3.2.6. Link Aggregation Config

Select "Advanced Config" and "Link Aggregation Config" to open the screen shown in **Figure 3-30**. On this screen, you can configure the group settings of link aggregation.

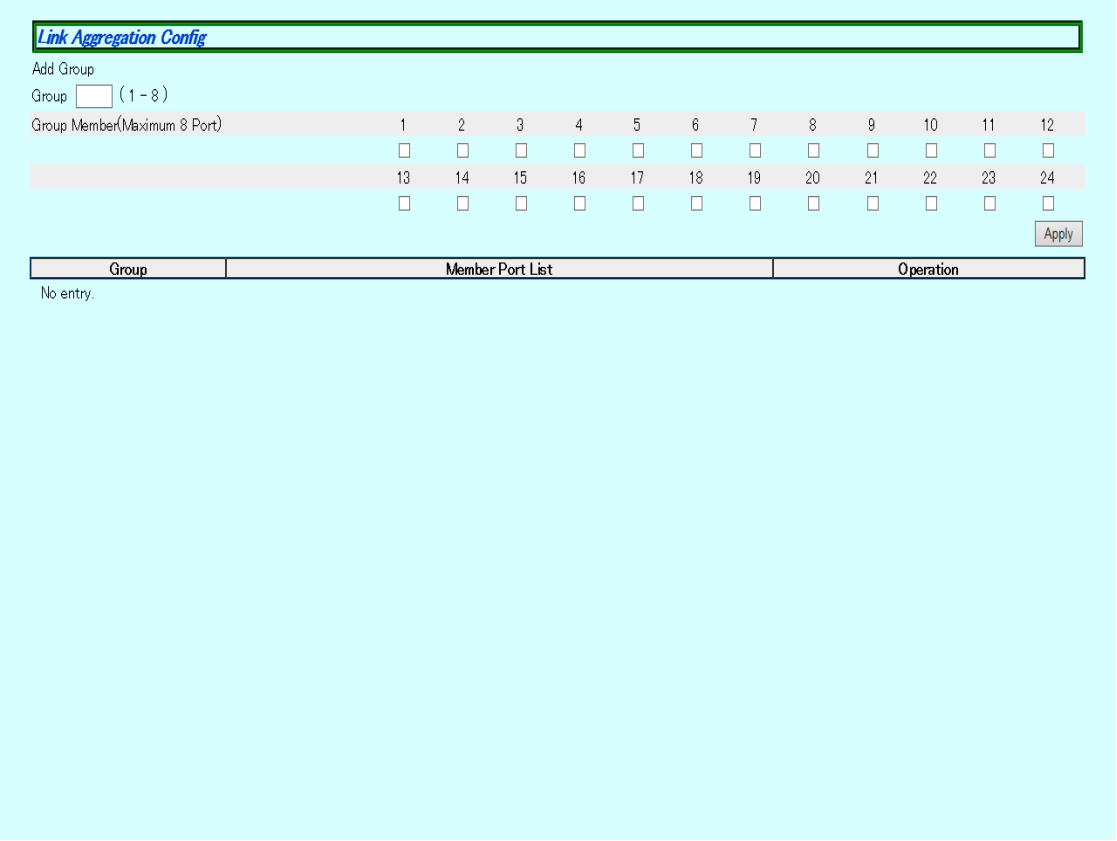


Figure 3-30 Link Aggregation Config

Screen Description

Group Member	Select the ports being group members of link aggregation.
Member Port List	Displays the ports included in the group of link aggregation.

3.2.6.a. Link Aggregation Modification

Select "Advanced Config" and "Link Aggregation Config" and then click the "Modify" button of a group to open the screen shown in **Figure 3-31**. On the screen, you can modify a registered group.

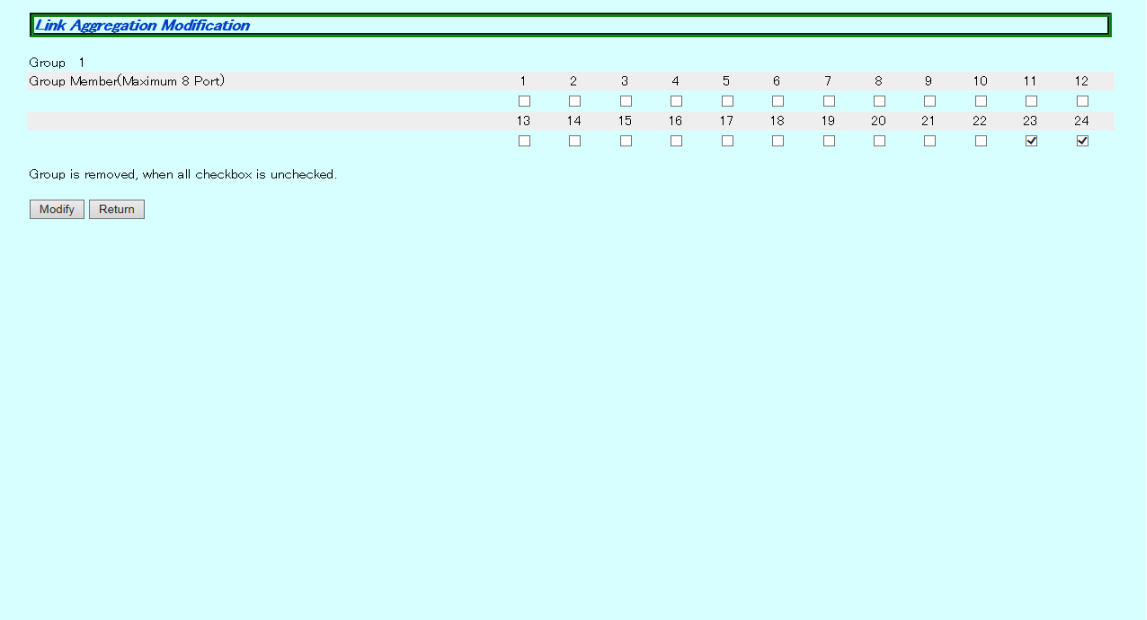


Figure 3-31 Link Aggregation Modification

Screen Description

Group Member	Select the ports being group members of link aggregation.

3.2.7. Storm Control Config

Select "Advanced Config" and "Storm Control Config" to open the screen shown in **Figure 3-32**. On this screen, you can configure the storm control settings.

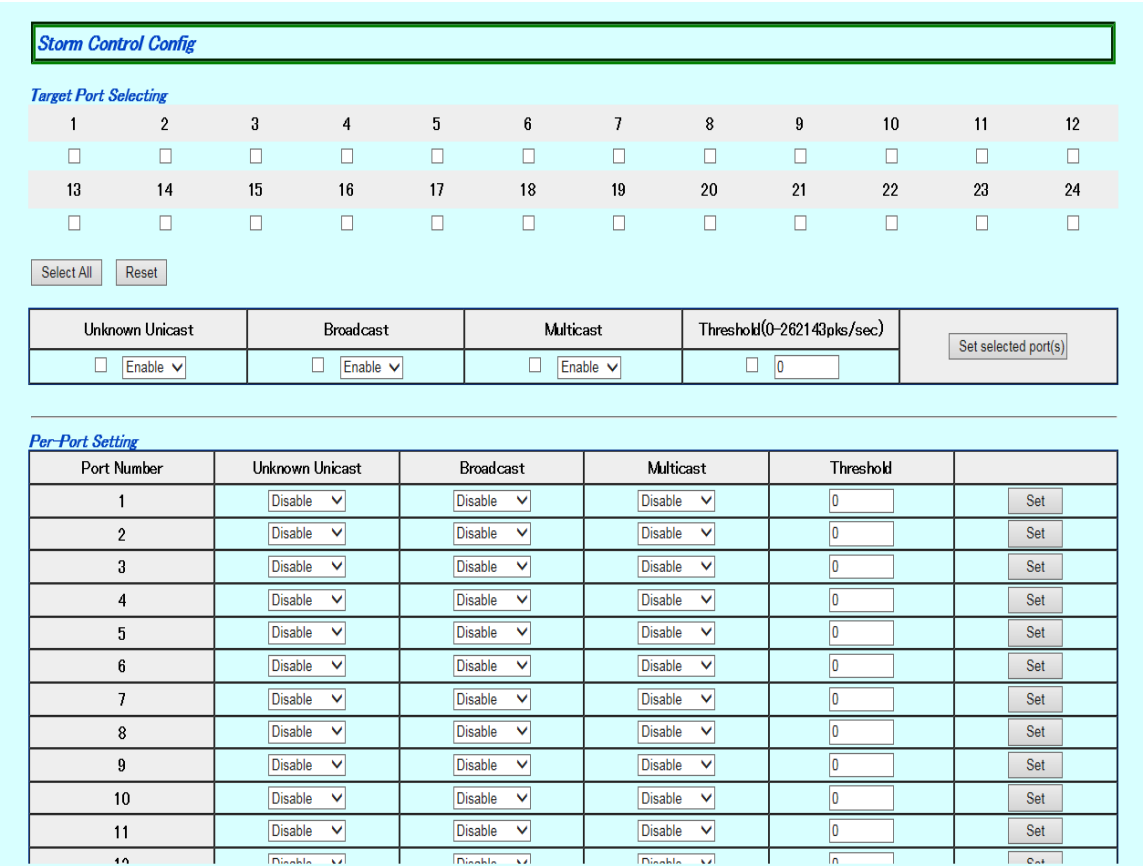


Figure 3-32 Storm Control Config

Screen Description

Target Port Selecting	Select multiple target ports for configuring settings at a time. Click the "Select All" button, and all ports will be selected. Click the "Reset" button, and all ports will be deselected. Click the "Set selected port(s)" button after selecting and changing the items for configuring settings at a time, and the same settings will apply to the selected ports.	
Port Number	Displays the port number.	
Unknown Unicast	Enables or disables the Unknown unicast storm control.	
	Enable	The Unknown unicast storm control is enabled.
	Disable	The Unknown unicast storm control is disabled (factory default setting) .
Broadcast	Enables or disables the broadcast storm control.	
	Enable	The broadcast storm control is enabled.
	Disable	The broadcast storm control is disabled (factory default setting) .
Multicast	Enables or disables the multicast storm control.	
	Enable	The multicast storm control is enabled.
	Disable	The multicast storm control is disabled (factory default setting) .
Threshold	Displays the threshold value for the number of packets.	

3.2.8. 802.1X Access Control

Select "Advanced Config" and "802.1X Access Control" to open the screen shown in Figure 3-33. On this screen, you can configure port-based access control using IEEE802.1X.

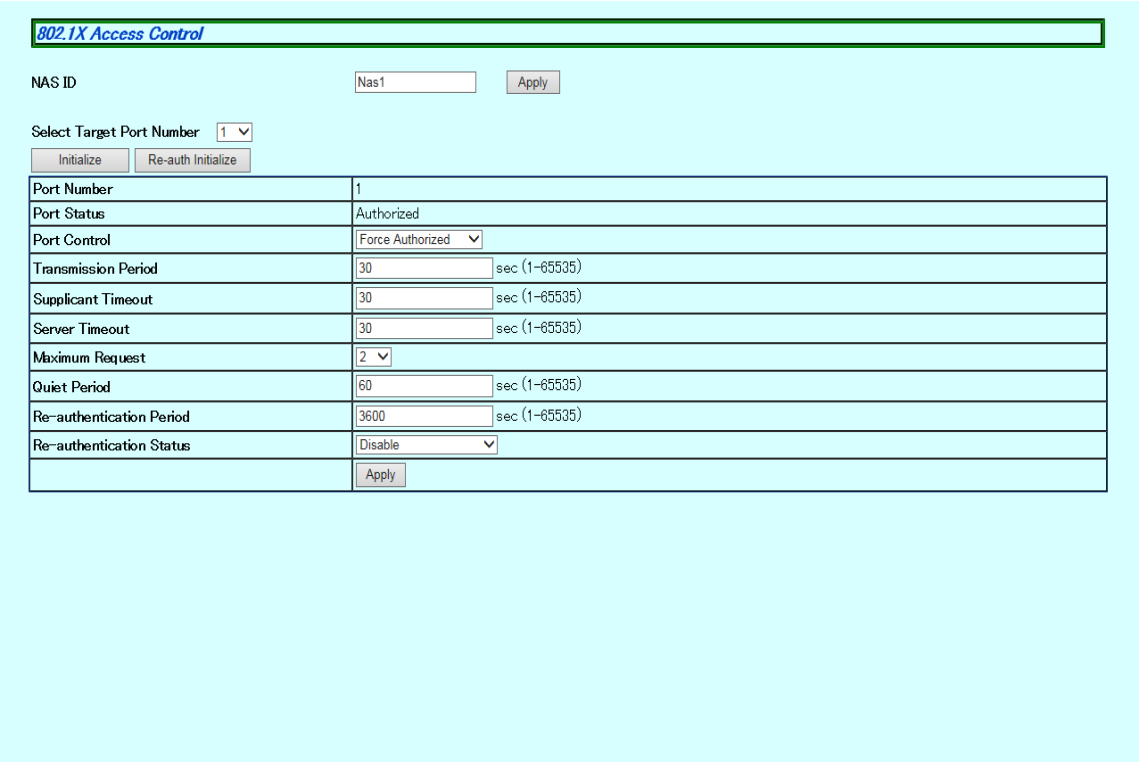


Figure 3-33 802.1X Port Based Access Control Configuration

Screen Description

NAS ID	Displays the authentication ID (NAS Identifier) .	
Port Number	Displays the target port number.	
Initialize	Initializes the authentication status.	
Re-auth Initialize	Initializes the re-authentication status.	
Port Status	Displays the authentication status. This status reflects the Port Control setting listed below.	
	Unauthorized	The authentication is denied.
	Authorized	The authentication is approved.
Port Control	Displays the operation for authentication request.	
	Auto	Enables the authentication function and ignores all the authentication requests from a client.
	Force Unauthorized	Disables the authentication function and blocks all communications.
	Force Authorized	Disables the authentication function and permits all communications (factory default setting) .
Transmission Period	This is the time interval until a retransmission request is sent to the client. The factory default setting is 30 seconds.	
Supplicant Timeout	Displays the timeout time for the client. The factory default setting is 30 seconds.	

Server Timeout	Displays the timeout time for an authentication server. The factory default setting is 30 seconds.	
Maximum Request	This is the maximum number of retries for retransmission in authentication. The factory default setting is 2.	
Quiet Period	This is the time to the next authentication request after authentication fails. The factory default setting is 60 seconds.	
Re-authentication Period	This is the interval for periodical re-authentication. The factory default setting is 3600 seconds.	
Re-authentication Status	Displays the periodical re-authentication setting.	
	Enable (RADIUS timer)	The periodical re-authentication is performed using the value of the Re-authentication timer on the RADIUS server.
	Enable (Local timer)	Performs the periodical re-authentication using a set value of "Re-authentication Period" of this switch.
	Disable	Periodical re-authentication is disabled (factory default setting) .

Note: When IEEE802.1X port-based authentication is activated, MAC Learning cannot be disabled.

3.2.9. Port Monitoring Config

Select "Advanced Config" and "Port Monitoring Config" to open the screen shown in **Figure 3-34**. On this screen, you can configure the port monitoring settings.

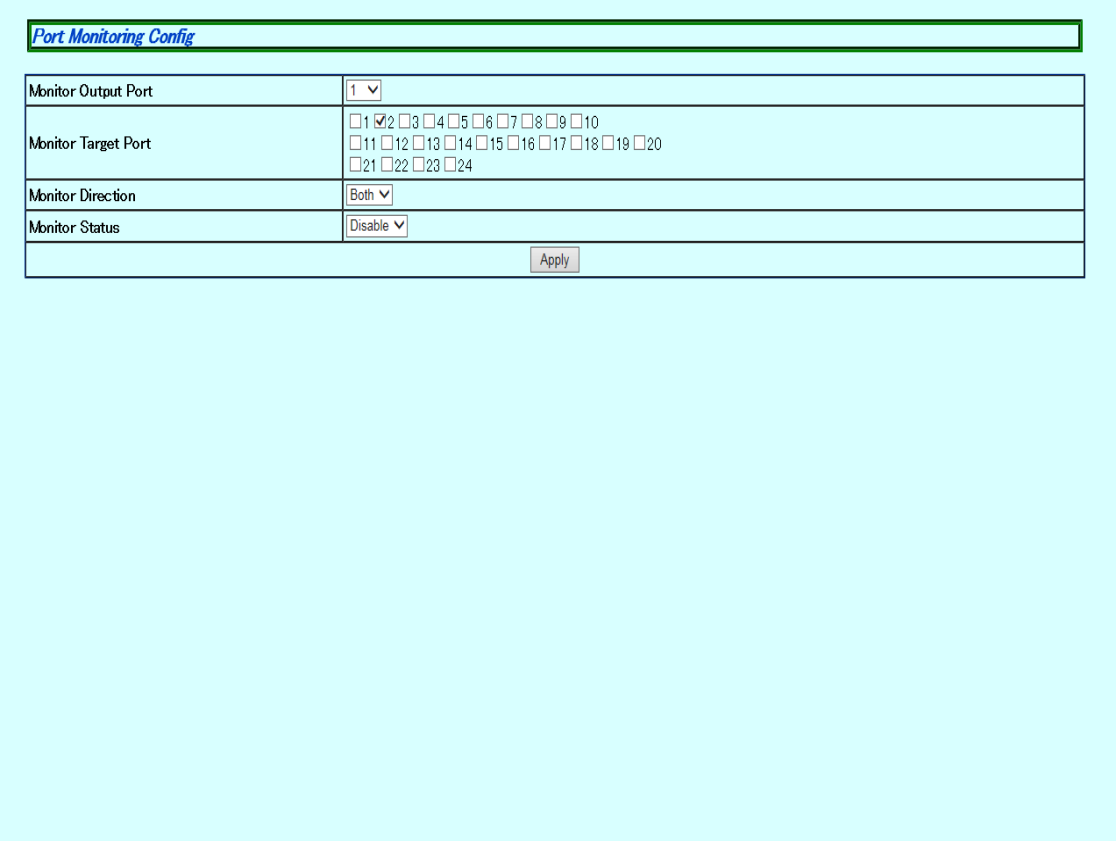


Figure 3-34 Port Monitoring Config

Screen Description

Monitor Output	Displays the port number of a port at which packets from other ports can be monitored.	
Monitor Target	Displays the port number of a port to be monitored.	
Monitor Direction	Displays which of transmit and receive packets are monitored at the port to be monitored. "Send/Recv" is the factory default setting.	
	Send	Monitors transmit packets.
	Recv	Monitors receive packets.
	Send/Recv	Monitors both transmit and receive packets.
Monitor Status	Displays whether monitoring is enabled. "Disable" is the factory default setting.	
	Enable	Monitors packets.
	Disable	Does not monitor packets.

Note: Mirror packets in transmission direction will include the VLAN tag of the received VLAN ID.

Note: Management packets such as Ping or ARP transmitted from this switch cannot be captured.

3.2.10. Classifier Config

Select "Advanced Config," and then "Classifier Config" to open the screen shown in **Figure 3-35**. On this screen, you can configure the Classifier settings.

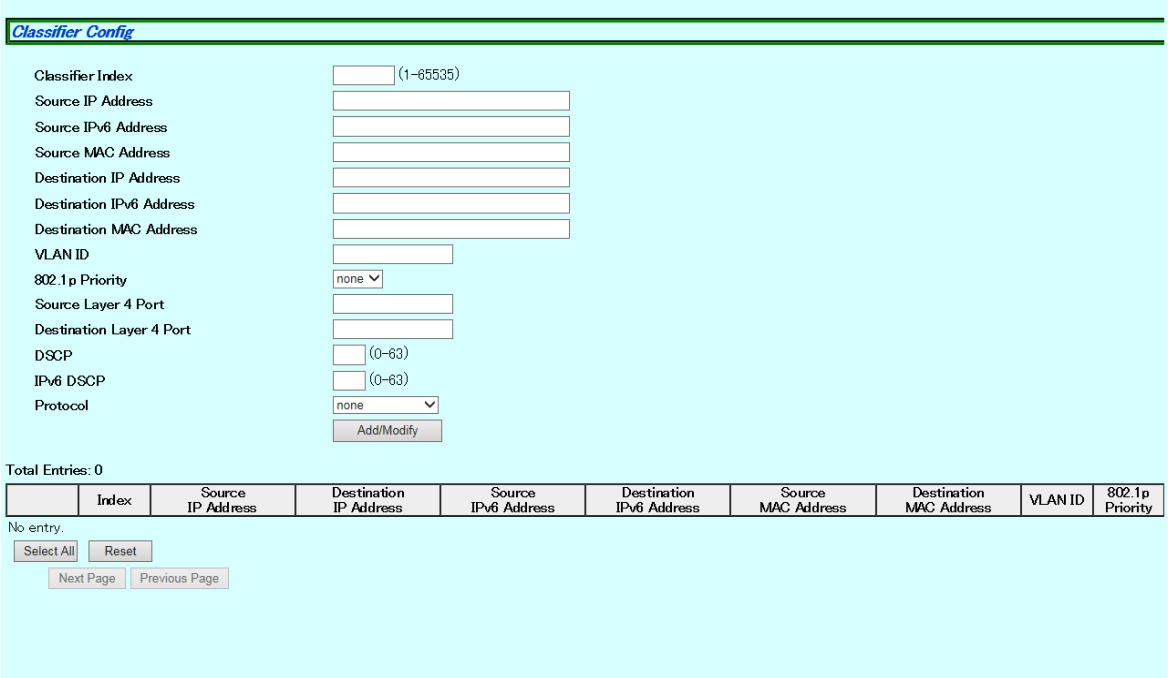


Figure 3-35 Classifier Config

Screen Description

Classifier Index	Displays the index number of Classifier.
Total Entry	Displays the number of created Classifier entries.
Index	Displays the index number of Classifier.
Source IP Address	Displays the source IP address.
Destination IP Address	Displays the destination IP address.
Source IPv6 Address	Displays the source IPv6 address.
Destination IPv6 Address	Displays the destination IPv6 address.
Source MAC Address	Displays the source MAC address.
Destination MAC Address	Displays the destination MAC address.
VLAN ID	Displays the VLAN ID.
802.1p Priority	Displays the IEEE802.1p priority.
Source Layer 4 Port	Displays the TCP/UDP sender port number.
Destination Layer 4 Port	Displays the TCP/UDP destination port number.
DSCP	Displays the DSCP value.
IPv6 DSCP	Displays the IPv6 DSCP value.
Protocol	Displays the protocol type.

TCP SYN Flag	Displays whether or not to use a filter for TCP SYN Flag.
ICMP Type	Displays the ICMP type.

3.2.11. In-Profile Action Config

Select "Advanced Config," and then "In-Profile Action Config" to open the screen shown in **Figure 3-36**. On this screen, you can configure the in-profile settings.

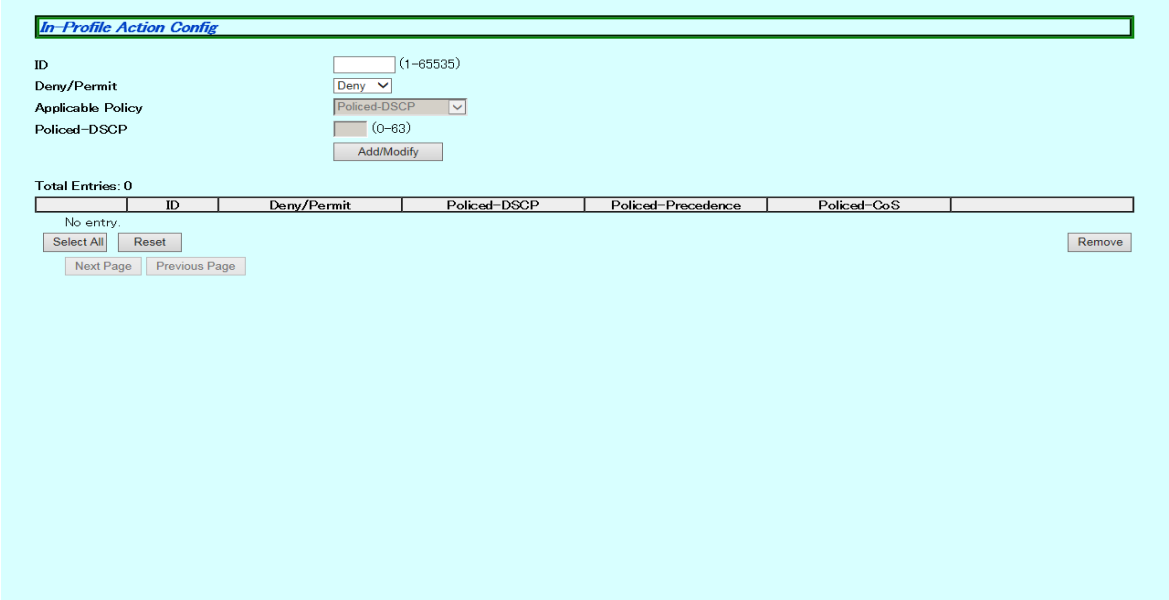


Figure 3-36 In-Profile Action Config

Screen Description

Total Entry	Displays the number of created In-profiles (number of indexes) .	
ID	Displays the index number of an In-profile.	
Behavior	Displays whether to deny or permit packets.	
	Deny	Denies packets.
	Permit	Permits packets.
Policed-DSCP	Marks the DSCP value.	
Policed-Precedence	Marks the precedence value.	
Policed-CoS	Marks the CoS value.	

3.2.12. Out-Profile Action Config

Select "Advanced Config," and then "Out-Profile Action Config" to open the screen shown in **Figure 3-37**. On this screen, you can configure the out-profile settings.

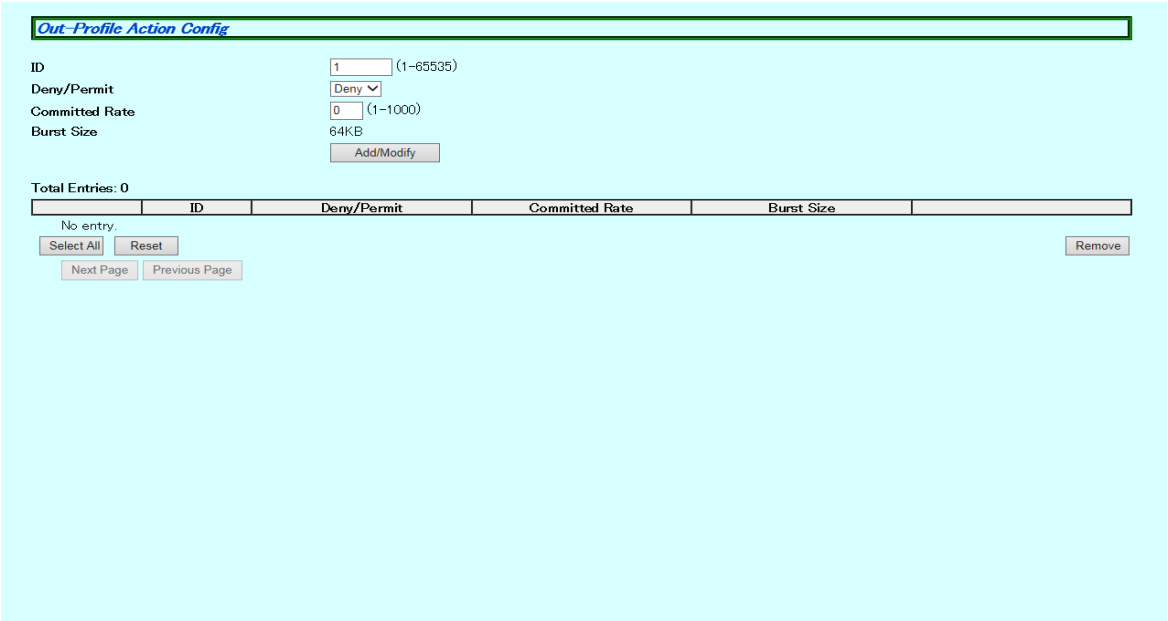


Figure 3-37 Out-Profile Action Config

Screen Description

Total Entry	Displays the number of created Out-profiles (number of indexes) .	
ID	Displays the index number of an Out-profile.	
Behavior	Displays whether to deny or permit packets.	
	Deny	Denies packets.
	Permit	Permits packets.
Committed Rate	Displays the rate at which a packet enters the buffer.	
Burst Size	Indicates the burst size of traffic that can be sent exceeding the commit rate. The following options are used: "4KB," "8KB," "16KB," "32KB," and "64KB."	

3.2.13. Port List Config

Select "Advanced Config," " and then "Port List Config" to open the screen shown in Figure 3-38. On this screen, you can configure the settings of port lists subject to Access Control.
When the Access Control function and the Link Aggregation function are used simultaneously, specify the actual physical port number instead of the number of the logical port created in Link Aggregation.

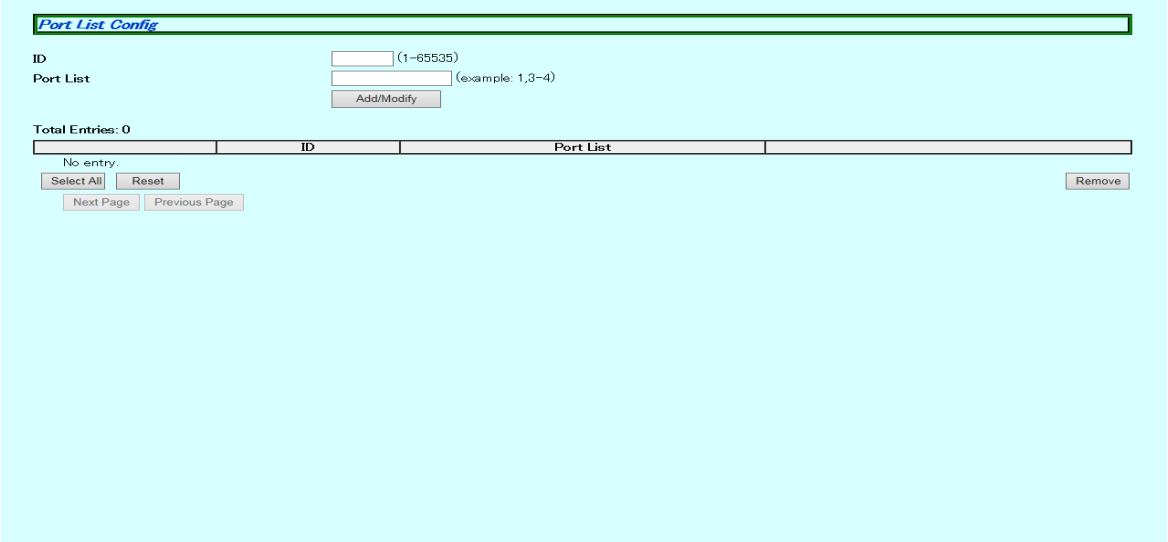


Figure 3-38 Port List Config

Screen Description

Total Entry	Displays the number of created port lists (number of indexes) .
Port List Index	Displays the index number of the port list.
ID	Displays the index number of the port list.
Port List	Displays a port number that will belong to the port list.

3.2.14. Policy Config

Select "Advanced Config," and then "Policy Config" to open the screen shown in **Figure 3-39**. On this screen, you can configure the policy settings.

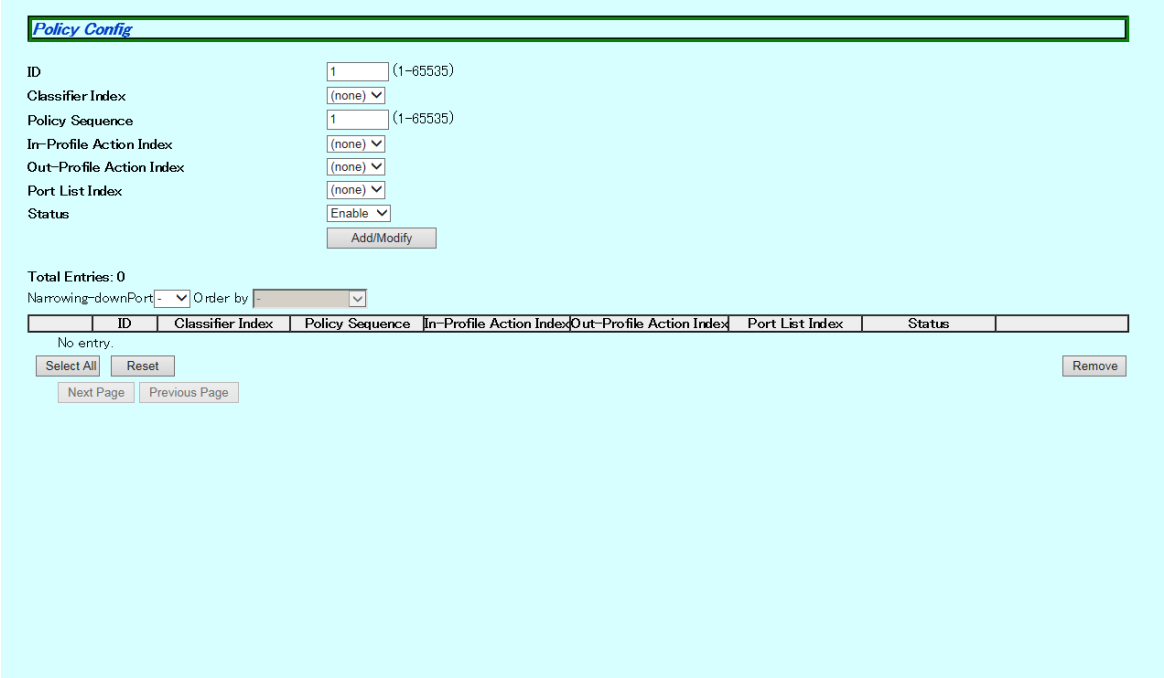


Figure 3-39 Policy Config

Screen Description

Policy Priority	Displays the policy priority. The options "1" and "2" are used to specify priority.
Total Entry	Displays the number of created policies (number of indexes) .
ID	Displays the index number of the policy.
Classifier Index	Displays the index number of Classifier.
Policy Sequence	Displays the sequence number that indicates the order of application of policies. Policies are applied from the one with the smallest sequence number.
In-Profile Action Index	Displays the index number of an In-profile.
Out-Profile Action Index	Displays the index number of an Out-profile.
Port List Index	Displays the index number of the port list.
Status	Displays the application status of the policy.

3.2.15. Loop Detection Config

Select "Advanced Config" and "Loop Detection" and then "Loop Detection Config" to open the screen shown in Figure 3-40. On this screen, you can configure the Loop detection and blocking function settings.

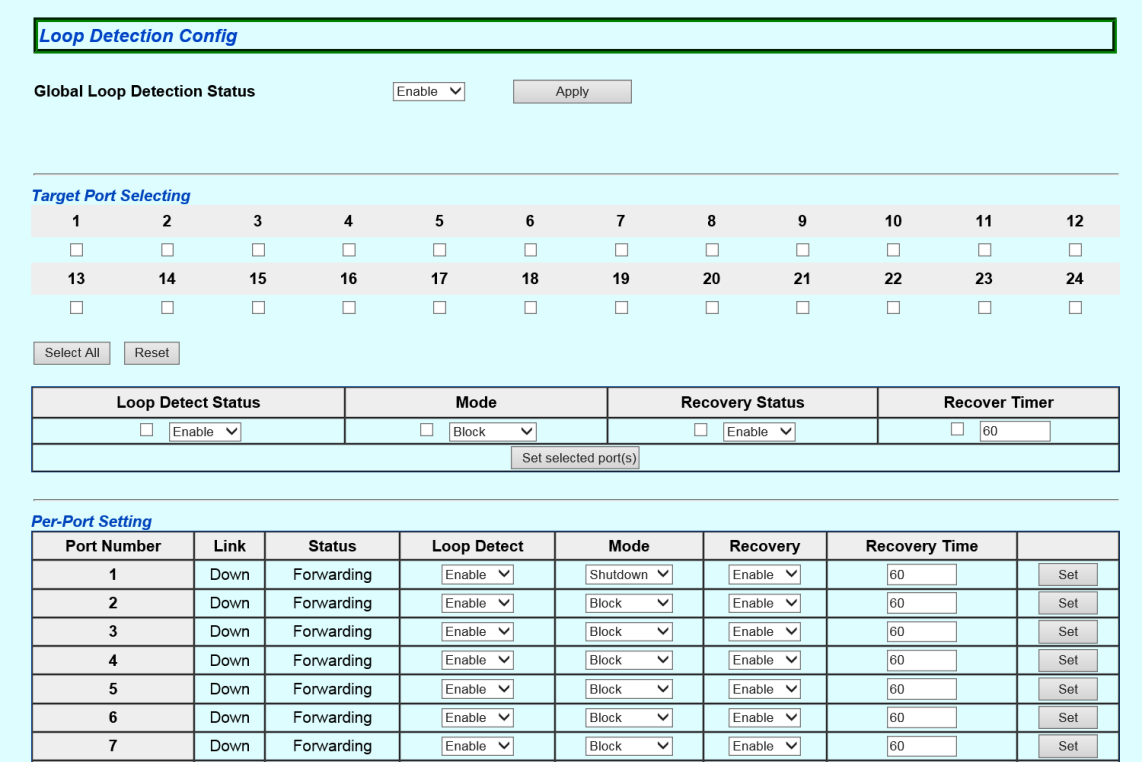


Figure 3-40 Loop Detection Config

Screen Description

Global Loop Detection Status	Displays the status of the Loop detection and blocking function.	
	Enable	Enables the Loop detection and blocking function.
	Disable	Disables the Loop detection and blocking function.
Target Port Selecting	Select multiple target ports for configuring settings at a time. Click the "Select All" button, and all ports will be selected. Click the "Reset" button, and all ports will be deselected. Click the "Set selected port (s) " button after selecting and changing the items for configuring settings at a time, and the same settings will apply to the selected ports.	
Port Number	Displays the port number.	
Link	Displays the link status.	
	Up	The link has been established successfully.
	Down	The link has not been established.
Status	Displays the status of the Loop detection and blocking function for that port.	
	Forwarding	Sending packets normally.
	Loop Detect	Detecting a loop and blocking a port.

Loop Detect	Displays the setting status of the Loop detection and blocking function for that port.	
	Enable	The Loop detection and blocking function is enabled. (the factory default setting for a downlink port)
	Disable	The Loop detection and blocking function is disabled. (the factory default setting for an uplink port)
Mode	Displays the setting status of the Loop detection mode for that port.	
	Block	When the Switching Hub detects loop, the ports are blocked (factory default setting) .
	Shutdown	When the Switching Hub detects loop, the ports are shut down.
Recovery Status	Enables/disables recovery when a port is blocked.	
	Enable	Automatically recovers a blocked port after the time specified in "Recover Timer" passed (factory default setting) .
	Disable	Does not recover a blocked port until manually configured.
Recover Timer	Enters the time until recovery when a port is blocked. The factory default setting is 60 seconds.	

3.2.16. Loop History Info

Select "Advanced Config" and "Loop Detection" and then "Loop History Info" to open the screen shown in **Figure 3-41**. On this screen, you can view the loop detection/block date and time and a list of event information.

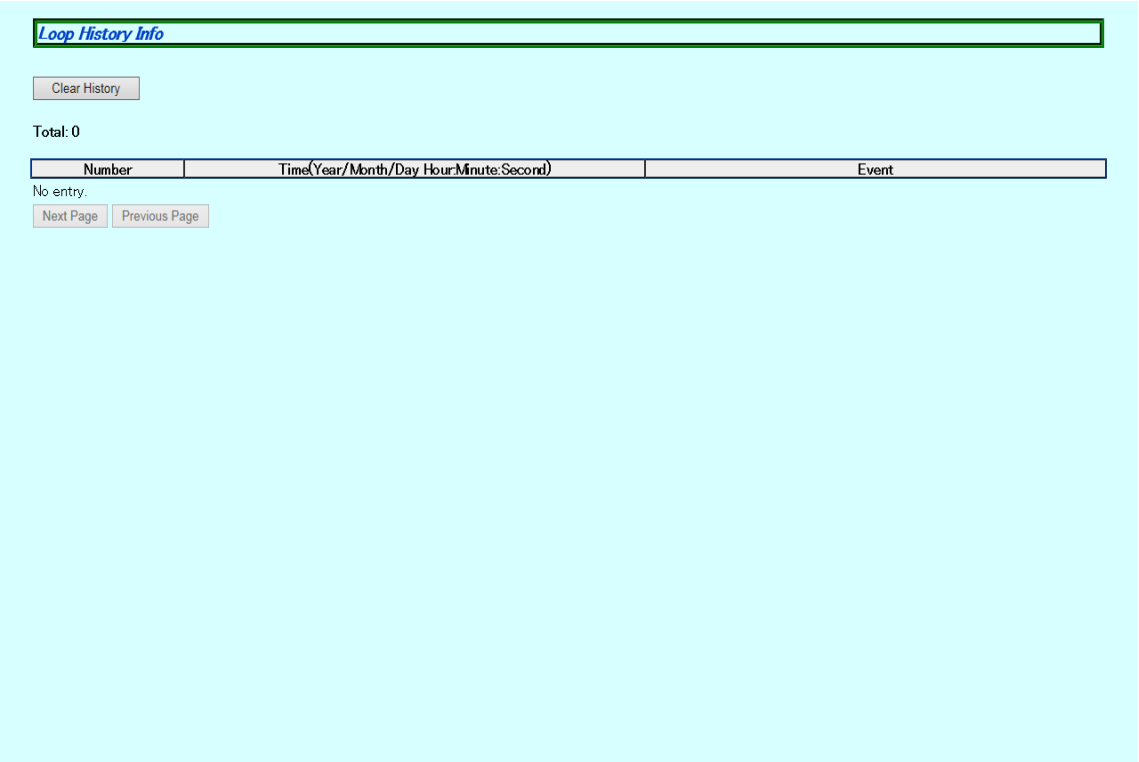


Figure 3-41 Loop History Info

Screen Description

Clear History	Clears the saved loop history information.	
Number	Displays the loop detection and block event number.	
Time	Displays the time when the loop detection and block event occurred.	
Event	Displays the description of the loop detection and block event.	
	The loop detected on portX.	Indicates that a loop occurred in switches under the displayed ports.
	The loop detected between portX and portY.	A loop occurred between the displayed ports.
	PortX auto recovery.	Indicates that auto-recovery was conducted after loop detection and block.
Next Page	Switches the display range of a list.	
Previous Page		

3.2.17. Port Group Config

Select "Advanced Config" and "Port Group Config" to open the screen shown in Figure 3-43. On this screen, you can configure the port grouping settings. With port grouping, ports specified as members of the port group can communicate only with the member ports in the same group. Each port can be assigned to multiple port groups. Figure 3-42 shows an example of configuration using port grouping.

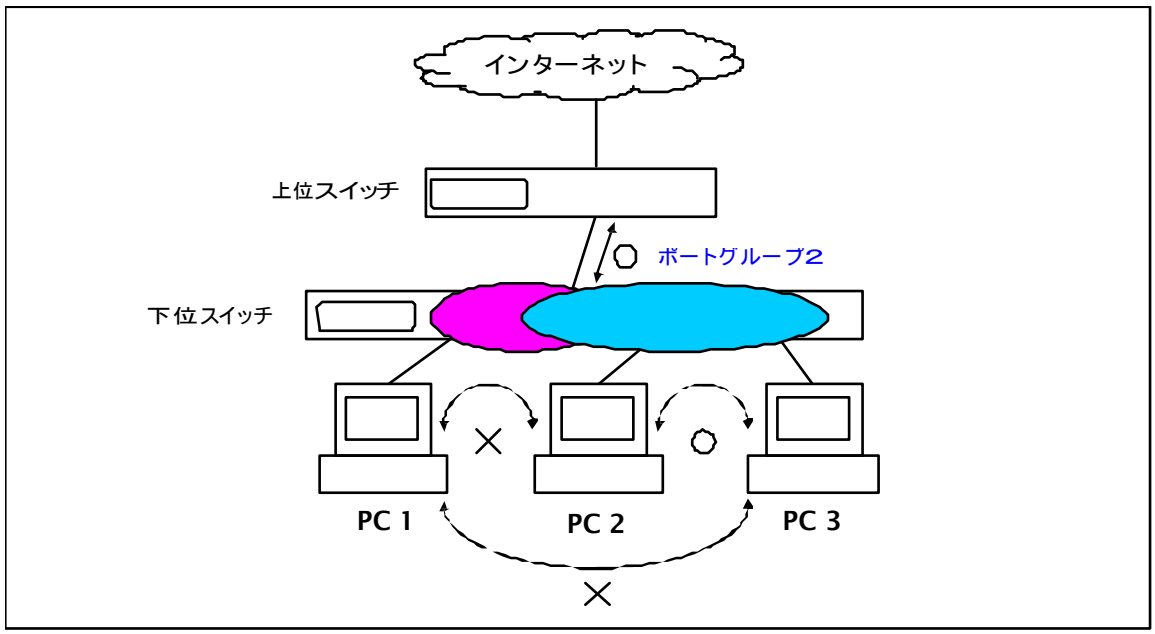


Figure 3-42 Example of Configuration Using Port Grouping

(Configuration to allow communication between PC1 and the Internet and between PC2, PC3 and the Internet)

Note: The Loop detection and blocking function executes loop detection and blocking of frames also between different port groups.
If the trunk port of Link Aggregation is set across more than one port group, frames may not be transferred normally.

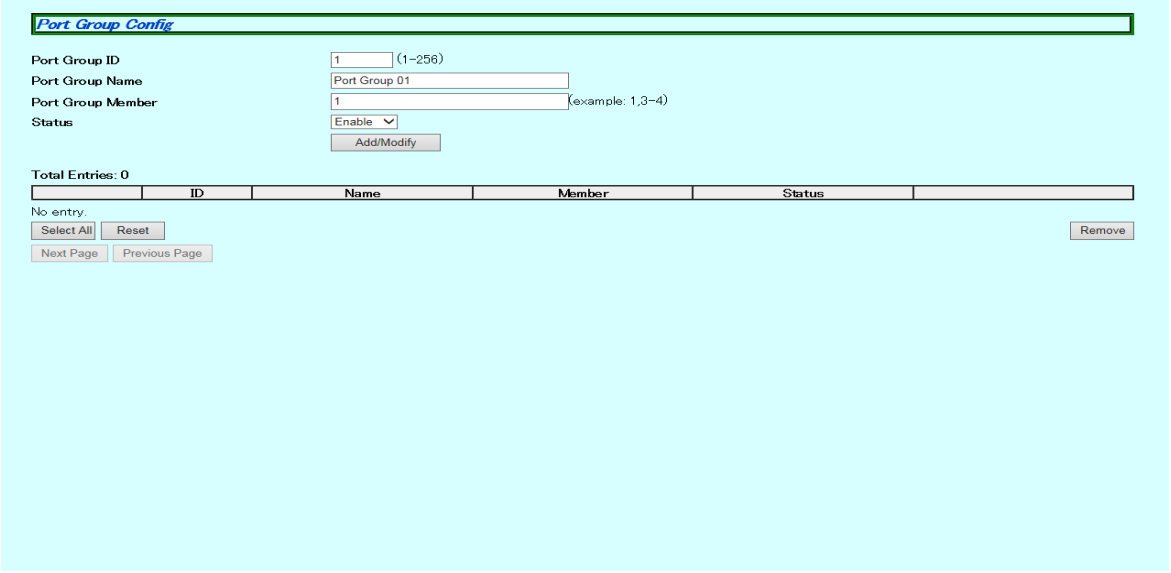


Figure 3-43 Port Group Config

Screen Description

Port Group ID	Displays a port group ID.
Port Group Name	Displays the name of the set port group.
★ポートグループメンバーポート	Displays the member ports that belong to the port group.
Total Entry	Displays the number of created port groups （number of indexes）.
ID	Displays a port group ID.
Name	Displays the name of the set port group.
Member	Displays the member ports that belong to the port group.
Status	Displays the status of the port group.

3.2.18. DMI (DDM) Config

Select "Advanced Config" and "DMI (DDM) Config" to open the screen shown in Figure 3-44. On this screen, you can configure the DMI (Digital Diagnostic Monitoring Interface) settings.

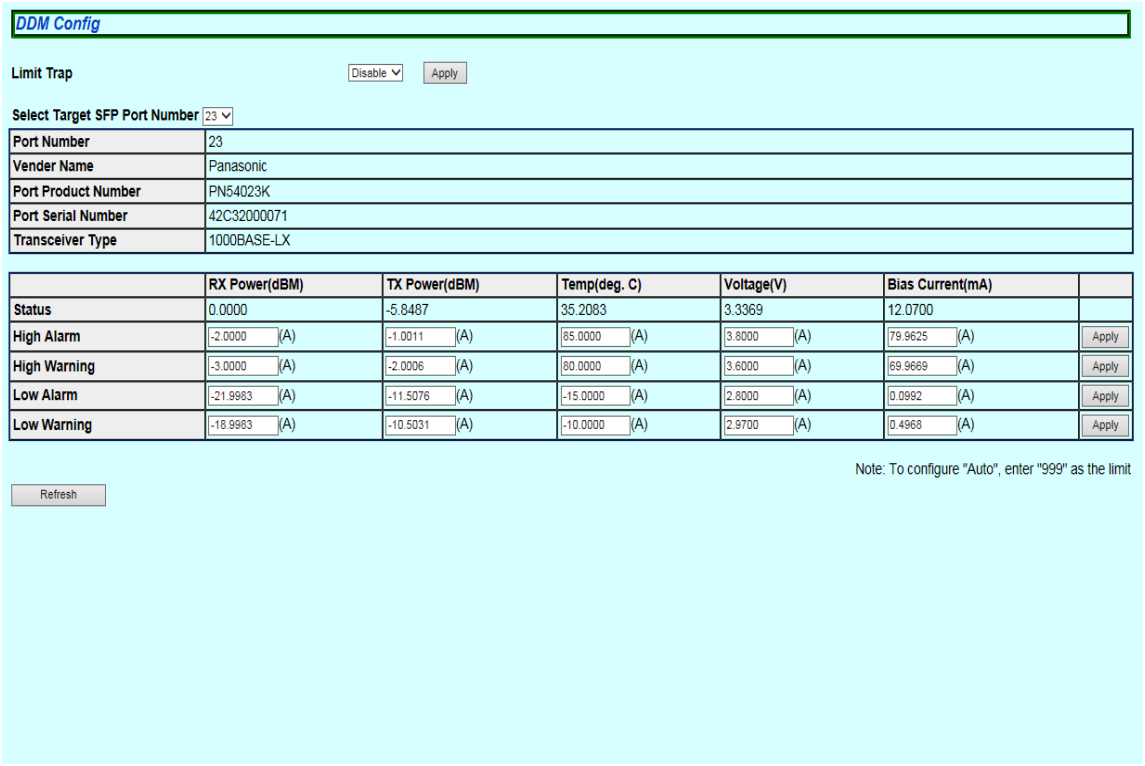


Figure 3-44 DMI (DDM) Config

Screen Description

Limit Trap	Displays the status of the Limit Trap function.	
	Enable	Enables Limit Trap.
	Disable	Disables Limit Trap.
Target SFP Port Number	Displays the SFP port number to be displayed and configured.	
Vendor Name	Displays the vendor name.	
Port Product Number	Displays the product number.	
Port Serial Number	Displays the serial number.	
Transceiver Type	Displays the Transceiver Type.	
RX Power(dBm)	Displays the current, maximum, and minimum values of RX Power(dBm). The maximum and minimum values can be configured.	
TX Power(dBm)	Displays the current, maximum, and minimum values of TX Power(dBm). The maximum and minimum values can be configured.	
Temp(deg.C)	Displays the current, maximum, and minimum values of Temp(deg.C). The maximum and minimum values can be configured.	
Voltage(V)	Displays the current, maximum, and minimum values of Voltage(V). The maximum and minimum values can be configured.	
Bias Current(mA)	Displays the current, maximum, and minimum values of Bias Current(mA). The maximum and minimum values can be configured.	

3.2.19. Static Multicat Address

Select "Advanced Config" and then "Static Multicast Address" to open the screen shown in Figure 3-45. On this screen, you can configure the Static Multicast Group settings.

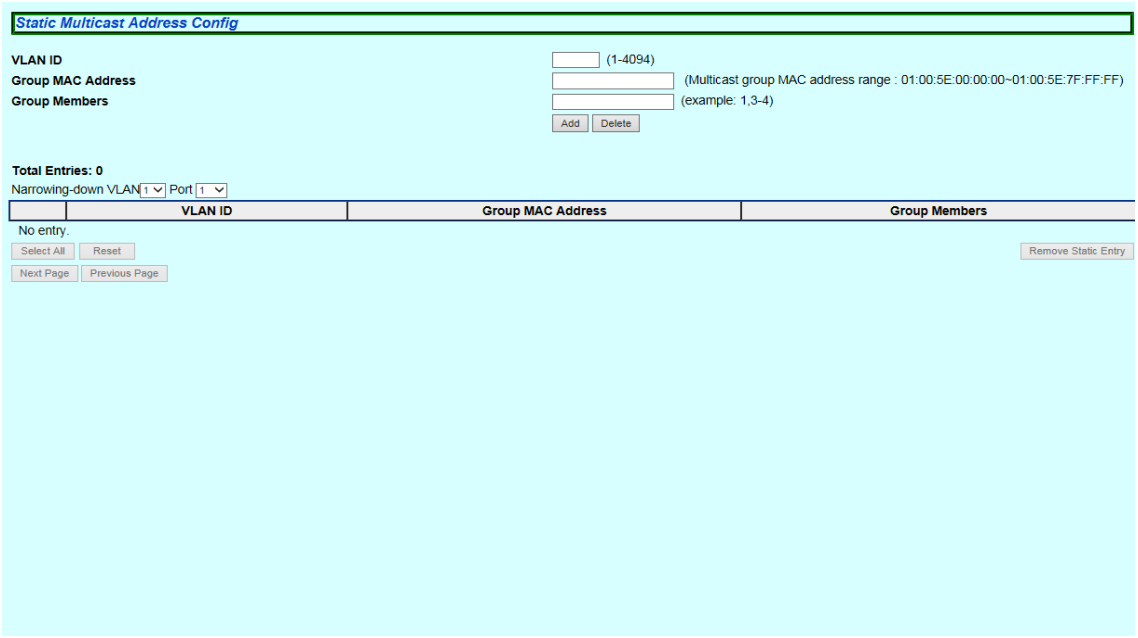


Figure 3-45 Static Mulitcast Address

Screen Description

VLAN ID	Displays the VLAN ID of the multicast group.
Group MAC Address	Displays the MAC address of the multicast group.
Group Member	Displays the ports included in a multicast group.

3.3. System Tools

3.3.1. Software Update

Select "System Tools" and "Software Update" to open the screen shown in **Figure 3-46**. On this screen, you can update the firmware.

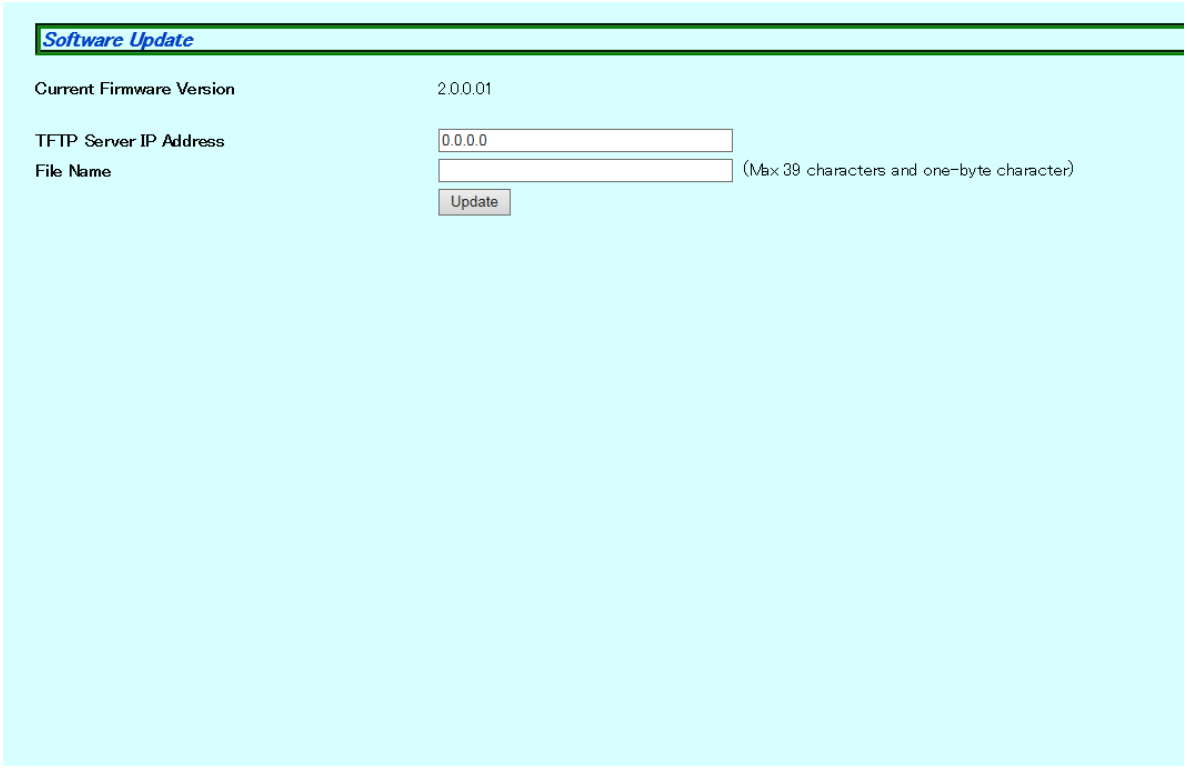


Figure 3-46 Software Update

Screen Description

Current Firmaware Version	Displays the current firmware version.
TFTP Server IP Address	Displays the IP address of the TFTP server on which the firmware for update has been saved.
File Name	Displays the file name of the firmware for update.

Note: Before updating the firmware, you must save the configuration information in accordance with Section 3.3.3. Unless you save the configuration information, the settings configured so far will be deleted upon restart.

Click the "Update" button to open the screen shown in Figure 3-47, and firmware data will be transferred. To stop the data transfer, click the "Cancel Download" button.

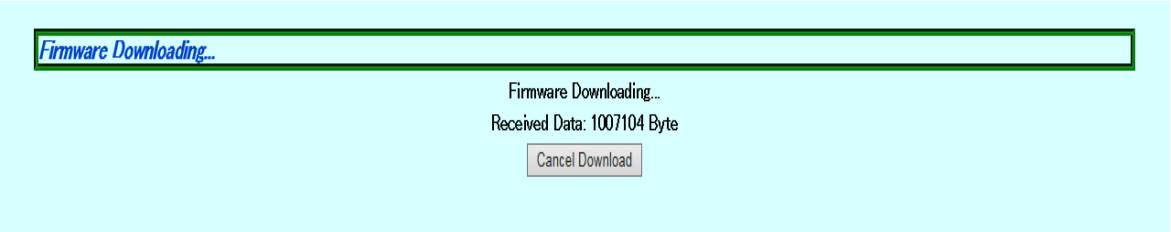


Figure 3-47 Firmware Data Being Transferred

When it has been completed, the firmware data will be rewritten after the screen shown in Figure 3-48 appears.

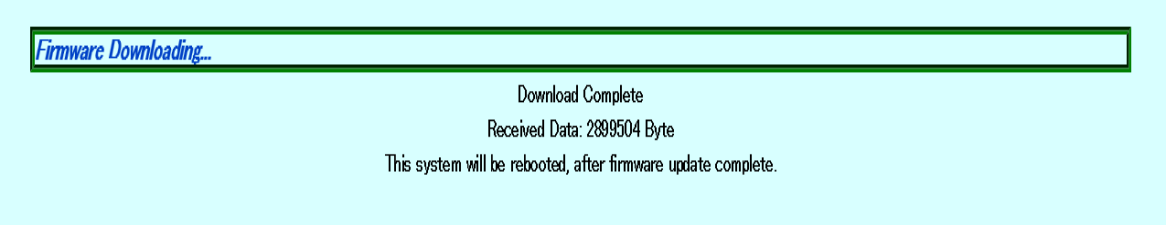


Figure 3-48 Firmware Data Being Rewritten

When rewriting the data has been completed, this switch will be automatically reboot.

3.3.2. Reboot

Select "System Tools" and "Reboot" to open the screen shown in Figure 3-49. On this screen, you can reboot this switch.

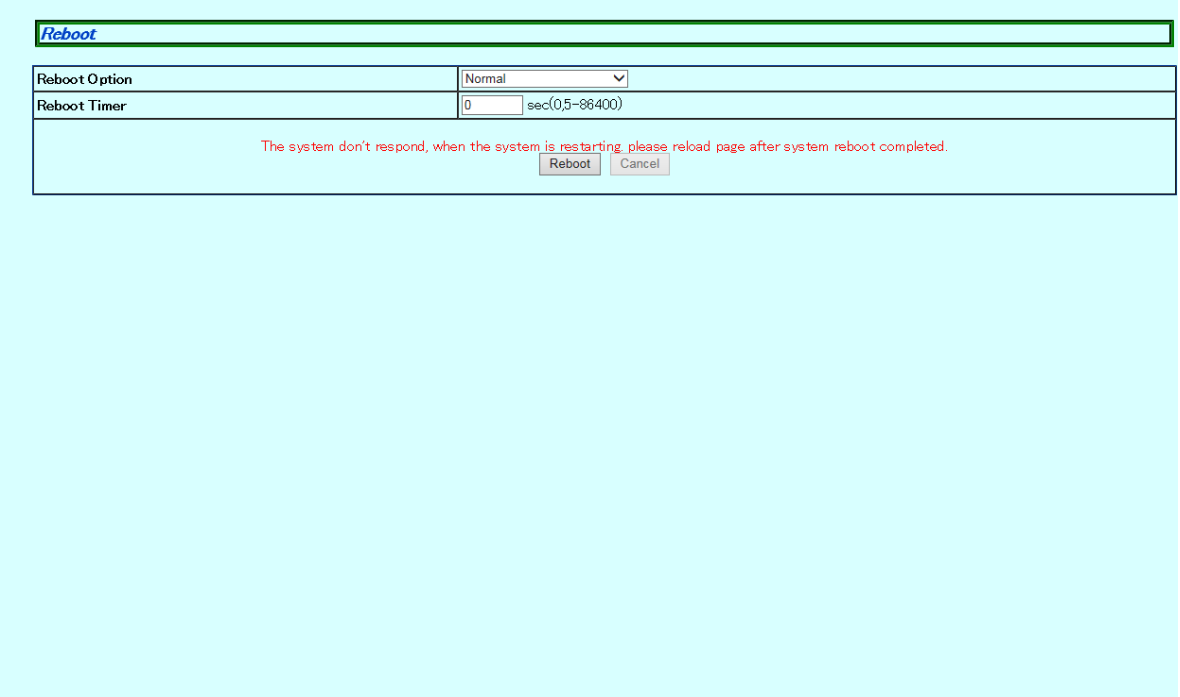


Figure 3-49 Reboot

Screen Description

Reboot Option	Displays the reboot method. "Normal" is the factory default setting.	
	Normal	Normal reboot is conducted.
	Factory Default	All the settings are reset to the factory default settings.
	Factory Default Except IP	All the settings except the IP address are reset to the factory default settings.
Reboot Timer	Displays the time between execution of the reboot command and actual reboot. The factory default setting is 0 seconds.	

Note: There is no response while reboot is in progress. Reload the settings after reboot is completed.

Click the "Reboot" button, and this switch will be reboot after the screen shown in Figure 3-50 appears.

Figure 3-50 Rebooting

When the switch has been rebooted, the "Reload" button will be enabled. Click it to reload the screen.

3.3.3. Save Current Config

Select "System Tools" and "Save Current Config" to open the screen shown in **Figure 3-51**. On this screen, you can save configuration information.

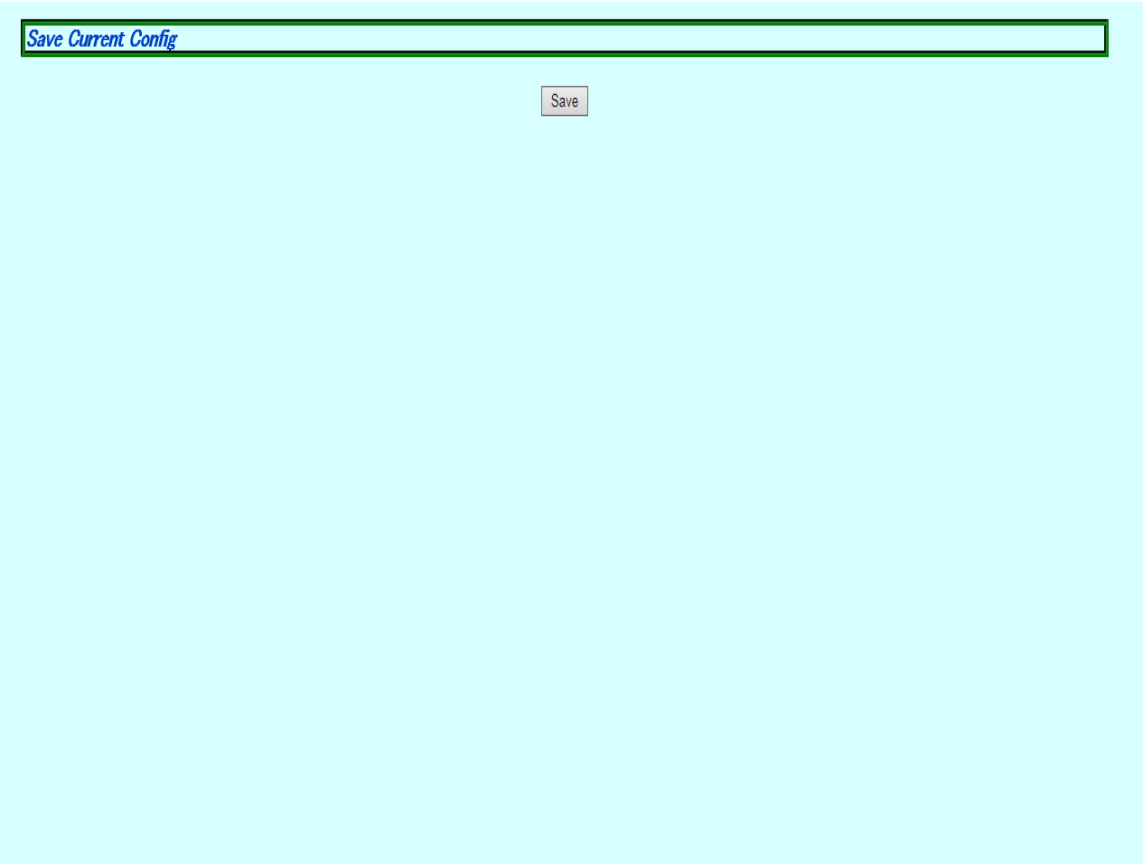


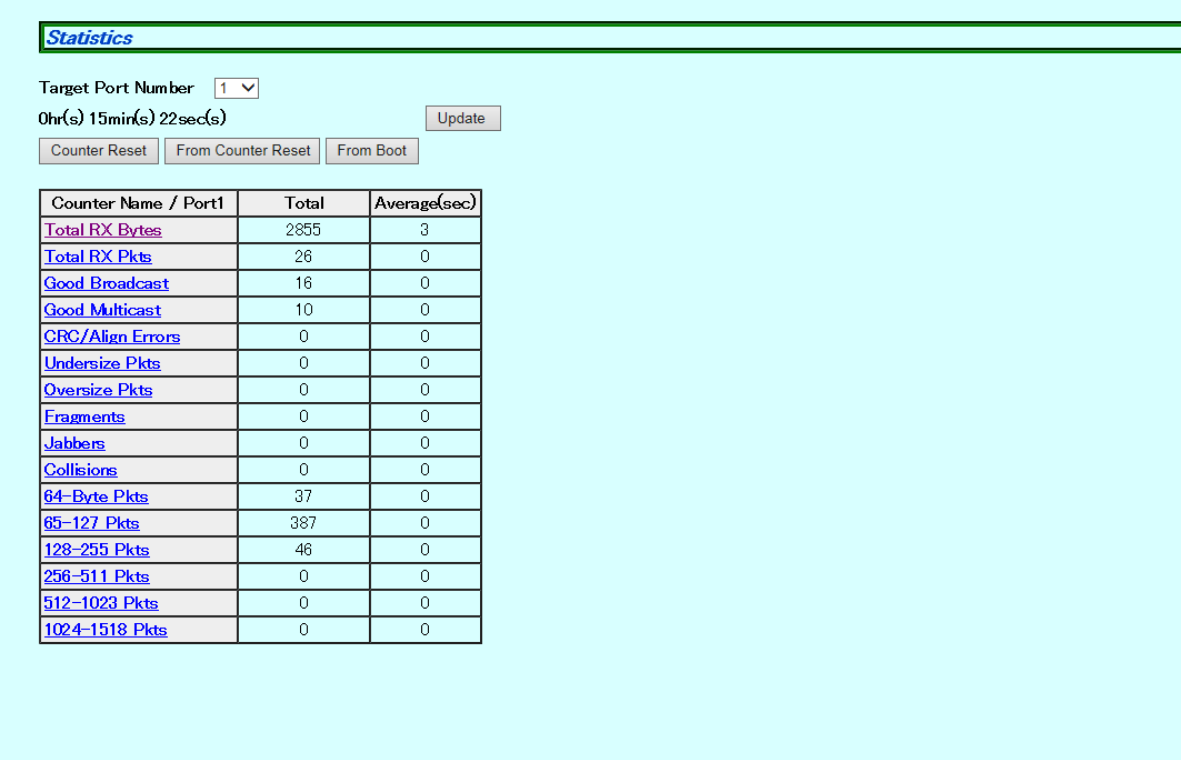
Figure 3-51 Save Current Config

Click "Save" to save the settings of this switch to its internal RAM. Unless the configuration information is saved, the settings configured so far will not be reflected after restart.

After saving is completed, the message "**Save Completed**" is displayed.

3.3.4. Statistics

Select "System Tools" and "Ststistics" to open the screen shown in **Figure 3-52**. On this screen, you can check the statistic information.



Counter Name / Port1	Total	Average(sec)
Total RX Bytes	2855	3
Total RX Pkts	26	0
Good Broadcast	16	0
Good Multicast	10	0
CRC/Align Errors	0	0
Undersize Pkts	0	0
Oversize Pkts	0	0
Fragments	0	0
Jabbers	0	0
Collisions	0	0
64-Byte Pkts	37	0
65-127 Pkts	387	0
128-255 Pkts	46	0
256-511 Pkts	0	0
512-1023 Pkts	0	0
1024-1518 Pkts	0	0

Figure 3-52 Statistic Information

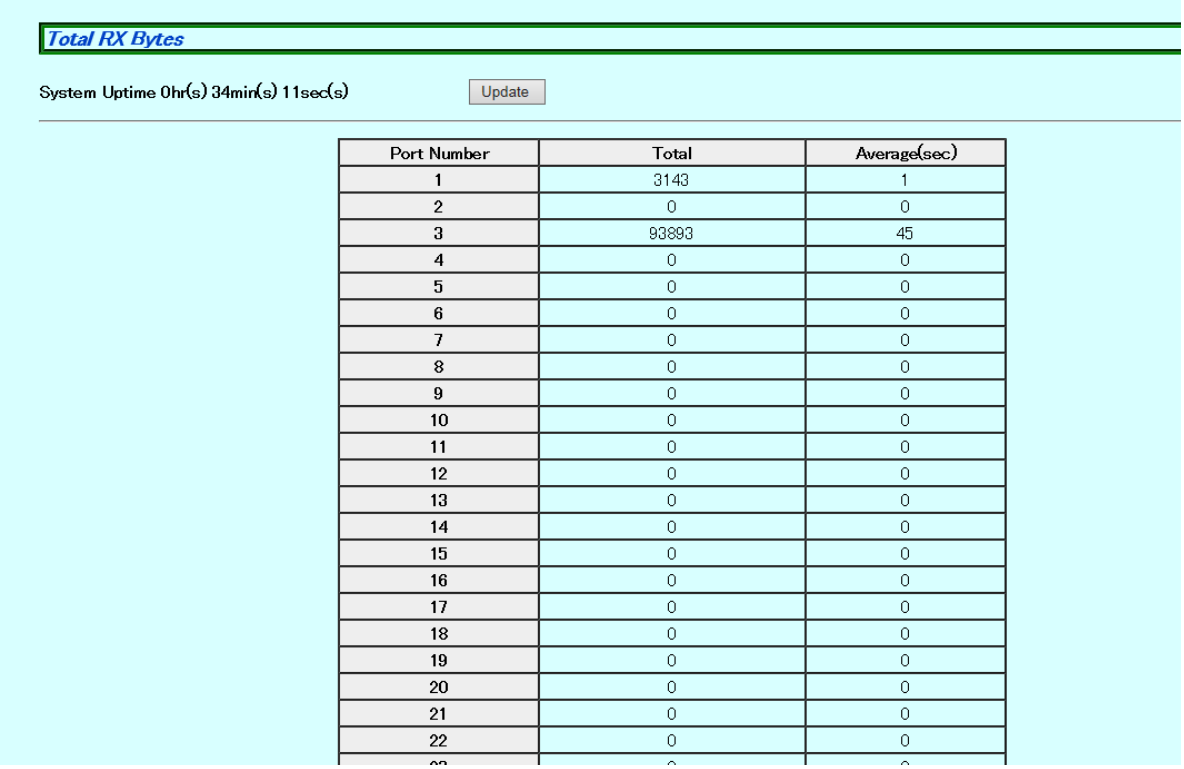
Screen Description

Target Port Number	Select the target port number.
Elapsed time	Displays the time elapsed since power-on or counter reset of this switch. Click the "Update" button, and the elapsed time or counter value will be refreshed.
Counter Reset	Resets each counter value and returns the elapsed time since counter reset to 0. (the elapsed time and counter value since power-on will not be reset) .
From Counter Reset	Switches to the elapsed time and counter value since counter reset.
From Boot	Switches to the elapsed time and counter value since power-on.
Counter Name	Displays the counter name.
Total	Displays the counter value.
Average (sec)	Displays the average counter value per second.

The counter values are listed below.

Total RX Bytes	Displays the number of bytes of all packets received.
Total RX Pkts	Displays the number of all packets received.
Good Broadcast	Displays the number of broadcast packets received.
Good Multicast	Displays the number of multicast packets received.
CRC/Align Errors	Displays the number of error packets that have a normal packet length (64 to 1518 bytes) ; however, have an error found by an error detection code (FCS) . If the packet length is an integral multiple of one byte, the error is a CRC (FCS) error. If not, it is an alignment error.
Undersize Pkts	Displays the number of error packets that have a packet length less than 64 bytes; however, have no other errors.
Oversize Pkts	<When the Jumbo status is Disabled> Displays the number of packets having a packet length greater than 1518 bytes. <When the Jumbo status is Enabled> Displays the number of packets having a packet length greater than 9216 bytes.
Fragments	Displays the number of error packets that have a packet length less than 64 bytes and have a CRC or alignment error.
Jabbers	Displays the number of error packets that have a packet length less than 1518 bytes and have a CRC or alignment error.
Collisions	Displays the number of packet collisions.
64-Byte Pkts	Displays the total number of packets having a packet length of 64 bytes.
65-127 Pkts	Displays the total number of packets that have a packet length of 65 to 127 bytes.
128-255 Pkts	Displays the total number of packets that have a packet length of 128 to 255 bytes.
256-511 Pkts	Displays the total number of packets that have a packet length of 256 to 511 bytes.
512-1023 Pkts	Displays the total number of packets that have a packet length of 512 to 1023 bytes.
Over 1024 Pkts	Displays the total number of packets that have a packet length of 1024 bytes or greater. * This item is displayed when the Jumbo Status is Disable.
1024-1518 Pkts	Displays the total number of packets that have a packet length of 1024 to 1518 bytes. * This item is displayed when the Jumbo Status is Enable.

Click a counter name to open the screen shown in **Figure 3-53**. This screen displays the totals and per-second averages of the counter by port.



Port Number	Total	Average(sec)
1	3143	1
2	0	0
3	93893	45
4	0	0
5	0	0
6	0	0
7	0	0
8	0	0
9	0	0
10	0	0
11	0	0
12	0	0
13	0	0
14	0	0
15	0	0
16	0	0
17	0	0
18	0	0
19	0	0
20	0	0
21	0	0
22	0	0

Figure 3-53 Statistic Information of a Counter by Port

Screen Description

System Uptime	Displays the elapsed time since power-on of this switch. Click the "Update" button, and the elapsed time or counter value will be refreshed.
Port Number	Displays the port number.
Total	Displays the counter value.
Average (sec)	Displays the average counter value per second.

3.3.5. System log

Select "System Tools" and "System log" to open the screen shown in Figure 3-54. This screen displays the logs of events that occurred on this switch. By viewing events, you can keep track of phenomena that occurred on this switch, which are useful for network management.

Figure 3-54 System Log

Some of the events displayed on this screen are linked to SNMP traps. When trap occurrence has been configured, events are displayed. The relationship with traps are shown below.

Screen Description

Delete Log	Deletes the saved system log.
Number	Displays the event number.
Time	Displays the time when the event occurred. Displays the time accumulated after the boot of this switch if the clock is not set.
Event	Displays the description of the event that occurred on this switch.
Next Page	Switches the display range of a list.
Previous Page	
Last Page	Displays the range of the list including the last event.
Display Syslog of Number	Displays the range of the list including the event with a specified number.

Note: Up to 256 system logs are saved. If 257 or more system logs are created, the oldest system log will be deleted and overwritten with a new log.

3.3.6. Config File Transfer

Select "System Tools" and "Config File Transfer" to open the screen shown in **Figure 3-55**. On this screen, you can upload and download configuration files.

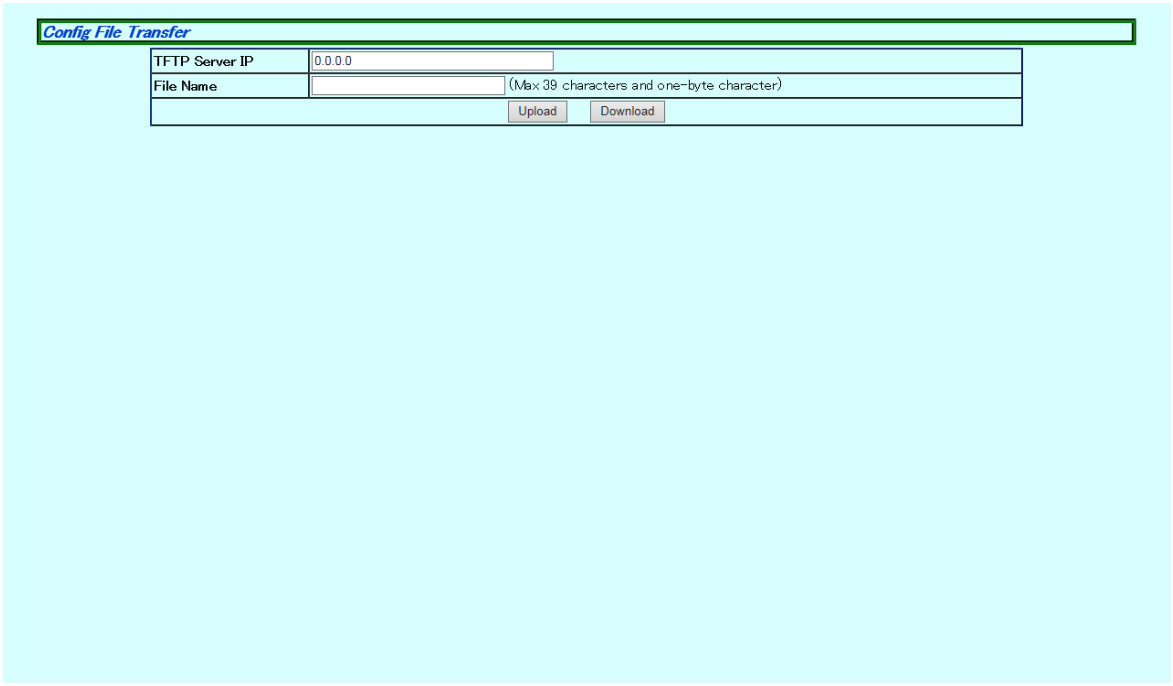


Figure 3-55 Config File Transfer

Screen Description

TFTP Server IP	Displays the IP address of the TFTP server that saves and reads configuration information.
File Name	Displays the file name of the configuration information.

Select "Upload" to save the configuration information to the TFTP server or "Download" to load the configuration information to this switch.

When the upload or download has been completed, the screen shown in **Figure 3-56** will appear. Check the execution result.
Click the "Back to previous page," and the screen will return to "Config File Transfer."

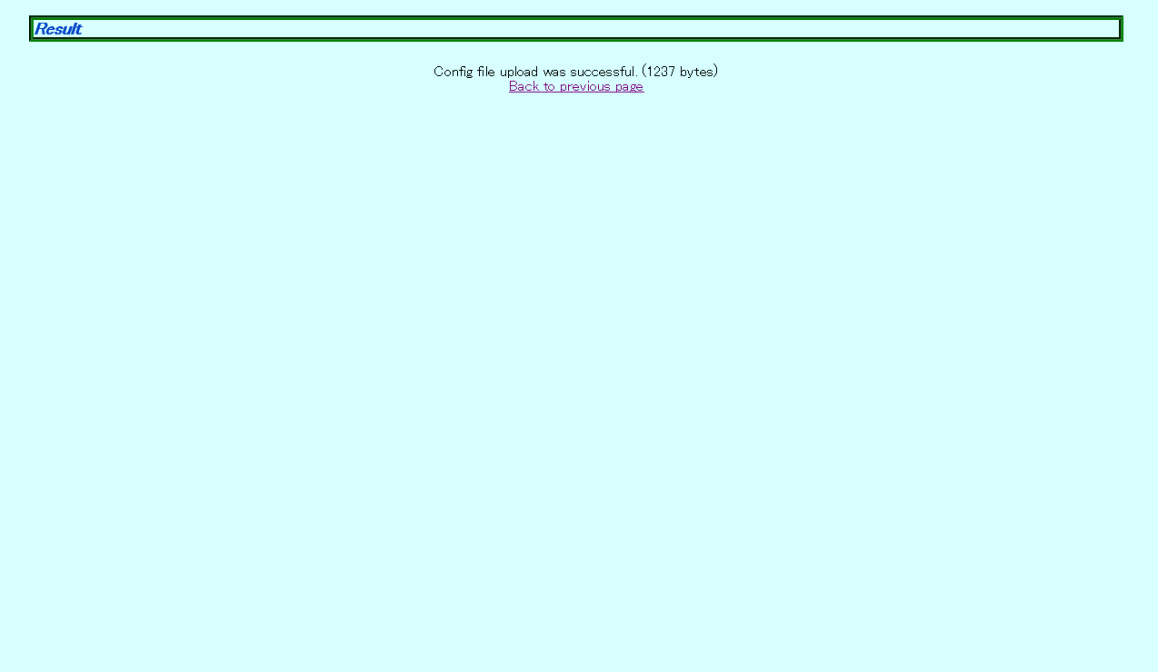


Figure 3-56 Execution Result (After Completion of Upload)

3.3.7. Ping Execution

Select "System Tools" and "Ping Execution" to open the screen shown in **Figure 3-57**. On this screen, you can check communications by sending pings to other devices connected to this switch.

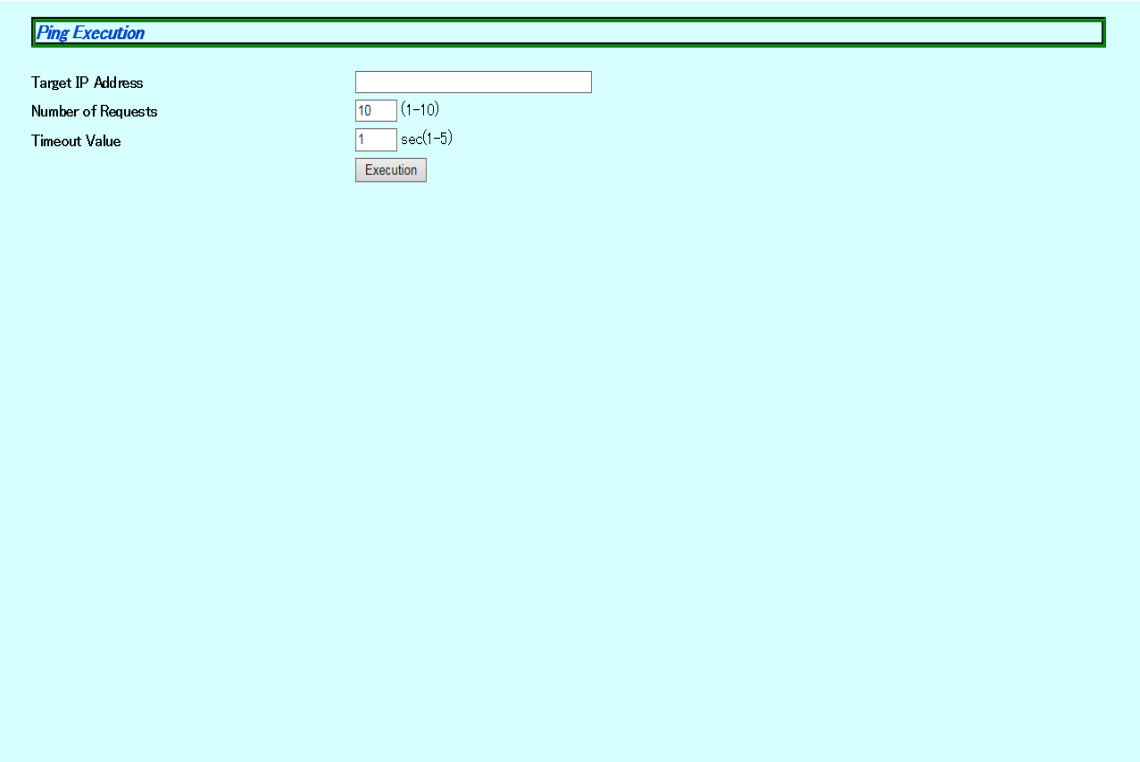


Figure 3-57 Ping Execution

Screen Description

Target IP Address	Displays the IP address of the target to which a ping is sent. "0.0.0.0" is the factory default setting.
Number of Request	Displays the number of times a ping is to be sent. The factory default setting is 10.
Timeout Value	Displays the timeout time. The factory default setting is 3 seconds.

Click the "Execution" button, and pings will be sent. After the pings have been sent a specified number of times, the execution result will appear as shown in **Figure 3-58**.

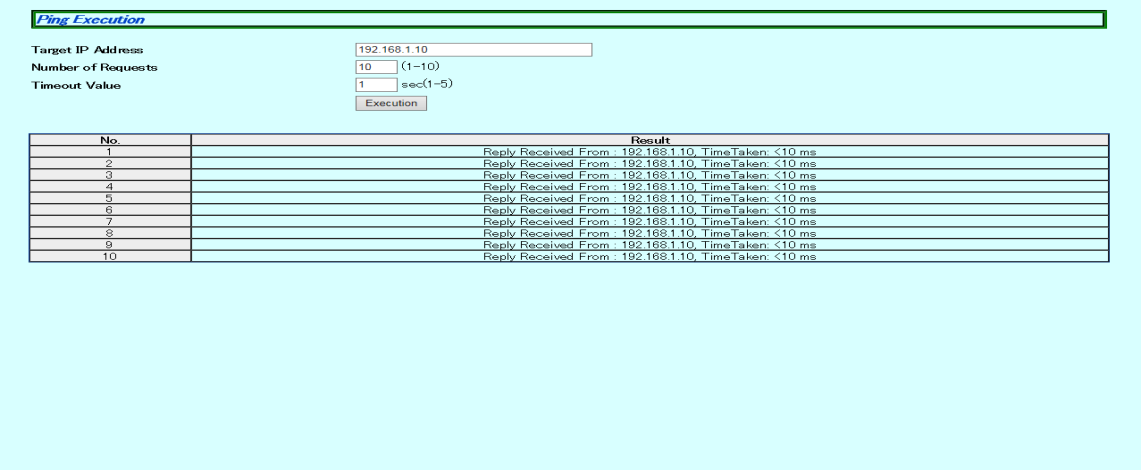


Figure 3-58 Execution Result of Pings

3.3.8. Exception Handler

Select "System Tools" and "Exception Handler" to open the screen shown in **Figure 3-59**. On this screen, you can configure the software exception handling operations.
When the exception handling function is enabled, a detected software exception is processed in the method specified in "Exception Handler Mode."

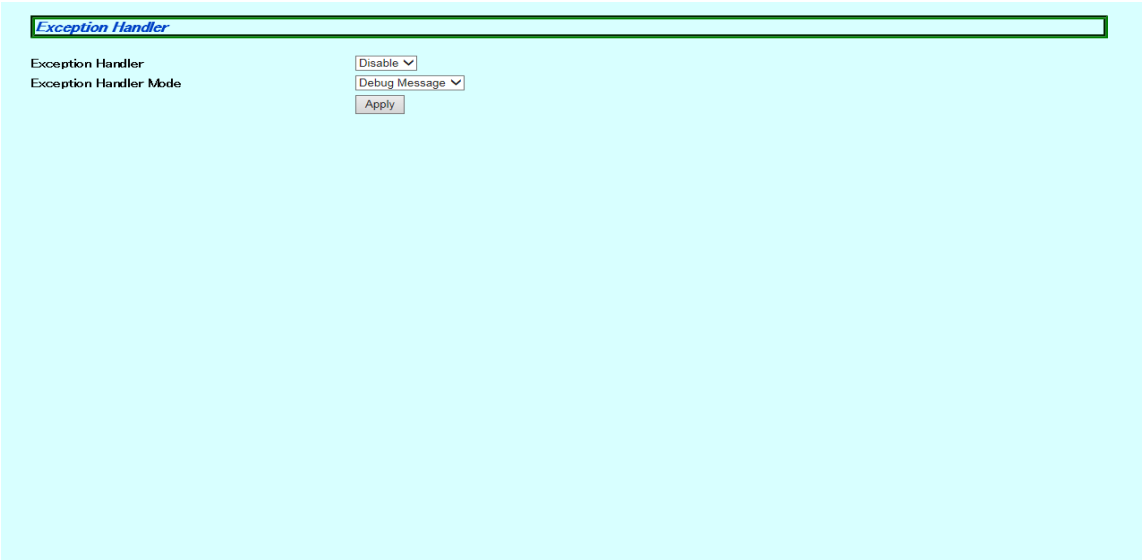


Figure 3-59 Ping Execution

Screen Description

Exception Handler	Displays the exception handling function status.	
	Enable	Enables the exception handling function.
	Disable	Disables the exception handling function (factory default setting) .
Exception Handler Mode	Displays the exception handling method.	
	Debug Message	Outputs a debug message to the console when exception handling is detected (factory default setting) .
	Reboot	Automatically reboots when exception handling is detected.
	Both	Outputs a debug message to the console and then automatically reboots when exception handling is detected.

3.3.9. Watch Dog Timer

Select "System Tools" and "Watchdog Timer" to open the screen shown in **Figure 3-60**. The Watchdog Timer function periodically monitors that software running on the system works properly. When this function is enabled, this switch will be reboot if the software has abnormality.

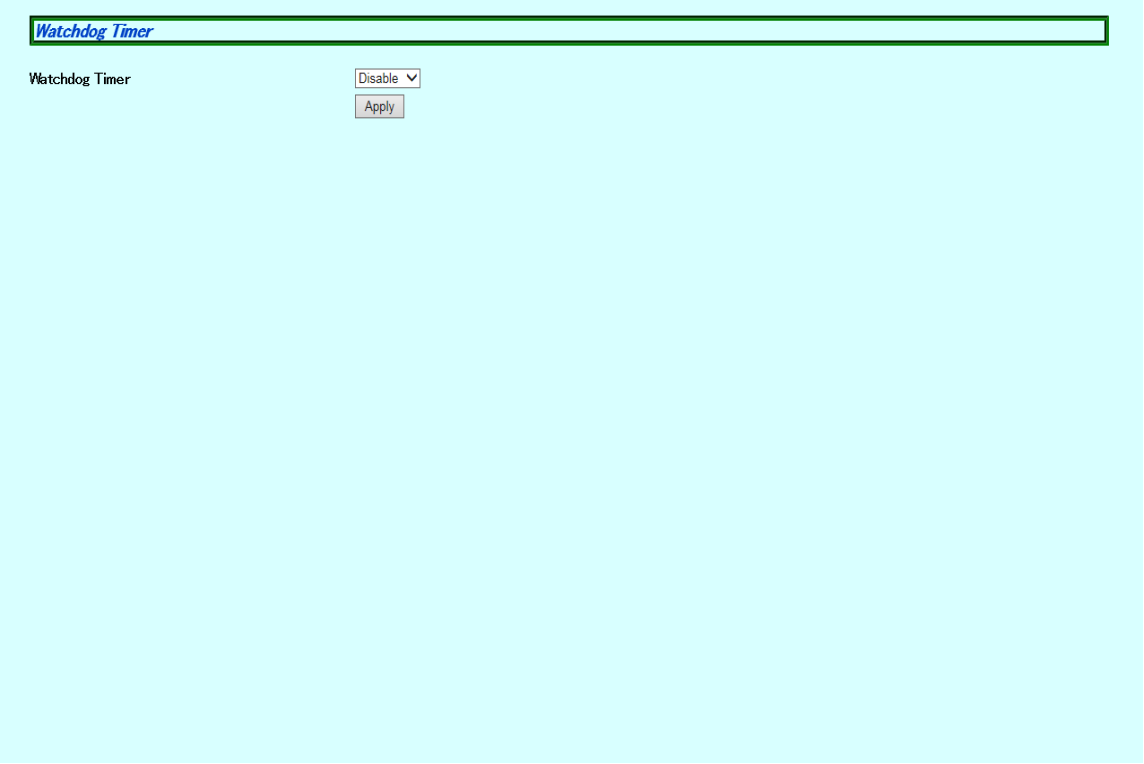


Figure 3-60 Watchdog Timer

Screen Description

Watchdog Timer	Displays the status of the Watchdog Timer function.	
	Enable	Enables the Watchdog Timer.
	Disable	Disables the Watchdog Timer (factory default setting) .

Appendix A.Specifications

Refer to "Operation Manual for Menu Screens" for your switching hub to read the specifications.

Appendix B.Easy IP Address Setup Function

The following are points to note when using the easy IP address setup function.

[Known Compatible Software]
"ZEQUO assist" Ver.2.1.1.1

[User-settable Items]
- IP address, subnet mask, and default gateway

[Restrictions]
- The time for accepting setting changes is limited to 20 minutes after power-on to ensure security.
  However, you can change settings regardless of the time limit if the IP address, subnet mask, default gateway, user name, and password values are set to factory defaults.
  * Even after the time limit is reached, you can check the current settings displayed in a list.

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