

FCC Certifications



This Equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received; including interference that may cause undesired operation.

CE Mark Warning



This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022 class A for ITE, the essential protection requirement of Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

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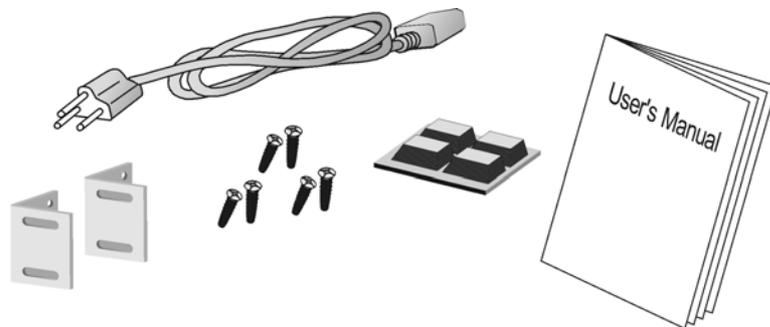
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1. Unpacking Information

Thank you for purchasing the 24+2G Mini GBIC SNMP Switch. Before you start, please verify the following contents of the package:

- One 24+2G Mini GBIC SNMP Switch
- One power cord
- Rubber foot and screws
- Rack-mount brackets
- User's Manual



2. Introduction to 24+2G Mini GBIC SNMP Switch

2.1 General Description

The 24+2G Mini GBIC SNMP Switch is a powerful, high-performance, layer2 web-managed SNMP switch, which provides 24*10/100Mbps Fast Ethernet ports, 2*Gigabit Ethernet ports and 2*mini-GBIC (Mini Gigabit Interface Converter) slots. The 2 Gigabit ports act as the fat pipe which link to the server or backbone for boosting the total system performance. The mini-GBIC slot enables Fiber connections. Either fiber or cooper can be used as the media to connect the Gigabit ports. The cooper Gigabit and mini GBIC ports can be automatically detected and connected.

For network management, the switch is SNMP compatible. Network administrators are allowed to do centralized network management efficiently via remote monitor and control. Also, the performance and security can be enforced easily by the user-friendly web based interface. In addition to the SNMP and Web-based management interface, management through console port is also provided for users to manage the switch in a more flexible way.

To make efficient bandwidth usage, the device not only supports port based VLAN but also provides users with 802.1Q tag based VLAN. Meanwhile, the embedded trunk function allows 7 aggregation groups that up to 4 members within to enlarge the bandwidth between switches. Also, the IGMP snooping and spanning tree are supported to make an unobstructed network.

With sufficient compatibility, the switch is designed to be compliant to all network protocols. Along with all cooper ports are of MDI/MDI-X supporting; users would be able to reduce effort on network infrastructure. The rich diagnostic LEDs and total front panel access design also help with convenient installation and maintenance.

2.2 Key Features

Complies IEEE 802.3, IEEE 802.3u, IEEE802.3x, IEEE 802.3z/ab standards

Complies with IEEE802.1Q VLAN tag (IVL)

Complies with IEEE802.1p CoS with 2-level priority

24 * RJ-45 ports for 10/100Mbps

2 * RJ-45 ports for Gigabit

2* Mini GBIC slots for flexible fiber connection

Every switching port is automatically cross-over detection

(MDI/ MDI-X auto-detected)

Supports console/web/telnet/SNMP management

Supports IGMP snooping

Supports port mirror

Supports Port Aggregation and up to 7 groups

Supports port group VLAN and up to 26 groups

Supports 802.1Q VLAN and up to 255 groups

Supports 802.1D Spanning Tree

Per Port Bandwidth Control (10%~100%)

Supports SNTP client for Synchronizing SNTP Servers on the Internet

One RS-232 female console connector

Supports 8MB SDRAM for run time data storage

Supports 2MB Flash EPROM for cooperation and configuration data storage

Supports 6K MAC entries

Supports 3Mbit packet buffer

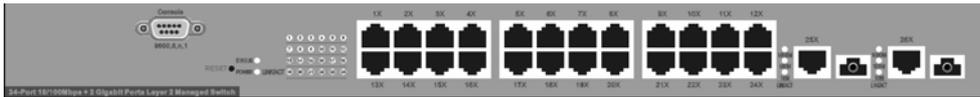
19" rack mountable

Internal universal switching power supply

FCC VCCI Class A, CE

2.3 The Front Panel

The front panel of the switch consists of: a console port, LED indicators, 10/100 Mbps RJ-45 ports, Gigabit+ Mini-GBIC ports.



Port Operation

The switch provides the following ports:

24 * 10/100Mbps RJ-45 ports.

2 * 10/100/1000Mbps RJ-45 ports with mini GBIC slots alternatively connectable.

The auto-negotiation feature allows ports running at one of the following operation modes:

Port	Media	Speed	Duplex Mode
10/100Mbps	10/100Mbps RJ-45 (copper)	10Mbps	Full Duplex
		100Mbps	Half Duplex
10/100/1000Mbps	10/100/1000Mbps(copper)	10Mbps	Full Duplex
		100Mbps	Full Duplex
		1000Mbps	Full Duplex
	1000Mbps(Fiber) (mini GBIC required)	1000Mbps	Full Duplex

All copper ports supports MDI/MDI-X auto crossover capability, which provides users to connect the switch to other devices without crossover cable adjustment.

Note: For each Gigabit port, when both the fiber and cooper interfaces are connected, the system adapts the fiber interface and disables the relevant cooper port.

Wiring for the 24+2G Mini GBIC SNMP Switch

Please choose your cable types according to the following chart:

Media	Speed	Wiring
10/100Mbps copper	10Mbps	Category 3,4,5 UTP/STP
	100Mbps	Category 5 UTP/STP
10/100/1000Mbps copper	10Mbps	Category 3,4,5 Utp/STP
	100Mbps	Category 5 UTP/STP
	1000Mbps	Category 5,5e UTP/STP
1000Mbps Fiber (Mini GBIC required)	1000Mbps	The cable type differs from the mini-GBIC you choose. Please refer to the instruction of your mini-GBIC.

Attention : Category 5 cable is recommend to be the wiring environments for users to operate the switch at 10Mbps, 100Mbps or

LEDs Definition

The rich diagnostic LEDs on the front panel provides the operating status of each port and the whole system.

System LED:

1. Power LED

Off- the unit is off

Green-the unit is on

2. STATUS LED

Blinking- the system works normally

Steady Green or Off- system fail

Port LED

1. 10/100Mbps ports:(Green)

Link/ACT

Off- invalid link on this port

On- valid link on this port

Blinking-data transmitting/receiving

2. Gigabit ports:(Green)

There are three LED indicators for each Gigabit port. One of them should be lit to show a valid link on this port and blinking for data transmitting & receiving

1000M Link/ACT:

On- the port is connected on the rate as 1000Mbps.

Off-the port is disconnected or linked at another rate.

Blinking-data transmitting/ receiving

100M Link/ACT:

On- the port is connected on the rate as 100Mbps.

Off-the port is disconnected or linked at another rate.

Blinking-data transmitting/ receiving

10M Link/ACT:

On- the port is connected on the rate as 10Mbps.

Off-the port is disconnected or linked at another rate.

Blinking-data transmitting/ receiving

If the port is connected but the relevant port LED is off, please check the following items for troubleshooting:

1. The power cables for the switch and the relevant device are firmly connected. If the connection is ok, you may have a failed cable.
2. The cable used for connecting to the switch should be RJ-45 or the fiber corresponds to your mini-GBIC, please check for the correct cable type.
3. The connecting device, including any network adapter, is well installed and functioning

Attention : The Mini GBIC slot shares the same LED indicators with Gigabit RJ-45 (copper) ports.

Reset Button

The button provides users to reset the switch. To reset the switch, press the button to activate.

Console Port

The switch provides console port management interface. A normal RS-232 cable is required to connect to the console port on the device. With correct connection, you would be able to run any terminal emulation program (Hyper Terminal, Winterm, Telix, ... and so on) to begin the startup screen. For the detail software configuration, please refer to "Console port (out-of-band) connection" session in chapter 4.

2.4 The Rear Panel

The rear panel of the switch is shown as below:



Power Receptacle

For being compatible to worldwide power supply modes, the switch automatically adjusts the voltage in the range from 100-240 VAC at 50-60 Hz.

Please plug in the switch with the female-end of the provided power cord and plug the male end into a power outlet.

3. Installation

This switch can be placed directly on your desktop, or mounted in a rack. If you install the device in a normal-standalone standard, the switch is an Intelligent Switch, and users can immediately use most of the features simply by attaching the cables and turning the power on.

Before installing the switch, we strongly recommend:

1. The switch is placed with appropriate ventilation environment. A minimum 25mm space around the unit is recommended.
2. The switch and the relevant components are away from sources of electrical noise such as radios, transmitters and broadband amplifiers
3. The switch is away from environment beyond recommend moisture

3.1 Installation Without the Rack

Install the switch on a level surface that can support the weight of the unit and the relevant components.

Plug the switch with the female end of the provided power cord and plug the male end to the power outlet.

Attach the provided robber feet to the bottom of the switch to keep the switch from slipping. The recommend position has been square-marked.

3.2 Rack-mount Installation

The switch may standalone, or may be mounted in a standard 19-inch equipment rack. Rack mounting facilitate to an orderly installation when series of networking devices circumstance needed. The switch is supplied with rack mounting brackets and screws for rack mounting the unit.

Procedures to Rack-Mounting the Switch in the 19-inch rack:

1. Disconnect all cables from the switch before continuing.
2. Place the unit the right way up on a hard, flat surface with the front facing you.
3. Locate a mounting bracket over the mounting holes on one side of the unit.
4. Insert the screws and fully tighten with a suitable screwdriver.
5. Repeat the two previous steps for the other side of the unit.
6. Insert the unit into the 19" rack and secure with suitable screws (not provided).
7. Reconnect all cables.

3.3 Installing Network Cables

Station Connections

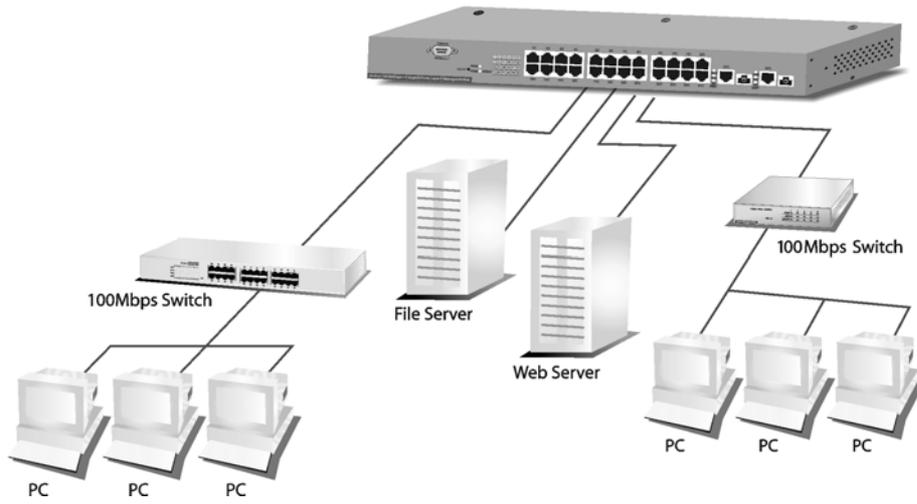
Connect each station with proper cables. For correct cable type, please refer to "Wiring for the 24+2G Mini GBIC SNMP Switch" in section 2.3.

Switch-to-Switch Connections

In making a switch-to-switch connection, use Gigabit ports to connect another switch or backbone is strongly recommended. The Gigabit ports provide the fat pipe to the server or backbone for boosting the total system performance. Please refer to "Wiring for the 24+2G Mini GBIC SNMP Switch" in section 2.3 and connect the switch with correct cable types.

Note: As the switch supports port aggregation (port-trunk) capability which up to 7 groups, to build up switch-to-switch connectivity with aggregation manner is provided. For detail information, please refer to chapter "Management".

3.4 Network Application



4. Management

This section instructs you how to enter and proceed the advanced management capability, which can be accessed by RS-232 serial port (out-of-band) or by Telnet session / Internet Browser over the network (in-band).

The management functions such as :

Port Information/configuration/Statistic/Duplex mode/Flow Control
SNMP parameters, IGMP snooping, Spanning Tree Algorithm, 802.1Q/Port Group
VLAN, Port Aggregation, Address Table, Upgrade system firmware and Reboot
system.

The Factory Default value of the switch is configured as follows:

IP :	10.10.0.1
Subnet Mask :	255.255.0.0
Default Gateway :	10.10.0.254

This switch can be managed using either a standard Web Browser or a Telnet session from any computer attached to the network. The SNMP management feature also permits the switch to be managed from any SNMP network management station running a network management program.

To manage the switch :

Access the switch with its IP address "10.10.0.1" (factory default value)

There are three privilege levels provided:

- "root"** : **root** can do any configuration includes changing password and enable/disable management capability via console port. The default password of root is "superuser"
- "admin"** : **admin** can do any configuration except changing password. The default password of admin is "admin"
- "guest"** : **guest** can view the runtime information only. Accessing to Web management interface is not allowed. The default password is "guest"

4.1 Console Port (Out-of-band) connection

To activate console port connection, attach a RS-232 cable (Straight-through) to the serial port of a PC running a terminal emulation program and configure the program as follows:

1. Data rate: 9600 baud
2. Data format: 8 data bits, 1 stop bit and no parity
3. Flow control: none.
4. Click the property icon, select settings, make sure that:
5. "The Function, arrow, and ctrl keys act as": Terminal keys
"Emulation": VT100

Press "Enter" key to begin login screen. Enter the username and password to login the management console.

Note :

The management functions of console program are exactly the same with web-based management interface but in text mode. For further operation, please refer to 'Starting a Web Browser Session'. The command structure is also provided in chapter 6 "Appendix".

```
24 F.E. + 2 G.E. Gigabit Management Switch
UserLevel: NONE
=====
[Login]
UserName :
```

Attention: The factory default value of UserName/ Password is "admin/ admin"

4.2 In-Band Connections (Web Browser / Telnet)

To manage the switch through in-band access, you should configure the management station with an IP address and subnet mask compatible with your switch.

Starting a Telnet Session

To access the switch through a Telnet session :

1. Ensure the switch is configured with an IP address and the switch is reachable from a PC
2. Start the Telnet program on a PC and connect to the switch

Note :

The management functions of Telnet program are exactly the same with web-based management interface but in text mode. For further operation, please refer to 'Starting a Web Browser Session'.

Starting a Web Browser Session

This Web Browser User Interface is coded by Java Applet and running on the **Java™** Virtual Machine (JVM) version 1.3.1 platform. You should configure the management station with an IP address and subnet mask compatible to your switch for accessing. Also, the management station should be well configured and connected to Internet for automatically downloading (upgrading) the suitable JVM through Internet from "http://java.sun.com". Or you can download it yourself by the URL "http://java.sun.com/j2se/1.3/download.html" and manually install it.

Running your Web Browser and enter the IP address "10.10.0.1" as the URL in the "address" field. After authentication procedure, the home page shows up.

Attention : Occasionally the newer Java™ Virtual Machine is not backward compatible, that JVM version 1.3.1 is strongly recommended to ensure properly operation

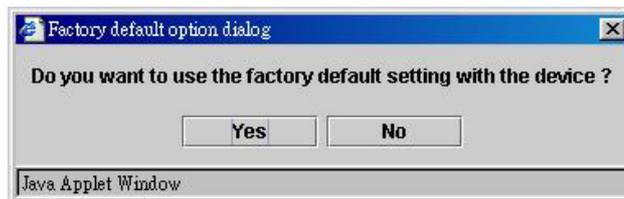
4.3 The Home Page

This page shows all available system tools for switch management.

Function	Statement
<Save>	<p>Save the current setting to Non-volatile Memory. The difference between <Save> and <Apply> is that Apply applies settings right away but saves the values in the system memory. By every switch reboot, system obtains system parameters from Non-volatile Memory you <Saved> before but not buffer memory.</p> <p>Click "Save" button to save it to Non-volatile Memory.</p>



<Default>	<p>To make the switch restore default value. Click "Default" button to apply the switch with initial value. If you want to clear the previous value in the Non-volatile Memory, please <Save> it.</p>
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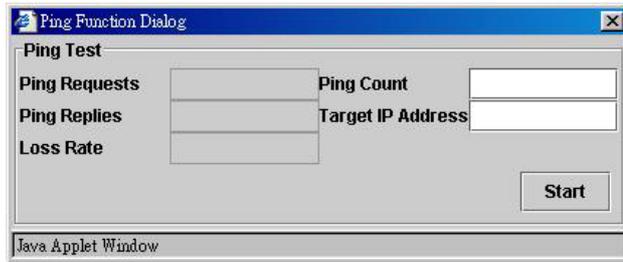


<Reboot>	<p>Warm Boot: Boot the switch without Power On Self Test (POST) to shorten the booting time.</p> <p>Cold Boot: Boot the switch and with fully Power On Self Test.</p>
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<Ping>

To Ping is a commonly used tool to detect existence of the remote host or IP address. Also, the network status can be known by the ratio of packets Reply and Loss.



<Telnet>

To begin the Telnet program. The login screen pops up by simply clicking the <Telnet> button.

<Contact>

Contact technicians for technical support by E-Mail

<Upgrade>



WEB Upload

Select Device ID and "WEB Upload" radio button then click OK
Specify the file path by clicking Browse button and click Start to trigger.



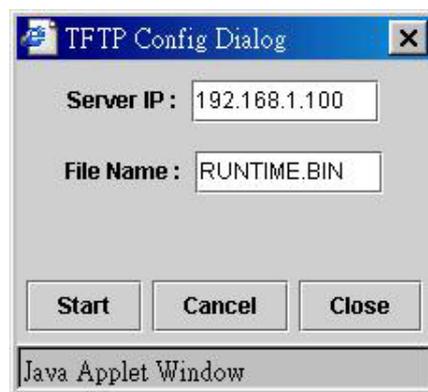
TFTP Download

Select Device ID and “TFTP Download” radio button then click OK

Enter the TFTP server’s IP address in Server IP field

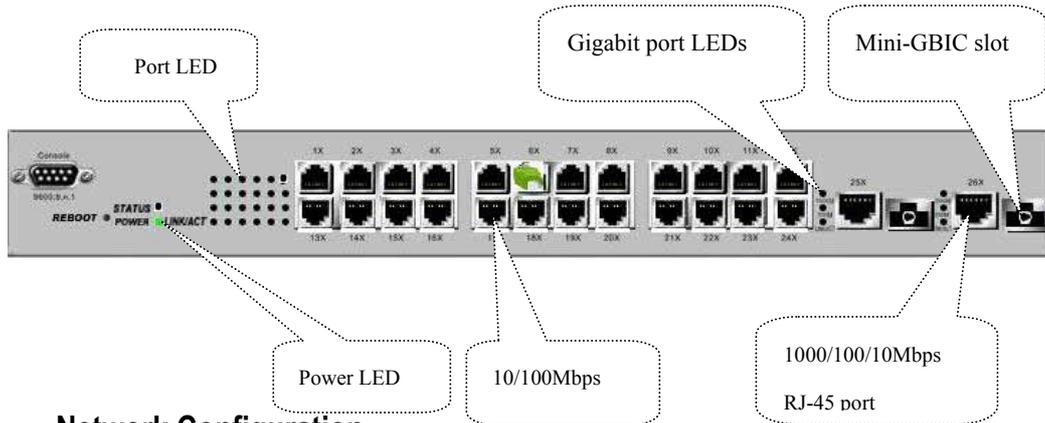
Enter file name in File Name field

Click Start button to download the code for system to update with it automatically.



4.4 Device

Panel Display



Network Configuration

IP Address	IP address of this device
Subnet Mask	NetMask of your network
Gateway IP	IP address of Gateway

Device Information

Name	Naming the system (optional)
Contact	Who the System administrator is (optional)
Location	Where the management stack locates (optional)

4.5 Version Info

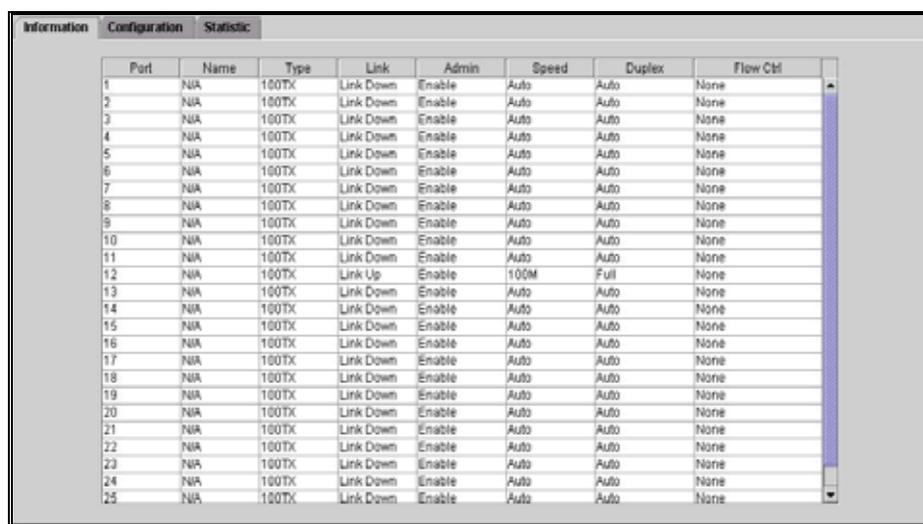
The Version Info window shows the device information and the relative software versions applied on the switch.

Device ID	HW Ver	Boot-UP Ver	POST Ver.	Runtime Ver.	JAVA Applet ...	Agent Status	Device Name	Device Locat...
0	R0	1.00(1/14/2004)	1.00(9/15/2004)	1.30(12/1/20...	2.00(12/3/20...	MASTER	NONE	NONE

4.6 Ports

Information

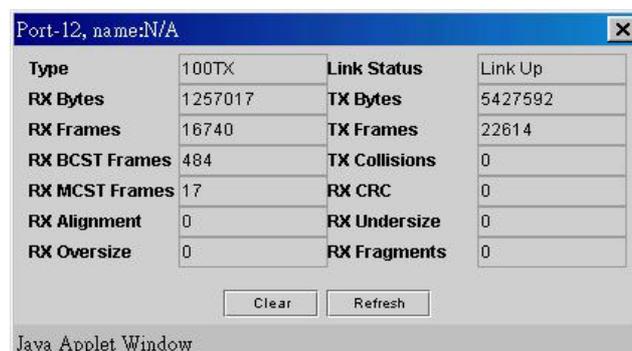
The Information screen shows a summary table of port configuration. You can know the status of each port clear at a glance via information provided including Link Up/Link Down, Enable/Disable, Link Speed, Duplex mode and Flow Control.



Port	Name	Type	Link	Admin	Speed	Duplex	Flow Ctrl
1	N/A	100TX	Link Down	Enable	Auto	Auto	None
2	N/A	100TX	Link Down	Enable	Auto	Auto	None
3	N/A	100TX	Link Down	Enable	Auto	Auto	None
4	N/A	100TX	Link Down	Enable	Auto	Auto	None
5	N/A	100TX	Link Down	Enable	Auto	Auto	None
6	N/A	100TX	Link Down	Enable	Auto	Auto	None
7	N/A	100TX	Link Down	Enable	Auto	Auto	None
8	N/A	100TX	Link Down	Enable	Auto	Auto	None
9	N/A	100TX	Link Down	Enable	Auto	Auto	None
10	N/A	100TX	Link Down	Enable	Auto	Auto	None
11	N/A	100TX	Link Down	Enable	Auto	Auto	None
12	N/A	100TX	Link Up	Enable	100M	Full	None
13	N/A	100TX	Link Down	Enable	Auto	Auto	None
14	N/A	100TX	Link Down	Enable	Auto	Auto	None
15	N/A	100TX	Link Down	Enable	Auto	Auto	None
16	N/A	100TX	Link Down	Enable	Auto	Auto	None
17	N/A	100TX	Link Down	Enable	Auto	Auto	None
18	N/A	100TX	Link Down	Enable	Auto	Auto	None
19	N/A	100TX	Link Down	Enable	Auto	Auto	None
20	N/A	100TX	Link Down	Enable	Auto	Auto	None
21	N/A	100TX	Link Down	Enable	Auto	Auto	None
22	N/A	100TX	Link Down	Enable	Auto	Auto	None
23	N/A	100TX	Link Down	Enable	Auto	Auto	None
24	N/A	100TX	Link Down	Enable	Auto	Auto	None
25	N/A	100TX	Link Down	Enable	Auto	Auto	None

Note :

Also by simply clicking the port on the 'Panel Display', the port information screen pops up



Port-12, name:N/A	
Type	100TX
Link Status	Link Up
RX Bytes	1257017
TX Bytes	5427592
RX Frames	16740
TX Frames	22614
RX BCST Frames	484
TX Collisions	0
RX MCST Frames	17
RX CRC	0
RX Alignment	0
RX Undersize	0
RX Oversize	0
RX Fragments	0

Clear Refresh

Java Applet Window

Configuration

Port attributes can be setup in this page.

Port	Name	Admin	Speed/Duplex	Flow Ctrl	Bandwidth Ctrl
1	N/A	Enable	Auto	Disable	100%
2	N/A	Enable	Auto	Disable	100%
3	N/A	Enable	Auto	Disable	100%
4	N/A	Enable	Auto	Disable	100%
5	N/A	Enable	Auto	Disable	100%
6	N/A	Enable	Auto	Disable	100%
7	N/A	Enable	Auto	Disable	100%
8	Richard	Enable	Auto	Enable	60%
9	N/A	Enable	Auto	Disable	100%
10	N/A	Enable	10 Half	Disable	100%
11	N/A	Enable	10 Full	Disable	100%
12	N/A	Enable	100 Half	Disable	100%
13	N/A	Enable	100 Full	Disable	100%
14	N/A	Enable	Auto	Disable	100%
15	N/A	Enable	Auto	Disable	100%
16	N/A	Enable	Auto	Disable	100%
17	N/A	Enable	Auto	Disable	100%
18	N/A	Enable	Auto	Disable	100%
19	N/A	Enable	Auto	Disable	100%
20	N/A	Enable	Auto	Disable	100%
21	N/A	Enable	Auto	Disable	100%

Setup Port Attributes

Click the "Name" column of the port. Enter a name for identification,(ex, 'Richard'); and press Enter

Leave the "Admin" column 'Enable' value to make the port to be in operation or 'Disable' to pause it

Select Duplex mode---10Half/10Full; 100Half/100Full, 'Auto' for auto-negotiation
(Note: For port 25 and 26, to enable Gigabit transmitting rate in full Duplex mode, please select Auto for auto negotiation)

Select 'Enable' to take "Flow Control" effect

Select the predefined "Bandwidth Control" scale (10%~100%)

Click Apply button to apply settings

Note :

Also accomplished by simply mouse right-clicking the port on the 'Panel Display' then select 'Configuration', the configuration screen pops up



The image shows a Java Applet Window titled "Port-12, name:N/A" with a close button. The window contains the following configuration options:

- Name:** An empty text input field.
- Admin:** A dropdown menu currently set to "Enable".
- Speed/Duplex:** A dropdown menu currently set to "Auto".
- Flow Control:** A dropdown menu currently set to "Disable".
- Bandwidth Ctrl:** A dropdown menu currently set to "100%".

At the bottom of the configuration area is an "Apply" button. The text "Java Applet Window" is visible at the very bottom of the window frame.

Flow Control operation mode :

Speed / Duplex mode	Flow Control
10Half	Back pressure
100Half	Back pressure

Speed / Duplex mode	Flow Control
10Full	IEEE 802.3x Pause Frame
100Full	IEEE 802.3x Pause Frame
1000Full	IEEE 802.3x Pause Frame

Port	Name	Admin	Speed/Duplex	Flow Ctrl	Bandwidth Ctrl
1	Alex	Enable	Auto	Enable	100%
2	Max	Enable	10 Full	Enable	40%
3	Crystal	Enable	100 Half	Disable	100%
4	Tina	Enable	100 Full	Disable	70%
5	Jeff	Enable	Auto	Disable	50%
6	Richard	Enable	Auto	Disable	90%
7	N/A	Enable	Auto	Disable	100%
8	Max	Enable	10 Full	Enable	40%
9	Max	Enable	10 Full	Enable	40%
10	Max	Enable	10 Full	Enable	40%
11	N/A	Enable	Auto	Disable	100%

Note :

Also accomplished by simply mouse right-clicking the port on the 'Panel Display' then select 'Copy Setting' to copy port properties and select 'Paste Setting' when point at destination port

Statistic

Ether Like Frame Types

RX Bytes	Number of bytes received in good and bad frames
RX Frames	Number of good and bad packets received
RX crc_err	Number of CRC errors received
TX Byte	Number of bytes transmitted in good and bad frames
TX Frames	Number of good and bad packets transmitted
TX Collisions	Number of collisions on transmitted frames
TX drops	Frames dropped due to lack of receive buffer
TX underruns	Increments when packet transmission fails due to the inability of the interface to retrieve packets from the local packet buffer fast enough to transmit them onto the network

RX Good Frame Types

RX Bytes	Number of bytes received in good and bad frames
RX frames	Number of good and bad packets received
RX broadcasts	Number of good broadcasts
RX multicasts	Number of good multicasts
RX less64_pkts	Number of short frames with invalid CRC (<64 bytes)
RX 65to127_pkts	Number of 65 to 127-bytes frames in good and bad packets
RX 128to255_pkts	Number of 128 to 255-bytes frames in good and bad packets
RX 256to511_pkts	Number of 256 to 511-bytes frames in good and bad packets

RX 512to1023_pkts Number of 512 to 1023-bytes frames in good and bad packets

RX 1024more_pkts Number of 1024 to max-length-type frames in good and bad packets

RX Error Frame Types

RX alignment_err Number of alignment errors received

RX crc_err Number of CRC errors received

RX oversize_err Number of long frames with valid CRC

RX undersize_err Number of short frames with valid CRC

RX fragments_err Number of short frames with invalid CRC

RX jabbers_err Number of long frames with invalid CRC

4.7 Security

For security reason, you can specify the Station IP address to prevent other user to access this switch.

There are five sets for you to add.

<<To Add IP>>

Enter the IP address in the textbox

Click <<add to add the new IP

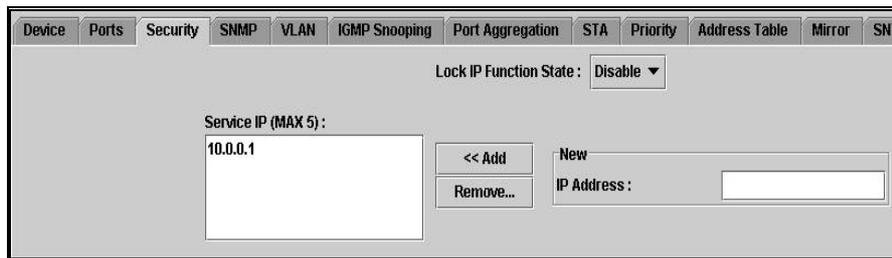
<<To Remove IP>>

Select the Service IP you want to remove

Click Remove...

<<To Enable or Disable>>

Select "Enable" or "Disable" in the Lock IP Function state



The screenshot displays a web-based configuration interface for a network switch. At the top, there is a navigation menu with tabs for Device, Ports, Security, SNMP, VLAN, IGMP Snooping, Port Aggregation, STA, Priority, Address Table, Mirror, and SN. The Security tab is currently selected. Below the menu, the 'Lock IP Function State' is set to 'Disable'. The main configuration area is titled 'Service IP (MAX 5):' and contains a list of IP addresses, with '10.0.0.1' currently listed. To the right of this list are two buttons: '<< Add' and 'Remove...'. Further to the right, there is a 'New' section with an 'IP Address:' label and an empty text input field.

4.8 SNMP

Simple Network Management Protocol (SNMP) is a communication protocol for managing devices on a network. It is commonly used for network administrators to communicate with multiple devices (hub, switch, router) for configuring and monitoring while convenient for troubleshooting but no miscellaneous platform consideration.

The built-in SNMP is an agent, which watches the status of it self. The Network Management Station (A computer attached to network with SNMP management program well installed) can be used for accessing to.

Community

A valid entry of Community String and IP Address is for authentication to login to the SNMP agent for configuration. Moreover, the community capacity can up to 3 sets and only by the way of specified IP address here will be allowed to access the agent. One entry consist of IP address "0.0.0.0" will allow the ones who know the community string to access the agent (with Read-Only access right) without limitation.

To Add a community

Input a name as a community string for authentication in the "Community String" field (ex: administrator)

Enter the IP address in the "IP address" field you allow to access from (ex: 10.10.0.22)

Click the "Access Mode" combo box and select a authority (Read-Only / Read-Write)

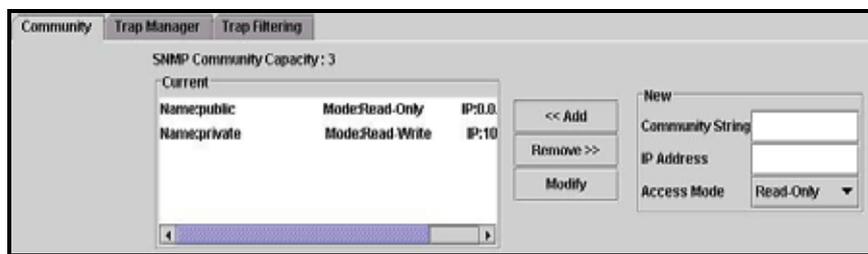
Click <<Add button to add this entry

To Remove a Community

Select the community you want to remove from the “Current” list
Click Remove>> button to remove it

To Modify a Community

Select one community you want to modify in the “Current” column
The “New” column lists the corresponding values; please modify it
Click Modify button to update the entry



Trap Manager

Trap Manager specifies the Network Management Stations (NMS) that will receive trap messages from the SNMP agent and can up to 5 entries. A Trap Manager entry with Aging Time “0” will never expire; and Aging Time “10” will expire when 10 minutes is up and no trap messages can corresponding entry receive.

To Add a Trap Manager

Input a name for authentication in the “Community String” field

(ex: administrator)

Enter the IP address in the “IP address” field you allow to access from

(ex: 10.10.0.22)

Enter a expiry time for this entry will be durable in minutes (“0” for never expires)

Click <<Add button to add the entry

To Remove a Community

Select the community you want to remove from the “Current” list

Click **Remove>>** button to remove it

To Modify a Community

Select one community you want to modify in the “Current” column

The “New” column lists the corresponding values; please modify it

Click **Modify** button to update the entry

To test Trap Manager

Press **Trigger test trap** button, one test trap will be sent to all NMS that have been added to Trap Manager list.

The screenshot shows a web interface for managing traps. At the top, there are three tabs: "Community", "Trap Manager", and "Trap Filtering". Below the tabs, the text "Trap Receiver Capacity: 5" is displayed. The main area is divided into two columns: "Current" and "New".

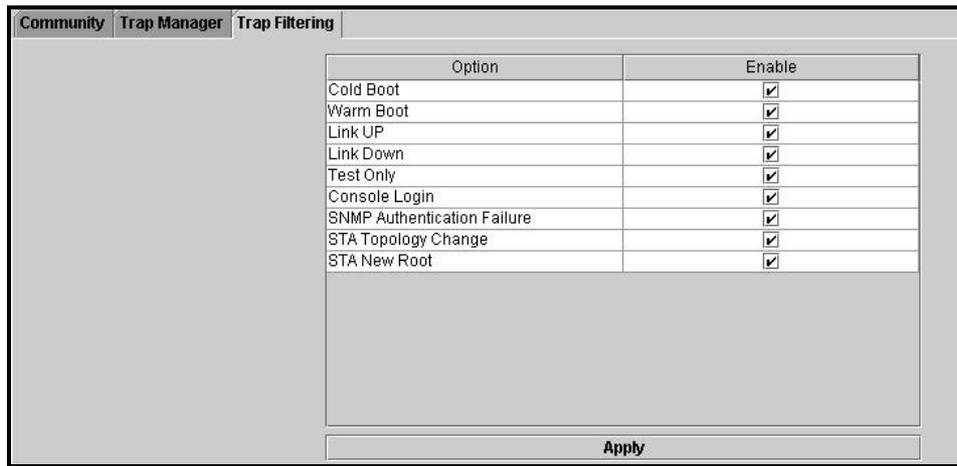
Current		
Name:NetAdmin	IP:10.10.14.123	Aging:0

Below the "Current" table are four buttons: "<< Add", "Remove >>", "Modify", and "Trigger test trap".

To the right of the "Current" table is the "New" section, which contains three input fields: "Community String", "IP Address", and "Aging Time".

Trap Filtering

Check the “Enable” boxes by mouse clicking to receive a notice when corresponding event occurs. Reserve means reserve for future update.



Option	Enable
Cold Boot	<input checked="" type="checkbox"/>
Warm Boot	<input checked="" type="checkbox"/>
Link UP	<input checked="" type="checkbox"/>
Link Down	<input checked="" type="checkbox"/>
Test Only	<input checked="" type="checkbox"/>
Console Login	<input checked="" type="checkbox"/>
SNMP Authentication Failure	<input checked="" type="checkbox"/>
STA Topology Change	<input checked="" type="checkbox"/>
STA New Root	<input checked="" type="checkbox"/>

Apply

4.9 VLAN

The VLAN make a group of ports that may spread around the network to communicate as though they belong to one subnet. Instead of using routers to divide the whole network into subnets, IEEE 802.1Q compliant VLAN recognize all the ports into separate broadcast domains for security reasons and reduce collision to obtain an efficient bandwidth usage. It provides a cleaner network environment by reducing broadcast traffic and simplifies network management by allowing moving devices to another VLAN without changing physical connections.

802.1Q VLAN

Before enabling 802.1Q VLAN , pay attention to :

- All the ports are configured as VLAN 1 and PVID 1 as default.
- All the ports of a Aggregation Group must be treated as an integer when added to/deleted from a VLAN

VLAN Static List

This screen is provided for users to Add / Remove / Modify VLAN which up to 255 groups. The VLAN groups that have been created are all listed here.

To create a new VLAN group

1. Specify the name for the new VLAN group (VLAN name is only used for identification)
2. Enter a number (VLAN ID) for the new VLAN group
3. Check the “**Active**” box to activate the VLAN or leave it blank and activate it afterward
4. Click <<Add button to create the new VLAN

Current	
ID:1	Name: State:ACTIVE
ID:3	Name:MKT State:ACTIVE
ID:222	Name:MFD State:ACTIVE

<<Add Remove>> Modify

New	
VLAN ID	222
VLAN Name	MFD
Status	<input checked="" type="checkbox"/> Active

To remove a VLAN group

1. Select a VLAN group you want to remove from the “Current” list
2. Click **Remove>>** button to remove it

Attention :

1. If a removed port is no longer belong to any other group, it is temporarily disabled because no one can communicate with it.
2. If one port’s PVID is equal to this VLAN ID, removing this VLAN group will not be allowed without your modification.

To modify a VLAN group

1. Select a VLAN group you want to modify from the current list
2. Modify parameters in “New” column
3. Click **Modify** button to submit the new parameters

VLAN Static Table

This screen is used to Add/Remove member ports to/from a VLAN.

Egress Ports/Member

The ports that have been added to the displayed VLAN group

Tagged Ports/Member

The tagged ports of the displayed VLAN group

The screenshot displays the 'VLAN Static Table' interface. It is divided into two main sections: 'Egress Ports' and 'Tagged Ports'. Each section contains a 'Member' list and a 'Non-Member' list. In the 'Egress Ports' section, the 'Member' list contains ports 1 through 7, and the 'Non-Member' list is empty. Between these lists are buttons for '<< Add' and 'Remove >>'. In the 'Tagged Ports' section, the 'Member' list is empty, and the 'Non-Member' list contains ports 1, 2, and 3. A '<< Add' button is located between the 'Member' and 'Non-Member' lists in this section.

To add member port

1. Click the "VLAN ID" combo box and select a VLAN you want new ports to join in
2. Select ports (press Shift/Ctrl key for selecting multi ports) in the "Non-Member" column
3. Click <<Add button to join selected ports in

To remove member port

1. Click the "VLAN ID" combo box and select a VLAN you want to remove ports
2. Select ports (with Shift/Ctrl key to select multi ports) in the "Member" column
3. Click Remove>> button to delete selected ports

Note :

1. If a removed port is no longer belong to any other group, it is temporarily disabled because no one can communicate with it
2. The port which is assigned a PVID and the PVID is equal to VLAN ID, removing the port will not allow until you change it

VLAN Port Configuration

When the VLAN-enabled switch receives an untagged packet, the packet will be sent to the port's default VLAN according to the PVID (port VLAN ID) of the receiving port.

Port	PVID	Ingress Filtering
1	1	Disable
2	1	Disable
3	1	Disable
4	1	Enable
5	1	Enable
6	1	Disable
7	1	Disable
8	1	Enable
9	1	Disable
10	1	Enable
11	1	Disable

To change the PVID

1. Double click the "PVID" column of a port
2. Input a new VLAN ID (1~255)
3. Press "**Enter**" to submit the value
4. Click **Apply** button to apply it

Note :

-
1. All the ports are default as members of VLAN 1 and assigned PVID 1
 2. The port which was assigned a PVID and the PVID is equal to VLAN ID, removing the port will not allow until you change it
 3. Automatically, a port will join the VLAN of its PVID, and if the VLAN does not exist, system will create it
-

To Enable/Disable Ingress Filtering

When one packet comes in from **Port X** to **VLAN Y**, but **Port X** is not a member of **VLAN Y**

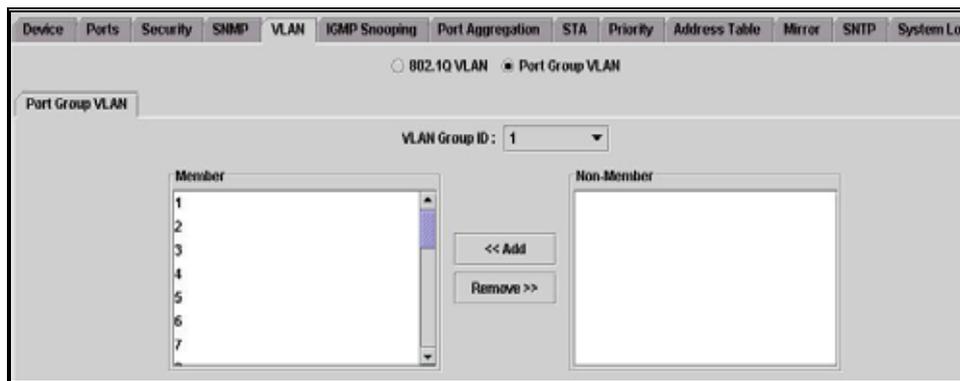
Ingress Filter **Enabled** : The filter checks the packet and detects **Port X** does not belong to the **VLAN Y**, the Ingress Filter discards the packet.

Ingress Filter **Disabled** : All the packets destined to **VLAN Y** are all unobstructed.

Click the "Ingress Filtering" column of a port and select 'Enable' to activate.

Port Group VLAN

The Port Group VLAN (Port-based VLAN) is concentrate on definite ports. The packets forwarding policies are based on destination MAC addresses or related ports by voluntary learning relationship of MAC addresses and its related ports.



To add member port

Click the "VLAN ID" combo box and select a VLAN you want the new ports to join in

Select ports (press Shift/Ctrl key for selecting multi ports) in the "Non-Member" column

Click <<Add button to join selected ports in

To remove member port

Click the "VLAN ID" combo box and select the VLAN you want to remove ports

Select ports (with Shift/Ctrl key to select multi ports) in the "Member" column

Click Remove>> button to delete selected ports

All Together

Click All Together button then all the ports of the switch will be added to VLAN group 1

All Independent

Click **All Independent** button then all the ports will be divided into separated subnets, that are 26 subnets

Every port can be belong to different Port Group VLANs simultaneously without limitation.

4.10 IGMP Snooping

Multicasting is widely used to support multi-media applications such as video conferencing. The multicasting simply broadcasts its services to the group of a network instead of establishing connections separately with every host that subscribed the services. With no Multicast Filtering-aware switches, a multicast server may floods broadcast-data overall the broadcast domain and wastes a lot of bandwidth.

The Internet Group Management Protocol (IGMP) snooping uses the protocol to make switches join/leave multicast group and instructs switches to optimize the network performance by monitoring the IGMP packets and forward to the ports containing multicast hosts or switches. This will efficiently reduce the multicast traffic rather than flooding overall network. IGMP snooping is more and more important by the booming of multi-media demand.

Note :

As IGMP Snooping only operates under 802.1Q VLAN mode, please change VLAN mode from Port Group VLAN to 802.1Q VLAN before enabling IGMP Snooping.

4.11 Port Aggregation

Port Aggregation (Port Trunk) is used to increase the bandwidth of a switch-to-switch connection and backup. This switch provides 7 port aggregation groups, which consist of 4 ports and create bandwidth up to 800Mbps per group at full duplex mode (group 6 consists of the 2 Gigabit ports). Check the box of Aggregation Group in the Status Enable column and press “Apply” then the selected Aggregation Group is activated.

Aggregation Gro...	Member Port	Status Enable
0	01;02;13;14	<input type="checkbox"/>
1	03;04;15;16	<input type="checkbox"/>
2	05;06;17;18	<input type="checkbox"/>
3	07;08;19;20	<input type="checkbox"/>
4	09;10;21;22	<input type="checkbox"/>
5	11;12;23;24	<input type="checkbox"/>
6	25;26	<input type="checkbox"/>

Apply

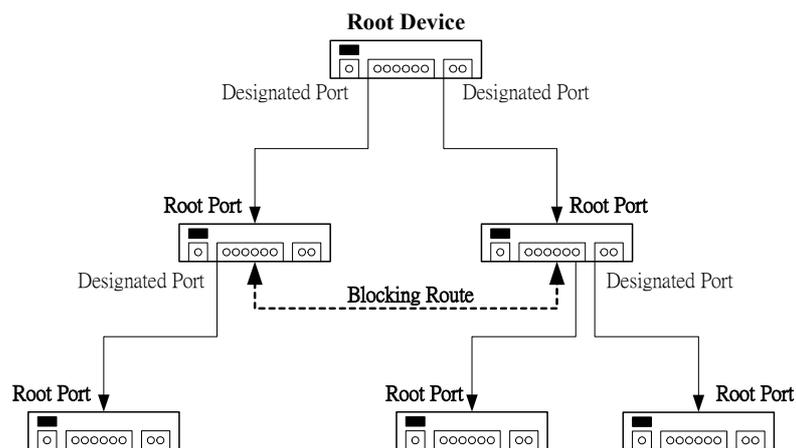
However, before making connections between switches, pay attention to :

- The ports at both ends of a Port Aggregation connection must be configured as Aggregation Ports
- The ports at both ends of a Port Aggregation connection must have the same port properties, including Speed, Duplex mode
- All the ports of a Port Aggregation must be treated as an integer when added to/deleted from a VLAN
- Spanning Tree Algorithm (STA) treats all the ports of a Port Aggregation as an integer.
- Before connecting cables between switches, enable the Port Aggregation to avoid looping
- Before disabling Port Aggregation, remove the connecting cables between switches to avoid looping

4.12 STA

The Spanning Tree Algorithm (STA) outlined in IEEE 802.1D can avoid network looping but coexist with linking backup. This feature permits STA-aware switches interact with each other. This can ensure only one route exists between any two devices on the network. If looping is detected (maybe implements on purpose for linking backup), looping ports will be blocked to discard additional route. If one using route fails, this Spanning Tree Algorithm automatically releases the blocking port and establishes connection with other devices.

Since a STA network has been established, all devices listen for Hello BPDUs (Bridge Protocol Data Units) sent from the Root Bridge. After the Max Age maximum time is up, the device supposes that the route to the Root Bridge is down. The devices initiate negotiations with each other to reconfigure the network for a valid topology.



Information

This screen displays summaries of STA information. For further configuration, please go to next session.

Name		Value
STA Bridge Protocol		IEEE8021D
STA State		Disable
Designated Root		0000.000000000000
Bridge ID		8000.20040901500
Root Port		0

Port	Status	Priority	Path Cost	Designated C.	Forward Tran.	Designate Bri.	Designate Port
1	FORWARDING	128	19	0	0	8000.200409...	0
2	FORWARDING	128	19	0	0	8000.200409...	0
3	FORWARDING	128	19	0	0	8000.200409...	0
4	FORWARDING	128	19	0	0	8000.200409...	0
5	FORWARDING	128	19	0	0	8000.200409...	0
6	FORWARDING	128	19	0	0	8000.200409...	0
7	FORWARDING	128	19	0	0	8000.200409...	0
8	FORWARDING	128	19	0	0	8000.200409...	0
9	FORWARDING	128	19	0	0	8000.200409...	0
10	FORWARDING	128	19	0	0	8000.200409...	0
11	FORWARDING	128	19	0	0	8000.200409...	0
12	FORWARDING	128	19	0	0	8000.200409...	0
13	FORWARDING	128	19	0	0	8000.200409...	0

Refresh

Parameter	Description
STA State	Shows if STA is enabled on the switch and participated an STA compliant network
Designated Root	The unique Bridge Identifier of the Bridge recorded as the Root in the Configuration BPDUs transmitted by the Designated Bridge for the segment to which the port is attached
Bridged ID	The MAC address used by this bridge when it must be referred to in a unique fashion. It is recommended that this be the numerically smallest MAC address of all ports that belong to this bridge. However it is only required to be unique
Root Port	The port number of the port which offers the lowest cost path from this bridge to the root bridge

Max Age (6~40 sec)	The maximum age of Spanning Tree Protocol information learned from the network on any port before it is discarded, in units of a second. This is the actual value that this bridge is currently using
Hello Time (1~10 sec)	The amount of time between the transmission of Configuration bridge PDUs by this node on any port when it is the root of the spanning tree or trying to become so, in units of a second. This is the actual value that this bridge is currently using
Hold Time	This time value determines the interval length during which no more than two Configuration bridge PDUs shall be transmitted by this node, in units of a second
Forward Delay (4~30 sec)	This time value, measured in units of a second, controls how fast a port changes its spanning state when moving towards the Forwarding state. The value determines how long the port stays in each of the Listening and Learning states, which precede the Forwarding state. This value is also used, when a topology change has been detected and is underway, to age all dynamic entries in the Forwarding Database
Root Path Cost	The cost of the path to the root device as seen from this bridge
Configuration Changes	The total number of topology changes detected by this bridge since the management entity was last reset or initialized
Last Topology Change	The time (in a second) since the last time a topology change was detected by the bridge entity

Configuration

Switch	
Usage	Disable
Priority	32768

- Usage Enable/Disable this switch to join in/withdraw from a STA compliant network
- Priority (1~65535) Priority is a decisive key for selecting root device, root port, and designated port. The smaller number, the higher priority. The device with the highest priority becomes the STA root device. However, if all devices have the same priority, the device with the lowest MAC address will become the root device

When the Switch Becomes Root		
Hello Time	2	Seconds
Maximum Age	20	Seconds
Forward Delay	15	Seconds
Apply		

- Hello Time (1~10sec) The amount of time between the transmission of Configuration bridge PDUs by this node on any port when it is the root of the spanning tree or trying to become so, in units of a second. This is the actual value that this bridge is currently using
- Maximum Age (6~40sec) The maximum age of Spanning Tree Protocol information learned from the network on any port before it is discarded, in units of a second. This is the actual value that this bridge is currently using

Forward
Delay
(4~30sec)

This time value, measured in units of a second, controls how fast a port changes its spanning state when moving towards the Forwarding state. The value determines how long the port stays in each of the Listening and Learning states, which precede the Forwarding state. This value is also used, when a topology change has been detected and is underway, to age all dynamic entries in the Forwarding Database

STA Port Configuration

- Priority** The value of the priority field which is contained in the first (in network byte order) octet of the (2 octet long) Port ID
- Path Cost** The contribution of this port to the path cost of paths towards the spanning tree root, which include this port. 802.1D-1990 recommends that the default value of this parameter be in inverse proportion to the speed of the attached LAN
- Fast Forward** The device omits from the 4 steps (Blocking-Listening-Learning-Forwarding) to 3 steps (Blocking-Listening-Forwarding) for speeding up specified port to be running when STA topology has been changed

Port	Priority	Path Cost	Fast Forward
1	128	19	Disable
2	128	19	Disable
3	128	19	Disable
4	128	19	Disable
5	128	19	Disable
6	128	19	Disable
7	128	19	Disable
8	128	19	Disable
9	128	19	Disable
10	128	19	Disable
11	128	19	Disable
12	128	19	Disable
13	128	19	Disable
14	128	19	Disable
15	128	19	Disable
16	128	19	Disable
17	128	19	Disable
18	128	19	Disable
19	128	19	Disable
20	128	19	Disable
21	128	19	Disable
22	128	19	Disable
23	128	19	Disable

Apply

4.13 Priority

This switch supports IEEE802.1p CoS with 2-level priority. There are 8 traffic classes and 5 Service Rules in the Priority Map. When one packet carries with priority-tag, which has specified a CoS (Class of Service) received by the switch, the specified CoS tag determines the priority (Low/High) level according to the Priority Map in the switch.

Service Rule

FIFO	The first in packet, the first out packet (No priority)
1 : 1	Send 1 high priority packet, then 1 low priority packet
3 : 1	Send 3 high priority packets, then 1 low priority packet
5 : 1	Send 5 high priority packets, then 1 low priority packet
7 : 1	Send 7 high priority packets, then 1 low priority packet

0	1	2	3	4	5	6	7
L ▼	L ▼	L ▼	L ▼	H ▼	H ▼	H ▼	H ▼

Service Rule : FIFO ▼

- FIFO
- 1 : 1
- 3 : 1
- 5 : 1
- 7 : 1

Java App

4.14 Address Table

The address table is the learning table, which is composed of many entries and is the most important base to do packet filtering and forwarding.

MAC Address List

Choose the port you would like to view the address table and click the “Refresh” button, the MAC address table will be listed.

Configuration

Aging Time (0, 30-300secs)	Set the period for keeping a accessing MAC address to be learned in the switch 0: If the parameter is configured as “0”, the Aging Time is unlimited 30-300secs: each number represents the time for a MAC to be learned
Dynamic Address Counts	Number of MAC addresses automatically learned by the switch
Static Address Counts	Number of MAC addresses manually added to the switch

To add a static address

Click the combo box and select a port, then the MAC address table of the port appears

Fill in configuration value (VLAN ID, MAC address), then click “<<Add” button (Note that ports on the switch are all defaulted to VLAN 1)

Port : 1 ▼

Current MAC Address

<< Add
Remove >>
Clear All MAC Table
Search

Configuration Value

VLAN ID :

MAC Address : 00-00-00-00-00-00

Note :

The ports of Port Aggregation Group can not be added in Static Address table

To remove a static address

Click the static address in the MAC address table of the port
Click "Remove>>" button to remove it from MAC address table

4.15 Mirror

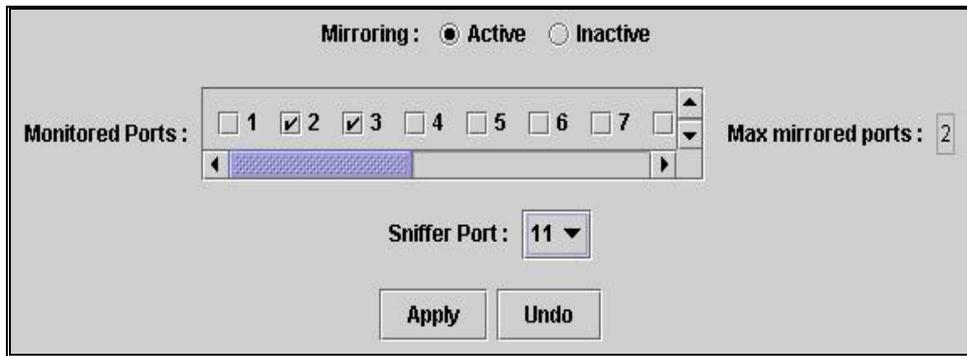
Port mirror is used to mirror traffic from source port to a target port for analysis. Only 2 ports can be monitored (mirrored) simultaneously to 1 sniffer port (target port). (Note that the target port must be in the same VLAN as the source port)

Click "Active" radio button to activate port mirror

Select 'Monitored Ports' (up to 2 ports)

Click 'Sniffer Port' combo box and select a sniffer port (target port) and click "Apply" to apply

This figure describes port 2 and port 3 will be mirrored to port 11



The screenshot shows a configuration window for port mirroring. At the top, there are two radio buttons: "Active" (selected) and "Inactive". Below this is a "Monitored Ports" section with a list of checkboxes for ports 1 through 7. Port 2 and port 3 are checked. To the right of this list is a "Max mirrored ports" field set to 2. Below the monitored ports is a "Sniffer Port" dropdown menu currently set to 11. At the bottom of the window are two buttons: "Apply" and "Undo".

4.16 SNTP

This switch provides SNTP function. You can synchronize the time with the SNTP server on the Internet to ensure the correctness of system time.

To enable the function,

Select "Enable" in SNTP Function status.

<<To Add SNTP Server IP>>

Enter the IP Address in the NEW textbox

Click <<Add to add it on the list

Click refresh to get the latest Time

<<To remove the IP>>

Select the IP you want to remove

Click **Remove...**

<<To select Time zone>>

Select the Time Zone where the Switch is in the drop list.

24 F.E. + 2 G.E. Gigabit Management Switch

Save Default Reboot Ping Telnet Contact Upgrade

Device Ports Security SNTP VLAN IGMP Snooping Port Aggregation STA Priority Address Table Mirror SNTP System Log

SNTP Function State: Enable ▾

UDP Port: 123 set

NTP Server IP (MAX 3):

133.100.9.2
133.100.11.0

<< Add New
Remove... IP Address:

Time Zone: JST, Japan ▾

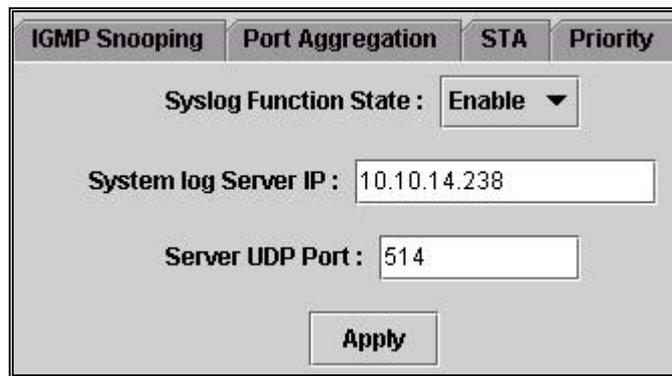
GMT: Thu Jan 10 02:05 1970

Local Time: Thu Jan 10 02:05 1970

Refresh

4.17 System log

To sent the system log to remote server for backup,
Select "Enable"
Enter the Server IP
Enter the Server UDP port
Click Apply to save



The screenshot shows a configuration window with four tabs: "IGMP Snooping", "Port Aggregation", "STA", and "Priority". The "Port Aggregation" tab is selected. The configuration includes a "Syslog Function State" dropdown menu set to "Enable", a "System log Server IP" text box containing "10.10.14.238", and a "Server UDP Port" text box containing "514". An "Apply" button is located at the bottom center of the window.

5. Product Specifications

Standard	IEEE802.3 10BASE-T IEEE802.3u 100BASE-TX/100BASE-FX IEEE802.3ab 1000BASE-T IEEE802.3z 1000BASE-SX, 1000BASE-LX IEEE802.3x full-duplex operation and flow control IEEE802.1Q VLAN interoperability IEEE802.1D Spanning Tree IEEE802.1p Priority Operation
Interface	24 * 10/100Mbps auto MDI/MDI-X RJ-45 switching ports 2 * Gigabit+ Mini GBIC ports 1 * RS-232 console port 1 * Reset button
Cable Connections	RJ-45 (10BASE-T): Category 3,4,5 UTP/STP RJ-45 (100BASE-TX): Category 5 UTP/STP RJ-45 (1000BASE-T): Category 5,5e UTP/STP Fiber: depend on the types of mini-GBIC
Network Data Rate	10/100/1000Mbps Auto-negotiation
Transmission Mode	10/100Mbps Full/ Half-duplex,1000Mbps Full-duplex

LED indications	System: Power; Status Port: 10/100Mbps ports: 10/100Mbps (Link/Act) 10/100/1000Mbps ports: 1000Mbps (Link/Act) 100Mbps (Link/Act) 10Mbps (Link/Act)
Memory	6K MAC entries, 3Mbit packet switching
Emission	FCC VCCI Class A, CE
Operating Temperature	0° ~ 40°C (32° ~ 104°F)
Operating Humidity	10% - 90%
Power Supply	100~240 VAC, 50~60 Hz

6. Appendix- Command Line Interface (CLI)

6.1 Start-up and Terminal configuration

To start-up the command line interface, please connect a PC COM port to the RS-232 connector and activate a terminal emulation software (e.g. HyperTerminal of Windows.)

The terminal emulation software should be set up as follows:

1. Data rate: 9600 baud
2. Data format: 8 data bits, 1 stop bit and no parity
3. Flow control: none.
4. Click the property icon, select settings, make sure that:
5. "The Function, arrow, and ctrl keys act as": Terminal keys
"Emulation": VT100

6.2 General

6.2.1 Login/Logout Procedures

To get access to the CLI, you will have to get the username and password for login. Three default usernames/passwords are configured as root/superuser, admin/admin and guest/guest for different privilege levels. To Logout, you may press ESC in main manual.

Note: We recommend users to configure a new username/password to prevent unauthorized users from accessing to the device.

6.2.2 Command Hierarchy

After success login, the main menu shows up and 6 sub-menus are listed:

[Main Menu]

1. System Information
2. Management Setup
3. Device Control
4. User Authentication
5. System Utility
6. Save Runtime Configuration

The CLI is constructed with menus and sub-menus. You can select a menu by inputting the number that corresponds to each sub-menu and press ESC to exit.

6.2.3 Entering Commands

Commands are given by entering the command number listed on each menu. Select a number for your desire then press enter to configure.

EX, Select 1 then press enter to show the system information

[System Menu]

1. System Information
2. System Configuration

=====

==

<Press ESC key to go back previous screen>, or

Please input one value (1..2): 1 <enter>

6.3 Command Description

The following session introduces the CLI structure by the order on main menu:

1. System Information
2. Management Setup
3. Device Control
4. User Authentication
5. System Utility
6. Save Runtime Configuration

6.3.1 System information

[System Menu]

1. System Information
2. System Configuration

1. System Information:

Show the device type, Hardware version, software version, system up time, system contact, device name, device location and management capabilities.

2. System Configuration:

Provides system contact, device name, and device location modification.

6.3.2 Management Setup

[Management Setup Menu]

1. Network Configuration
2. Console Port Status Display
3. SNMP Community Setup
4. Trap Receiver Control
5. Management Features Control
6. Trap Filtering Setup

1. Network Configuration:

Provides users to modify the IP address, Subnet Mask and Default Gateway. Please select 4 to apply changes after modification.

2. Console Port Status display:

Display Console port status.

3. SNMP Community Setup:

Provides new entry create, existing entry modification and deletion.

4. Trap Receiver Control:

Provides new entry create, existing entry modification and deletion.

5. Management Features Control

For users to enable or disable the following capabilities:

1. Web-based Capability:
2. Telnet Capability:
3. SNMP Capability

6. Trap Filtering Setup:

For users to enable or disable the following functions: Cold Start, Warm start, Link Up, Link Down, Test Only, Console Login, Authentication Failure, STA TCN and STA New Boot.

6.3.3 Device Control

[Device Control Menu]

1. Port Status/Configuration
2. Address Table
3. VLAN
4. Security
5. IGMP Snooping
6. Mirror
7. Statistic Information
8. Priority Tag
9. STA
10. Port Aggregation
11. SNTP
12. System Log

1.Port Status/Configuration:

Shows port status and provides the following configuration: setting up port name, enable/ disable administrator login, select Duplex mode, enable/ disable flow-control, and limit port bandwidth.

2.Address Table:

Provides the following configuration:

1. Display Address Table.
2. Mac Address Entry Created
3. Mac Address Entry Delete
4. Modify Aging Time
5. Search a Unicase Mac Address

3. VLAN

Provides the following configuration:

1. Select VLAN Mode: Tag based or Port based VLAN
2. IEEE 802.1Q TAG VLAN or Port Group VLAN

Note: The second item shows according to the VLAN mode you choose in item 1.

Configuration provided for the two mode respectively are:

IEEE 802.1Q TAG VLAN: 1. VLAN Port Configuration

2. VLAN Table Status

3. VLAN Static Entry Created

4. VLAN Static Entry Modification

5. VLAN Static Entry Delete

Port Group VLAN: 1. Port Group VLAN Status

2. Port Group VLAN Configuration

4. Security

You can add or delete Lock IP Entry after enable Lock IP function.

5. IGMP Snooping

For IGMP configuration or IP Multicast Registration Table checking.

(Note: Tag based VLAN mode should be selected first)

6. Mirror

For active/inactive Mirror function and further configuration including choosing the sniffer port and the monitored port.

7. Statistic Information

Enter port number for statistic information

8. Priority Tag

Provides priority tag mapping control and service rule control.

9. STA

The STA command provided the following configurations:

1. STA Status
2. STA Local Configuration
3. STA Port Status
4. STA Port Configuration

10. Port Aggregation

Provide users to choose the port aggregation modes.

11. SNTP

The following configuration is provided:

1. SNTP Function
2. SNTP Server UDP Port and Time Zone Configuration
3. Add a New SNTP Server IP Entry
4. Delete an Old Existed SNTP IP Entry

12. System Log

For users to enable/disable System Log to make configuration.

6.3.4 User Authentication

Users are able to change the login username/password in this menu.

(Note: As default, only the username/password "root/superuser" is accessible to this menu)

6.3.5 System Utility

[System Utility Menu]

1. System Restart
2. Default Factory Reset
3. Timeout Interval Setup
4. TFTP Download
5. Ping
6. Search Location by Port Name

1. *System Restart:*

Commands are given to restart system as warm or cold restart modes.

2. *Default Factory Reset*

Commands are given to reset to factory default.

3. *Timeout Interval Setup*

Set the time period for timeout.

4. *TFTP Download*

The menu includes the following configuration:

1. Modify Download Filename
2. Modify TFTP Server IP
3. Start TFTP Download

5. *Ping*

The menu includes the following configuration:

1. Modify Ping Count
2. Modify Ping Target IP
3. Start Ping

6. Search Location by Port Name

Provides users to search location by inputting port name.

6.3.6 Save Runtime Configuration

Provides users to save the configurations within runtime.