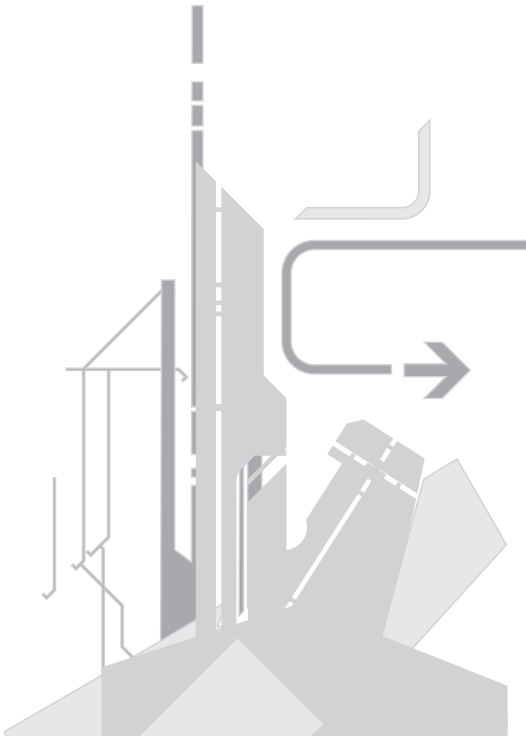
OT-3407SVW/UX

4 Ports + 3 SFP Gigabit Smart Switch

User Manual

Ver.A0



Chapter 1 Product Specification

1.1 Product Characteristics

- Complies with IEEE802.3, IEEE802.3u, IEEE802.3ab standards;
- 4 10/100/1000Mbps Auto-Negotiation RJ45 ports supporting Auto-MDI/MDIX and 3 SFP independent expansion slots supporting Mini GBIC module;
- Supports Web Smart and console managements ;
- Store and forward, integrated 8K MAC address table;
- Supports Port-Based /Tag VLAN Configuration;
- Supports rapid spanning tree(RSTP) Configuration ;
- Supports Port Trunking;
- Supports port bandwidth control;
- Support IEEE802.1x port security control function;
- Supports QoS function;
- Supports port mirror;
- Supports IGMP Snooping Configuration ;
- Supports SNMP Configuration ;
- Supports broadcast storm control;
- Supports HTTP software update,backup and reseting;
- Supports source IP filter through ports to block unwanted access;
- Supports dynamic flow statistics of ports;
- Supports circuit diagnoses;
- Standard 11-inch rack-mountable steel case;
- External power adapter supply;

1.2 Product Specifications

Standards	IEEE802.3, 802.3u, 802.3ab, 802.3x
Basic Function	Wire-speed Performance MAC Address Auto-Learning and Auto-aging IEEE802.3x flow control for Full-Duplex Mode and backpressure for Half-Duplex Mode
Backbound Bandwidth	32Gbps
MAC Address Table	8k
Forwarding Rate	10BASE-T: 14880pps/port 100BASE-TX: 148800pps/port 1000BASE-T: 1488000pps/port
Transmission Method	Store-and-Forward
Ports	4 10/100/1000Mbps Auto-Negotiation Rj45 ports (Auto MDI/MDIX) and 3 SFP independence expansion slots supporting MiniGBIC modules
Network Media	10Base-T: UTP category 3, 4, 5 cable (maximum 100m) EIA/TIA-568 100Ù STP (maximum 100m) 100Base-Tx: UTP category 5, 5e cable (maximum 100m) EIA/TIA-568 100Ù STP (maximum 100m) 1000Base-T: UTP category 5, 5e cable (maximum 100m)
LED Indicators	Power, Link/Act, Speed
Dimensions (W*D*H)	250mm × 150mm × 44mm
Environment	Operating Temperature: 0℃-40℃（32℉~104℉） Storage Temperature: -40℃-70℃*（-40℉~158℉） Operating Humidity: 10%~90% non-condensing Storage Humidity: 5%~90% non-condensing
Input	Power: 100-240VAC 50-60Hz
Consumption	Max:13W

1.3 Package Contents

- 1 piece of 7-port Ethernet Switch
- 1 piece of external power adapter
- 1 piece of console cable
- 4 pieces of rubber padding
- User's manual

Chapter 2 Hardware Installation

2.1 Quick Installation Guide

Choose a proper place for the rack mountable switch, considering the surroundings such as power source, space, keep it away from strong sunlight, heat source, and electromagnetism interference

Installation & Connection method:

1.Stick rubber paddings onto the bottom side of the switch.

2.Connect the switch to power source with offered power adapter, turn it on, the switch will test itself, all its indication lights are on at the same time, test is done when the lights go off after 5 seconds.

3.Connect the switch to network devices, including Lan cards, switches etc. with Cat 3,4,5 cable(Cat5 recommended); related indication lights flash when attached network devices are working. ALL ports support UPlink.

Note: Please not plug a phone line into a RJ45 port, otherwise it may cause damage.

2.2 LED Indications

LED	Status	Indication
Power	ON/OFF	Power on/off
Link/Act	ON/OFF	Ports connected/Ports unconnected
	Flash	Data frames running
Speed	ON/OFF	Maximum transmission rate 1000Mbps; Maximum transmission rate 10/100 Mbps.

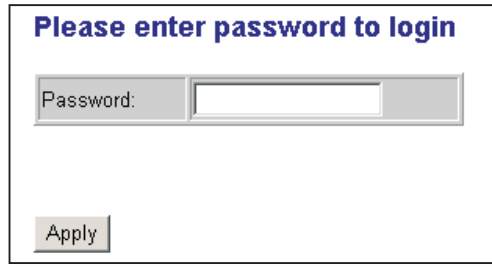
Chapter 3 Configuration Guide

3.1 Fast Log on

Notice: You may have to configure a new IP for a managing computer, because default switch IP is 192.168.2.1. You can log on as following steps:

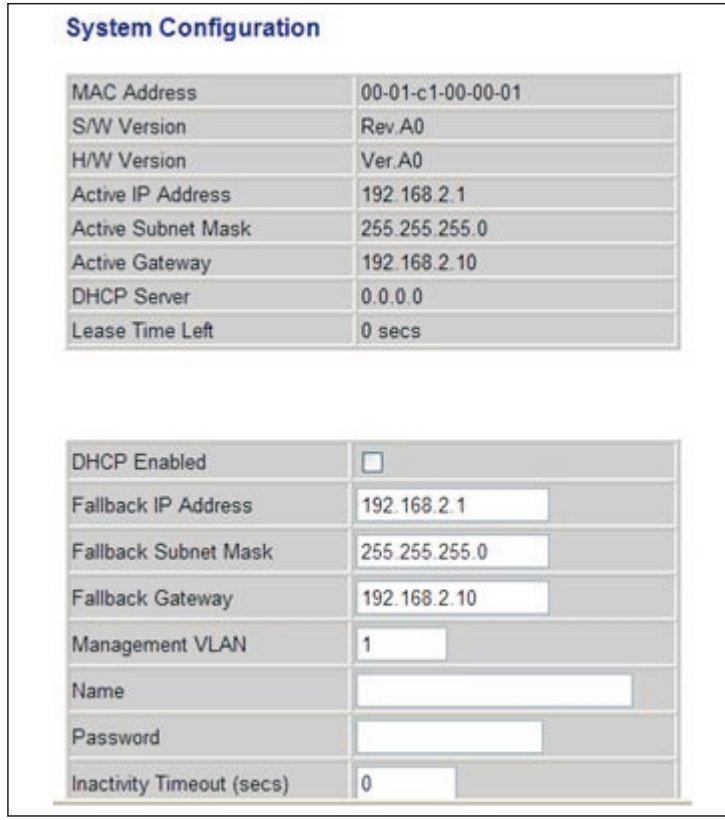
1. Connect the switch with the managing computer Lan card;
2. Turn on the switch;
3. Make sure the managing computer IP address belongs to 192.168.2.2~254, e.g:192.168.2.100
4. Open IE browser , input http://192.168.2.1 and 'Enter', you will see login window as below:

5. Input Password (no password in default), and click“Apply”, configuration window comes as below:



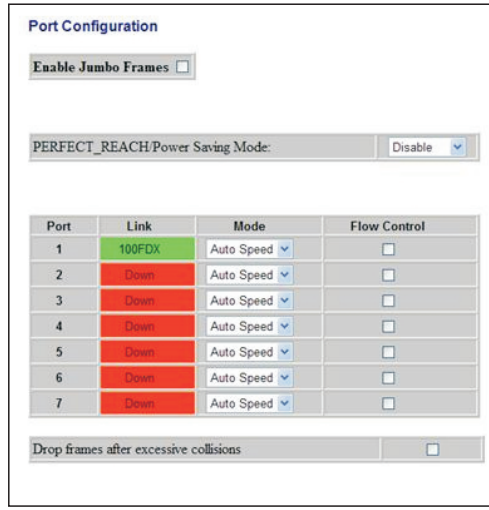
3.2 System Configuration

Here provides current switch status and you can set them according to your demands.
MAC address
Software Version
Hardware Version
Active IP Address: 192.168.2.1 (in default)
Active Subnet Mask: 255.255.255.0 (in default)
DHCP Server 0 in default
Lease Time Left 0 default



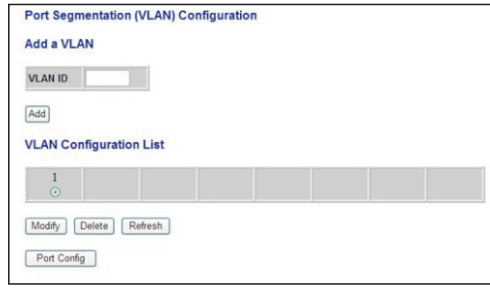
3.3 Port Configuration

Here provides port status and available to set speed and flow control; options to 10M half-duplex, 10M full-duplex, 100M half-duplex,100M full-duplex, 1000M full-duplex, auto-negotiation (in default) and disable.

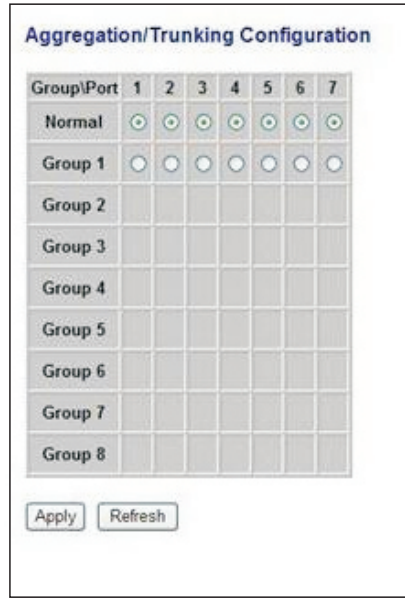


3.4 VLANs Configuration

Can set 7 VLAN groups for 802.1q VLAN

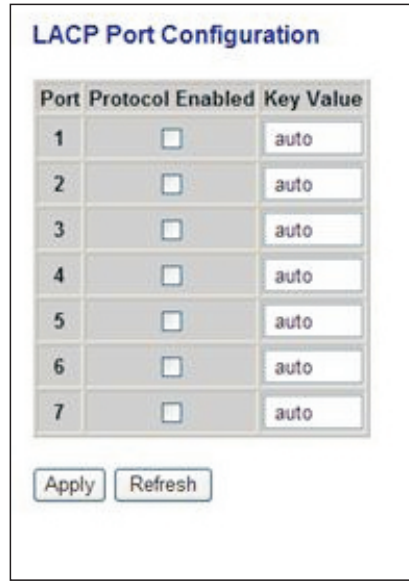


3.5 Aggregation/Trunking Configuration



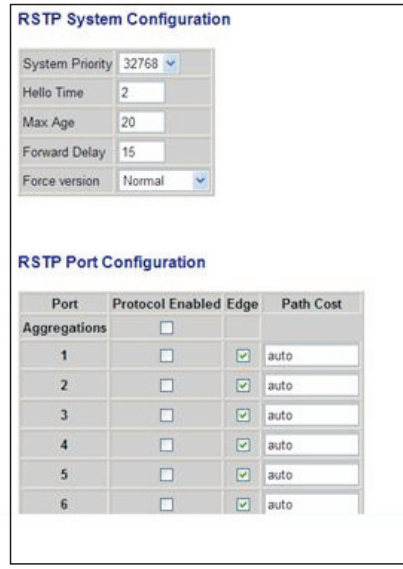
3.6 LACP Configuration

LACP (IEEE 802.3ad Link Aggregation Protocol) provides a way to set up aggregation between switches automatically.



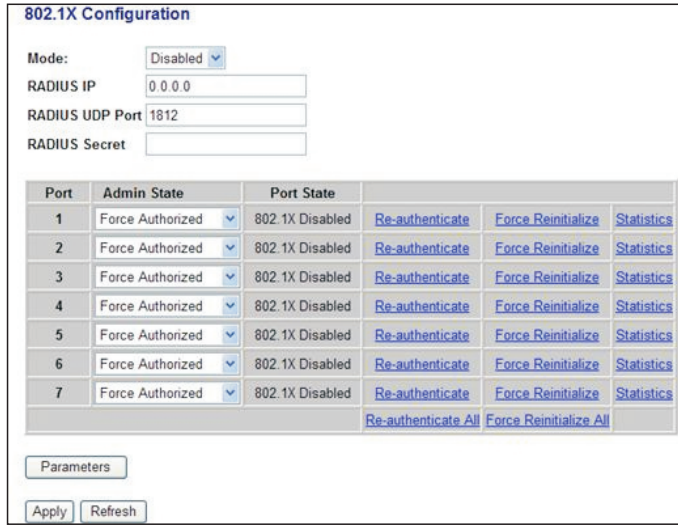
3.7 RSTP Configuration

RSTP is a protocol that prevents loops in a network and dynamically it reconfigures to forward frames.



3.8 802.1X Configuration

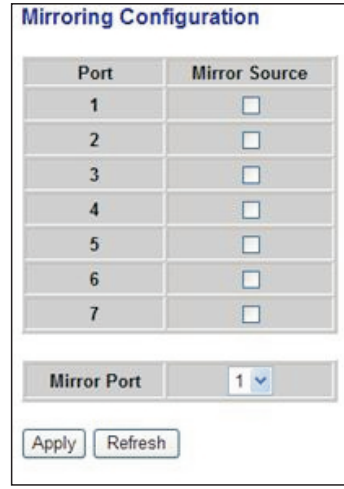
Here provides 802.1X process and available to set for each port of the switch.



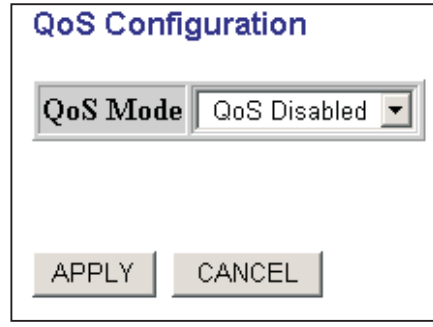
3.9 IGMP Configuration

3.10 Mirroring Configuration

Bandwidth of mirror port should be larger or equal to that of mirror source.

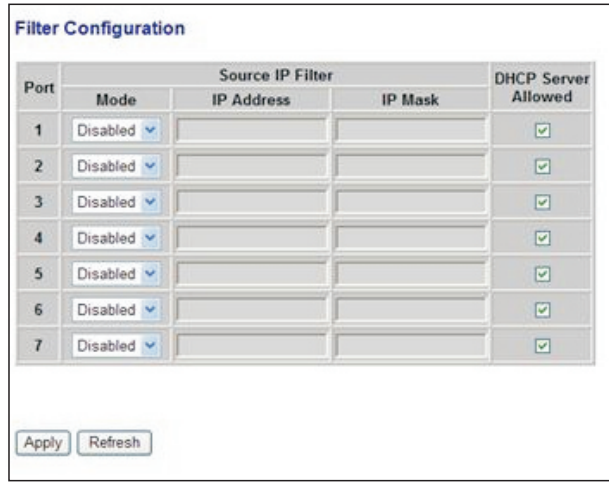


3.11 Quality of Service Configuration



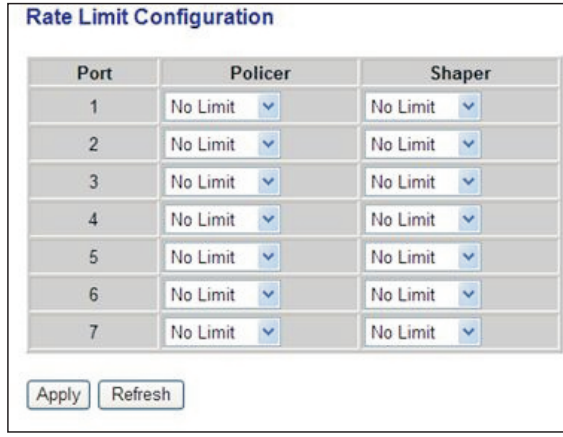
3.12 Filter Configuration

Set source IP filter through ports to block unwanted access.



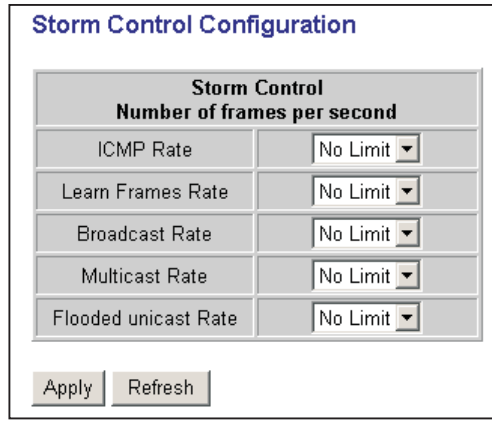
3.13 Rate Limit Configuration

Policer/Shaper Speed (options):128kbps, 256kbps, 384kbps, 512kbps, 640kbps, 768kbps, 836kbps, 896kbps, 1024Mbps, 1152kbps, 1280kbps, 1408kbps, 1536kbps, 1664kbps, 1792kbps, 1920kbps, 2048kbps, 2176kbps, 2304kbps, 2432kbps, 2560kbps, 2688kbps, 2816kbps, 2944kbps, 3072kbps, 3200kbps, 3328 kbps, 3456 kbps, 3584kbps, 3712kbps, 3840kbps and 3968 kbps.



3.14 Storm Control Configuration

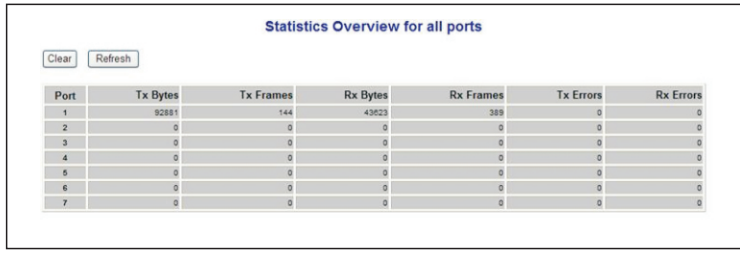
Broadcast Control speed(options): 1kfps, 2fps, 4fps, 8fps, 16fps, 32fps, 64fps, 128fps,256fps, 512fps, 1024fps, 2048fps, 4096fps, 8192fps, 16384fps, 32768fps.



Chapter 4 Monitoring Guide

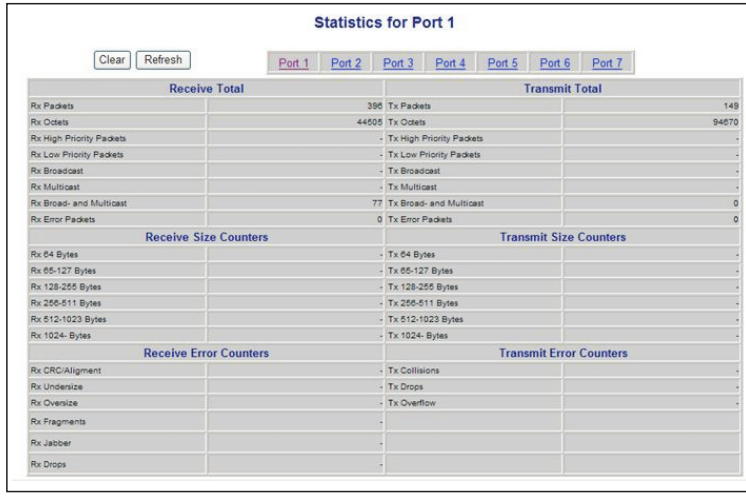
4.1 Statistics Overview

Here provides statistics of current forwarding and receiving data.



4.2 Detailed Statistics

Here provides detailed statistics of current forwarding and receiving data.



Statistics for Port 1

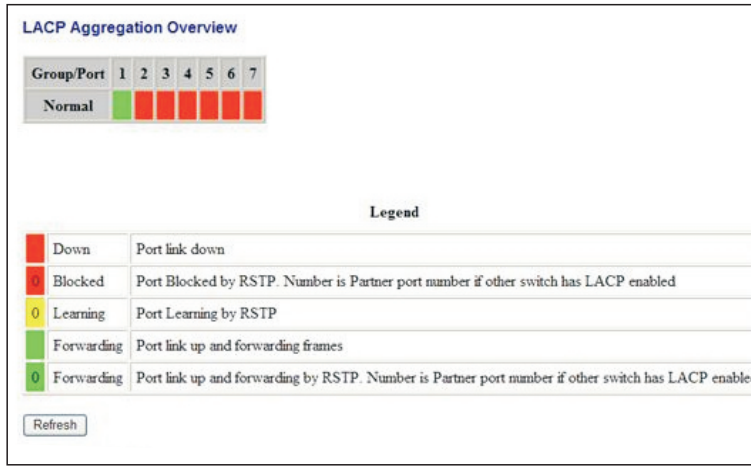
Clear Refresh

Port 1 Port 2 Port 3 Port 4 Port 5 Port 6 Port 7

Receive Total		Transmit Total	
Rx Packets	396	Tx Packets	149
Rx Octets	44505	Tx Octets	94670
Rx High Priority Packets	-	Tx High Priority Packets	-
Rx Low Priority Packets	-	Tx Low Priority Packets	-
Rx Broadcast	-	Tx Broadcast	-
Rx Multicast	-	Tx Multicast	-
Rx Broad- and Multicast	77	Tx Broad- and Multicast	0
Rx Error Packets	0	Tx Error Packets	0
Receive Size Counters		**Transmit Size Counters**	
Rx 64 Bytes	-	Tx 64 Bytes	-
Rx 65-127 Bytes	-	Tx 65-127 Bytes	-
Rx 128-255 Bytes	-	Tx 128-255 Bytes	-
Rx 256-511 Bytes	-	Tx 256-511 Bytes	-
Rx 512-1023 Bytes	-	Tx 512-1023 Bytes	-
Rx 1024- Bytes	-	Tx 1024- Bytes	-
Receive Error Counters		**Transmit Error Counters**	
Rx CRC/Aligment	-	Tx Collisions	-
Rx Undersize	-	Tx Drops	-
Rx Oversize	-	Tx Overflow	-
Rx Fragments	-		
Rx Jabber	-		
Rx Drops	-		

4.3 LACP Status

Here provides LACP port Status.



LACP Aggregation Overview

Group/Port	1	2	3	4	5	6	7
Normal							

Legend

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

Refresh

4.4 RSTP Port Status

Here provides RSTP port Status.

RSTP VLAN Bridge Overview

VLAN Id	Bridge Id	Hello Time	Max Age	Fwd Delay	Topology	Root Id
1	32769:00-01-c1-00-00-02	2	20	15	Steady	This switch is Root!

Refresh

RSTP Port Status

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

4.5 IGMP Status

Here provides IGMP Status.

IGMP Status

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

Refresh

4.6 VeriPHY

VeriPHY Cable Diagnostics

Port	Port 1
Mode	Full

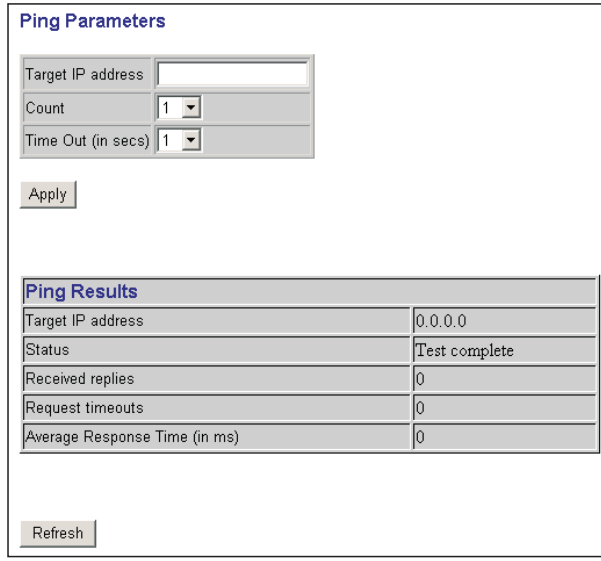
Apply

Cable Status

Pair	Length [m]	Status
A	-	-
B	-	-
C	-	-
D	-	-

4.7 Ping

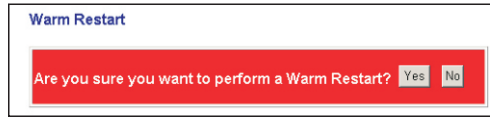
Ping function is used to test connection between the switch and destination.



Chapter 5 Maintenance Guide

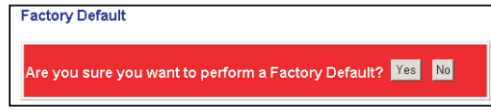
5.1 Warm Restart

Warm Restart : click “Yes” to start restart the switch.



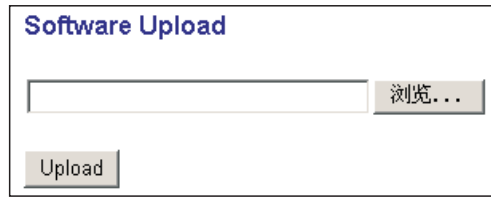
5.2 Factory Default

Restore Factory Configuration: click “Yes” to default factory configuration.
NOTICE: Please do login the switch window again after this configuration. please use a new IP address as you set, if you changed its default IP address before.



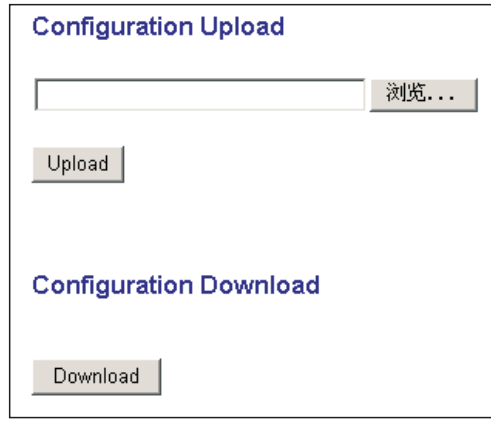
5.3 Software Upload

Update process takes about 1 minute, the switch reboots automatically after software being updated, and re-login is required.



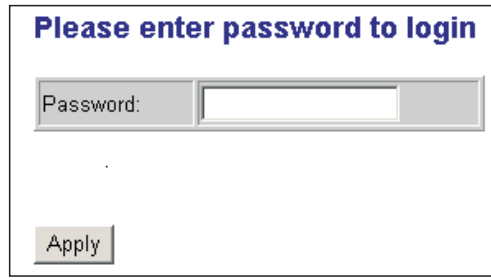
5.4 Configuration File Transfer

Configuration File upload and download



5.5 Logout

Please finally logout to make sure system security.



Chapter 6 Command Line Interface

6.1 Com Port Set-up

To use the command line interface you may connect a PC COM port to the RS-232 connector and activate a terminal program, e.g. Hyper Terminal under Windows. The COM port must be set up to run 8 data bits, 1 stop bit, no parity, 115200 baud and without flow control.

6.2 Command Hierarchy

The CLI is hierarchical with two levels: a top level and a group level.
The group level consists of the following Groups: System ,Console, Port, MAC, VLAN, Aggregation, LACP, RSTP, User Group, QoS, Mirror, IP,Dot1X, Debug .
At top level you may enter a command by giving the full command string, including group, or you may change context into a group by entering the name of the group.
At group level you may enter commands for the particular group you have chosen without specifying the group name or you may return to the top level by entering the up command.
The current level and group is indicated by the prompt. If you are at the top level, the prompt will be:

> If you are at group level, the prompt will display the actual group, e.g. System.
> At group level you also have the option of using the slash (/) key to refer to a context relative to the top level. E.g. you may be in the system group and enter a /console /configuration command or change context into the console group by entering /console.

6.3 Login/Logout Procedures

To get access to the CLI you must login by entering a password. You will automatically be queried about the password.The password is configurable.
The password check may be disabled by setting the password to an empty string "", in which case any password entered during login will be accepted.
You may logout at any time and at any context level using the "exit" command.

6.4 Help Utility

You may get help by pressing the ? key or entering "help". The help info depends on the context:
At top level, a list of command groups is displayed.
At group level, a list of the command syntaxes for the current group is displayed.
If the help command is issued for a specific command, the command syntax and a description of the command are shown.

6.5 Example

The command hierarchy and the help utility is demonstrated in the following example:

> ? <enter>
Commands at top level:

System	– System commands
Console	– Console commands
Port	– Port commands
MAC	– MAC table commands
VLAN	– VLAN commands
Aggregation	– Aggregation/Trunking commands
LACP	– IEEE802.3ad Link aggregation commands
RSTP	– IEEE802.1w Rapid Spanning Tree commands
User Group	– User Group commands
QoS	– QoS commands
Mirror	– Mirror commands
IP	– IP commands
Dot1x	– Dot1x commands
Debug	– Debug commands

> console <enter>
Console> ? <enter>
Commands at Console level:
Console Configuration
Console Password [<password>]
Console Timeout [<timeout>]
Console Prompt [<prompt string>]
Console> password ?
Syntax:
Console Password [<password>]

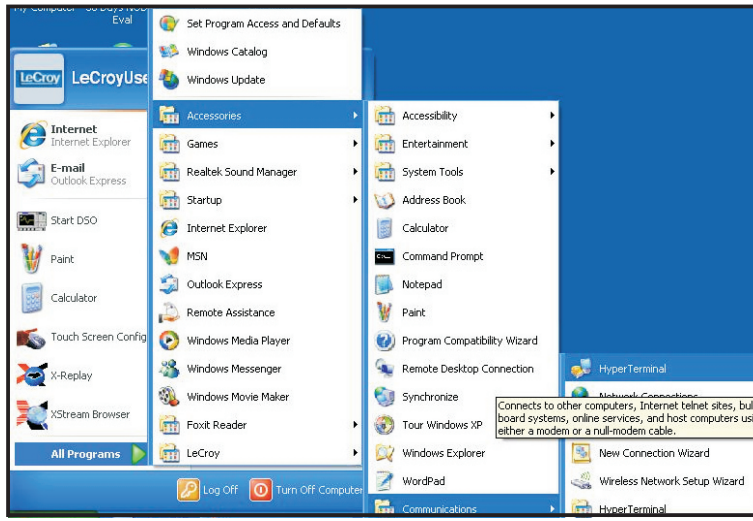
Description:
Set or display console password. The empty string ("") disables the password check.

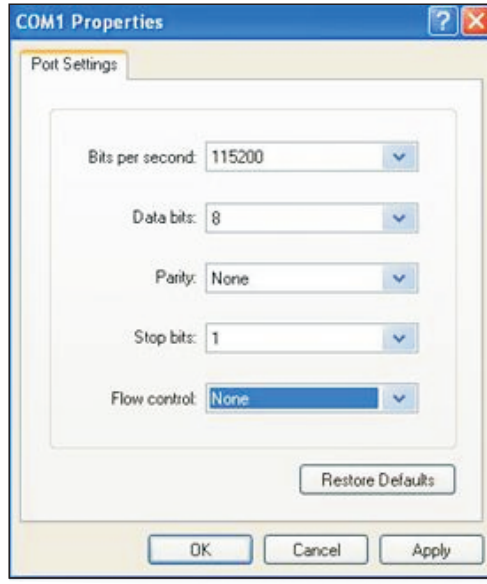
[<password>]: Password string of up to 16 characters.
Console>

6.6 Personalized password management

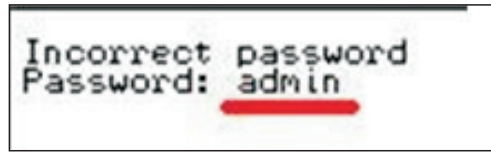
Super password ' admin ' from Com port is available, in case that previous password is forgotten

1. Log onto super terminal





2. Input super password ' admin '



3. Log on successfully and access to configuration by commands.

```
Incorrect password
Password: admin

Press ? or help to get help. The help depends on the context:
   - At top level, a list of command groups will be shown.
   - At group level, a list of the command syntaxes will be shown.
   - If given after a command, the syntax and a description of the
     command will be shown.
>
```

```
   - At top level, a list of command groups will be shown.
   - At group level, a list of the command syntaxes will be shown.
   - If given after a command, the syntax and a description of the
     command will be shown.
>
>?
Commands at top level:
System       - System commands
Console      - Console commands
Port         - Port commands
MAC          - MAC commands
VLAN         - VLAN commands
Aggr         - Aggregation commands
LACP         - IEEE 802.3ad Link Aggregation commands
RSTP         - IEEE 802.1w Rapid Spanning Tree commands
User Group   - User Group commands
QoS          - QoS commands
Mirror       - Mirror commands
IP           - IP commands
Dot1x        - Dot1x commands
Filter       - Filter commands
IGMP         - IGMP Snooping commands
Debug        - Debug commands
>_
```

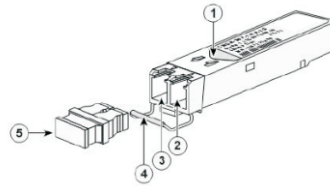
Chapter 7 Small Form Pluggable SFP

7.1 Specifications

Optical transceivers support gigabit single/multi-mode, and transfer as far as 80 kms distance; original SFP modules are recommended to be used. Supportable optical transceivers are listed as following

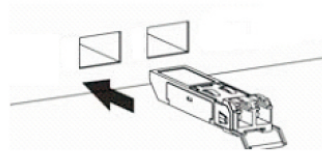
SFP-GIG-SX	Gigabit Ethernet optical transceiver(supports 850nm wavelength multi-mode, LC connector). Up to 550 meters through 50/125μm multi-mode fiber, and up to 275 meters through 62.5/125μm multi-mode fiber.
SFP-GIG-LX	Gigabit Ethernet optical transceiver(LC connector). Up to 10 kms through 1310nm wavelength single-mode fiber.
SFP-GIG-LH40	Gigabit Ethernet optical transceiver(LC connector).Up to 40 kms through1310nm wavelength single-mode fiber.
SFP-GIG-LH80	Gigabit Ethernet optical transceiver(LC connector). Up to 80 kms through 1550nm wavelength single-mode fiber.

7.2 SFP fiber optic module components description

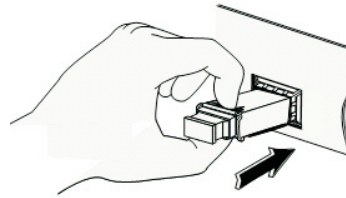


1	SFP fiber optic module specification label
2	Incoming optical signal jack
3	Outgoing optical signal jack
4	Protective sliding rod
5	Protective shield

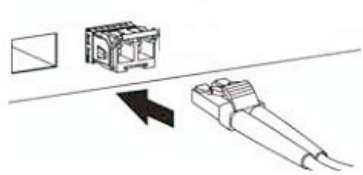
7.3 SFP fiber optic transceiver module installation



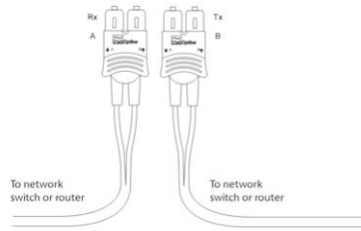
Step 1 Remove protective package and its protective shield



Step 2 With the correct way to hold the SFP optical module, and insert it into a slot and in place

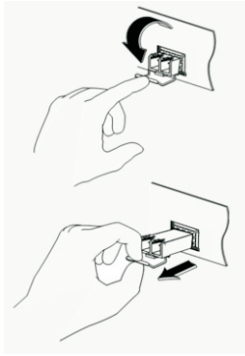


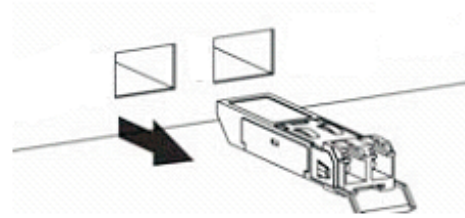
Step 3 Insert it with right fiber optic cable. Matching fiber optic cables according to spec label are required to avoid of possible damage, and to get maximum effective transmission distance of optical signal.



Step 4 Connect to network clients and insure correct working status by checking indication lights.

7.4 How to plug out SFP optical modules?

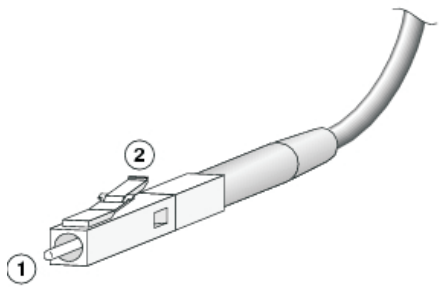


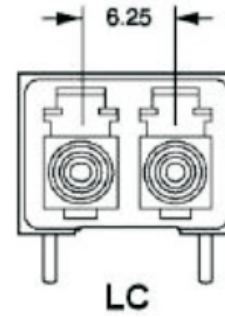


7.5 Notes on SFP optical module use

Right fiber cables with LC connector to be adopted, and 1000M standard SFP module used.

7.6 Specification on fiber optic connection





1	LC connector	2	Limit shrapnel

7.7 Notes on optical used

Please do not directly look at optical interface when no optical connectors or dust covers fixed on, because invisible rays from it may hurt eyes.

Fix it with a dust cover when no optical connectors connected.

Right connectors and optical cables are chosen before connection

7.8 Notes on optical connection

Do not excessively bend optical cables.
Be sure of that Tx of interface is connected to Rx of its opposite end, and Rx to Tx of its opposite end.

Be sure of cleanliness of optical interfaces