

## **L2 Managed Switch    User's Guide**

<http://www.kst-bg.com>  
**HT-8G-2F**



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### **Packaging list:**

- The L2 Managed Switch x1
- Power Cord x1
- User Guide/CD x1
- Warranty card x1
- Installation accessories kit x1

Please contact local reseller or distributor if any accessories are missing.

<http://www.kst-bg.com>

# Part One Hardware Installation Guide

## Chapter 1 Product Instruction

### 1.1 Introduction

Full Gigabit L2 Managed Switches consist of:

- 1) HT-8G-2F-Managed: 8\*10/100/1000M Base-T ports; 2\*1000 Base-X SFP ; 1\*Console port.

**Please read through this User Guide before operating the HT-8G-2F-Managed Switch.**

### 1.2 Front Panel

#### 1. HT-8G-2F-Managed

8\*10/100/1000M Base-T ports; 2\*1000 Base-X SFP ; 1\*Console port. ( refer to Picture 1.2.2).



Picture 1.2.1 HT - 8 G - 2 F - M a n a g e d Front Panel

#### LED Indicator Instruction

Please check the LED indicators on the left of front panel.

##### 1. Power Indicator

The power indicator is on the upper-left side of front panel, it is on when the switch is powered. If the indicator is off, please check the power supply.

### 2. System Indicator

Below the power indicator is the system indicator, it flashes when switch works normally.

### 3. 10/100Mbps Link/ACT Indicators

The indicators marked with numbers are **yellow** when the 10/100M ports auto-negotiate connected, and the yellow indicators flash when there are data communications through the ports.

### 4. 1000Mbps Link/ACT Indicators

The indicators marked with numbers are **green** when the 1000Mbps ports auto-negotiate connected, and the green indicators will flash when there are data communications through the ports.

## 1.3 Rear Panel



Picture 1.3.1 Rear Panel

**Power Socket:** Three-core power socket is adopted, please connect female head of power cord to the socket, and connect the AC power supply with male head.

## Chapter 2 Preparations before Instruction

### 2.1 Precautions

Please read the following precautions carefully before operation, to avoid damaging the device or causing body injuries.

- 1). Please remove the power socket before cleaning the switch. Don't wipe the switch with wet cloth or wash the switch with liquid.
- 2). Don't stock the device in damp environment or near water, to avoid water or moisture penetrating into the inner device.
- 3). Don't put the device on a unstable box or desk, the device will get damaged from falling.
- 4). Please keep good ventilation indoor, and make sure the heat dissipation function of switch works well.
- 5). The switch only works normally in suitable voltage. Please check the working voltage first.
- 6). Please don't open the switch enclosure randomly, especially when the switch is powered on, there is risk of electric shock.
- 7). Please wear anti-static wrist strap when change the interface board, to avoid the static electricity damage the board.

## 2.2 Check Installation Environment

The switch is for indoor use only, please pay attention to the following problems when install the switch in a cabinet or put the device directly on the desktop.

- 1) The air vents of switch must have enough space to dissipate the heat inside enclosure.
- 2) A good heat dissipation system in the cabinet or on the desktop.
- 3) The cabinet or desktop strong enough to support the weight of switch and installation accessories.
- 4) Safe ground connection for the cabinet or desktop.

## 2.3 Installation Tools

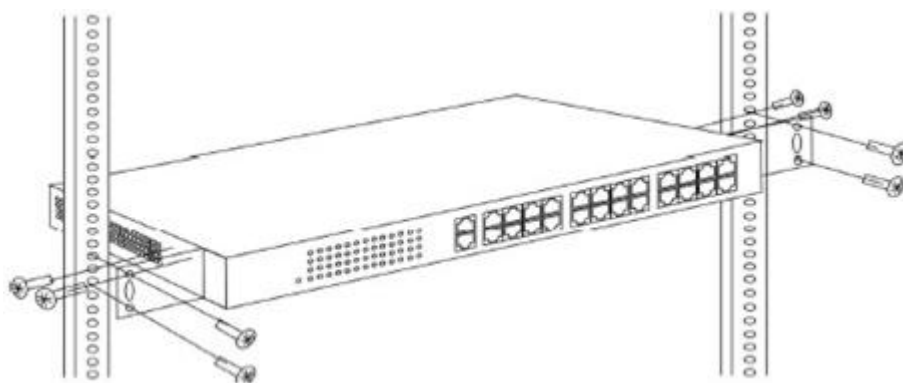
- 1) Flathead screw driver
- 2) Cross screw driver
- 3) Anti-static wrist strap

# Chapter 3 Installation

## 3.1 Install the Switch

### 3.1.1 Install the switch on a 19 inch standard cabinet

- 1) First fix the provided two L-shaped brackets on the two sides of switch.
- 2) Fix the switch on the rack with screws(screws are not provided).



Picture 3.1.1 Cabinet Installation

### 3.1.2 Install the switch on the desktop

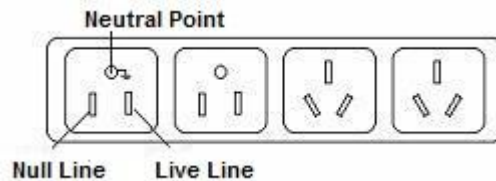
When there is no 19 inch standard cabinet, the switch is usually put on clean desktop. The operation is easier, please follow the below instructions:

- 1) Keep the desktop stable and safely grounded.
- 2) Set aside 10cm space around switch for heat dissipation.
- 3) Don't put any heavy device on the switch.

## 3.2 Connect the power cord and grounded cord

### 3.2.1 Select of AC Power Socket

The neutral one-phase 3-wire power socket is advised to adopt, or the multifunctional PC power socket. The neutral point of power supply must be well grounded, please check the grounded power supply before operation.



Picture 3.2.1 one-phase 3-wire power socket

### 3.2.2 Connection of AC power cord

Step one: please connect one end of power cord to the power jack on the switch rear panel, Connect the other end to the AC power socket.

Step two: check the power indicator(PWR) on the front panel, if the LED is on, connection is Successful.

## 3.3 Test after Installation

Make sure the working voltage is the same with the rated voltage of switch.

Check the connection of grounded cord.

Check the connection of configuration cable and power input cord.

If the interface cable is partly deployed outdoor, please check the connection of anti-thunder AC power strip and interface anti-thunder device.



## Chapter 4 Technical Specifications

### 4.1 Hardware Features:

Item	HT-8G-2F-Managed
Fixed Ports	8*10/100/1000 Base-T
	2*1000 Base-X SFP
Management Port	1* Console port
Switching Capacity	≥20Gbps
Packet Forwarding Rate	15Mpps
Operation Temperature	—20~50°C
Storage Temperature	—40~70°C
Operation Humidity	10%~90%(non-condensing)
Storage Humidity	5%~95%(non-condensing)
Dimensions	280 (L)*180(W)*44(H)mm
Weight	<1.5Kg
Input Voltage(AC)	DC: 12V
Power Consumption	<10W

### 4.2 Software Features:

Item	HT-8G-2F-Managed
Protocol and Standards	IEEE 802.3, 10 BASE-T Ethernet
	IEEE 802.3ad, Static or Dynamic Link Aggregation
	IEEE 802.3u, 100 BASE-TX
	IEEE 802.3ab, 1000 BASE-T
	IEEE 802.3z, 1000 BASE-X
	IEEE 802.3x, Full-Duplex Flow Control
	IEEE 802.1q, VLAN
	IEEE 802.1p, QoS/CoS
	IEEE 802.1d, Spanning Tree Protocol
	IEEE 802.1w, Rapid Spanning Tree Protocol
	IEEE 802.3az, EEE(Energy Efficient Ethernet)
	IEEE 802.1s, Multiple Spanning Tree Protocol
MAC Address	8K MAC addresses
	Support auto-update, two-way learning
VLAN	Supports VLAN based on ports, protocols and ACL
	Maximum 4K VLANs
	VLANs based on IEEE 802.1q
Spanning Tree	STP Spanning Tree Protocol
	RSTP Rapid Spanning Tree Protocol
	MSTP Multiple Spanning Tree Protocol

Port Aggregation	8 aggregation groups,each containing up to 8 ports;
Port Mirroring	Many-to-one mirroring(that is, multiple mirroring ports, and one monitor port)
Loop Protection	Ring protection, real-time detection/quick alarm/accurate location/intelligent blocking/auto-recovery
Port Isolation	Isolate the communication between ports, only uplink permitted
Traffic Control	Back-pressure traffic control under Half-Duplex mode
	IEEE 802.3x traffic control under Full-Duplex mode
Flow Rate Limitation	Port-based ingress or egress rate limiting
Multicast	IGMPv1/v2/v3 and MLDv1/2 Snooping
Storm Suppression	Supports multiple storm suppression:UC,MC,unknown cast and broadcast.
	Storm suppression based on bandwidth adjustment,storm filtering and ACL
	Supports attack against strategy, against Land attack,Blat attack,Ping attack and TCL control led Flag attack.
	Binding of user port ,IP address and MAC address
	Security limitation based on port MAC address quantity
QOS	SP (Strict Priority)
	WFQ (Weighted Fair Queuing)
	WRR (Weighted Round Robin)
	Random Early Detect(RED)
	Weighted Random Early Detection(WRED)
	Head of Line
	802.1p (Port Queuing Priority)
Standard Wiring	DSCP Priority(Differentiated Service Code Point)
	Support Auto-MDIX
Negotiation Mode	Auto-negotiation
System Maintenance	Check the connectivity of network cables
	Upload/Download configuration files
	Upload upgrade patch
	View system log
	Supports factory reset
Management	Visual web interface management
	CLI management
	Telnet management
	SNMP management

## Part Two WEB Configuration Guide

### Chapter 1 User Login

Switch adopt Web-based interface management, the default IP is 192.168.255.1. Please make sure the IP address of PC is in the same network segment with that of switch, or the PC can't access to manage the switch. After the setting of IP address, please input 192.168.255.1 in the browser to access the configuration interface of switch.

The Web management interface consists of five parts, which are switch status, basic configuration, advanced configuration, network security, system maintenance.



Picture 1.1.1 Login Page

Enter user password in the above login page, the default password is admin. The system only support single user login, other logins will be refused until the user logs out.

If IP address conflict occurs, it suggests the latest user didn't log out successfully. Please reboot the device or try to log in again 180s later.

It is advised to reset the IP address and password in first login, and make sure the switch is not configured in the same network segment with DHCP server or Internet Gateway device.

## Chapter 2 Switch Status

### 2.1 System Information

System Information	
▼ System Information	
Information Name	Information Value
Equipment Type	S3500-26G-2F
PCB/HW Version	V1.2.3
MAC Address	AC:31:9D:CC:CC:CC
System Object ID	A324324354657435
Firmware Version	V1.0.6
Firmware Date	Thu May 15 11:13:53 CST 2014
System Up Time	0 days, 1 hours, 38 mins, 3 secs

Picture 2.1.1 System Information

Device status can be checked in the above page, which contains: Device Model number(equipment type), PCB/HW Version, MAC Address,Serial Number(System Object ID), Firmware Version, Firmware Updated Date, System Running Time(System Up Time).

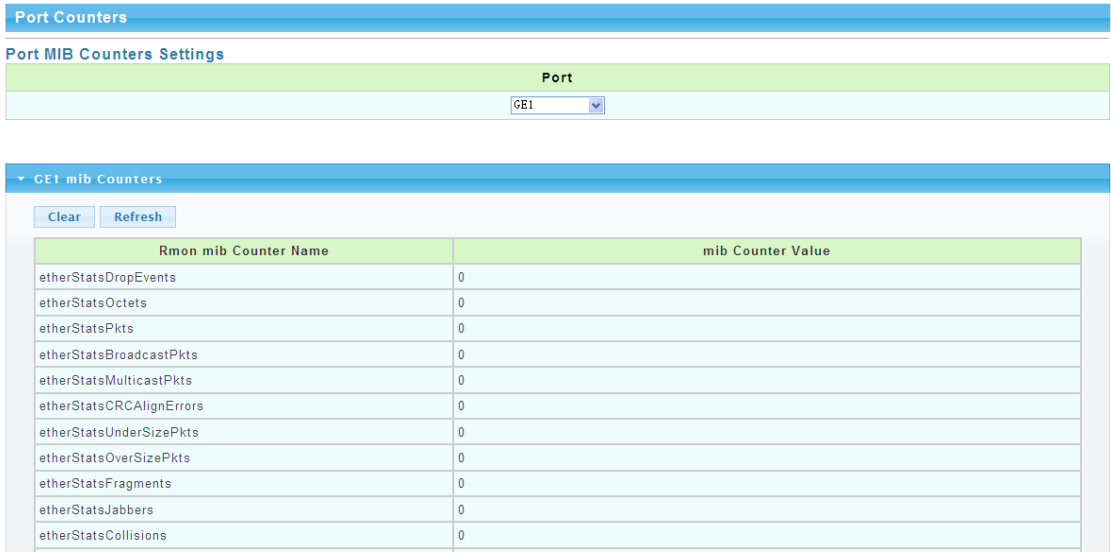
### 2.2 Logging Message

Logging Message				
Logging Filter Select				
Target	Severity	Category		
buffered ▼	Select Levels ▼	Select Categories ▼		
View				
▼ Logging Information				
Information Name	Information Value			
Target	buffered			
Severity	emerg, alert, crit, error, warning, notice			
Category	ACL, CABLE_DIAG, IGMP_SNOOPING, L2, LLDP, Mirror, Platform, PM, Port, QoS, Rate, SNMP, STP, Security-suite, System, Trunk, VLAN			
Total Entries	15			
▼ Logging Messages				
Clear buffered messages Refresh				

Picture 2.2.1 Logging Message

System log can be checked in above page. Maintenance technicians can check the history system log.

2.3 Port Counters

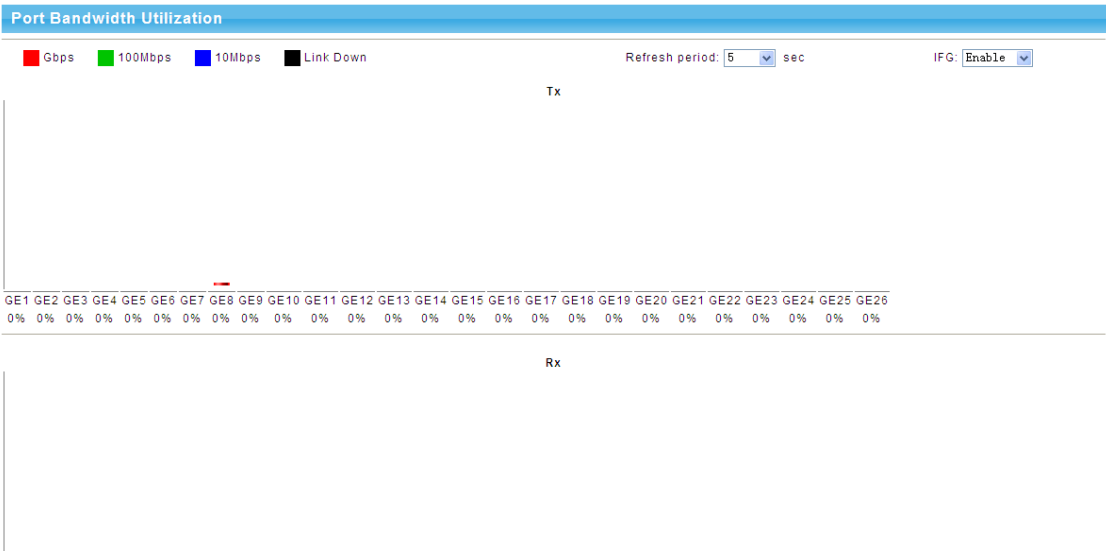


Picture 2.3.1 Port Counters

The above picture shows switch port statistics. Users can check the sent/received bytes,sent/received packets, wrongly sent/received packets. If there are too many wrong packets, it suggests the port has very poor working performance, the user need to examine the connection of network cable or the partner network card.

The current software version doesn’t support real-time statistics refresh, please click “Refresh” button to get new statistics.

2.4 Port Status(Port Bandwidth Statistics)



Picture 2.4.1 Port Bandwidth Statistics

This page shows port bandwidth status. Users can check egress/ingress bandwidth in this page,including 1000Mbps, 100Mbps, 10Mbps.

## 2.5 Link Aggregation

LAG Status					
▼ LAG Status					
LAG	Name	Type	Link State	Active Member	Standby Member
LAG1	test 1	Static	DOWN	-	GE1-2
LAG2	test 2	Static	DOWN	-	GE3-6
LAG3		---	Not Present	-	-
LAG4		---	Not Present	-	-
LAG5		---	Not Present	-	-
LAG6		---	Not Present	-	-
LAG7		---	Not Present	-	-
LAG8		---	Not Present	-	-

Picture 2.5.1 Link Aggregation

In above Link Aggregation page, user can check the port aggregation information. Like aggregator group(LAG), link state, aggregator group member state(active/standby).

## 2.6 LLDP Statistics

LLDP Statistics

▼ LLDP Global Statistics

ClearRefresh

Insertions	0
Deletions	0
Drops	0
Age Outs	0

▼ LLDP Port Statistics

Port	TX Frames	RX Frames			RX TLVs		RX Ageouts
	Total	Total	Discarded	Errors	Discarded	Unrecognized	Total
GE1	0	0	0	0	0	0	0
GE2	0	0	0	0	0	0	0
GE3	0	0	0	0	0	0	0
GE4	0	0	0	0	0	0	0
GE5	0	0	0	0	0	0	0

Picture 2.6.1 LLDP Statistics

LLDP information can be checked in above page. When enable the LLDP(Link Layer Discovery Protocol ) function, LLDP information of switch ports can be checked here.

## 2.7 IGMP Statistics

IGMP Snooping Statistics	
IGMP Snooping Statistics	
Clear	Refresh
Statistics Packets	Counter
Total RX	920
Valid RX	878
Invalid RX	42
Other RX	0
Leave RX	0
Report RX	0
General Query RX	0
Specail Group Query RX	0
Specail Group & Source Query RX	0
Leave TX	0
Report TX	0
General Query TX	0
Specail Group Query TX	0
Specail Group & Source Query TX	0

Picture 2.7.1 IGMP Statistics

When the IGMP snooping function is enabled, IGMP information can be checked in above page.

## 2.8 STP Statistics

STP Statistics				
STP Statistics				
Port	Configuration BDPUs Received	TCN BDPUs Received	Configuration BDPUs Transmitted	TCN BDPUs Transmitted
GE1	0	0	0	0
GE2	0	0	0	0
GE3	0	0	0	0
GE4	0	0	0	0
GE5	0	0	0	0
GE6	0	0	0	0
GE7	0	0	0	0
GE8	0	0	0	0

Picture 2.8.1 STP Statistics

In above STP statistics page, users can check the BPDU packets of every port and every link aggregation STP.

## 2.9 MAC Address Table

Dynamic Learned

☐ Port 
☐ VLAN 
☐ MAC Address

View Clear

MAC Address Information

FIRST PREV 1 NEXT LAST

MAC Address	VLAN	Type	Port	
00:02:B3:B1:FA:3C	default(1)	Dynamic	GE8	<a href="#">Add to Static MAC table</a>
00:03:E3:4F:67:07	default(1)	Dynamic	GE8	<a href="#">Add to Static MAC table</a>
00:03:E3:4F:67:12	default(1)	Dynamic	GE8	<a href="#">Add to Static MAC table</a>
00:07:E9:12:36:5F	default(1)	Dynamic	GE8	<a href="#">Add to Static MAC table</a>
00:07:E9:23:46:76	default(1)	Dynamic	GE8	<a href="#">Add to Static MAC table</a>
00:0C:29:CD:2C:99	default(1)	Dynamic	GE8	<a href="#">Add to Static MAC table</a>
00:0C:29:CD:2C:AD	default(1)	Dynamic	GE8	<a href="#">Add to Static MAC table</a>
00:17:16:04:0F:72	default(1)	Dynamic	GE8	<a href="#">Add to Static MAC table</a>

Picture 2.9.1 MAC Address Table

MAC address table and configuration can be checked in above page, users can add the showed dynamic MAC addresses to static MAC table.

## Chapter 3 Basic Configuration

### 3.1 IP Configuration

IP Address

IP Address Setting

Mode	<input checked="" type="radio"/> Static <input type="radio"/> DHCP
IP Address	<input type="text" value="192.168.255.35"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Gateway	<input type="text" value="192.168.255.254"/>
DNS Server 1	<input type="text" value="168.95.1.1"/>
DNS Server 2	<input type="text" value="168.95.192.1"/>

Apply

IP Information

Information Name	Information Value
DHCP State	Disabled
Static IP Address	192.168.255.35
Static Subnet Mask	255.255.255.0
Static Gateway	192.168.255.254
Static DNS Server 1	168.95.1.1
Static DNS Server 2	168.95.192.1

Picture 3.1.1 IP configuration

The above IP address configuration page can be used to configure the IP address of device management interface “Interface Vlan 1”. The default IP address, subnet mask and gateway will be showed in the page. When revise the configuration, please press “save” to confirm new configuration. Press “reset” to back to original configuration.

Above configuration need to be done under default “Static” state,if switch the IP address



mode to DHCP, IP address will be get dynamically. Please record the new IP address for future login.

**Notice:** Don't modify the subnet mask unless exceptional case, login problem will be caused by improper modification.

### 3.2 Account Configuration

**Local User Information**

**New User**

User Name	Password Type	Password	Retype Password	Privilege Type
<input type="text"/>	Clear Text	<input type="text"/>	<input type="text"/>	Admin

Apply

**Local Users**

User Name	Password Type	Privilege Type	Modify
admin	Encrypted	Admin	

Picture 3.2.1 Account configuration

Login password can be revised in this page, please remember the new password for future login.

### 3.3 Logging Setting

**Logging Settings**

**Logging Settings**

Logging Service ☒ Enabled ☐ Disabled

Apply

**Logging Information**

Information Name	Information Value
Logging Service	enabled

Picture 3.3.1 Logging Setting

System log configuration is checked in above page. Remote log server can be configured, system log can be saved on the remote server as backup use. Enable or disable the remote backup function in this page, "server IP address" need to be entered manually.

### 3.4 Telnet Configuration

**Telnet Information**

Information Name	Information Value
Telnet Service	Enabled
Current Telnet Sessions Count	0

Picture 3.4.1 Telnet Information

Please enable Telnet function in this page. When Telnet function enabled, the switch can be remotely managed by Telnet.

### 3.5 Port Setting

Port Setting							
Port settings							
Port Select	Enabled	Speed	Duplex	Flow Control			
Select Ports	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled	Auto	Auto	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled			
Fiber Ports	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled	Auto=1000M	Full	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled			
<input type="button" value="Apply"/>							
Port Status							
Port	Description	Enable State	Link Status	Speed	Duplex	FlowCtrl Config	FlowCtrl Status
GE1	<a href="#">Edit</a>	Enabled	DOWN	1000M	Auto	Disabled	Disabled
GE2	<a href="#">Edit</a>	Enabled	DOWN	1000M	Auto	Disabled	Disabled
GE3	<a href="#">Edit</a>	Enabled	DOWN	Auto	Auto	Disabled	Disabled
GE4	<a href="#">Edit</a>	Enabled	DOWN	Auto	Auto	Disabled	Disabled
GE5	<a href="#">Edit</a>	Enabled	DOWN	Auto	Auto	Disabled	Disabled
GE6	<a href="#">Edit</a>	Enabled	DOWN	Auto	Auto	Disabled	Disabled
GE7	<a href="#">Edit</a>	Enabled	DOWN	Auto	Auto	Disabled	Disabled
GE8	<a href="#">Edit</a>	Enabled	UP	A-1000M	A-Full	Disabled	Disabled

Picture 3.5.1 Port Setting

Port Status: The user can enable or disable a port in this page. Click "Enable" to open the port, click "Disable" to close the port, the default setting is "Enable".

Port Mode: 6 modes can be configured: Auto-negotiation, 10 Half, 10 Full, 100 Half, 100 Full and 1000 Full. Default mode is Auto-negotiation, can be changed in pull-down list.

Flow Control: This function is defaulted closed, open it when needed.

Loop Detection: The function is defaulted closed, open it when needed. A port will be blocked to cut the loop when loop is detected. (Notice: the port link indicator in front panel will be still on when the port is blocked, for the physic connection is existed; while the link indicator on the top of web management pages will be off.)

## Chapter 4 Advanced Configuration

## 4.1 Port Mirror Configuration

Mirror Setting

Mirror Setting

Session ID	Select Session
Monitor session state	portbase-enabled
Destination Port	GE1
allow-ingress	Disable
Sniffer RX Ports	Select RX Ports
Sniffer TX Ports	Select TX Ports

Apply

Mirror Status

Session ID	Destination Port	Ingress State	Source TX Port	Source RX Port
1	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A

Picture 4.1.1 Port Mirror Configuration

Users can do Port Mirror Configuration in above page. Port mirroring is used on a network switch to send a copy of network packets or data traffic from some ports (or an entire VLAN) to a network monitoring connection on specified switch port. The original port is called Source Port, and the specified port is Mirroring Port. This is commonly used for network appliances that require monitoring of network traffic without influencing the normal working of every port, it's a convenient online-monitoring function.

All ports have mirroring function, but only one port can be configured as Mirroring Port. In the same system, there is only one mirroring port, while more than one Source Ports can be existed. When a port is configured as mirroring port, its corresponding port can't be configured as source port.

## 4.2 Port Aggregation

### 4.2.1 Static Aggregation

LAG Management

LAG Management

LAG	Name	Type	Ports
LAG1		<input checked="" type="radio"/> Static <input type="radio"/> LACP	Select Ports

Apply

(Tip: Select multiple ports polymerization, the rate of change of the port 1000M)

LAG Management Information

LAG	Name	Type	Link State	Active Member	Standby Member	Modify
LAG1	test 1	Static	DOWN	-	GE1-2	<a href="#">Edit</a>
LAG2	test 2	Static	DOWN	-	GE3-6	<a href="#">Edit</a>
LAG3		---	Not Present	-	-	<a href="#">Edit</a>
LAG4		---	Not Present	-	-	<a href="#">Edit</a>
LAG5		---	Not Present	-	-	<a href="#">Edit</a>
LAG6		---	Not Present	-	-	<a href="#">Edit</a>
LAG7		---	Not Present	-	-	<a href="#">Edit</a>
LAG8		---	Not Present	-	-	<a href="#">Edit</a>

Picture 4.2.1 Static Aggregation

Switches support 8 aggregation groups, each group contains maximum 8 ports. The members in the same aggregation group should have same configuration for port forwarding rate mode and VLAN distribution.

If LACP function applied for some ports, then static aggregation can't be configured.

**Notice: Static aggregation can't be configured when LACP function enabled.**

## 4.2.2 LACP Setting

LACP Port Setting

LACP Port Settings

Port Select	Priority	Timeout
<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">Select Ports</div>	<div style="border: 1px solid #ccc; padding: 2px; display: inline-block;">1</div> (1-85535)	<input checked="" type="radio"/> Long <input type="radio"/> Short

Apply

▼ LACP Port Information

Port Name	Priority	Timeout
GE1	1	Long
GE2	1	Long
GE3	1	Long
GE4	1	Long
GE5	1	Long
GE6	1	Long
GE7	1	Long
GE8	1	Long

Picture 4.2.2 LACP Setting

When the LACP protocol is on, the aggregated devices interactively gather information through LACP. According to the parameters and status of each device, automatically receive and dispatch Data of matchable link aggregation. When the Aggregation is formed, switches keep in an aggregation link status, switches automatically adjusts link aggregation or dissolve when configuration changes.

If the port is configured as static aggregation, the dynamic LACP will be not available.

**Notice: Static aggregation LACP function can't be used together.**

## 4.3 VLAN Management

### 4.3.1 VLAN Setting

Create VLAN

VLAN Setting

VLAN LIST	VLAN Action	VLAN Name Prefix
<div style="border: 1px solid #ccc; padding: 2px; display: inline-block; width: 100px;"></div>	<input checked="" type="radio"/> Add <input type="radio"/> Delete	<div style="border: 1px solid #ccc; padding: 2px; display: inline-block; width: 100px;"></div>

Apply

▼ VLAN Table

PREV
1
NEXT

VLAN ID	VLAN Name	VLAN Type	Modify
1	default	Default	<div style="border: 1px solid #ccc; padding: 2px 5px; background-color: #d9d9d9;">Edit</div>

Picture 4.3.1 VLAN Setting

VLAN can be created or deleted in above page. Users can create a new VLAN and give a name to the VLAN.

### 4.3.2 VLAN Port Status

Interface Settings

Edit Interface Setting

Port Select	Interface VLAN Mode	PVID	Accepted Type	Ingress Filtering
Select Ports	<input checked="" type="radio"/> Hybrid <input type="radio"/> Access <input type="radio"/> Trunk	1 (1 - 4094)	<input checked="" type="radio"/> All <input type="radio"/> Tag Only <input type="radio"/> Untag Only	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled

Apply

Port VLAN Status

Port	Interface VLAN Mode	PVID	Accept Frame Type	Ingress Filtering
GE1	Trunk	1	ALL	Enabled
GE2	Trunk	1	ALL	Enabled
GE3	Trunk	1	ALL	Enabled
GE4	Trunk	1	ALL	Enabled
GE5	Trunk	1	ALL	Enabled
GE6	Trunk	1	ALL	Enabled
GE7	Trunk	1	ALL	Enabled
GE8	Trunk	1	ALL	Enabled

Picture 4.3.1 VLAN Port Status

Port features can be configured in above page. Users can create a VLAN and add ports to the VLAN list with specified mode. VLAN features and port parameters can be configured.

**Ingress Filtering:** enable ingress filtering function to abandon or forward unmatched VLAN packets. This function is default disable, the unmatched packet will be received.

**Membership type:** tag refers to the port will receive tagged packets(and the VLAN ID in for tagged packet is not "0"); untag refers to the port receive untagged packets only.

## 4.4 Voice VLAN

### 4.4.1 Voice VLAN

Properties

Properties

Voice VLAN State	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
Voice VLAN Id	<input type="text"/> <input type="checkbox"/> Enable
Remark Cos/802.1p	6
1p remark	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
Aging Time(30-65536 min)	1440

Apply

Voice VLAN State

Information Name	Information Value
Voice VLAN State	disabled
Voice VLAN ID	none (disable)
Remark Cos/802.1p	6
1p Remark State	disabled
Aging	1440

Picture 4.4.1 Voice Vlan

Voice VLAN is the VLAN for voice data flow. Create a Voice VLAN and add the ports connected with voice devices to Voice VLAN, Voice data flow can be centrally transmitted in Voice VLAN. Users can configure special QoS(Quality of Service) for the voice data flow, like configure a higher transmitting priority class to ensure a high quality connection.

## 4.4.2 Voice VLAN OUI

**Telephony OUI Mac setting**

**Voice VLAN OUI Setting**

<b>OUI Address</b>	00:00:00
<b>Description</b>	

[Add](#)

**Voice VLAN OUI Group**

OUI Address	Description	Modify
00:E0:BB	3COM	<a href="#">Edit</a> <a href="#">Delete</a>
00:03:6B	Cisco	<a href="#">Edit</a> <a href="#">Delete</a>
00:E0:75	Veritel	<a href="#">Edit</a> <a href="#">Delete</a>
00:D0:1E	Pingtel	<a href="#">Edit</a> <a href="#">Delete</a>
00:01:E3	Siemens	<a href="#">Edit</a> <a href="#">Delete</a>
00:60:B9	NEC/Philips	<a href="#">Edit</a> <a href="#">Delete</a>
00:0F:E2	H3C	<a href="#">Edit</a> <a href="#">Delete</a>
00:09:6E	Avaya	<a href="#">Edit</a> <a href="#">Delete</a>

Picture 4.4.2 Voice Vlan OUI

Voice VLAN signify mode can be configured in this page, like Siemens AG phones、Cisco phones、H3C phones……

## 4.5 Multicast Configuration

**Properties**

**Properties Setting**

<b>Unknown Multicast Action</b>	<input type="radio"/> Drop <input checked="" type="radio"/> Flood <input type="radio"/> Router Port
<b>IPv4 Forward Method</b>	<input checked="" type="radio"/> MAC <input type="radio"/> Src-Dst-Ip

[Apply](#)

**Properties Informations**

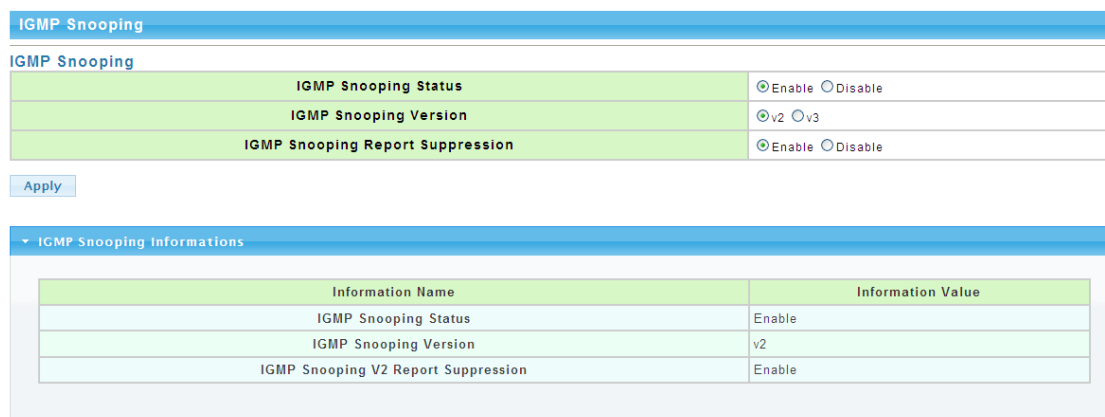
Information Name	Information Value
Unknown Multicast Action	Flood
Forwarding Method For IPv4	MAC

Picture 4.5.1 Multicast Configuration

MLD Snooping is short for Multicast Listener Discovery Snooping, which is IPv6 multicast control mechanism for Layer 2 devices. The function is used to manage and control IPv6 multicast.

Multicast snooping configuration can be made in above page, enable or disable multicast snooping and define multicast snooping address range.

## 4.6 IGMP Snooping Configuration

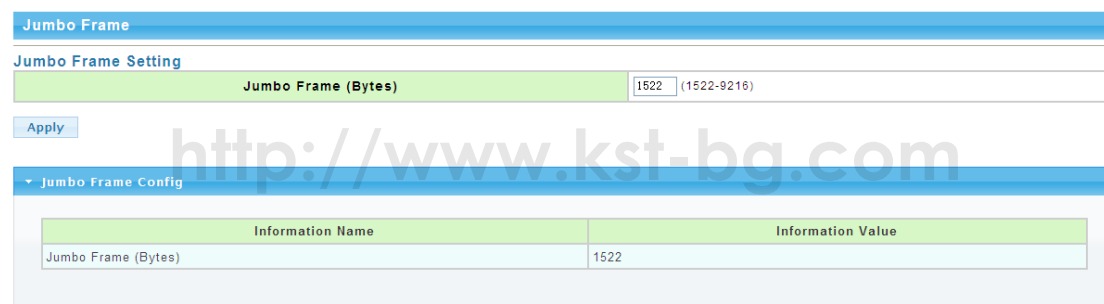


Information Name	Information Value
IGMP Snooping Status	Enable
IGMP Snooping Version	v2
IGMP Snooping V2 Report Suppression	Enable

Picture 4.6.1 IGMP Snooping

IGMP snooping configuration can be made in above page, enable or disable IGMP snooping and define IGMP snooping address range.

## 4.7 Jumbo Frame Configuration

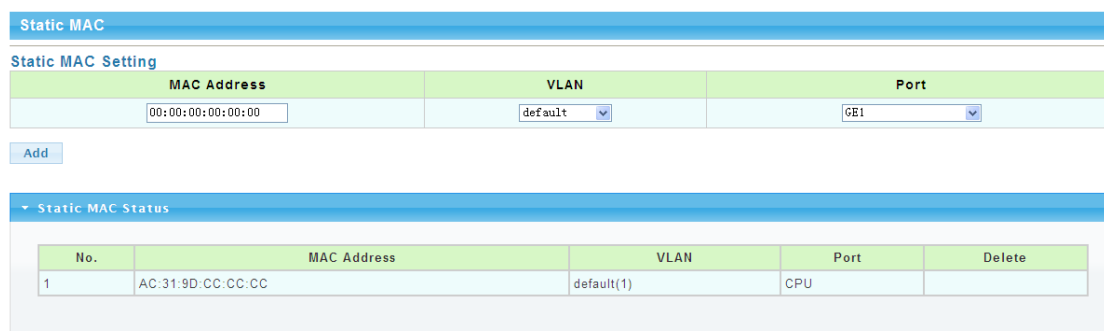


Information Name	Information Value
Jumbo Frame (Bytes)	1522

Picture 4.7.1 Jumbo Frame Configuration

Generally, the max frame size for packet is 1518 Bytes, when packet is larger than this size, it will be processed in batch, 1518 Bytes as a unit. And users can also set a Jumbo Frame limitation in this page(from 1522 to 9216 Bytes), enable Jumbo Frames transmitted smoothly, reduce the load.

## 4.8 Static MAC Address Table



No.	MAC Address	VLAN	Port	Delete
1	AC:31:9D:CC:CC:CC	default(1)	CPU	

Picture 4.8.1 Static ARP Table

Static MAC address configuration can be manually made in this page. MAC items can be added according “port”, “VLAN ID”, “MAC address” and “IP address”.

## 4.9 Dynamic MAC Address Configuration

The screenshot shows the 'Dynamic Address Setting' page. At the top, there's a header 'Dynamic Address Setting'. Below it, the 'Aging Time' is set to 300, with a range of 10 to 630. An 'Apply' button is present. Below this is a section titled 'Dynamic Address Status' which contains a table with two columns: 'Information Name' and 'Information Value'. The table has one row showing 'Aging time' with a value of 300.

Dynamic Address Setting	
Aging Time	300 (Range: 10 - 630)
Apply	
Dynamic Address Status	
Information Name	Information Value
Aging time	300

Picture 4.9.1 Dynamic MAC Address Configuration

In above dynamic address setting page, users can check the aging time of MAC address.

## 4.10 LLDP Configuration

The screenshot shows the 'LLDP Global Setting' page. The 'Global Settings' section includes: 'Enabled' (radio buttons for Enabled and Disabled, with Enabled selected), 'LLDP PDU Disable Action' (radio buttons for Filtering, Bridging, and Flooding, with Flooding selected), 'Transmission Interval' (30, range 5-32768), 'Holdtime Multiplier' (4, range 2-10), 'Reinitialization Delay' (2, range 1-10), and 'Transmit Delay' (2, range 1-8192). An 'Apply' button is at the bottom. Below is the 'LLDP Global Config' section with a table showing the configuration values for each setting.

LLDP Global Setting	
Enabled	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
LLDP PDU Disable Action	<input type="radio"/> Filtering <input type="radio"/> Bridging <input checked="" type="radio"/> Flooding
Transmission Interval	30 (5-32768)
Holdtime Multiplier	4 (2-10)
Reinitialization Delay	2 (1-10)
Transmit Delay	2 (1-8192)
Apply	
LLDP Global Config	
Config Name	Config Value
LLDP Enabled	Enabled
LLDP PDU Disable Action	Flooding
Transmission Interval	30 Secs
Holdtime Multiplier	4
Reinitialization Delay	2 Secs
Transmit Delay	2 Secs

Picture 4.10.1 LLDP Configuration

Switches support LLDP(Link Layer Discovery Protocol), which can define switch capacity, management address, device tags and port tags as different(TLV(type/length/value) and save them in LLDPDU (Link Layer Discovery Protocol Data Unit). These information will be released to the direct-connected neighbor device, neighbor devices will save these information based on MIB(Management Information Base) . These information will be used for network management system examination or judge link communication condition.

LLDP information can be configured in above page, including transmission interval,hold time Multiplier,retransmission delay and transmission delay.

Enable LLDP or Disable LLDP can be configured. Users can also configure the information transmitted to neighbor devices, like port description, system name, system



description, system property and management address.

## 4.11 SNMP Configuration

### 4.11.1 SNMP system configuration

The screenshot shows the 'SNMP Setting' page. Under 'SNMP Global Setting', the 'State' is set to 'Disabled' with radio buttons for 'Disabled' (selected) and 'Enabled'. There is an 'Apply' button. Below, the 'SNMP Informations' section contains a table with two columns: 'Information Name' and 'Information Value'. The table has one row where 'SNMP' is disabled.

Information Name	Information Value
SNMP	Disabled

Picture 4.11.1 SNMP System Configuration

SNMP(Simple Network Management Protocol) is Internet-standard protocol for managing devices on IP networks.It consists of a set of standards for network management, including anapplication layer protocol, a database schema, and a set of data objects. SNMP is used mostly in network management systems to monitor network-attached devices for conditions that warrant administrative attention.

### 4.11.2 SNMP Community configuration

The screenshot shows the 'SNMP Community' page. Under 'Community Setting', there is a table with 'Community Name' and 'Access Right' columns. The 'Access Right' is set to 'read-only' with radio buttons for 'read-only' (selected) and 'read-write'. There is an 'Add' button. Below, the 'Community Status' section contains a table with four columns: 'No.', 'Community Name', 'Access Right', and 'Action'.

No.	Community Name	Access Right	Action
-----	----------------	--------------	--------

Picture 4.11.2 SNMP Community Configuration

Configure SNMP common identifiers, switches with same community identifier can make unified management.

### 4.11.3 Trap Configuration

The screenshot shows the 'SNMP Trap Host' page. Under 'Trap Host Setting', there is a table with 'IP Address', 'Community Name', and 'Version' columns. The 'Version' is set to 'v1' with a dropdown menu. There is an 'Add' button. Below, the 'Trap Host Status' section contains a table with five columns: 'No.', 'IP Address', 'Community Name', 'Version', and 'Action'.

No.	IP Address	Community Name	Version	Action
-----	------------	----------------	---------	--------

Picture 4.11.3 Trap Configuration

SNMP trap is a message used in SNMP protocol, the device can send a trap message to SNMP manager when they experience a problem, rather than waiting for the polling of

SNMP manager.

## Chapter 5 Network Security

### 5.1 Port Limit Configuration

**Ingress Bandwidth Control**

**Ingress Bandwidth Control Settings**

Port	State	Rate(Kbps)
Select Ports	<input checked="" type="radio"/> Disable <input type="radio"/> Enable	<input type="text"/> (0-1000000, must a multiple of 16)

Apply

**▼ Ingress Bandwidth Control Status**

Port	Ingress RateLimit (Kbps)
GE1	off
GE2	off
GE3	off
GE4	off
GE5	off
GE6	off
GE7	off
GE8	off

Picture 5.1.1 Ingress Bandwidth Control

**Egress Bandwidth Control**

**Egress Bandwidth Control Settings**

Port	State	Rate(Kbps)
Select Ports	<input checked="" type="radio"/> Disable <input type="radio"/> Enable	<input type="text"/> (0-1000000, must a multiple of 16)

Apply

**▼ Egress Bandwidth Control Status**

Port	Egress RateLimit (Kbps)
GE1	off
GE2	off
GE3	off
GE4	off
GE5	off
GE6	off
GE7	off
GE8	off

Picture 5.1.2 egress Bandwidth Control

**Egress Queue Bandwidth Control**

**Egress Queue Bandwidth Control Settings**

Port	Queue	State	CIR(Kbps)
GE1	1	<input checked="" type="radio"/> Disable <input type="radio"/> Enable	<input type="text"/> (0-1000000, must a multiple of 16)

Apply

**▼ GE1 Egress Per Queue Status**

Queue Id	Rate Limit (Kbps)
1	off
2	off
3	off
4	off
5	off
6	off
7	off
8	off

Picture 5.1.3 Egress Queue Bandwidth

Switch Bandwidth can be configured in above pages. Configurations include ingress/egress flow control, flow control priority class.

## 5.2 Storm Control

**Storm Control Global**

**Storm Control Global Setting**

<b>Unit</b>	<input type="radio"/> pps <input checked="" type="radio"/> bps
<b>Preamble &amp; IFG</b>	<input checked="" type="radio"/> Excluded <input type="radio"/> Included

**Storm Control Global Information**

Information Name	Information Value
Unit	bps
Preamble & IFG	Excluded

Picture 5.2.1 Storm control

**Storm Control**

**Storm Control Setting**

Port	Port State	Action	Type Enable	Rate (Kbps)
<input type="button" value="Select Ports"/>	<input checked="" type="radio"/> Disable <input type="radio"/> Enable	<input type="button" value="drop"/>	<input type="checkbox"/> Broadcast	<input type="text" value="10000"/>
			<input type="checkbox"/> Unknown Multicast	<input type="text" value="10000"/>
			<input type="checkbox"/> Unknown Unicast	<input type="text" value="10000"/>

**Storm Control Information**

Port	Port State	Broadcast (Kbps)	Unknown Multicast (Kbps)	Unknown Unicast (Kbps)	Action
GE1	disabled	Off (10000)	Off (10000)	Off (10000)	Drop
GE2	disabled	Off (10000)	Off (10000)	Off (10000)	Drop
GE3	disabled	Off (10000)	Off (10000)	Off (10000)	Drop
GE4	disabled	Off (10000)	Off (10000)	Off (10000)	Drop
GE5	disabled	Off (10000)	Off (10000)	Off (10000)	Drop
GE6	disabled	Off (10000)	Off (10000)	Off (10000)	Drop
GE7	disabled	Off (10000)	Off (10000)	Off (10000)	Drop
GE8	disabled	Off (10000)	Off (10000)	Off (10000)	Drop

Picture 5.2.2 Storm control Port Configuration

After enable the global situation storm control, please continue with function configuration. The switch supports multiple storm control modes, like broadcast storm control, unknown multicast storm control and unknown unitcast storm control.

## 5.3 Port Isolation

Ports Isolate	
Ports Isolate Settings	
Port List	Port Type
Select Isolate port ▼	<input checked="" type="radio"/> Unisolateed <input type="radio"/> Isolate
<input type="button" value="Apply"/>	
▼ Isolate ports Status	
Isolate Type	Port List
Isolate Ports	
Unisolate Ports	all

Picture 5.3.1 Port Isolation Configuration

In above port isolation page, isolated ports can be configured. Applying port isolation function to ensure port security.

## 5.4 DoS configuration

DoS Global Setting	
Global DoS Setting	
DMAC = SMAC	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Land	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
UDP Blat	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
TCP Blat	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
POD	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
IPv6 Min Fragment	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled Byte: 1240
ICMP Fragments	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
IPv4 Ping Max Size	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
IPv6 Ping Max Size	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
Ping Max Size Setting	Byte: 512
Smurf Attack	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled Netmask Length: 0
TCP Min Hdr Size	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled Bytes: 20
TCP-SYN(SPORT<1024)	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled

Picture 5.4.1 Global Dos Configuration

DoS Port Setting	
DoS Port Setting	
Port Select	DoS Protection
Select Ports ▼	<input checked="" type="radio"/> Enabled <input type="radio"/> Disabled
<input type="button" value="Apply"/>	
▼ DoS Port Status	
Port	DoS Protection
GE1	Disable
GE2	Disable
GE3	Disable
GE4	Disable
GE5	Disable
GE6	Disable
GE7	Disable
GE8	Disable

Picture 5.4.2 Dos Port Configuration

Dos is short for Denial of Service, what causes DoS problem is DoS attacks, which will block the normal network service. The most common DoS attacks are computer network bandwidth attack and connectivity attack. Please configure DoS information in above pages.

## 5.5 STP Configuration

STP Global Setting

Global Setting

Enabled	<input type="radio"/> Enabled <input checked="" type="radio"/> Disabled
BPDU Forward	<input checked="" type="radio"/> flooding <input type="radio"/> filtering
PathCost Method	<input type="radio"/> short <input checked="" type="radio"/> long
Force Version	RSTP-Operation

Apply

STP Informations

Information Name	Information Value
STP	Disabled
BPDU Forward	flooding
Cost Method	long
Force Version	RSTP-Operation

Picture 5.5.1 STP Global configuration

STP Port Setting

STP Port Setting

Port Select	Path Cost(0 = Auto)	Edge Port	P2P MAC	Migrate
Select Ports	0	No	Yes	<input type="checkbox"/>

Apply

CIST Port Status

Port	Admin Enable	Path Cost	Edge Port	P2P MAC
GE1	Enable	0	No	Yes
GE2	Enable	0	No	Yes
GE3	Enable	0	No	Yes
GE4	Enable	0	No	Yes
GE5	Enable	0	No	Yes
GE6	Enable	0	No	Yes
GE7	Enable	0	No	Yes
GE8	Enable	0	No	Yes

Picture 5.5.2 STP Port configuration

STP Bridge Setting

STP Bridge Setting

Priority	32768
Max Hops	20 (1-40)
Forward Delay	15 (4-30)
Max Age	20 (6-40)
Tx Hold Count	6 (1-10)
Hello Time	1 (1-10)

Apply

STP Bridge Information

Information Name	Information Value
Priority	32768
Max Hops	20
Forward Delay	15
Max Age	20
Tx Hold Count	6
Hello Time	1

CIST Port Setting

CIST Port Setting

Port Select	Priority
Select Ports	128

Apply

STP Port Status

Port	Identifier (Priority / Port Id)	Path Cost Conf/Oper	Designated Root Bridge	Root Path Cost	Designated Bridge	Edge Port Conf/Oper	P2P MAC Conf/Oper	Port Role	Port State
GE1	128 / 1	0 / 20000	0 / 00:00:00:00:00:00	0	0 / 00:00:00:00:00:00	No / No	Auto / No	Disabled	Disabled
GE2	128 / 2	0 / 20000	0 / 00:00:00:00:00:00	0	0 / 00:00:00:00:00:00	No / No	Auto / No	Disabled	Disabled
GE3	128 / 3	0 / 20000	0 / 00:00:00:00:00:00	0	0 / 00:00:00:00:00:00	No / No	Auto / No	Disabled	Disabled
GE4	128 / 4	0 / 20000	0 / 00:00:00:00:00:00	0	0 / 00:00:00:00:00:00	No / No	Auto / No	Disabled	Disabled
GE5	128 / 5	0 / 20000	0 / 00:00:00:00:00:00	0	0 / 00:00:00:00:00:00	No / No	Auto / No	Disabled	Disabled
GE6	128 / 6	0 / 20000	0 / 00:00:00:00:00:00	0	0 / 00:00:00:00:00:00	No / No	Auto / No	Disabled	Disabled
GE7	128 / 7	0 / 20000	0 / 00:00:00:00:00:00	0	0 / 00:00:00:00:00:00	No / No	Auto / No	Disabled	Disabled
GE8	128 / 8	0 / 20000	0 / 00:00:00:00:00:00	0	0 / 00:00:00:00:00:00	No / No	Auto / Yes	Disabled	Forwarding

Picture 5.5.3 STP Bridge Configuration

STP configurations can be made in above pages. Users can choose from STP and RSTP modes according to different network requirements.

## Chapter 6 System Maintenance

### 6.1 Reboot Switch

Reboot Switch

Reboot

Picture 6.1.1 Reboot Switch

Above page is used to reboot switch. When manage the switch, some configurations need to reboot the switch to take effect.

### 6.2 Factory Reset

Factory Default

Restore

Picture 6.2.1 Factory Reset

The switch support factory reset, press “restore” button to back factory default settings, including all configurations, IP address and management password.

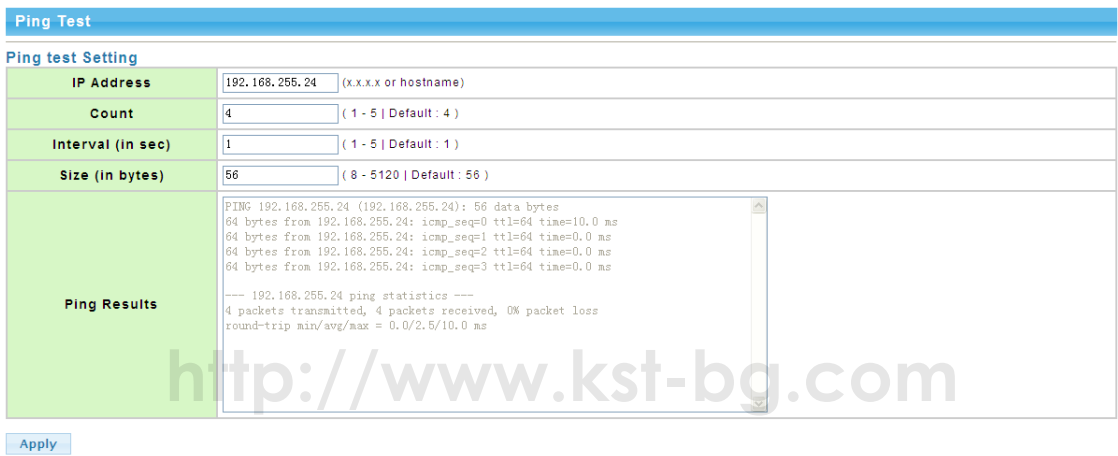
6.3 Firmware Upgrading



Picture 6.3.1 Firmware Upgrading

Current system software version can be checked in this page, and new software upgrade can be made.

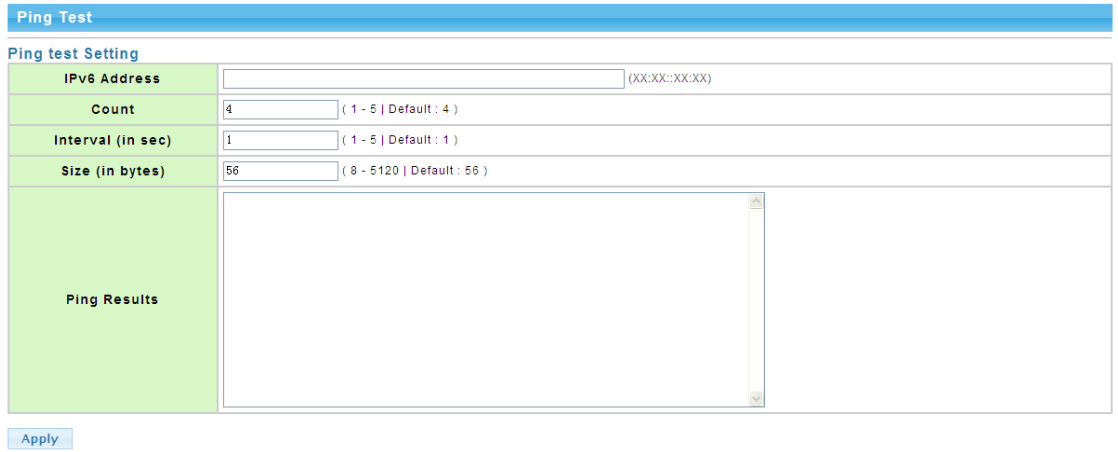
6.4 Ping Test



Picture 6.4.1 Ping Test Configuration

Ping test is to check if a specified Client can be reached, the function is the same with ping command under windows command lines. The IP addresses of switch and PC must be in same network segment.

6.5 IPv6 Ping Test



Picture 6.5.1 IPv6 Ping Test Configuration

Ping test is to check if a specified Client can be reached, the function is the same with ping

command under windows command lines. The IP addresses of switch and PC must be in same network segment.

## 6.6 Network Cable Test

Copper Test

Select the port on which to run the copper test.

Port

GE1

Copper Test

Test Results

Picture 6.6.1 Network Cable Test

Users can test the twisted pair cable working status. Please select test ports then press “cooper test” to check the working status.

<http://www.kst-bg.com>



## Appendix Troubleshooting

Problems	Reasons	Solutions
All LEDs are off when power on the switch	Power cord connection error or power supply failure	Check power cord connection and the power socket.
The LINK LED is unlit.	1. Network cable is damaged or the connection is not firm. 2. Wrong network cable type or the cable is longer than 100m.	Change the network cable.
Slower data transmitting and packets loss.	The communication pattern of switch and PDs are not matched.	Changed to matched pattern or configure to auto-negotiation pattern.
The network cable works in one port ,doesn't work in another new port.	There is no data transmitting from PD and the switch can't learn a new address to do communication.	Waiting for 120s, the switch will get auto-updated address or transmitting data from the PD, the switch will get address then.
All the "ACT" LEDs flash and the network rate slow down	Caused by broadcast storm.	1. Check if there is a loop problem, reasonably configure the network. 2. Check if there are large numbers of broadcast packets from specific sites.
Stop to work after working for a while.	1. Abnormal power supply. 2. Overheating.	1. Check power connection and the working voltage; 2. Check the working environment, including air hole and switch fan.
"PoE" LED indicators flash	1. PoE port doesn't work 2. PD is overloaded 3. The network cable is damaged.	Check the network cable, port connection or reduce the load of PDs.



<http://www.kst-bg.com>