

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 2004/108/EC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

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Table of Contents

Unpacking Information	4
Introduction	4
General Description	4
Key Features.....	5
The Front Panel	5
<i>LEDs Definition</i>	<i>5</i>
The Rear Panel	7
Installation.....	8
Desktop Installation	8
Rack-mount Installation	8
Installing Network Cables	9
Functional Description.....	10
Jumbo Frame	10
Flow Control and Back Pressure	10
Mirror.....	10
VLAN.....	10
Trunk (Aggregation)	10
Quality of Service (QoS)	10
Management guide	11
Access the Switch	11
System	12
Port	15
VLAN.....	16
PVID	17
Aggregation	18
LACP	18

RSTP.....	19
802.1x	20
Quality of Service	22
Mirror.....	25
Storm Control	25
Statistics Overview	26
Detailed Statistics.....	27
LACP Status	28
RSTP Status.....	29
Ping	30
Warm Restart.....	31
Factory Default.....	31
Software Upload	31
Product Specifications.....	32

Unpacking Information

Thank you for purchasing 8-Port Gigabit Web Smart Switch with SFP. Before you start, please verify that your package contains the following items:

1. One 8-Port Gigabit Web Smart Switch with SFP
2. One power cord
3. Rack-mount brackets and screws (optional)
4. Manual CD

Introduction

General Description

Easily boosting your networking throughput, the 8-Ports Gigabit Web Smart Switch provides you 8 10/100/1000Mbps gigabit ports that lead you to a real gigabit connection. Users are now able to transfer high bandwidth-demanded files faster and get a real efficiency improvement with the user-friendly Web-based management interface. This product also equips one mini GBIC slot for your flexible fiber connection. Use of the mini-GBIC port disables the connection of its corresponding copper port automatically.

The management functionalities provide efficient network usage. VLAN reduces the collisions from widely broadcasting. Port Aggregation enlarges the bandwidth of backbone connection. QoS is supported to secure the bandwidth for some bandwidth-demanded applications including VoIP or videoconference. The 802.3x and backpressure flow control mechanisms are also supported to ensure the correctness of data transmitting.

Key Features

- 8 * fixed 10/100/1000 Mbps Gigabit Ethernet ports for easy network connecting application.
- Equips one SFP port for optional fiber connection.
- Provide 8K MAC address entries and 16 groups VLAN table
- Support Port Mirror.
- Support up to 7 ports and 4 groups port aggregation.
- Support QoS for better communication quality.
- Support full duplex flow control and half duplex back pressure
- Store-and-forward forwarding scheme
- Error packet filtering
- Support Jumbo frame 9600 bytes
- Supports 144K bytes buffer Memory
- Support Web-based management interface.
- FCC, CE, VCCI, Class A Meet RoHS

The Front Panel

The front panel consists of LED indicators. Please refer to the following paragraph for information.



LEDs Definition

LED for the device:

The switch provides a power LED for the device.

LED	Status	Operation
Power	Steady Green	The switch is powered on
	Off	The switch is powered off

LED for each port:

The switch provides one "1000M" LED and one "10/100M" LED for each port.

1000M LED: Shows the current transmitting/receiving speed of the port.

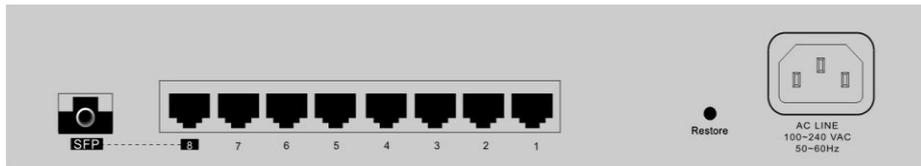
10/100M LED: Shows the link status and the activities on the port.

LED	Status	Operation
1000M	Green	The port is connected at 1000 Mbps
	Blinking Green	A valid link is established, and there is data transmitting /receiving.
	Off	No valid link on this port or the Port is connected at 10/100 Mbps
10/100M	Steady Green	A valid link is established, and there is no data transmitting/receiving.
	Blinking Green	A valid link is established, and there is data transmitting /receiving.
	Off	No valid link on this port or the port is connected at 1000 Mbps

Attention : The Mini GBIC slot shares the same LED indicator with the last RJ-45 (copper) port.

The Rear Panel

The rear panel of the switch:



Port Operation

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

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

Note: For the last port, when both the fiber and copper interfaces are connected, the system adapts the fiber interface and disables the relevant copper port automatically.

Restore Default Button

You can use this button to reset the switch or restore factory default settings. To reset the switch, press the button once. To restore factory default settings, press and hold the button for three seconds.

Power Receptacle

To be compatible with the electric service standards around the world, the switch is designed to afford the power supply in the range from 100 to 240VAC, 50/60Hz. Please make sure that your outlet standard to be within this range.

To power on the switch, please plug the female end of the power cord firmly into the receptacle of the switch and the other end into an electric service outlet. After the power cord installation, please check if the power LED is lit for a normal power status.

Installation

This switch can be placed on your desktop directly, or mounted in a rack. Please refer to the instructions for installation.

Before installing the switch, we 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 environments beyond recommend moisture

Desktop Installation

1. Install the switch on a level surface that can support the weight of the unit and the relevant components.
2. Plug the switch with the female end of the provided power cord and plug the male end to the power outlet.

Rack-mount Installation

The switch may be standalone, or mounted in a rack. Rack mounting facilitate to an orderly installation when you are going to install series of networking devices.

Procedures to Rack-mount the Switch:

1. Disconnect all the 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 rack and secure with suitable screws (optional).
7. Reconnect all the cables.

Installing Network Cables

1. **Crossover or straight-through cable:** All the ports on the switch support Auto-MDI/MDI-X functionality. Both straight-through or crossover cables can be used as the media to connect the switch with PCs as well as other devices like switches, hubs or router.
2. **Category 3,4,5 or 5e,6 UTP/STP cable:** To make a valid connection and obtain the optimal performance. An appropriate cable that corresponds to different transmitting/receiving speed is required. To choose a suitable cable, please refer to the following table.

Media	Speed	Wiring
10/100/1000 Mbps copper	10 Mbps	Category 3,4,5 UTP/STP
	100 Mbps	Category 5 UTP/STP
	1000 Mbps	Category 5e,6 UTP/STP
1000 Mbps Fiber (Mini GBIC required)	1000 Mbps	The cable type differs from the mini-GBIC you choose. Please refer to the instruction came with your mini-GBIC.

Functional Description

Jumbo Frame

With Jumbo Frame supported, it is allowed for the switch to transport identical data in fewer frames. Hence helps to ensure fewer overheads, shorten processing time, and reduce interrupts.

Note: To enable Jumbo Frame, Flow Control should be enabled in advance.

Flow Control and Back Pressure

Flow control and Back Pressure both contributes for lower and higher speed devices to communicate to each other hence ensures the correctness of data transmitting. The 802.3x flow control and Back Pressure mechanisms work respectively for full and half duplex modes. Flow control can be enabled or disabled on a per-port basis.

Mirror

The Mirror function provides network administrator to monitor the traffic. By forwarding a copy of the packets that transferred by the monitored port, the sniffer port received all the packets and hence is able to monitor the traffic of the specified port.

VLAN

With VLAN supported, the network can be segmented in groups to reduce the collisions from widely broadcasting. The device supports 802.1Q tag VLAN. The 802.1Q based VLAN add a tag to the header of the packet to classify their VLANs.

Trunk (Aggregation)

The Trunk functionality integrates several ports to enlarge the bandwidth that helps to boost the backbone connectivity. The switch allows the Maximum 4 group and 8 members for each group.

Quality of Service (QoS)

The QoS service classifies packets into different precedence. The packets are transmitted and received by their classified priorities. This mechanism helps high bandwidth demanded applications such as VoIP to get an unobstructed connection.

SNMP

This device is SNMP(Simple Network Management Protocol)-management supported. This allows this product to be monitored or inspected by a SNMP management station.

Management guide

Access the Switch

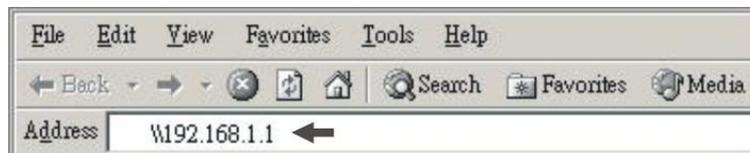
This section instructs you how to enter and proceed the advanced management capability, which can be accessed through Internet Browser over the network (in-band).

To access the Web-based management interface, you should configure the management station with an IP address and subnet mask that compatible to your switch.

The factory default value of the switch:

IP : **192.168.1.1**
Subnet Mask : **255.255.255.0**
Default Gateway : **192.168.1.254**

1. Running your Web Browser and enter the IP address "192.168.1.1" in the Address field.



2. Key in the password to pass the authentication. The factory default value of Password is blank, or other random value. Also, you can initialize the Password in the configuration of System.

Please enter password to login

Password:

3. After authentication procedure, the following page shows up, and then you may click the hyperlinks on the left side of each page to get access to each management functions.

8G + 1 SFP Web Smart Switch

Configuration

- System
- Ports
- VLANs
- Aggregation
- LACP
- RSTP
- 802.1X
- Mirroring
- Quality of Service
- Storm Control

Password Successfully Entered

Monitoring

- Statistics Overview
- Detailed Statistics
- LACP Status
- RSTP Status
- Ping

Maintenance

- Warm Restart
- Factory Default
- Software Upload
- Logout

System

The System window provides the switch information and allows users to configure the switch properties.

System Configuration

MAC Address	00-08-54-e2-e6-ec
S/W Version	2.01
H/W Version	1.0
Active IP Address	192.168.1.1
Active Subnet Mask	255.255.255.0
Active Gateway	192.168.1.254
DHCP Server	0.0.0.0
Lease Time Left	0 secs

Items	Functions
MAC Address:	The MAC address of this device..
S/W Version:	The software version of this device.
H/W Version:	The hardware version of this device.
Active IP Address:	The current IP address of the switch
Active Subnet Mask:	The current Subnet Mask of the switch
Active Gateway:	The current Gateway of the switch
DHCP Server:	The IP Address of DHCP Server assign to client for managing network automatically.
Lease Time Left:	The remaining lease time of IP Address that DHCP Server assign to the client

DHCP Enabled	<input checked="" type="checkbox"/>
Fallback IP Address	<input type="text" value="192.168.1.1"/>
Fallback Subnet Mask	<input type="text" value="255.255.255.0"/>
Fallback Gateway	<input type="text" value="192.168.1.254"/>
Management VLAN	<input type="text" value="1"/>
Name	<input type="text"/>
Password	<input type="text"/>
Inactivity Timeout (secs)	<input type="text" value="0"/>
SNMP enabled	<input checked="" type="checkbox"/>
SNMP Trap destination	<input type="text" value="0.0.0.0"/>
SNMP Read Community	<input type="text" value="public"/>
SNMP Write Community	<input type="text" value="private"/>
SNMP Trap Community	<input type="text" value="public"/>

Items	Functions
DHCP Enabled:	Select it or not to obtain IP Address automatically
Fallback IP Address:	Setup the IP address of the switch for fallback
Fallback Subnet Mask:	Setup the Subnet Mask of the switch for fallback
Fallback Gateway:	Setup the Gateway of the switch for fallback
Management VLAN:	The VLAN group that is allowed to access the WEB-based management interface.
Name:	Defines the user-defined device name
Password:	The Login password. (the Default value is blank or random value)
Inactivity Timeout (secs):	The time of automatic broken network
SNMP enabled:	Select it or no to configure SNMP Network Management, which allows network administrators to monitor and configure this device with SNMP software.
SNMP Trap destination:	Specify a trap IP. A trap IP is the destination port for sending trap information, which is usually the IP address of network administrators.
SNMP Read Community:	Fill in a name in the column, which is the password for accessing MIB with read-only authority.
SNMP Write Community:	Fill in a name in the column, which is the password for accessing MIB with read-only authority.
SNMP Trap Community:	Configure the type of SNMP Trap Community

Note:

After applying a new IP address, a new login page will be started automatically. Please login again to proceed to other configurations.

Port

This **Port Configuration** page shows the link status of each port and allows users to configure speed, flow control for each port.

Port Configuration

Enable Jumbo Frames

PERFECT_REACH/Power Saving Mode: Disable ▾

Port	Link	Mode	Flow Control
1	Down	Auto Speed ▾	<input type="checkbox"/>
2	Down	Auto Speed ▾	<input type="checkbox"/>
3	Down	Auto Speed ▾	<input type="checkbox"/>
4	Down	Auto Speed ▾	<input type="checkbox"/>
5	Down	Auto Speed ▾	<input type="checkbox"/>
6	Down	Auto Speed ▾	<input type="checkbox"/>
7	1000FDX	Auto Speed ▾	<input type="checkbox"/>
8	Down	Auto Speed ▾	<input type="checkbox"/>

Items	Functions
Enable Jumbo Frames	Check the box to enable jumbo frames. You can enable jumbo frames to support data packets up to 9600 bytes in size.
PERFECT_REACH/Power Saving Mode	There are four options for power saving mode as the below: Full; Link Down; Link Up; Disable
Link	Shows the link status of each port. The column lights green with the link speed while there is valid connection on this port.
Mode	Select a speed for this port. "Auto Speed" enables auto-negotiation. "Disable" stop the port from functioning. You can also select 10/100 Half/Full or 1000 Full
Flow Control	Mark the checkbox to enable the Flow control, or unmark to disable.

To save the configuration of the system, click **"Apply"** to save. You can also click the **"Refresh"** button to see the latest status of each port.

VLAN

VLAN divides the network members into groups to reduce packets collisions and improve the network efficiency. This page shows up VLAN Configuration List, and you can follow the instructions to configure.

- To add new VLAN groups,
 1. Fill in a VLAN id from 2 to 4094 in the **"VLAN ID"** column.
Click "Add" to come into the page of "VLAN Setup"

Port Segmentation (VLAN) Configuration

Add a VLAN

VLAN ID

Add

VLAN Setup

VLAN ID: 2

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

Apply Refresh

2. Select the ports for selected VLAN group.
3. Click the **"Apply"** button to execute.

- In the VLAN Configuration List, you can Modify / Delete / Refresh a VLAN group
 1. Select the VLAN group, click "Modify", then setup the Port as the members of this VLAN group by clicking those marked checkboxes. Finally, click the **"Apply"** button to execute.

VLAN Configuration List

1	2				
<input type="radio"/>	<input type="radio"/>				

Modify Delete Refresh

Port Config

VLAN Setup

VLAN ID: 1

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

Apply Refresh

2. Select the VLAN ID of the VLAN you want in the VLAN Configuration List, then click "Delete" / "Refresh" to clear/refresh this VLAN group.

Note:

1. When a port is configured to a specific VLAN group, a PVID that corresponding to the VLAN id will be assigned automatically to this port. (Ex, when you make port 3 of a VLAN with VLAN id "2", the PVID " 2 " will be assigned automatically to port 3
2. Settings in VLAN, Port aggregation, and Mirror are correlative. Please make sure that the setting won't influence each other

PVID

When the VLAN-enabled switch receives a tagged packet, the packet will be sent to the port's default VLAN according to the PVID (port VLAN ID) of the receiving port. Click "Port Config", the page of VLAN Per Port Configuration pops up.

VLAN Per Port Configuration

Port	VLAN aware Enabled	Ingress Filtering Enabled	Packet Type	Pvid
Port 1	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	None ▼
Port 2	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	None ▼
Port 3	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	None ▼
Port 4	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	None ▼
Port 5	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1 ▼
Port 6	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1 ▼
Port 7	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1 ▼
Port 8	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="radio"/> All <input type="radio"/> Tagged Only	1 ▼

This page display when the switch is in Tag VLAN mode, the global setting of the ports will affect all Tag VLANs. It contains the following fields:

Items	Functions
Port	The switch Port Number 1~8
VLAN aware Enabled	Click the checkbox or no to configure the "VLAN aware"
Ingress Filtering Enabled	It determines how to process frames tagged for VLANs for which the ingress port is not a member.
Packet Type	Tagged Only: block all un-tagged packets from accessing this port. All: all packets are allowed to access this port.
PVID	while receiving an untagged frame from the port, the switch will assign a tag to the frame, using the PVID of the port as its VID. Port VLAN ID(1~4094) or None

Aggregation

To set up the Port trunk groups, put the ports number into the same Aggregation group. There are eight groups to choose.

Don't forget to click the **Apply** to save the setting.

Aggregation/Trunking Configuration

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

LACP

This switch supports both static trunking and dynamic Link Aggregation Control Protocol (LACP).

LACP configured ports can automatically negotiate a trunked link with LACP-configured ports on another device. You can configure any number of ports on the switch as LACP, as long as they are not already configured as part of a static trunk. If ports on another device are also configured as LACP, the switch and the other device will negotiate a trunk link between them. If an LACP trunk consists of more than eight ports, all other ports will be placed in a standby mode.

In this page, you can make the protocol enabled or not, and configure the key value that is current administrative value of the Key for the protocol partner.

LACP Port Configuration

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

RSTP

Rapid Spanning Tree Protocol (IEEE 802.1w) supports connections to RSTP nodes by monitoring the incoming protocol messages and dynamically adjusting the type of protocol messages the RSTP node transmits. If RSTP is using 802.1D BPDUs on a port and receives an RSTP BPDU after the migration delay expires, RSTP restarts the migration delay timer and begins using RSTP BPDUs on that port.

RSTP System Configuration

System Priority	32768 <input type="button" value="v"/>
Hello Time	2
Max Age	20
Forward Delay	15
Force version	Normal <input type="button" value="v"/>

RSTP Port Configuration

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

Items	Functions
System Priority	Used in selecting the root device, root port, and designated port. The device with the highest priority becomes the STA root device.
Hello Time	Interval (in seconds) at which the root device transmits a configuration message
Max Age	The maximum time (in seconds) a device can wait without receiving a configuration message before attempting to reconfigure. All device ports (except for designated ports) should receive configuration messages at regular intervals.
Forward Delay	The maximum time (in seconds) the root device will wait before changing states (i.e., discarding to learning to forwarding). This delay is required because every device must receive information about topology changes before it starts to forward frames.
Force Version	There are two options as below: Normal, Compatible.
Protocol Enabled	Click the checkbox or not to configure this protocol.
Edge	Click the checkbox or not to configure this parameters.
Path Cost	Used to determine the best path between devices.

802.1x

The IEEE 802.1X standard defines a port-based access control procedure that prevents unauthorized access to a network by requiring users to first submit credentials for authentication.

When 802.1X is enabled, you need to configure the parameters for the authentication process that runs between the client and the switch (i.e., authenticator), as well as the client identity lookup process that runs between the switch and authentication server. These parameters are described in this section.

802.1X Configuration

Mode:

RADIUS IP:

RADIUS UDP Port:

RADIUS Secret:

Port	Admin State	Port State			
1	<input type="text" value="Force Authorized"/>	Link Down	Re-authenticate	Force Reinitialize	Statistics
2	<input type="text" value="Force Authorized"/>	Link Down	Re-authenticate	Force Reinitialize	Statistics
3	<input type="text" value="Force Authorized"/>	Link Down	Re-authenticate	Force Reinitialize	Statistics
4	<input type="text" value="Force Authorized"/>	Link Down	Re-authenticate	Force Reinitialize	Statistics
5	<input type="text" value="Force Authorized"/>	Link Down	Re-authenticate	Force Reinitialize	Statistics
6	<input type="text" value="Force Authorized"/>	Link Down	Re-authenticate	Force Reinitialize	Statistics
7	<input type="text" value="Force Authorized"/>	Authorized	Re-authenticate	Force Reinitialize	Statistics
8	<input type="text" value="Force Authorized"/>	Link Down	Re-authenticate	Force Reinitialize	Statistics
			Re-authenticate All	Force Reinitialize All	

Items	Functions
Mode	Indicates if authentication is enabled or disabled on the port. (Default: Disabled)
RADIUS IP	Set the RADIUS server IP Address
RADIUS UDP Port	Set the RADIUS server network port
RADIUS Secret	Set the RADIUS encryption key
Admin State	Sets the authentication mode to one of the following options Auto – Requires a dot1x-aware client to be authorized by the authentication server. Clients that are not dot1x-aware will be denied access. Force-Authorized – Forces the port to grant access to all clients, either dot1x-aware or otherwise. (This is the default setting.) Force-Unauthorized – Forces the port to deny access to all clients, either dot1x-aware or otherwise.
Port State	Display the current status of authentication.
Re-authenticate	Sets the client to be re-authenticated after the interval specified by the Re-authentication Period. Re-authenticate can be used to detect if a new device is plugged into a switch port.
Force Reinitialize	Set this 802.1x configuration to initialize by compulsion.
Statistics	Display statistics for dot1x protocol exchanges for any port.

Click "**Statistics**", the following page of detailed info for each port pops up

802.1X Statistics for Port 7									
Refresh		Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7	Port 8
Authenticator counters									
authEntersConnecting	0	authEapLogoffsWhileConnecting	0						
authEntersAuthenticating	0	authAuthSuccessesWhileAuthenticating	0						
authAuthTimeoutsWhileAuthenticating	0	authAuthFailWhileAuthenticating	0						
authAuthEapStartsWhileAuthenticating	0	authAuthEapLogoffWhileAuthenticating	0						
authAuthReauthsWhileAuthenticated	0	authAuthEapStartsWhileAuthenticated	0						
authAuthEapLogoffWhileAuthenticated	0								
Backend Authenticator counters									
backendResponses	0	backendAccessChallenges	0						
backendOtherRequestsToSupplicant	0	backendAuthSuccesses	0						
backendAuthFails	0								
dot1x MIB counters									
dot1xAuthEapolFramesRx	0	dot1xAuthEapolFramesTx	0						
dot1xAuthEapolStartFramesRx	0	dot1xAuthEapolLogoffFramesRx	0						
dot1xAuthEapolRespIdFramesRx	0	dot1xAuthEapolRespFramesRx	0						
dot1xAuthEapolReqIdFramesTx	0	dot1xAuthEapolReqFramesTx	0						
dot1xAuthInvalidEapolFramesRx	0	dot1xAuthEapolLengthErrorFramesRx	0						
dot1xAuthLastEapolFrameVersion	0	dot1xAuthLastEapolFrameSource	0						
Other statistics									
Last Supplicant Identity									

Some other parameters would be indicated after click button "Parameters" as the following:

802.1X Parameters

Reauthentication Enabled	<input type="checkbox"/> Enabled
Reauthentication Period [1-3600 seconds]	<input style="width: 50px;" type="text" value="3600"/>
EAP timeout [1 - 255 seconds]	<input style="width: 50px;" type="text" value="30"/>

Items	Functions
Reauthentication Enabled	Set Reauthentication to be enabled or disabled on the port.
Reauthentication Period	Set the time period after which a connected client must be re-authenticated.
EAP timeout	Set the time that an interface on the switch waits during an authentication session before re-transmitting an EAP packet.

Quality of Service

QoS enhances the communication quality by giving different precedence to classified packets. This switch provides QoS Disabled, 802.1P and DSCP modes:

1. Select the Queue Mode

You can set the switch to service the queues based on a strict rule that requires all traffic in a higher priority queue to be processed before lower priority queues are serviced, or use Weighted Round-Robin (WRR) queuing that specifies a relative weight of each queue.

(1) WRR

It uses a predefined relative weight for each queue that determines the percentage of service time the switch services each queue before moving on to the next queue. It is not supported in Jumbo Frame mode.

WRR Weight– Set a new weight ratio of Low / Normal / Medium / High queue.

QoS Configuration

Queue Mode	<input type="radio"/> Strict <input checked="" type="radio"/> WRR Note : WRR is not supported in Jumbo Frame mode.
WRR Weight	The ratio of Low/Normal/Medium/High queue 1:2:3:4 ▾
QoS Mode	QoS Disabled ▾

APPLY CANCEL

(2) Strict

Strict - Services the egress queues in sequential order, transmitting all traffic in the higher priority queues before servicing lower priority queues.

QoS Configuration

Queue Mode	<input checked="" type="radio"/> Strict <input type="radio"/> WRR Note : WRR is not supported in Jumbo Frame mode.
QoS Mode	QoS Disabled ▾ QoS Disabled 802.1p DSCP

APPLY CANCEL

2. Select the QoS Mode

(1) 802.1p

In IEEE 802.1 p priority mode, when a switch port receives an untagged frame (a frame without priority tag), the port's default priority tag will be inserted into the frame before any other process.

This page is revealed when the "IEEE 802.1 p" mode is configured as shown below, Click on the drop list to specify priority levels, then click "Apply" to execute.

QoS Configuration

Queue Mode Strict WRR
 Note : WRR is not supported in Jumbo Frame mode.

QoS Mode 802.1p

Prioritize Traffic All High Priority

802.1p Configuration

802.1p Value	Priority						
0	high	1	high	2	high	3	high
4	high	5	high	6	high	7	high

APPLY CANCEL

(2) DSCP

This page is revealed when the "DSCP" mode is configured as shown below. The DSCP mode QoS gives packet priority by the types of the incoming packets. DSCP value's range is between 0 and 63. Give the priorities as normal/high/low for each precedence types, then click "Apply" to execute.

QoS Configuration

Queue Mode Strict WRR
 Note : WRR is not supported in Jumbo Frame mode.

QoS Mode DSCP

Prioritize Traffic All Normal Priority

DSCP Configuration

DSCP Value(0..63)	Priority
	normal
All others	normal

APPLY CANCEL

Mirror

The Mirror function copies all the packets that are transmitted by the source port to the destination port. It allows administrators to analyze and monitor the traffic of the monitored ports.

Mirror Configuration:

1. Select those ports that are going to be monitored by marking the checkboxes in "**Monitor Source**" column.
2. Click the drop list in "**Mirror Port**" column. Select a port as the administration port for monitoring those source ports.
3. Click "Apply" to activate.

Mirroring Configuration

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

Mirror Port

Storm Control

This "storm Control" page allows users to configure the rules for Storm Control, which limits the flow of broadcast and multicast

Broadcast: Enable or disable the broadcast control to limit the broadcast frames.

Multicast: Enable or disable the multicast control to limit the multicast frames, enabling multicast control will also enable broadcast control.

Flooded unicast: Enable or disable the flooded unicast control to limit the packets.

To perform storm control:

1. Click on each drop list to specify a speed for each frame type.
2. Click the "Apply" button to execute your configuration.

Storm Control Configuration

Storm Control	
Number of frames per second	
Broadcast Rate	No Limit <input type="button" value="v"/>
Multicast Rate	No Limit <input type="button" value="v"/>
Flooded unicast Rate	No Limit <input type="button" value="v"/>

Statistics Overview

The Statistics Overview is provided for users to see the general transmitting and receiving status of each port. You may click the "Clear" button to clean all statistics or click the "Refresh" button to renew the statistics.

Statistics Overview for all ports

Port	Tx Bytes	Tx Frames	Rx Bytes	Rx Frames	Tx Errors	Rx Errors
1	0	0	0	0	0	0
2	0	0	0	0	0	0
3	0	0	0	0	0	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	0	0	0	0	0
7	322814	890	217010	1908	0	3
8	0	0	0	0	0	0

Detailed Statistics

The Detailed Statistics is provided for users to see the detailed transmitting and receiving status of each port. Please click the hyperlinks above to select a port.

You may also click the **"Clear"** button to clean all statistics or click the **"Refresh"** button to renew the statistics.

Statistics for Port 7			
<input type="button" value="Clear"/>		<input type="button" value="Refresh"/>	
Port 1		Port 2	
Port 3		Port 4	
Port 5		Port 6	
Port 7		Port 8	
Receive Total		Transmit Total	
Rx Packets	1958	Tx Packets	738
Rx Octets	223167	Tx Octets	352438
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	861	Tx Broad- and Multicast	48
Rx Error Packets	3	Tx Error Packets	0
Receive Size Counters		Transmit Size Counters	
Rx 64 Bytes	-	Tx 64 Bytes	-
Rx 65-127 Bytes	-	Tx 65-127 Bytes	-
Rx 128-255 Bytes	-	Tx 128-255 Bytes	-
Rx 256-511 Bytes	-	Tx 256-511 Bytes	-
Rx 512-1023 Bytes	-	Tx 512-1023 Bytes	-
Rx 1024+ Bytes	-	Tx 1024+ Bytes	-
Receive Error Counters		Transmit Error Counters	
Rx CRC/Alignment	-	Tx Collisions	-
Rx Undersize	-	Tx Drops	-
Rx Oversize	-	Tx Overflow	-
Rx Fragments	-		
Rx Jabber	-		
Rx Drops	-		

LACP Status

LACP Status is provided for users to see the detailed LACP Aggregation status of each port. You may also click the "Refresh" button to renew the info.

LACP Aggregation Overview

Group/Port	1	2	3	4	5	6	7	8
Normal								

Legend

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

LACP Port Status

Port	Protocol Active	Partner Port Number	Operational Port Key
1	no		
2	no		
3	no		
4	no		
5	no		
6	no		
7	yes	0	3
8	no		

RSTP Status

RSTP Status is provided for users to see the detailed RSTP VLAN Bridge status for each port. You may also click the "Refresh" button to renew the info.

Bridge ID – A unique identifier for this bridge, consisting of the bridge priority and MAC address (where the address is taken from the switch system).

RSTP VLAN Bridge Overview

VLAN Id	Bridge Id	Hello Time	Max Age	Fwd Delay	Topology	Root Id
2	32770:00-e0-7d-0c-00-07	2	20	15	Steady	This switch is Root!
1	32769:00-e0-7d-0c-00-07	2	20	15	Steady	This switch is Root!

RSTP Port Status

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

Ping

The ping function is to test the connectedness of the link between the switch and destination. Configure the following parameters, then click "Apply" to ping the connectedness.

Target IP Address: Indicates the IP Address of the test destination.

Count: Indicates the ping times in one submission.

In the below table, it displays ping results contain Target IP Address /Status /Received replies/Request timeouts/Average Response Time(in ms).

Ping Parameters

Target IP address	<input type="text"/>
Count	1 <input type="button" value="v"/>
Time Out (in secs)	1 <input type="button" value="v"/>

Ping Results

Target IP address	192.168.1.15
Status	Test complete
Received replies	1
Request timeouts	0
Average Response Time (in ms)	5

Warm Restart

To restart the system, click the **“Yes”** button. The system restarts and shows the authentication window. Please fill in the username and password to continue.

Warm Restart

Are you sure you want to perform a Warm Restart?

Factory Default

Restore Factory Default:

To restore the factory default value, click the **Yes** button.

Note: The IP address of the device will also be configured as factory-default setting, which is 192.168.1.1.

Factory Default

Are you sure you want to perform a Factory Default?

Software Upload

This “Software Upload” page allows users to upgrade firmware for this switch.

To perform firmware upgrade:

1. Click the **“Browse”** button
2. Locate the firmware file
3. Click the **“Upload”** button to execute.

Software Upload

Product Specifications

Standard	IEEE802.3 10 BASE-T IEEE802.3u 100 BASE-TX IEEE802.3x full-duplex operation and flow control IEEE802.3ab/z 1000 BASE-T IEEE802.1Q VLAN interoperability IEEE802.1p Priority Operation
Interface	8* 10/100/1000Mbps auto MDI/MDI-X RJ-45 switching ports 1* SFP(mini-GBIC) port 1 * Restore Default 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 5e,6 or enhanced UTP/STP Fiber: depend on Mini-GBIC types
Network Data Rate	10/100/1000Mbps Auto-negotiation
Transmission Mode	10/100Mbps Full-duplex, Half-duplex 1000Mbps Full-duplex
LED indications	System Power RJ-45 Port 1000M, 10/100M
Memory	8K MAC entries 144K Buffer Memory 9600 Byte Jumbo Frame
Emission	FCC, CE, VCCI Class A, RoHS
Operating Temperature	0 ⁰ ~ 40 ⁰ C (32 ⁰ ~ 104 ⁰ F)
Operating Humidity	10% - 90% (non-condensing)
Power Supply	Internal power supply 100-240V/ 50-60Hz universal input

61NB-G7090+217