# ITAC10120
# ITAC10130


GB

# User manual Web Management

*Originalbedienungsanleitung in deutscher Sprache. Für künftige Verwendung aufbewahren.*

*This user manual contains important information for installation and operation.*
*This should be also noted when this product is passed on to a third party.*
*Therefore look after these operating instructions for future reference!*

Version 05/2019

Inhalt

GB

# 1 Access to Web Management

## 1.1 Access to Web Management

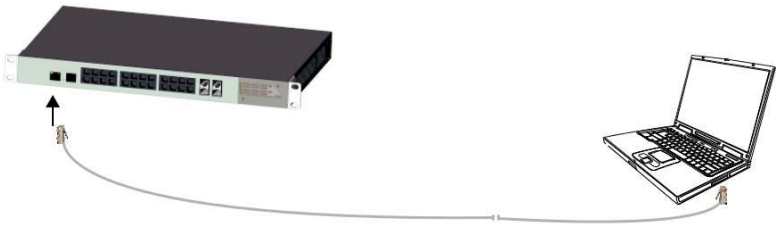
To connect to the web management interface, connect a network cable to any of 1-16/1-24 RJ45 port and enter the following data into browser.

The default factory settings are:
IP-Address: 192.168.1.200
User: admin
Password: admin

## 1.2 Access to Web Management via CLS Port

To connect to the web management interface, connect a console cable (RJ45 -> R232 serial port 115200,8, N, 1) to the CLS port, to the PC at the serial port (DB9) and enter the following data into the browser.

The default factory settings are:
IP-Address: 192.168.1.200
User: admin
Password: admin



# 2 Reset

Restart:

Press the reset button to restart the switch.

Reset to default factory settings:

Press the reset button for more than 10 seconds to reset the switch to default factory settings.

The factory default settings of the device are as following:

| | Options | Default Configuration |
|---|---|---|
| **System** | Username / password | admin/admin |
| | IP-Address | IP-Address：192.168.1.200 |
| | | Subnet Mask：255.255.255.0 |
| | | |
| | MAC address table aging time | 300 Seconds |
| **Port** | Ports Status | Enable |
| | Ports Speed Rate | Auto-negotiation |
| | Ports duplex mode | Auto-negotiation |
| | Flow Control | Open |
| | Trunking | Port does not converge |
| | Port Speed Limitation | No limitation for Speed |
| | Port Link Type | Access |
| | Management VLAN | VLAN 1 |
| | VLAN Function Mode | Port-based VLAN |
| MAC Binding | | No Binding |
| **RSTP** | RSTP Function | Close |
| **Network Management** | SNMP | Close |

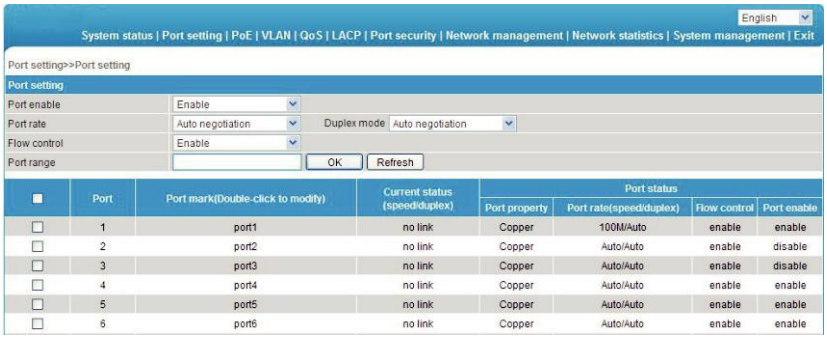
# 3 Web Management

## 3.1 System Status

| | Description |
|---|---|
| **Word Time Zone** | Select your time zone or select “Automatically”.<br>Select “Adjust Daylight Saving Time” for automatically DST correction. |
| **Time Configuration** | Select “Local Time” or use NTP function. |
| **NTP Server** | Enter the correct NTP server’s IP address to start the sync. |
| **System Time** | The current time of the device, if you did not get the NTP updated time, then it will start to count from 0:00,1970. |
| **PC Time** | Computer current time. |
| **Device Name** | Enter the Name of the device.<br><br>Network identification device used to facilitate the integrated management tools such as SNMP to judge different equipment. |
| **Contacts** | Enter maintenance personnel’s contact information. |
| **Contact Address** | Enter maintenance personnel’s contact information. |
| **MAC Address** | MAC Hardware address of the device. |
| **Hardware, Software Version** | Current running / installed version of hardware and firmware. |
| **Running Time** | The total time device has been running. When the device is restarted, the time is reset. |

## 3.2 Port setting

On the [Port security / Port Settings] page, you can observe the status and make different settings for ports.




| | Description |
|---|---|
| **Port Enable / Disable** | Enabled by default.<br><br>Enable or disable a certain port.<br><br>If a port is disabled, you cannot transmit any data on this port. |
| **Port Speed Rate** | Auto-negotiation mode by default.<br><br>Possible speed settings: 10M, 100M, 1000M, Auto-negotiation.<br><br>Auto-negotiation means, that the port can automatically negotiates the port speed with the other connected device. |
| **Duplex Mode** | Auto-negotiation mode by default.<br><br>Possible settings: including full-duplex mode, half-duplex mode, and Auto-negotiation mode. |
| **Flow Control** | Enabled by default.<br><br>Enable or disable Flow control.<br><br>When two switches have enabled the flow control function, if one of the two switches are congested, it will send a message to the other switch to notify it to temporarily stop sending messages or slow down the sending speed. After receiving the message, the other switch will stop sending or slow down the sending speed of messages to avoid packet loss and ensure normal operation of network services. |

**Attention**:

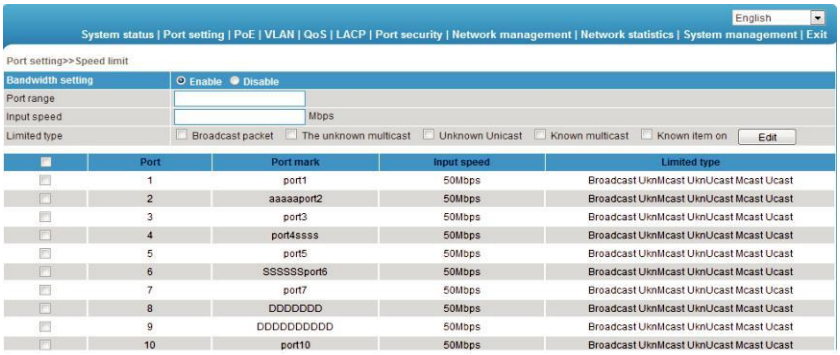
- Uplink optical port 25 and 26 are fixed at 1000Mbps.
- Uplink ethernet ports 27 and 28 are fixed at 10/100 / 1000Mbps adaptive.

### 3.2.1 Port speed limit

Users can restrict every port traffic flow. Port restrictions including Unicast packets, Multicast packet and broadcast packets. The accuracy is 1Mbps.

The range is:

- For downlink ports 1～1000Mbps
- For uplink ports 1～ 1000Mbps




| | Description |
|---|---|
| **Bandwidth Settings on / off** | Off by default.<br><br>Enable or disable the port speed limit. |
| **Port Range** | The port for speed limit. |
| **Input Rate** | The max. input rate of each port. |
| **Limited type** | Port limited type, including all Unicast packets and multicast |

### 3.3 VLAN settings

The switch supports two VLAN modes:

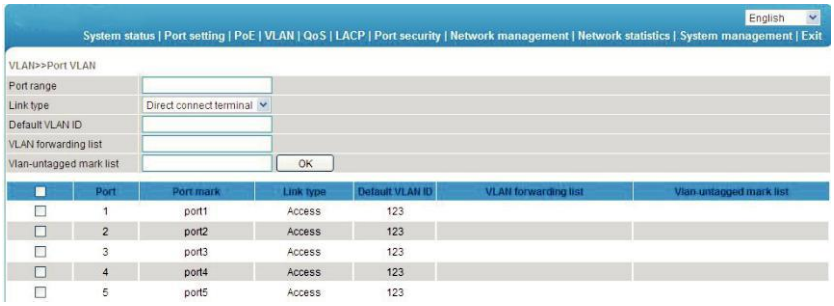
Port-based VLAN mode:

Define VLAN members according to device port. After you specify the port to a VLAN, specified VLAN Packets can be forwarded by the port.

802.1Q VLAN mode:

Defined by IEEE802.1Q protocol. Process the packets by identifying the packets tags.

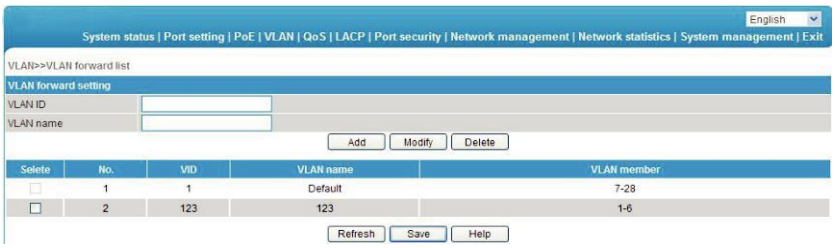
On the [VLAN / Port VLAN] page, you can observe and change the VLAN settings.




| | Description |
|---|---|
| **Link type** | Access: port belongs to one VLAN, which is normally used for connecting devices. By default, all ports are Access ports.<br><br>Trunk : port belongs to multiple VLANs and can receive and send multiple VLAN packets. It is normally used to connect network devices. |
| **Default VLAN ID** | Enter the ID number (generally 1 – 4094). |
| **VLAN Forwarding list** | Enter the ports that VLAN packets can be transferred. |
| **VLAN untagged mark list** | Port forwarded packets can be set in VLAN. |

### 3.3.1 VLAN Forwarding

On the [VLAN / VLAN forwarding] page, you can observe the current port VLAN forwarding settings.

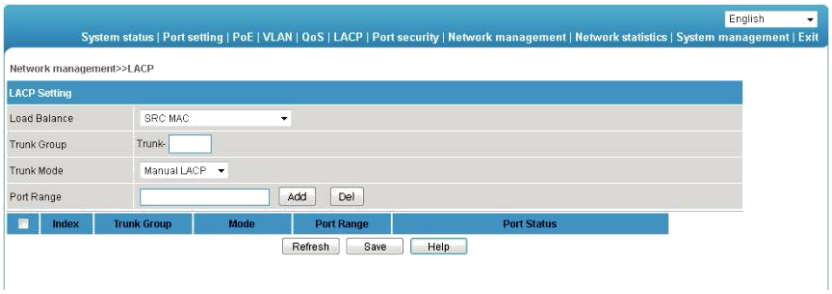



| | Description |
|---|---|
| **VLAN ID** | Change VLAN ID. |
| **VLAN Name** | Change VLAN name. |

## 3.4 Trunk Management

TRUNK means port convergence. After configuration two or more physical ports to become a logical path to increase the bandwidth between switches and network nodes.

On the [LACP / TRUNK] page, you can observe the current port link convergence settings.




Attention:

Each convergence group supports up to eight ports. Ports with the following cases cannot be added to an convergence group:

- Port with 802. 1X function
- The mirror port
- Port with MAC address binding

In the same convergence group, the port speed, duplex mode, and basic configuration must be consistent.

STP consistent configuration, including STP ports on / off, STP priority, STP cost, whether to open loop guard and root guard, or edge ports.

QoS configuration is consistent.

VLAN consistent configuration, including permitted VLAN, the default port of VLAN ID. Link type on the ports is consistent.

## 3.5 RSTP

STP (Spanning Tree Protocol) is established in accordance with IEEE 802.1D standard. It is developed for the elimination of the data link layer loops in the LAN protocol. Devices running this protocol exchange packets with each other to find loops in the network and choose to block some certain ports. This will eventually make the loop network structure into a loop-free tree pruning network structure. Thus it prevents packet proliferation and infinite cycling in loop network, avoiding declined processing capacity and receiving same messages repeatedly.

STP contains two meanings, narrow meaning of STP is defined in IEEE 802. 1D, board meaning of STP includes IEEE 802.1D defined STP and various enhanced spanning tree protocol produced on the basis of STP (such as RSTP protocol).

### 3.5.1 STP Basic Concept

The root bridge

STP introduces the concept of root bridge, since network structure tree must have a root. Only one root bridge and the root bridge will change when the network topology changes, so the root bridge is not fixed.

The path cost

Path cost is a reference value for STP to select a link. By calculating the path cost of STP, STP chooses stronger links to block redundant links and cut the network into a loop- free tree topology.

The port role

| | |
|---|---|
| Root port: | Responsible for forwarding data to the root port. |
| Designated port: | Responsible for forwarding data to the downstream of network segment or switch port. |
| Block Port: | Port suppressed by other' s specific ports. |

Port status

Forwarding: Forwarding user traffic, only the root port or designated port have this condition.

Learning: The switch builds the MAC address table according to user traffic received (but not forwarding traffic).

Listening: The completion of the root bridge, select the root port and designated ports.

Blocking: Only BPDU is received and processed, no user traffic forwarded.

Disabled: Consider blocking or link disconnection.

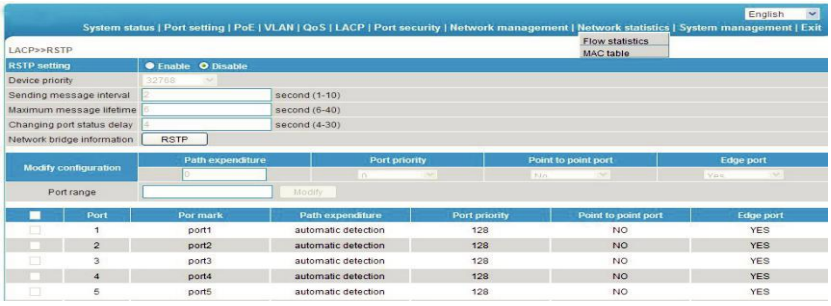
The designated bridges and designated ports

| Classification | Designated Bridge | Designated Port |
|---|---|---|
| **For equipment** | Equipment connecting directly with switch and responsible to transfer BPDU message to switch. | Port used by designated bridge to transfer BPDU message to switch. |
| **For LAN** | Responsible to transfer BPDU message to local network segment equipment. | Port used by designated bridge to transfer BPDU message to local network segment. |

### 3.5.2 RSTP

RSTP (Rapid Spanning Tree Protocol) is an optimized version of STP. It is" fast" because the delay is shortened under certain conditions when a port is selected as the root port and designated port to enter to the forwarding state, thus the time to reaching topology stability is greatly reduced.

On the [LACP / RSTP] page can observe the current port RSTP settings.



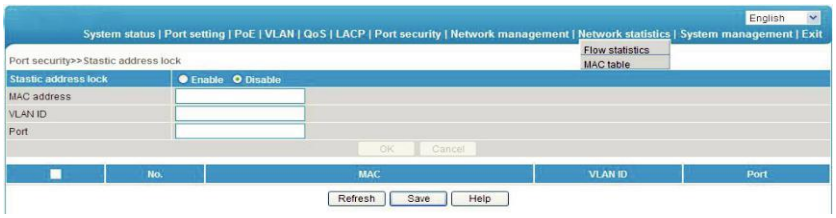

| | Description |
|---|---|
| **Device priority** | As the network bridge priority, network bridge and network bridge MAC address combined as bridge ID, of which minimum bridge ID will become the root network. |
| **Sending message interval** | The interval needed to send a BPDU data packet. |
| **Maximum message lifetime** | Means the validity of a BPDU data package received from another switch. |
| **Changing port status delay** | The forward delay of a switch port status in transition status (listening and learning). |
| **Path expenditure** | Setting port path cost, only setting when port default path cost on “off” status. Port link cost, with port priority and port ID form port ID to compare Value range 1～200000000.<br><br>“0” means automatic check. |
| **Port priority** | By default port priority is 128.<br><br>The priority of port in network bridge, with port priority and port ID form port ID to compare. |
| **Point to point port** | Switch port and switch connected directly, then this port is P2P port, RSTP adopts negotiation mechanism for P2P port so as to achieve quick transformation of port status. |
| **Edge port** | The network edge switch generally connects with terminal equipment’s, such as PC workstation. To configure these terminal ports to Edge ports can achieve status of transformation port without discarding Learning and forwarding transformation course. |
| **RSTP information** | Check RSTP information and port information. |

## 3.6 Port Security

Statics Address Latch

Statics MAC address is to limit computer operation. The computer with binding computer MAC and ports cannot communicate with other ports, while other computer can do that.

On the [Port security/Stastic address lock] page displays switch information of statics address latch.




| | Description |
|---|---|
| **MAC Address** | Static MAC address differs from the general MAC address.<br>Once a static address is added, the address will remain in effect until be deleted. |
| **VLAN ID** | Port-corresponding VLAN ID number. |
| **Port** | Select a static MAC address to forward a port.<br>You can only specify one forwarding port. |

Attention:

This feature is a security mechanism which requires high attention to the settings.

- Do not use a multicast address.
- Do not enter the reserved MAC address, such as local MAC address. For a port which has already been added to an aggregation group, it is not allowed to set binding function between port and MAC address.

### 3.6.1 802.1X certificates

IEEE 802.1X certification system adopted the "controllable port" and "uncontrolled ports" logic functions. It can realize the separation of business and certification. After passing certification, the business flow and the certification flow separation, it has no special requirement for the following subsequent packets. Business can be flexible, especially in develop broadband multicast business, it has a lot of advantages. All the business is not restricted by authentication.

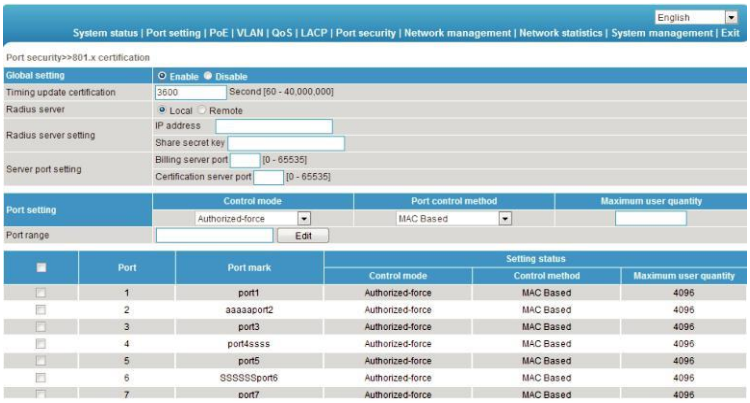
802.1X Three Main Parts：

Application supplicant:
User and Client which want to get the certification.

Authentication server:
A typical example for the RADIUS server.

Certification System authenticator:
Between the end devices, such as wireless access points, switches, etc. They can play at the same time equipment system and authentication server two characters, you can also use the additional authentication server, at the same time support the billing system.

In the [port security / 802.1X authentication] page, you can modify / 802.1X authentication function settings.



| | Description |
|---|---|
| **802.1X config** | The is default off.<br><br>Turn 802.1X certification On/Off. |
| **Regularly update the certification** | The certification cycle time, used to enhance the security of authentication. |
| **Radius Server** | If you select internal Radius server, applicants will only be used inside the Radius database users and password.<br><br>If you select external Radius server, you will need to fill in the authentication server IP address and Ports.<br><br>If you need to use the AAA billing system, fill in server setting IP address and Ports. |
| **Authentication server IP address** | The default port is 1812.<br><br>Radius Remote access authentication server.<br>Set the IP address/domain is device can access to. |
| **Shared key** | For device access authentication server Shared password string. |
| **Service port settings** | The default port is 1813.<br><br>Server implementation is the function of billing, set the IP address/domain is equipment can access to. |
| **Control mode** | Compulsory licensing model respectively, and the automatic mode, mandatory unauthorized mode. |
| **Port Control mode** | MAC Based. |
| **Max ID list** | Scope :1-4096. |

Attention:

Between the applicant and the authentication system using MD5 - inquiry, do not support others.

If the network connection properties are without "authentication" option, please select “attachment" - > "management tools" - > "component services" - > “service", set "Wired AutoConfig" to "automatic".

Billing server setup error will also lead the applicant cannot be authenticated.
No billing server needs to be set up.

All uplink or downlink ports must be forced through the authentication, or prohibit the use of certification, otherwise can't use the remote server, unless you use the internal authenticated server.

When using the remote server, the administrator can access the remote server, be sure to confirm equipment displaying device address of the gateway set up correctly. If you use the domain name the DNS must be set correctly.

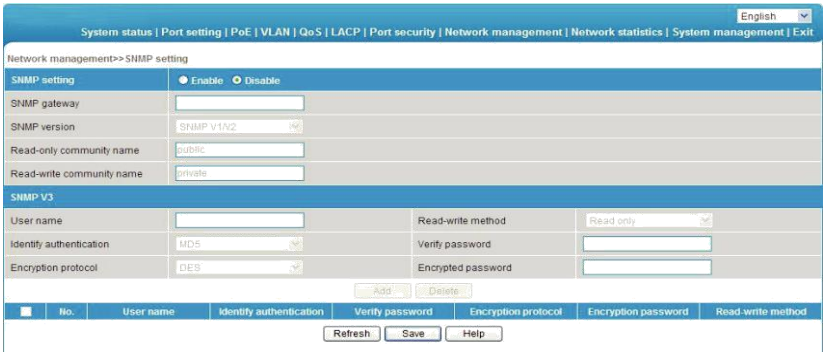
# 4 Web Management

## 4.1 SNMP Settings

SNMP is used to ensure the management information transferred between any two points, so that network administrators can easily retrieve information on any node on the network to modify information, fault search, troubleshooting, capacity planning and report generation.

SNMP contains NMS and Agent, of which NMS is a workstation running the server-side program, while Agent is the client software running on network device. NMS can send request message to Agent, after Agent receive request message from NMS, it starts to read or write and generate response packets and send the response packets back to the NMS.

On the [Network management / SNMP Settings] page, you can enable / disable the SNMP settings.




| | Description |
|---|---|
| **SNMP Gateway** | Agent send the network IP address from receiver who send abnormal alert. |
| **SNMP version** | Only support V1/V2/V3 version. |
| **Read-only community name** | A SNMP community named after a string, the group only has permission to operate. |
| **Read-write community name** | A SNMP community named after a string, the group has permission to Get and Set operations. |

Attention:

Community name: used to define the relationship between the SNMP manager and an SNMP agent. If the community name SNMP packets have not been recognized by the device, the packet is discarded. You can use the standard community name (public or private) or a user-defined group name.

## 4.2 Email Alarm

The device if it is running an event supervision, the supervision sends an alert message to defined Email recipients when something wrong about defining time and some abnormal event occurs. Supervision also periodically send all log messages to predefined recipients.

On the [Network management / Email alarm] page, you can turn on / off Email alarm settings.


| | Description |
|---|---|
| **Mail Server** | The host computer's IP address or the host computer that provide POP3 Email delivery service to our devices. |
| **Email Accounts** | The account name for logging in email server. |
| **E-mail Password** | The password to the account name for logging in email sever. |
| **Recipient Address** | The email address used to inform recipients of abnormal events. |
| **Email Reply Address** | The email address that can help solve abnormal events. |
| **Mail interval** | The interval time that regularly send log and weekly reports. |

Attention:

Some email service system requires that the "email reply address" should match the "email account". When sending system test email, the password should be in plain text. The test mail cannot be sent if the password is "empty".

### 4.3 Port Mirror

Port mirroring refers to copying the monitor port data to a designated monitoring port for data analysis and monitoring. The Ethernet Switch supports multiple mirroring to one mirroring, which Copy packets from multiple ports to a monitor port. User can also specify the direction of monitored packets, such as only monitor designated ports message. Equipment using port mirroring group way to configure port mirroring. Every port Mirror include monitoring port and be monitored port.

In the [network management/ port Mirror] page, which could modify [port Mirror] function settings.

| | Description |
|---|---|
| **Port Mirror** | The default is off.<br><br>Turn Port Mirror Function on/off. |
| **Monitor Port** | Select Port for monitoring. |
| **Mirror Port** | These ports collect designated direction data from be monitored ports. |
| **Data Collection** | Specifies the monitor port data direction:<br>"all data", "data import" and "export data" |

Attention:

This feature must be turned off in normal use, otherwise, all based on advanced management capabilities port can use such as RSTP, IGMP, SNOOP.

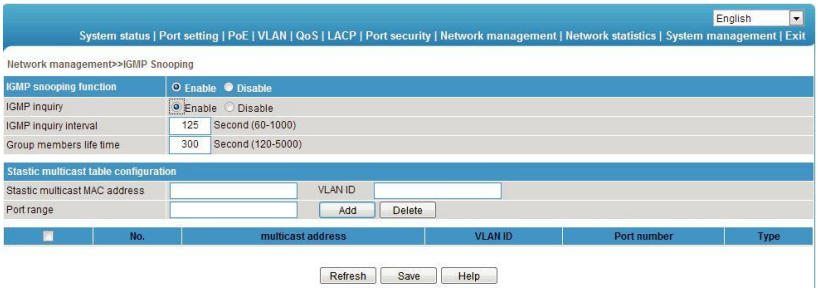
Mirroring only handles normal packet FCS, cannot handle all kinds of erroneous data frame.

To replace the mirror port or monitor port, directly input monitoring port number or Mirror port number.

## 4.4 IGMP Snooping

Switch IGMP membership report message to the router IGMP membership through intercepting mainframe. Form Corresponding relationship between group members and switch interfaces. Switch transfer multicast packets be received to member group ports according to Correspondence.

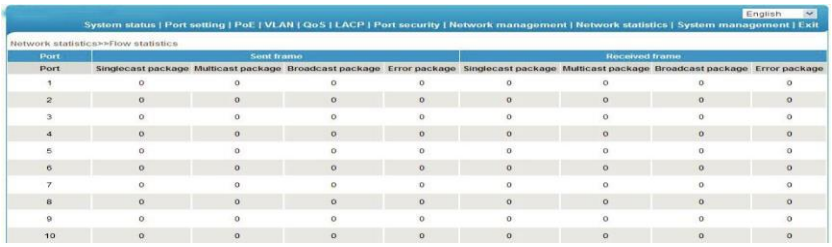
The [Network Management/ IGMP Snooping] Page, Modify and setting [ IGMP Snooping] function.




| | Description |
|---|---|
| **IGMP Snooping** | The default is disabled.<br><br>Enable or disable the Multicast Snooping function. |
| **IGMP Inquiry** | Enable or disable the IGMP Multicast Inquiry function. |
| **IGMP Query interval** | Set interval for query interval. |
| **Member Existing Time** | Set Existing multicast Member survival time. |
| **Unknown multicast group forwarding table** | How to transfer those ports when the received multicast address does not exist in the address table. |

# 5 Network Statistics

On the [Network statistics / Flow statistics] page, you can view the number of data packets and bytes transferred for each port.

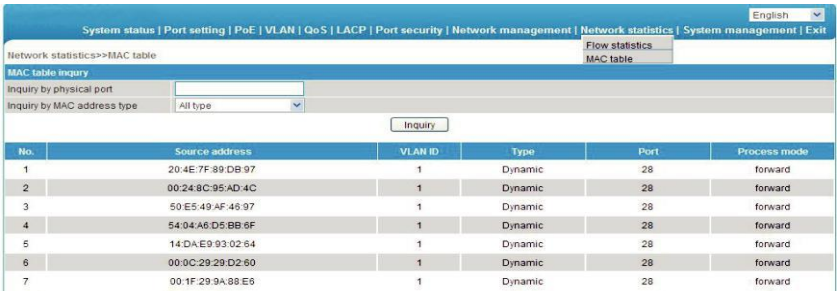



| | Description |
|---|---|
| **Receive Frame Singlecast Package** | The received address is the number of packets in the unicast address. |
| **Receive Frame Multicast Package** | The received address is the number of packets in the multicast address. |
| **Receive Frame Broadcast Package** | The sent received address is the number of packets in the broadcast address. |
| **Receive Frame Error Package** | Error package numbers due to various wrong reasons sent and received by ports. |
| **Send Frame Singlecast Package** | The sent address is  the number of packets in the unicast address. |
| **Send Frame Multicast Package** | The sent address is the number of packets in the multicast address. |
| **Send Frame Broadcast Package** | The sent address is the number of packets in the broadcast address. |
| **Send Frame Error Package** | Error package numbers due to various wrong reasons sent and received by ports. |

## 5.1 MAC Address

MAC (Media Access Control) address is the hardware identification of network equipment. Switches could transfer message according to MAC address. The MAC address is unique ,which ensures the correct message. Every switch maintains a MAC address table, in which, the MAC address corresponds to switch ports. The switch could decide to filter this data frame or transfer data frame to corresponding port according to MAC address table when the switch receives data frame. MAC address is the basic and premise for data frame fast forwarding.

On the [Network statistics /MAC table] page, you could check MAC address of each port.




| | Description |
|---|---|
| **Inquiry by physical port** | Enter MAC address to check/filter. |
| **Inquiry by MAC address type** | MAC address type consists of static MAC address and dynamic MAC address. |

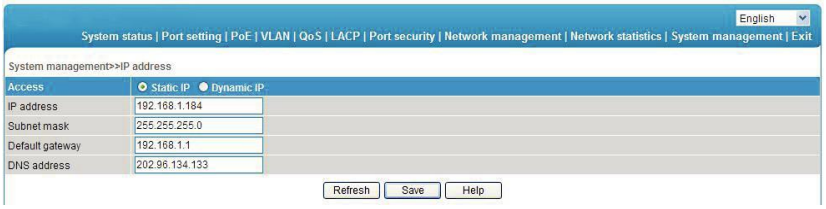
Attention:

Multicast MAC address table is displayed in IGMP snooping table. All these address tables are unicast addresses. The permanent static address is configured in static MAC address port table. You need to modify corresponding entries when the port changes. The aging time of MAC address is 300s, after port disconnected , the upper port operation procedures clear all correspond port entries.

# 6 System Management

## 6.1 IP Address

On this page, you can check the IP address for this device.

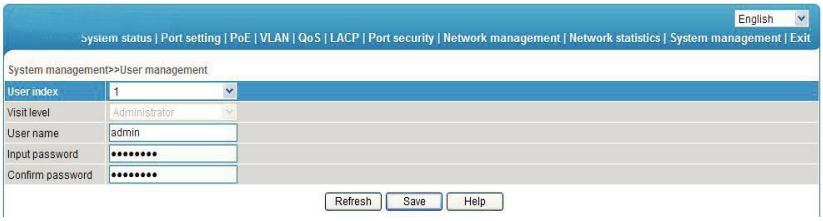



Attention:

Please fill in correct DNS address when using it for NTP and Email.

User Management

On this page, you can modify or add one user with password.



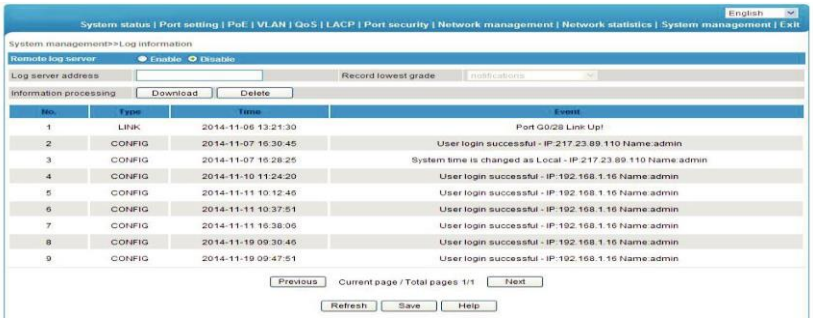

| | Description |
|---|---|
| **User Index** | User index indicates the group of users. There are three user indexes in drop down table. |
| **Visit Level** | Administrator: View and set all settings.<br>User: View and set only some functions. |
| **User name** | The identification of the user. |
| **Input Password** | Enter user password. |
| **Confirm Password** | Confirm above entered password. |

## 6.2 Log Information

The log function allows users to access information of the system operation. When this function is enabled, corresponding events are recorded to the log:

- System restart
- Port Link Down/UP
- Power supply status
- Login information
- Broadcast storm
- System action and operation record
- NTP time synchronization information
- Other system information

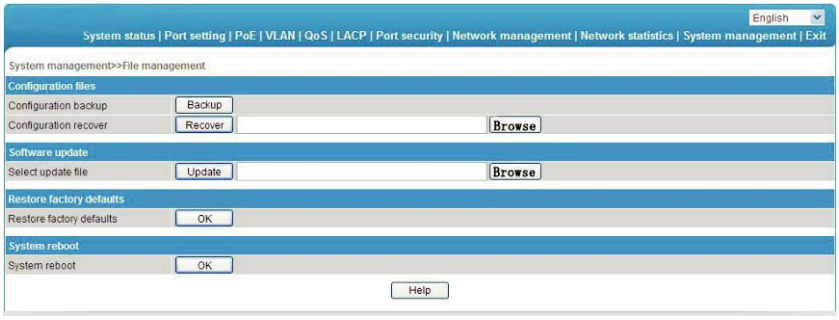
On the [System management/ Log information] page you could check the time and type of event.




| | Description |
|---|---|
| **Log Sever address** | The server address receiving the log information. |
| **Record lowest grade** | There are eight optional levels: error information, notification information to be logged, information in need of quick reaction, serious information, information that cannot be used in system, normal but important information, information in debug, warning information. |
| **Download** | Download all information (File format *.cfg). |
| **Delete** | Deleted all information. |

## 6.3 File Management

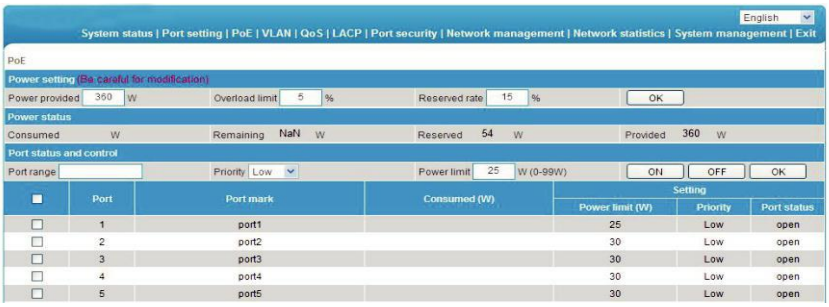
On the [System management/ File management] page you can check configure document, software upgrade, restore factory setting and reboot system.




| | Description |
|---|---|
| **Configuration File** | Backup switch configuration (File format *.cfg)<br><br>Restore switch configuration (File format *.cfg) |
| **Software Update** | Select file to perform firmware update. |
| **Restore Factory Defaults** | Set switch to default settings, except for IP address, user name and password. |
| **System Reboot** | Restart system and return to system status page. |

# 7 PoE Management

On PoE management page, you can turn on/off PoE function, set input power, maximum overload, reservation power etc.




Attention:

Please do not modify the input power, if the setting value is more than the actual power of the built-in power, there will be a risk of overload burning. If the setting value is less than the actual power for the built-in power supply, it cannot be fully allocated out.

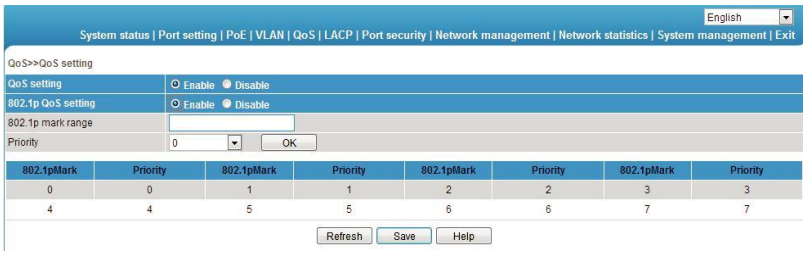
Each port of the product is to provide maximum output power of 30W, if user setting exceeds 30W, 30W is still the maximum power output only.

| | **Description** |
|---|---|
| **Power provided** | Determined by built-in power supply module and cannot exceed maximum power supply. |
| **Overload limit** | The default is 5%.<br><br>Built-in power supply allows overload rate. Setting range 0%～10%. If actual output power is overlarge, the system will power off ports with lower priority. |
| **Reserved rate** | Reservation power cannot be used for distribution, but can be used for PD consumption caused by overload change. The default is 15% of the total power. The larger this number, the smaller the risk of system overload. So the usable power for distribution and PD quantity become less. On the contrary, the more the number of PD access, the greater risk of system overload. |
| **Consumed** | Actual total power output. |
| **Remaining** | Means power that could be used for redistribution.<br>Surplus = input - actual output - reservation.<br><br>Please note that when insert a new PD equipment, the power will be distributed based on the detected PD power level instead of the actual power of inserted PD , for example : when surplus power is 20W, the system still cannot distribute power nor supply power if insert power level of PD is 25.5W and the actual power only requires 10W. |
| **Reserved** | Used for PD consumption with overload changes. It stems from the set menu “input power rate * reserve power”. |

| | |
|---|---|
| **Provided** | Total power for system setting.<br>It stems from the set menu “input power”. |
| **Priority** | There are three levels for port power: “low”, “middle”, “high”.<br>Supply priority: when the system is overloaded, the power supply of the port with low priority will be turned off firstly. |
| **Power limit** | Set the output power limit for single port. The port will power off when actual output power exceeds limit. |
| **On / Off** | Turn PoE Port Power on / off. |
| **Setting** | Set port priority for maximum power consumption. |

# 8 QoS Management

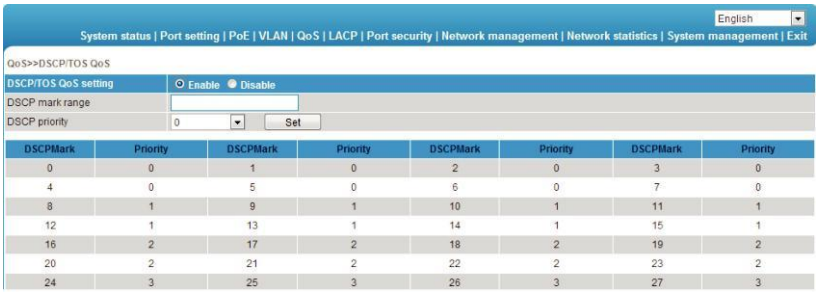
On the [QoS management/QoS Settings] page you can modify the QoS function.




| | Description |
|---|---|
| **QoS Setting** | The default is Off.<br><br>Turn QoS function on / off. |
| **802. 1P QoS Setting** | Set traffic priority.<br>The highest priority is 7，then to 6、5、4、3、2、1、0 |
| **802. 1P Scope** | The default is 0.<br><br>Possible values 0-7. |
| **Priority** | Set que priority.<br>The highest priority is 7，then to 6、5、4、3、2、1、0 |

DSCP7TOS QoS

On the [QoS Setting/ DSCP/TOS QoS] page you can modify the setting [DSCP/TOS QoS.




| | Description |
|---|---|
| **DSCP/TOS QoS** | The default is off.<br><br>Turn DSCP/TOS QoS function on / off. |
| **DSCP Scope** | Identifies TOS scope (0-63) |
| **DSCP Priority** | Set TOS Priority. |

## Ⓓ Impressum



## Ⓖ Imprint