FS.COM provides a limited warranty for twelve (12) months from Purchaser’s receipt of the Equipment represented in this data sheet against defective design or workmanship.

FS.COM provides high quality products, and does try to meet customers’ requirements, however, in few cases, you are not satisfied with our goods, don’t worry about that, you can always enjoy a 30-day any reason return and replacement policy in FS.COM if you are not satisfied with our products; each party is responsible for the freight (return or shipping cost) respectively. FS.COM will pay the freight if the return is due to quality problems. If, however FS.COM reasonably determines that the item is functional, the customer shall pay any freight. What’s more, if you have some questions about usage of your purchase, you can write an email to our service@fs.com. Tell us your problems, then we will do our best to help you.

Caution: Multiple power sources may be provided. To de-energize, all power connections need to be removed, including RPS cable if provided.

Caution: No user serviceable parts inside. Must be serviced by technically qualified personnel.
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Chapter 1 Ethernet Switches Introduction

1.1 Overview

The S5850/S8050 Series Routing Switches are high performance Ethernet switches to meet next generation Metro, Data Center and Enterprise network requirements. S5850/S8050 support L2/L3/Data Center/Metro features. The S5850/S8050 comes with complete system software with comprehensive protocols and applications to facilitate rapid service deployment and management for both traditional L2/L3 networks and Data Center networks.

The S5850/S8050 Series are cost-effective Ethernet access and aggregation platform to Enterprise, Data Center and Metro application.

The S5850/S8050 Series Switches (Figure 1-1) currently include four configurations: S8050-20Q4C/S5850-248S2Q/4C/ S5850-48S6Q/S5850-32S2Q.

![Figure 1-1 S5850/S8050 Series Switches](image-url)
Chapter 2 Product Characteristics

2.1 Product Characteristics

2.1.1. Data Center Grade Hardware Design

- Pluggable Redundant fans and power supply
- High quality electronic components
- Low power consumption

2.1.2. Traffic Visibility and Trouble-shooting Oriented Design

- CPU can capture any forwarding packets. So users can analyze the network flow without external mirror tools and the capture can be based on filter rules
- Support elephant flow detection. It can be used to monitor the exceptional huge flows in the network timely. Then some actions can be taken based on the capture, including redirect, drop, rate-limit, send BGP black-hole route and adjust the flow path dynamically
- ACL can match VxLAN/NvGRE inner header. So that it can realize the VM end-to-end monitoring and trouble-shooting under the overlay network environment
- ASIC level telemetry support, including each packet latency, latency watermark, packet buffer timely utilization, buffer micro burst
- Support IP fast Ping and L2 Ping
- Open RPC API

2.1.3. Data Center Scenario Oriented Design

- Support VxLAN/NvGRE, including Routing/Bridging
- Support ECN and PFC, etc.
- Support up to 64 ways ECMP
- Support MLAG and VARP
- Support static load balancing and dynamic load balancing, Vxlan/Nvgre inner header can participate in hash calculation.
Chapter 3 Description of Hardware

3.1 Front and Back Panel Display

S8050-20Q4C
Front Panel

1. RJ4S Console Port
2. Management Ethernet Interface
3. USB Interface
4. 10G SFP+ Combo Ports
5. 40G QSFP+ Ethernet Ports

6. 100G QSFP+ Ethernet Ports
7. Cooling Fans
8. AC or DC FRU Power Supply Module (PS2)
9. AC or DC FRU Power Supply Module (PS1)

Back Panel

S5850-48S2Q4C
Front Panel

1. USB Interface
2. RJ4S Console Port
3. Management Ethernet Interface
4. 10G SFP+ Ethernet Ports
5. 100G QSFP+ Ethernet Ports

6. 40G QSFP+ Ethernet Ports
7. Cooling Fans
8. AC or DC FRU Power Supply Module (PS2)
9. AC or DC FRU Power Supply Module (PS1)

Back Panel

S5850-48S6Q
Front Panel

1. USB Interface
2. RJ4S Console Port
3. Management Ethernet Interface
4. 10G SFP+ Ethernet Ports
5. 40G QSFP+ Ethernet Ports
6. Cooling Fans

7. AC or DC FRU Power Supply Module (PS2)
8. AC or DC FRU Power Supply Module (PS1)

Back Panel

For Technical Support: www.fs.com/service.html
3.2 Port Diagram

Table 3-1 S5850/S8050 Series Port Diagram

<table>
<thead>
<tr>
<th>Model</th>
<th>QSFP28 port</th>
<th>QSFP+ port</th>
<th>SFP+ port</th>
<th>10/100/1000Base-T Ethernet port</th>
<th>Console port</th>
<th>USB2.0 interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>S8050-20Q4C</td>
<td>4</td>
<td>20</td>
<td>4(Combo)</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>S5850-48S2Q4C</td>
<td>4</td>
<td>2</td>
<td>48</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>S5850-48S6Q</td>
<td>N</td>
<td>6</td>
<td>48</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>S5850-32S2Q</td>
<td>N</td>
<td>2</td>
<td>32</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

3.3 Interface Module Description

3.3.1 Ethernet Port

S5850/S8050 Series switches are integrated with out-of-band Ethernet ports whose interfaces are 100 Base-TX or 10 Base-T. It is recommended to use the net line included.
3.3.2 Console Port

Console port uses an 8-pin RJ-45 connector. When connecting the console port of switch to a computer, we need an RJ-45-to-DB-9 adapter cable. It is recommended to use the serial line enclosed in the installation package.

![Diagram of DB9 to RJ45 console cable]

Figure 3-1 DB9 to RJ45 console cable

Specific pin information can be found in the table below:

<table>
<thead>
<tr>
<th>RJ45</th>
<th>Signal</th>
<th>Direction</th>
<th>DB-9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>CTS (Clear To Send)</td>
<td>→</td>
<td>8</td>
</tr>
<tr>
<td>2</td>
<td>DSR (Data Set Ready)</td>
<td>→</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>RXD (Receive Data)</td>
<td>→</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
<td>---</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>GND</td>
<td>---</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>TXD (Transmit Data)</td>
<td>←</td>
<td>3</td>
</tr>
<tr>
<td>7</td>
<td>DTR (Data Terminal Ready)</td>
<td>←</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>RTS (Request To Send)</td>
<td>←</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 3-2 RJ-45-to-DB-9 cable sequence
3.4 S5850/S8050 Series Switches LED Introduction

3.4.1 System LED Indicator

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>On</td>
<td>System is abnormality.</td>
</tr>
<tr>
<td></td>
<td>Blinking Quickly (2Hz)</td>
<td>The system is power on but CPU is not running.</td>
</tr>
<tr>
<td></td>
<td>Blinking Slowly (0.5Hz)</td>
<td>The system is normal running.</td>
</tr>
<tr>
<td>Amber</td>
<td>Blinking Quickly (2Hz)</td>
<td>The system is in u-boot initiation.</td>
</tr>
<tr>
<td></td>
<td>Blinking Slowly (0.5Hz)</td>
<td>The system is in system initiation.</td>
</tr>
<tr>
<td></td>
<td>On</td>
<td>The system occur alarm or error.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>No power or System is not run or abnormality.</td>
</tr>
</tbody>
</table>

3.4.2 FAN LED Indicator

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FAN</td>
<td>Green</td>
<td>The Fans/fan tray are ok.</td>
</tr>
<tr>
<td></td>
<td>Amber</td>
<td>Fans are bad.</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>No power or fan tray is absent.</td>
</tr>
</tbody>
</table>

3.4.3 Power Supply LED Indicator

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWR1</td>
<td>Green</td>
<td>Power supply ok.</td>
</tr>
<tr>
<td></td>
<td>Amber</td>
<td>Power supply is abnormality.</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Power supply is absent or single power supply abnormality.</td>
</tr>
<tr>
<td>PWR2</td>
<td>Green</td>
<td>Power supply ok.</td>
</tr>
<tr>
<td></td>
<td>Amber</td>
<td>Power supply is abnormality.</td>
</tr>
<tr>
<td></td>
<td>-</td>
<td>Power supply is absent or single power supply abnormality.</td>
</tr>
</tbody>
</table>
### 3.4.4 Ethernet Management Interface LED Indicator

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MGMT</td>
<td>On</td>
<td>Port link.</td>
</tr>
<tr>
<td></td>
<td>Blinking</td>
<td>Port is receiving or transmitting packets.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>Port not link.</td>
</tr>
</tbody>
</table>

### 3.4.5 10G SFP + Indicator

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-48(S5850-48S2Q4C)</td>
<td>On</td>
<td>10G port link.</td>
</tr>
<tr>
<td>1-48(S5850-48S6Q)</td>
<td>Blinking</td>
<td>10G packets receiving or transmitting.</td>
</tr>
<tr>
<td>1-32(S5850-32S2Q)</td>
<td>Off</td>
<td>Port not link.</td>
</tr>
</tbody>
</table>

### 3.4.6 40G QSFP + Indicator

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-10, 15-24(S8050-20Q4C)</td>
<td>On</td>
<td>40G port link.</td>
</tr>
<tr>
<td>53-54(S5850-48S2Q4C)</td>
<td>Blinking</td>
<td>40G packets receiving or transmitting.</td>
</tr>
<tr>
<td>49-54(S5850-48S6Q)</td>
<td>Off</td>
<td>Port not link.</td>
</tr>
<tr>
<td>33-34(S5850-32S2Q)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 3.4.7 100G QSFP + Indicator

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Status</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>49-52(S5850-48S2Q4C)</td>
<td>On</td>
<td>100G port link.</td>
</tr>
<tr>
<td>11-14(S8050-20Q4C)</td>
<td>Blinking</td>
<td>100G packets receiving or transmitting.</td>
</tr>
<tr>
<td></td>
<td>Off</td>
<td>Port not link.</td>
</tr>
</tbody>
</table>
Chapter 4 Introduction to Installation Accessories

4.1 Introduction to Installation Accessories

**Figure 4-1** Console Cable

**Figure 4-2** Power Cord (Qty.2)

**Figure 4-3** Rack Mount Bracket (Qty.2)

**Figure 4-4** Grounding Cable

**Figure 4-5** Bracket Screw (Qty.10)

**Figure 4-6** Rubber Pads (Qty.4)
Chapter 5 Installation

5.1 Preparation for Installation

5.1.1 Safety Precaution

The following precautions should be followed to avoid equipment damage and personal injury caused by improper use:

- Power source should be removed before cleaning switches. Do not use wet rags to wipe switches and clean switches with liquid.
- Do not place switches near water or in a wet environment, and prevent water or moisture from entering switch chassis.
- Do not place switches on an unstable case or table, since the dropping would cause serious harm to switches.
- Maintain good indoor ventilation and clear airholes of switches.
- Switches shall work normally under correct voltage, so make sure the operating voltage agrees with the voltage marked on switches.
- To reduce the risk of electric shock, do not remove its enclosure when a switch is working, and don’t do so at will even if it is not powered.
- Anti-static gloves must be worn when replacing interface board to prevent static electricity from damaging veneer.

5.1.2 Installation Site

To ensure a normal work environment, S5850/S8050 Series switches should have the following requirements for workplace:

- Ensure that there are some spaces at the inlet and outlet of switch for heat dispersion of switch chassis.
- Ensure that rack and working platform have good ventilation and heat dispersion systems.
- Ensure that rack and working platform are firm enough to support the weight of a switch and its accessories for installation.
- Ensure rack and working platform are well earthed.

To ensure switches maintain a long-term stable work, the installation workplace should also meet the following requirements:

- Temperature/Humidity Requirements
  To ensure the normal work and service life of switches, certain temperature and humidity should be maintained inside switch rooms. Longtime higher humidity inside switch rooms may easily lead to poor insulation or even
electric leakage of dielectrics, and sometimes cause material changes in mechanical features and corrosion of metal parts; if the relative humidity is lower, insulation pads could dry shrink to make fastening screws loose. Meanwhile, in the dry climate, lower relative humidity could easily cause static electricity which will impose harms to the circuit of switch; higher temperature would be even more harmful: longtime high temperature would accelerate aging process of insulation materials to greatly reduce the reliability of switches and severely affect their service life.

**Table 5-1 Temperature/Humidity Requirements**

<table>
<thead>
<tr>
<th>Item</th>
<th>S5850/S8050 Series</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>0 ~ 45°C</td>
</tr>
<tr>
<td>Humidity</td>
<td>10% ~ 95%</td>
</tr>
</tbody>
</table>

- **Cleanliness Requirements**
Dust is a big hazard to the safe operation of switches. Indoor dust falling on the switch body can cause electrostatic adsorption to make poor contact of metal connectors or metal contacts. Especially when the indoor relative humidity is lower, electrostatic adsorption is easily formed, which will not only affect equipment service life, but also easily lead to communication failure.

**Table 5-2 Dust Content Requirements in Switch Room**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Unit</th>
<th>Concentration limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUST</td>
<td>Particle/m3</td>
<td>≤ 3 X 104 (No visible dust on the tabletop for three days)</td>
</tr>
</tbody>
</table>

Note: The dust particle size is ≥ 5 μm

Besides dust, there are rigorous limits on the content of harmful substances that can accelerate the corrosion and aging of metals, such as salts, acids, and sulfides in the air in the equipment room, and the equipment room must be protected against ingestion of harmful gases such as SO2, H2S, NH3, and Cl2. For the specific requirement, see the following table.
Table 5-3 Harmful Gas Threshold in the Equipment Room

<table>
<thead>
<tr>
<th>Gas</th>
<th>Maximum concentration (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SO₂</td>
<td>0.2</td>
</tr>
<tr>
<td>H₂S</td>
<td>0.006</td>
</tr>
<tr>
<td>NH</td>
<td>0.05</td>
</tr>
<tr>
<td>Cl₂</td>
<td>0.01</td>
</tr>
</tbody>
</table>

- Electromagnetic Susceptibility
  Switches may be affected by the interferences from outside the system, which will have an effect on devices through conduction of capacitance coupling, inductive coupling, electromagnetic wave radiation, common impedance (including ground system) coupling and wires (power wire, signal wire and output signal wire, etc.). The following attention should be paid to:
  - AC power supply system is TN system, and AC power socket should be single-phase 3-wire outlet with protective earth (PE) so that filter circuit on devices can effectively filter interference from electric grid.
  - Places where switches work should be kept away from strong-power radio transmitting station, radar transmitting station, high-frequency high-current devices.
  - Electromagnetic shielding should be adopted when necessary, i.e. interface cables use shielded cables.
  - Interface cables are required to be arranged indoors instead of outdoors to prevent signal ports of devices from being damaged by over voltage and over current generated from lightning.

- Laser Use Safety
  - S5850/S8050 Series switches are Class 1 laser devices.
  - Do not stare at the optical interfaces directly when the optional optical interfaces of S5850/S8050 Series switches are in operating mode, since light beam emitting from fiber has high energy which may be harmful to retina.

5.1.3 Installation Tools

Prepare the following tools before installation:
- Flathead screwdrivers
- Phillips screwdrivers
- ESD-preventive wrist strap
Caution: The installation tools are not provided with S5850/S8050 Series Switches.

5.2 Installation

S5850/S8050 Series switches can be installed in the following 2 ways:
- Install the Switch into a Rack with Front Mounting Brackets (19” standard rack)
- Install the Switch on a Workbench

5.2.1 Introduction of Mounting Brackets

Mounting Brackets(S5850/S8050)

Figure 5-1 Appearance Sketch Map of Front Mounting Brackets

Description:
①: Screw hole for fixing Front Mounting Brackets and rack
②: Screw hole for fixing Front Mounting Brackets and switch

Caution: Front Mounting Brackets are only used to fix switches, but unable to bear the weight.
5.2.2 Install the switch into a Rack with Front Mounting Brackets

Installation Process(S5850/S8050)

**Step 1**  Wear ESD-preventive wrist strap, and check the grounding and stability of rack.

**Step 2**  Fix the tray to a proper position of rack horizontally.

**Step 3**  Take out screw (complete package with front hangers), and install one end of the Front Mounting Brackets on switch, as shown in Figure 5-2.

![Figure 5-2 Installation Sketch Map of Front Mounting Brackets](image1)

**Step 4**  Place switch on the tray horizontally, push it slightly into the rack along the tray, and fix the other end of Front Mounting Brackets upon the front hold strip of rack using screw and its matching floating nut.

![Figure 5-3 Installation Sketch Map of Front Mounting Brackets with Tray](image2)
5.2.3 Install the Switch on a Workbench

In many cases, users do not have a standard 19" rack, so people often place switches on a cleaning working platform. Such operation is relatively simple, and the only following aspects should be concerned during operation:

- Ensure the working platform is stable and well earthed.
- A 10 cm space around switch is left for heat dissipation.
- Do not place heavy objects on switches.

There are 4 foot pads that come with the device. Paste them onto the bottom near the corners of the switch, as shown below:

![Image of foot pads installation sketch map](image)

**Figure 5-4** Installation Sketch Map of the foot pads
5.2.4 Installation and Removal of Power Module

Installation Process
The power modules for S5850/S8050 Series switches are pluggable. Installation process of power modules is as follows:

Wear ESD-preventive wrist strap, and confirm that the anti-static wrist strap is well earthed.

Maintain correct up-down direction of power module (in line with the positive direction of characters, if turned upside down, the power module cannot be inserted to the end due to structural limit specially designed inside chassis).

Grip the handle on the front end of power module to be installed with one hand and support the bottom of power module with another hand, and insert the power module by smoothly sliding along the power slot until the plug of power module comes into full contact with the socket inside chassis.

The locking switch of the Power Supply Unit will lock the power module.

![Installation Sketch Map of AC power module](image)

Description:

①: Handle of the Power Supply Unit
②: Locking switch of the Power Supply Unit.

Removal Process
The power modules for S5850/S8050 Series switches are pluggable. Removal process of power modules is as follows:

Wearing anti-static wrist strap, and confirm that the anti-static wrist strap is well earthed.

Disconnect all power connectors of the switch.

Grip the handle on the front end of power module while pressing on the locking switch with one hand and press on the top switch with another hand.
Pull out the power module by smoothly sliding along the power slot until the plug of power module is completely separated from the socket inside chassis.

![Figure 5-6 Removing Sketch Map of AC power module](image)

---

**Caution:** The S6850/S8050 switch can be installed with two power supply modules as hot backup. When one of the two power modules failure, user can replace the bad power module on line (Without interruption for Switch power supply).

---

### 5.3 Grounding Connection

A noise filter is connected on the power input of switch, whose central earthing is connected directly to the cabinet, which is called enclosure earthing (that is PE). This cabinet must be well grounded to enable the safe flow of influence electricity and leakage into the earth and increase the anti-electromagnetic interference of switch.

Correct way of Grounding is as follows:

Connect one end of the yellow and green PE cable of switch to the terminal of grounding bar and screw up the fastening nut when there is a grounding bar in the installation environment of Ethernet switches.

**Note:** it is an incorrect option to be grounded with fire mains and a lightning rod in a building, so the ground wires of Ethernet switches should be connected to the works in switch room and grounded.
Figure 5-7 Grounding Installation Sketch When A Grounding Bar is in Switch Room

Description:
①: Ground terminal of switch
②: Protective grounding cable
③: Grounding bar of the switch room

Caution: The ground connection of Switch is very important for lightning and anti-interference protection, so please user must connect the grounding wire correctly.

The grounding connection figure provided in this guide is for reference only, please following the real installation situation to connect the grounding wire of the Switch correctly.
Chapter 6 Initial Power-on and Start-up of Switch

6.1 Building Configuration Platform and Connecting Cable

![Image of configuration platform and connecting cable]

**Figure 6-1** Building Local Configuration Platform Through Console Port

Connect DB-9 hole-type plug of configuration cable to the serial port for configuring switch. Connect RJ-45 end of configuration cable to the console port of switch.

---

⚠️ Caution: Please use the DB-9 to RJ-45 Console cable which we provide together with this device. Use the DB-9 to RJ-45 Console cable from other vendors maybe can’t access this device.

---

6.2 Setting Terminal Parameter (Windows Super Terminal)

Turn on PC and run emulator program (e.g., Windows system has its own super terminal) on PC. Set terminal parameters (take the super terminal setting of Windows XP as an example).

**Step 1** Click “Start → Program → Attachment → Communication → Super Terminal” to enter the super terminal window and establish a new connection, then a connection description interface will pop up as the following figure show.

![Image of connection description interface]

**Figure 6-2** New Connection
Step 2: Type the name of the new connection in the Name text box (for example: Network) and click “OK”. The following dialog box appears. Select the serial port to be used from the Connect using drop-down lists.

![Connect To dialog box]

Figure 6-3 Connection Port Setting

Step 3: When the Network Properties dialog box is displayed as shown in the following figure, set Bits per second to 115200, Data bits to 8, Parity to None, Stop bits to 1, and Flow control to None. (In other windows operating systems, bits per second may be described as baud rate and data stream control may be described as traffic control.)

Step 4: Click OK after setting the serial port parameters and input the user name/password: admin/admin, then enter the HyperTerminal window.

![HyperTerminal window]

Figure 6-4 HyperTerminal Window
Step 5  Click “Properties” in the HyperTerminal window to enter the Network Properties dialog box. Click the Settings tab, set the emulation to VT100, and then click “OK”.

![Image of Terminal Emulation Setting](Figure 6-5)

Caution: Please use the DB-9 to RJ-45 Console cable which we provide together with this device. Use the DB-9 to RJ-45 Console cable from other vendors maybe can’t access this device.

6.3 Setting Terminal Parameter (SecureCRT from VanDyke Software)

Install the SecureCRT software on PC.
Set SecureCRT Serial terminal parameters.

Step 1  Click “Quick Connect” button to enter the SecureCRT quick connection window.

![Image of SecureCRT Quick Connection](Figure 6-6)
Step 2  Choose the “Serial” as the Protocol.

![Figure 6-7 Serial Parameters Setting Interface (Protocol)](image)

Step 3  In the Port item, please choose specified COM port that the PC is using. (Here we take COM4 as an example.)

![Figure 6-8 Serial Parameters Setting Interface (Port)](image)

Step 4  Set Baud rate to 115200, Data bits to 8, Parity to None, Stop bits to 1, and Flow control to XON/XOFF. Then click “Connect” button to enter the Serial display interface.
Step 5  If the network advice is connected with PC via Serial cable, you could see the command line interface (CLI) when you push down the “Enter” button of the PC.

![Serial Display Interface](image)

**Figure 6-9 Serial Display Interface**

Caution: Please use the DB-9 to RJ-45 Console cable which we provide together with this device. Use the DB-9 to RJ-45 Console cable from other vendors maybe can’t access this device.

6.4 Switch Power-on

After the switch is powered on and starts up, self-check information on equipment will display on the terminal. Users are prompted to type Enter after self-check, then command line DOS prompts (such as (Switch)) will appear. Type a command, configure Ethernet switches or view the running state of Ethernet switches. Enter “?” whenever you need a help. See the subsequent chapters of this manual for specific configuration commands.
Chapter 7 Switch Software Loading

The traditional switch software loading is serial loading, but it is slow and time-consuming, and it cannot realize remote loading and is inconvenient for operation. To address these problems, TFTP module is introduced to switch to facilitate software loading and file download via Ethernet. Specific operations are as follows:

Enter uBoot operation mode

To enter uBoot operation mode, press the combined key Ctrl + b during the switch startup when press Ctrl + b to stop autoboost is prompted; startup information is as follows:

Restarting system.

U-Boot 3.0.2 (Development build) (Build time: May 10 201-17:14:19)
P1010 board revision major: 1, minor: 0, serial #: 
P1010 pass 1.1, Core clock: 533 MHz, DDR clock: 265 MHz (530 MHz data rate)
Board descriptor tuple not found in eeprom, using defaults
DRAM: 1 GB
Clearing DRAM...... done
Flash: 2 GB
BIST check passed.
Net: octeth0, octeth1

Press Ctrl + b to stop autoboost: 3 — Press Ctrl + b to enter uBoot operation mode

Identify a PC as loading server, connect the administration port of switch and the PC with net line; set IP address of the PC and administration IP address of the switch for the same network segment; specific operations are as follows:

- Use the command help open_all to open all commands.
- Use the command setenv ipaddr address to set the administration IP address of the switch; the switch will copy image files to the switch from TFTP server using this address.
- Use the command setenv serverip address to set the IP address of TFTP server; the switch will copy image files from this TFTP server.
- Use the command ping to check if the switch communicates with the loading server.
- Can use the command printenv to view the current environment variables of switch.
- Can use the command saveenv to save the current environment variables of switch to EPROM.
- Can use the command reenv to restore the environment variables of switch to default value.
Run TFTP Server program on PC as a server, and set the directory where loading files are located; uBoot file supposed to be upgraded is u_boot_v1.0.bin.

Run the command `upgrade_uboot u_boot_v1.0.bin` to upgrade uBoot; here the filename is `u_boot_v1.0.bin`.

Run the command `reset` to complete the upgrade of uBoot.
Chapter 8 Upgrade of Operating System

S5850/S8050 Series Ethernet Switches can support new features and enhance system performance without replacing hardware by upgrading the operating system.

Figure 8-1 Upgrade Operating System

Copy the upgrading Image file to switch

1. In the privilege mode of switch, use the command COPY to copy the mirror files on TFTP server to the boot directory of switch flash.

Switch# copy mgmt-if tftp://10.10.29.160/SwitchOS-ma-v3.1.12.it.r.bin flash:/boot/ SwitchOS-ma-v3.1.12.it.r.bin

2. When copying, check if the switch has enough space; if the space is not enough, you can delete redundant mirror.
Set the mirror that will be loaded when switch starts next time

3. After copying the mirror to a relevant directory of switch, you can use the command boot to set the mirror that will be loaded when switch starts next time;

Switch(config)# boot system flash:/boot/SwitchOS-ma-v3.1.12.it.r.bin

View the mirror that will be loaded when switch starts next time

After setting the mirror that will be loaded when switch starts next time, you can use the command SHOW to check if the setting is valid;

Switch# show boot images

System image files list:
Current boot image version: 3.1.12

<table>
<thead>
<tr>
<th>Create Time</th>
<th>Version</th>
<th>File name</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-01-01 15:03:30</td>
<td>3.1.11</td>
<td>SwitchOS-ma-v3.1.11.it.r.bin</td>
</tr>
<tr>
<td>* 2011-05-28 10:08:38</td>
<td>3.1.12</td>
<td>SwitchOS-ma-v3.1.12.it.r.bin</td>
</tr>
</tbody>
</table>

Among them, the files marked with * are image files that will be loaded when switch starts next time.
Chapter 9 Maintenance and Troubleshooting

9.1 Loading Failure Processing

After loading fails, the system will keep running in the original version. At this time, users should re-check if physical port connections are good firstly. If some ports are not connected, then re-connect them to ensure that physical connections are correct, and begin re-loading. If physical connections are correct, then check the loading process information displayed on the super terminal to verify if there are input errors. If there are input errors, correct them and re-load. For example, when using TFTP protocol, we enter incorrect IP addresses of Server and Switch, name of loading software, do not specify the correct working path of correct TFTP server and so on; if physical connections are good, and there are no input errors in the loading process but the loading fails finally, please contact agents for help.

9.2 User Password Lost

If system password is lost or forgotten, the following method can be used to reset password:

- Enter uBoot operation mode; see Chapter 7 for how to enter;
- Input boot_flash_nopass command to start system in uBoot mode;

Caution: After using boot_flash_nopass command, system will clear up the startup-config files; before starting this operation, the startup-config files will be stored in flash:/startup-config.conf.old file.

9.3 Power System Troubleshooting

Switch can judge if its power system is faulty according to the PWR indicator on the front panel: when power system works normally, the PWR indicator shall always keep lighting; when the PWR indicator is off, please check if:

- The power line of switch is connected correctly.
- EPS of switch matches the power required by switch.

9.4 Configuration System Troubleshooting

After the switch is powered on, if system is normal, the startup information will be displayed on the configuration terminal; If the configuration system is faulty, the configuration terminal may display no information or hashes.
No information on the terminal

After power-on, if no display information on configuration terminal appears, please check if:

The power is normal.

The cable of configuration port (Console) is properly connected.

If no problems have been found after the above checks, it is possible that configuration cable is faulty or the parameter setting of terminal (such as super terminal) are incorrect, please check accordingly.

Troubleshooting for the terminal displaying hashes:

If the configuration terminal displays hashes, it is probable that the parameter setting of terminal (such as super terminal) are incorrect. Please confirm the parameter setting of terminal (such as super terminal): baud rate: 115200, data bit: 8, parity: no, stop bit: 1, flow control: NA, selecting terminal emulation: VT100.