S9 SE Server
Installation Guide

Document Version 1.0

Jun. 2019

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Table of Contents

1. Overview

The S9 SE server is Bitmain's newest version in the S9 SE server series. All S9 SE servers are tested and configured prior to shipping to ensure easy set up.

Front View

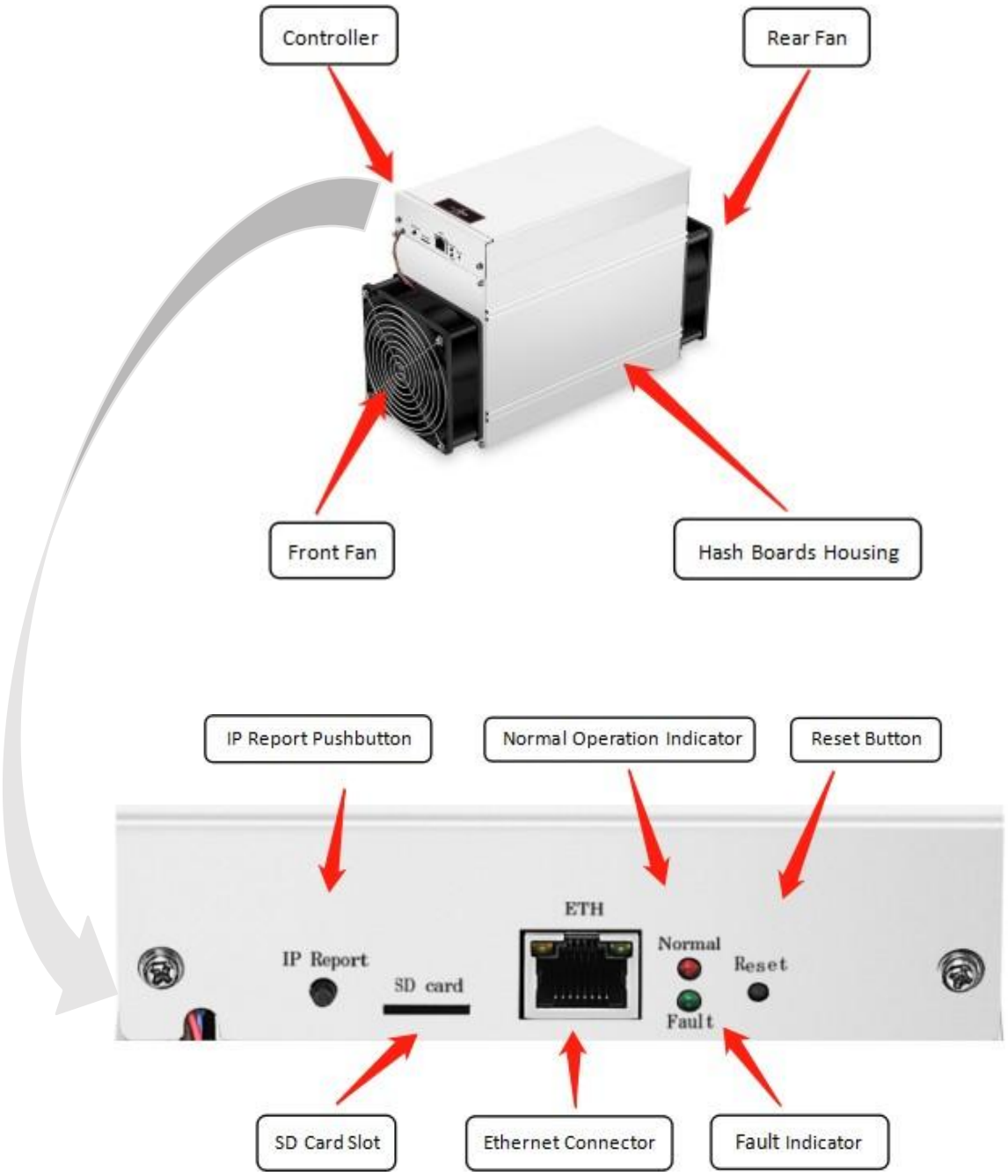
Back View

Placement

1. You must provide your own ATX power supply.
2. Please refer to the layout above to place your goods in usage in case of any damage.

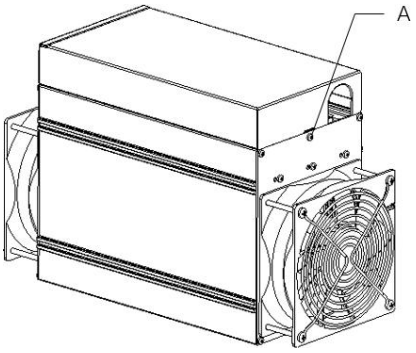
1.1 S9 SE Server Components

The main components and controller front panel of S9 SE server are shown in the following figure:

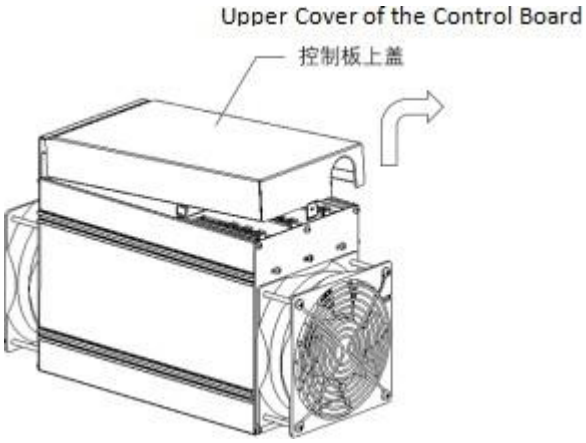


1.2 Connecting to the Power Supply

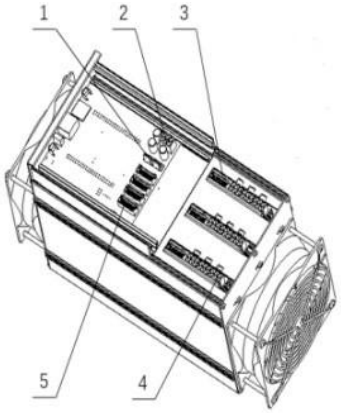
1. Remove the screw at the position indicated by A with a cross screwdriver.



2. Lift the upper cover of the control board upward at the direction indicated by the arrow shown in the figure and then pull it at the upper rear direction.

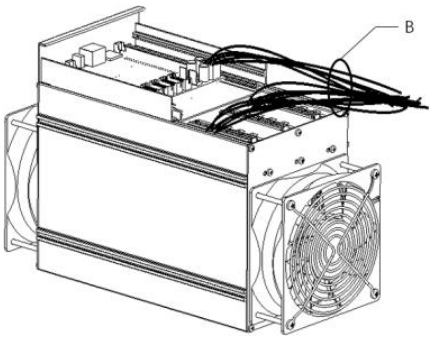


3. The position and name of the socket are shown in the figure blow after removing the upper cover of the control board.

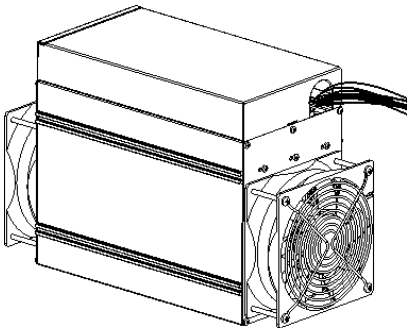


No.	Item	Quantity
1	Fan Socket	2
2	Main Control PSU Socket	1
3	Hashboard Signal Socket	3
4	Hashboard PSU Socket	9
5	Main Control Board PSU Socket	4

4. Connecting the external power supply to the corresponding socket of the server and then bind the cables at the position indicated by B.



5. Put the upper cover of the control board back in place and fix the screw at the position indicated by A. Note that the bundled cables shall be placed into the U-shaped hole.



Warning: Energy Hazards!

Please be sure to follow the manual for installation.
Risk of injury due to energy hazard exists inside.
Be sure to close the metal cover before powering on the equipment, otherwise there is a risk of injury.
Be sure to use external power supply which was approved according to IEC 60950-1:2005 + A1 + A2 or IEC 62368-1:2014. The external power supply shall provide SELV output and be evaluated.

1.3 Specifications

Model No.: 120-K
Version: S9 SE

Product Glance	Value
Crypto Algorithm/Coins	**SHA256/BTC/BCH**
Hashrate, **TH/s**	**16.00**
Reference power on wall, **Watt**	**1280**
Reference power efficiency on wall @**25°C**, **J/TH**	**80.00**
Adapted AC/DC output requirement, **Watt**/ **Volt**	**1574 / 12.00**

Detailed Characteristics	Value		
	Min	Typ	Max
Hashrate & Power			
Hashrate, **TH/s**		**16.00**	**16.95**
Power efficiency on wall @**25°C**, **J/TH** (1-1)	**80.00**		**85.60**
Power efficiency on wall @**40°C**, **J/TH** (1-2)	**84.02**		**89.90**
Reference power on wall, **Watt** (1-3)	**1280**		**1524**
DC input voltage range, **Volt** (1-4)	**11.60**	**12.00**	**13.00**
DC input current range, **Amp** (1-5)		**106.7**	**131.4**
Adapted AC/DC output power requirement, **Watt** (1-6)	**1417**	**1574**	
Hardware Configuration			
Quantity of hash chips	**180**		
Quantity of hash boards	**3**		
Networking connection mode	**RJ45 ethernet 10/100M**		
Server Size (Length*Width*Height, w/o package), **mm**	**321.3*129.6*200.0**		
Net weight, **kg**	**4.56**		
Noise, **dBA** @25**°C** (2-1)			**76**
Environment Requirements			
Operation temperature,**°C**	**0**	**25**	**40**

Storage temperature,**℃**	**-40**	**25**	**85**
Operation humidity, **RH**	**5%**		**95%**

Notes:

(1-1) RefersPSU power conversion efficiency of 93%.

(1-2) Refers PSU power conversion efficiency of 93%.

(1-3) Min condition: 25℃, minJ/TH, typical hashrate.

Max condition: 40℃, max J/TH, max hashrate.

Refers PSU power conversion efficiency of 93%.

(1-4) Caution: Wrong input voltage may probably cause server damaged.

(1-5) Typ condition: min reference power, typical DC input voltage.

Max condition: max reference power, min DC input voltage.

(1-6) Min condition: 40℃, max J/TH, max hashrate,

PSU output power should be no less than the min value to make sure mining stable.

Typical condition: (typical power) = (min power)/90%, leave power output margin for PSU.

Caution: It is strongly recommended that using typical power can make sure your server can work well. You can use one PSU to power multiple boards. Do not attempt to power one board with more than one PSU.All PCI-E ports are required to plug in while powering up the board.

(2-1) Max condition: Fan is under max RPM(rotation per minute).

2. Setting Up the Server

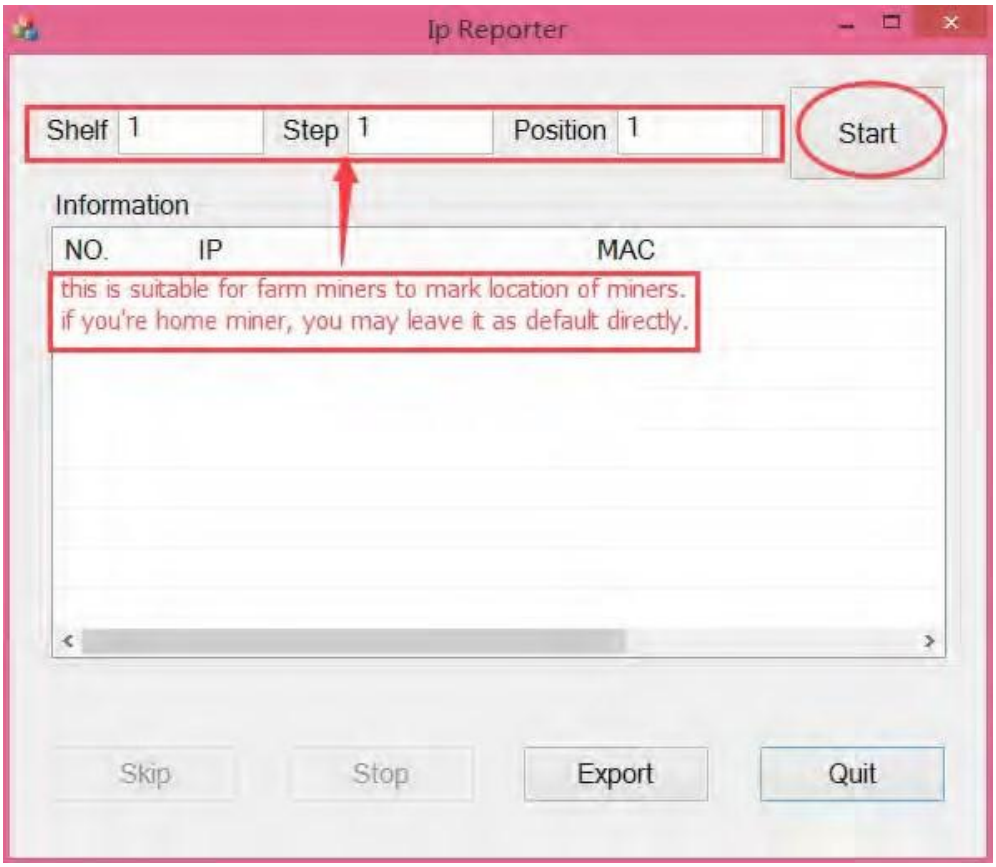
To set up the server:

The file IPReporter.zip is supported by Microsoft Windows only.

1. Go to the following site: **https://shop.bitmain.com/support/download**
2. Choose 'Others' and download the following file: IPReporter.zip.
3. Extract the file.

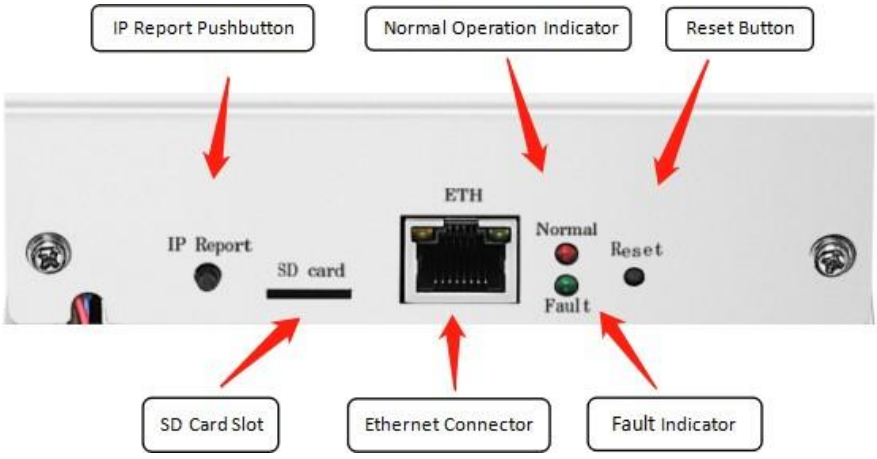
The default DHCP network protocol distributes IP addresses automatically.

4. Right-click **IPReporter.exe** and run it as Administrator.
5. Select one of the following options:
   - Shelf, Step, Position – suitable for farm servers to mark the location of the servers.
   - Default – suitable for home servers.
6. Click **Start**.

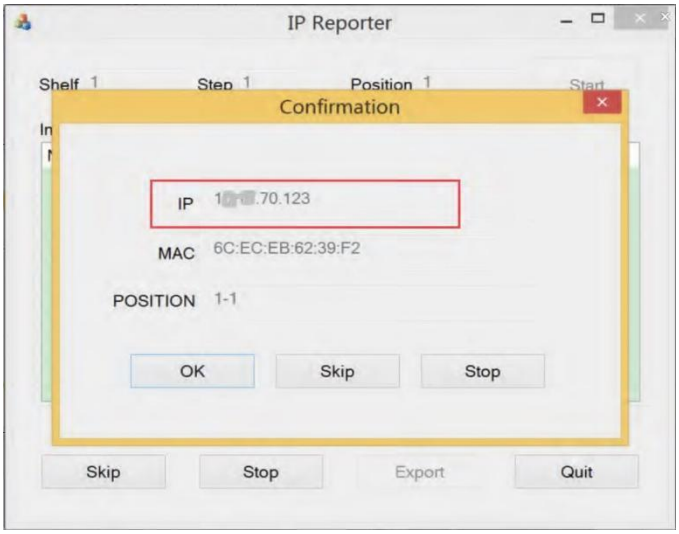


2. Setting Up the server

7. On the controller board, click the IP Report button. Hold it down until it beeps (about 5 seconds).



The IP address will be displayed in a window on your computer screen.



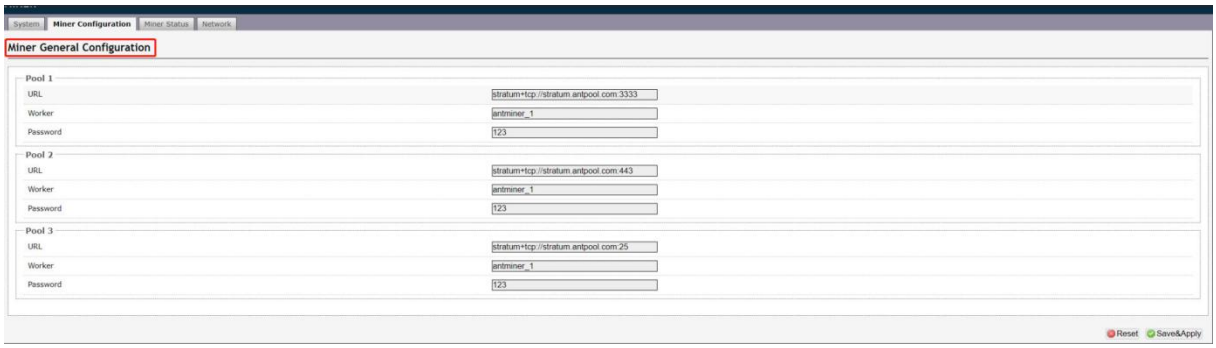
8. In your web browser, enter the IP address provided.
9. Proceed to login using root for both the username and password.
10. In the Network section, you can assign a DHCP IP address (optional).
11. Click **Save & Apply**.

3. Configuring the Server

Setting Up the Pool

To configure the server:

1. click **General Settings**.



2. Set the options according to the following table:

Option	Description
Pool URL	Enter the URL of your desired pool. The S9 SE server can be set up with three mining pools, with decreasing priority from the first pool (pool 1) to the third pool (pool 3). The pools with low priority will only be used if all higher priority pools are offline.
Worker	Your worker ID on the selected pool.
Password	The password for your selected worker.

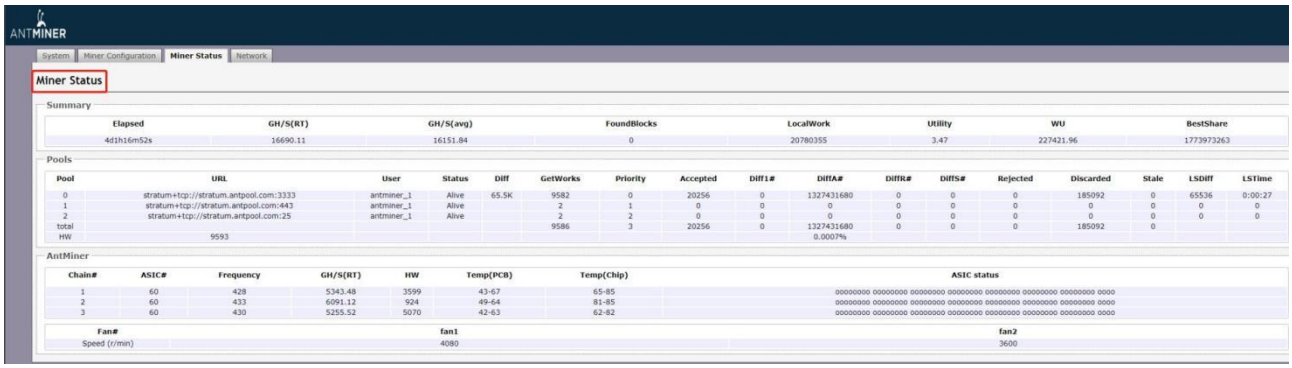
3. Click Save & Apply to save and restart the server.

4. Monitoring Your Server

4. Monitoring Your server

To check the operating status of your server:

1. Click the status marked below.



Note: The S9 SE server is with automatic frequency. Firmware will stop running when the Temp(PCB) reaches to 85℃ or the Temp(Chips) reaches to 105℃， there will be an error message “Fatal Error: Temperature is too high!” shown in the bottom of kernel log page.

2. Monitor your server according to the descriptions in the following table:

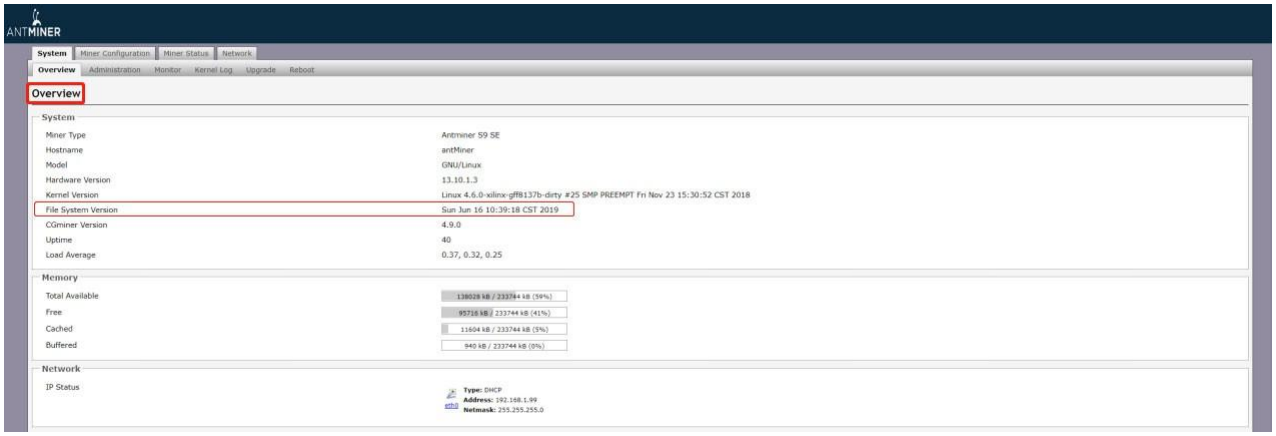
Option	Description
ASIC#	Number of chips detected in the chain.
Frequency	ASIC frequency setting.
GH/S(RT)	Hash rate of each hash board (GH/s).
Temp(PCB)	Temperature of each hash board (°C). (Applied only to server with fixed frequency).
Temp(Chip)	Temperature of the chips on each hash board (°C).
ASIC status	One of the following statuses will appear: ● **O** - indicates OK ● **X** - indicates error ● **-** - indicates dead

5. Administering Your Server

5.1 Checking Your Firmware Version

To check your firmware version:

1. In **System**, click the **Overview** tab.
2. **File System Version** displays the date of the firmware your server uses. In the example below, the server is using firmware version 20190616.

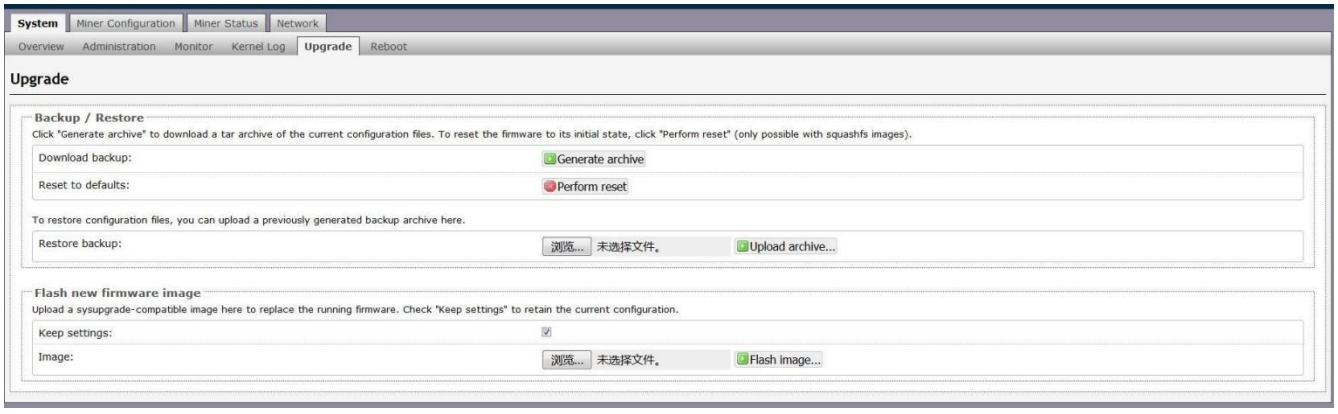


5.2 Upgrading Your System

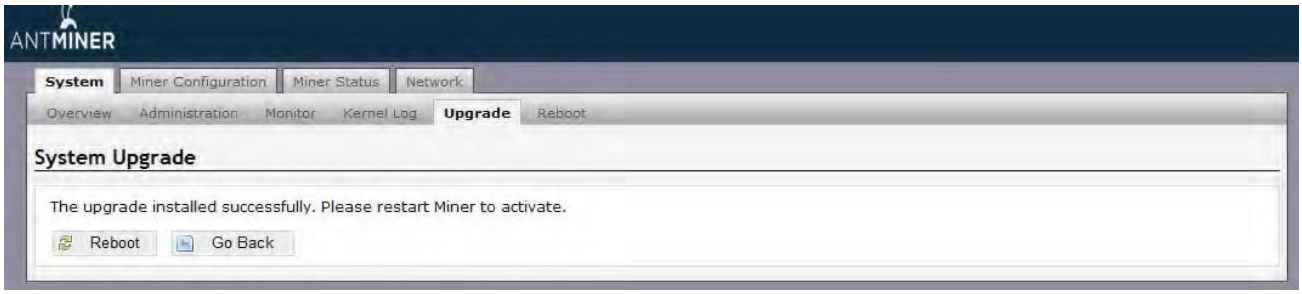
Make sure that the S9 SE server remains powered during the upgrade process. If power fails before the upgrade is completed, you will need to return it to Bitmain for repair.

To upgrade the server's firmware:

1. In System, click **Upgrade**.



2. For **Keep Settings**:
   - Select the check box to keep your current settings (default).
   - Clear the check box to reset the server to default settings.
3. Click the 选择文件 **(Browse)** button and navigate to the upgrade file. Select the upgrade file, then click **Flash image**.A message appears notifying you if the S9 SE firmware can be upgraded and if yes, will then proceed to flash the image.
4. When the upgrade is completed, the following message appears:

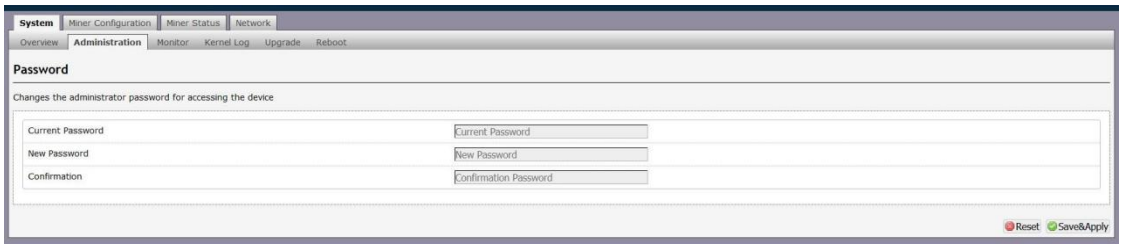


5. Click one of the following options:
   - **Reboot** - to restart the server with the new firmware.
   - **Go Back** - to continue mining with the current firmware. The server will load the new firmware next time when it is restarted.

5.3 Modifying Your Password

To change your login password:

1. In **System**, click the **Administration** tab.
2. Set your new password, then click **Save & Apply**.



5.4 Restoring Initial Settings

To restore your initial settings

1. Turn on the server and let it run for5 minutes.
2. On the controller front panel, press and hold the **Reset** button for 10 seconds.

Resetting your server will reboot it and restore its default settings. The red LED will automatically flash once every 15 seconds if the reset is operated successfully.

Environmental Requirements

Please run your server in accordance with the following requirements

1. Basic Environmental Requirements:

1.1. Climatic Conditions:

Description	**Requirement**
Operating Temperature	0-40˚C
Operating Humidity	10-90%RH (non-condensing)
Storage Temperature	-20-70℃
Storage Humidity	5-95%RH （non-condensing）
Altitude	<2000m

1.2. Site Requirements of the Server Running Room:

Please keep the server running room away from industrial pollution sources:

For heavy pollution sources such as smelters and coal mines, the distance should be more than 5km.

For moderate pollution sources such as chemical industries, rubber and electroplating industries, the distance should be more than 3.7km.

For light pollution sources such as food factories and leather processing factories, the distance should be more than 2km.

If unavoidable, the site should be chosen in the perennial upwind direction of the pollution source.

Please do not set your location within 3.7km from the seaside or the salt lake. If unavoidable, it should be built as airtight as possible, equipped with air conditioning for cooling.

1.3. Electromagnetic Environmental Conditions:

Please keep your site away from transformers, high-voltage cables, transmission lines and high-current equipment, for example, there should be no high-power AC transformers (>10KA) within 20 meters, and no high-voltage power lines within 50 meters.

Please keep your site away from high-power radio transmitters, for example, there should be no high-power radio transmitters (>1500W) within 100 meters.

2. Other Environmental Requirements：

The server running room shall be free of explosive, conductive,magnetically conductive and corrosive dust. The requirements of mechanical active substances are shown below:

2.1 Requirements of Mechanical Active Substances

Mechanical Active Substance	Requirement
Sand	<= 30mg/m^3
Dust (suspended)	<= 0.2mg/m^3
Dust (deposited)	<=1.5mg/m^2h

2.2 Requirements of Corrosive Gas

Corrosive Gas	Unit	Concentration
H_2S	ppb	< 3
SO_2	ppb	< 10
Cl_2	ppb	< 1
NO_2	ppb	< 50
HF	ppb	< 1
NH_3	ppb	< 500
O_3	ppb	< 2
Note: ppb (part per billion) refers to the unit of concentration，1ppb stands for the volume ratio of part per billion.		

Regulations:

FCC Notice (FOR FCC CERTIFIED MODELS):

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.

Note:

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.

EU WEEE: Disposal of Waste Equipment by Users in Private Household in the European Union

This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handling it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where your purchased the product.

台湾ROHS:

設備名稱：S9 SE 服務器，型號：120-K

單元	有害物質					
	鉛 (Pb)	汞 （Hg）	鎘 （Cd）	六價鉻 (Cr+6)	多溴聯苯 （PBB）	多溴二苯醚 （PBDE）
外殼	○	○	○	○	○	○
電路板組件	—	○	○	○	○	○
其他線材	—	○	○	○	○	○

備考 1.〝超出 0.1 wt %〞及〝超出 0.01 wt %〞係指限用物質之百分比含量超出百分比含量基準值。
備考 2.〝○〞係指該項限用物質之百分比含量未超出百分比含量基準值。
備考 3.〝－〞係指該項限用物質為排除項目