AntMiner S9
Installation Guide

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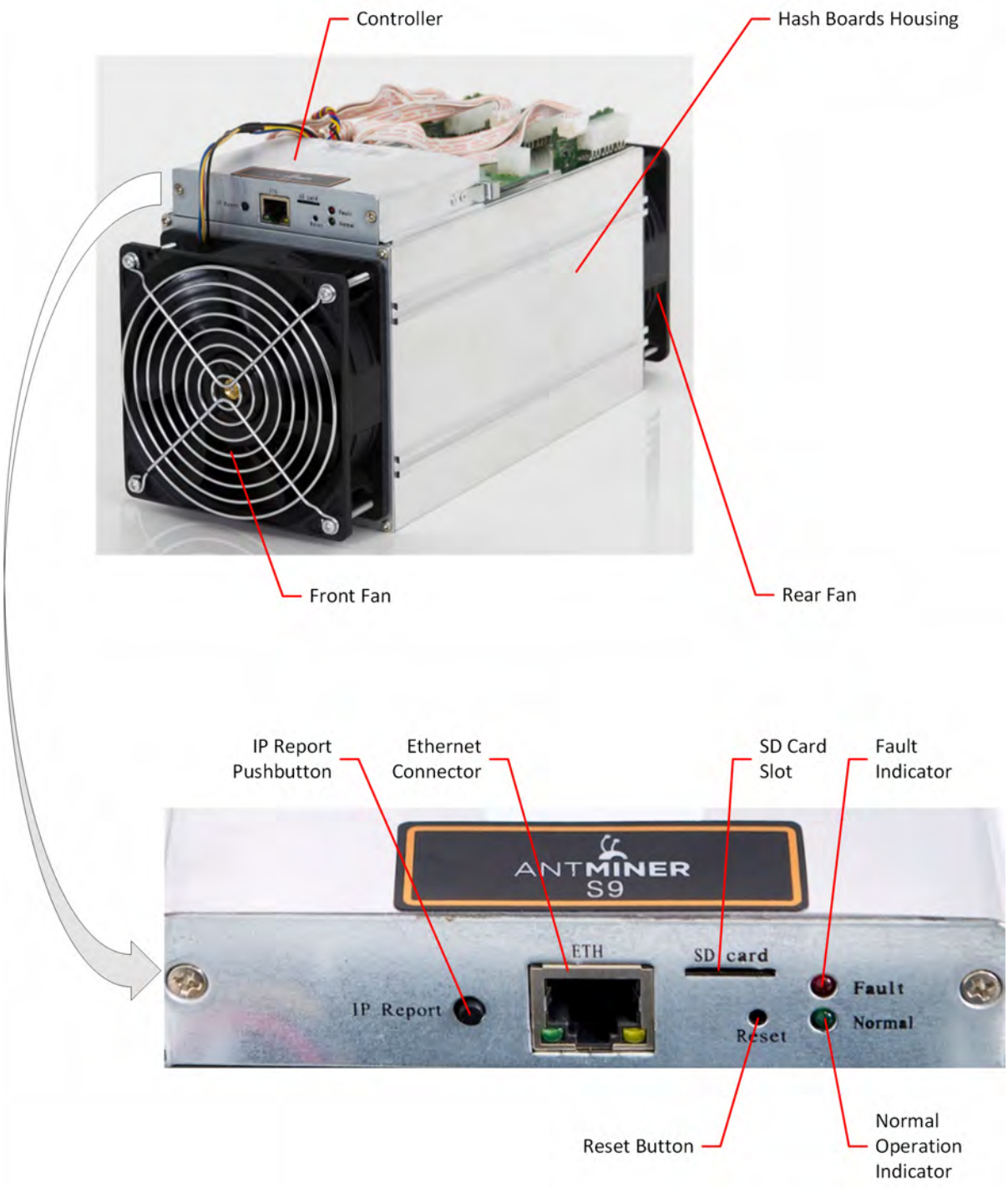
1. Overview

The AntMiner S9 is Bitmain's newest version in the AntMiner S9 series. It boasts a state-of-the-art BM1387 custom-made chip using 16nm technology. All AntMiner S9s are tested and configured prior to shipping to ensure easy set up.

You must provide your own ATX power supply.

1.1 AntMiner S9 Components

The AntMiner S9 main components and controller front panel are shown in the following figure:



1.2 Specifications

Feature	Description		
Ideal Hash Rate	11.85TH/s	12.93TH/s	14.00TH/s
Default chip frequency	550MHz	600MHz	650MHz
Estimated wall outlet power consumption (with APW3, 93% efficiency, 25°C ambient temperature)	1172W+12%	1275W+7%	1375W+7%
Rated voltage	11.6 - 13.00V		
Estimated wall outlet power efficiency (with APW3, 93% efficiency, 25°C ambient temperature)	0.098J/GH + 7%		
Dimensions (L x W x H)	350mm x 135mm x 158mm		
Net weight	4.2kg		
Operating ambient temperature	0 - 40°C		

The miner does not contain a DC/DC converter; therefore, higher input voltage will cause higher mining efficiency.

2. Connecting the Power Supply

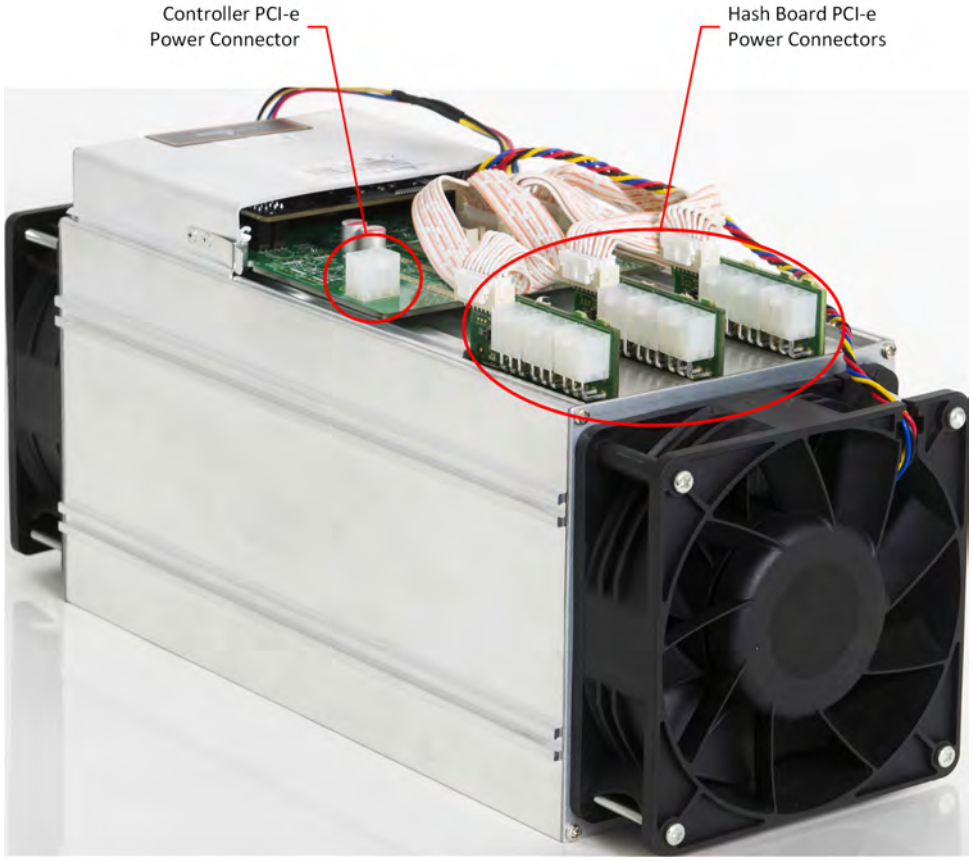
Ten PCI-e connectors are located at the top of the AntMiner S9 for connecting the PSU as follows:

- Nine PCI-e connectors for the hash boards. Each hash board has a set of three PCI-e connectors.
- One PCI-e connector located on the controller.

> Each hash board must be powered by the same PSU to prevent possible damage and instability.

To connect the power supply:

1. Connect PSU power cable connectors to each of the nine PCI-e connectors on the top of the AntMiner S9, ensuring that each hash board is powered by the same PSU.



2. Connect a PSU power cable connector to the AntMiner S9 PCI-e connector on the controller.
3. Connect the network cable to the ETH port.
4. To power up your AntMiner S9, connect the PSUs to the power wall outlet.

> If you are using more than one PSU, power up the PSU connected to the controller AFTER you have powered up the other PSU(s).

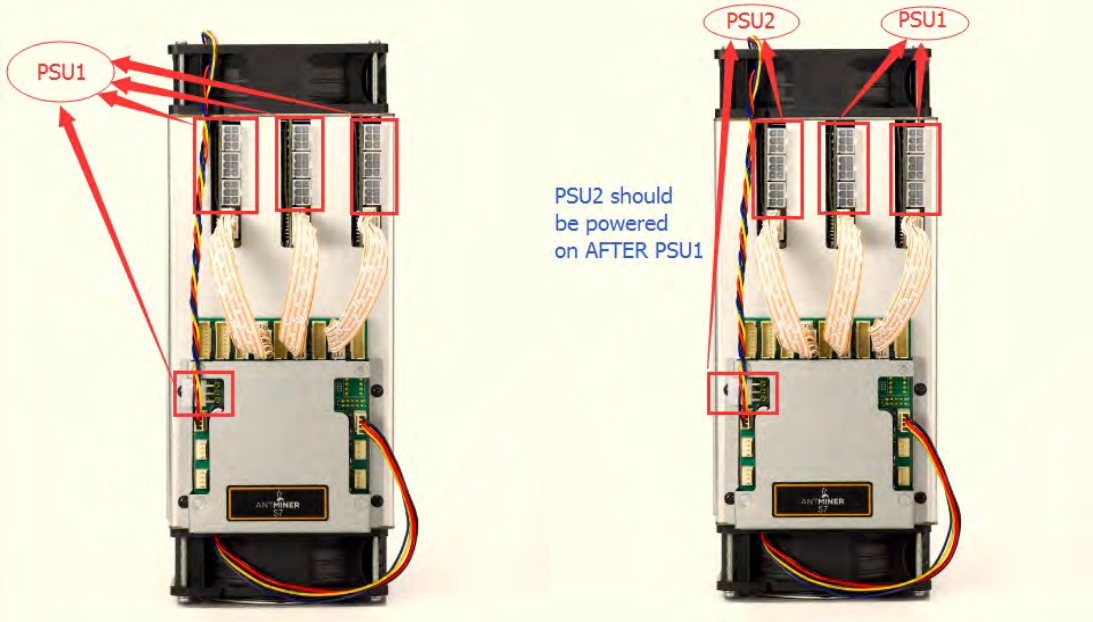


Figure 2-1. PCI-E Connectors - Correct Connection

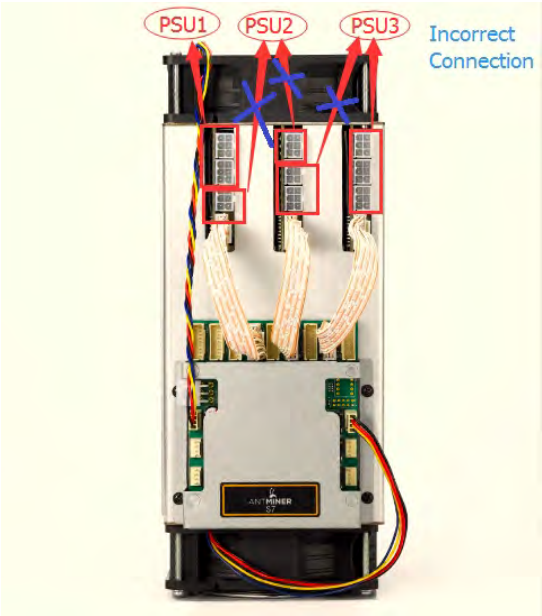


Figure 2-2. PCI-E Connectors - Incorrect Connection

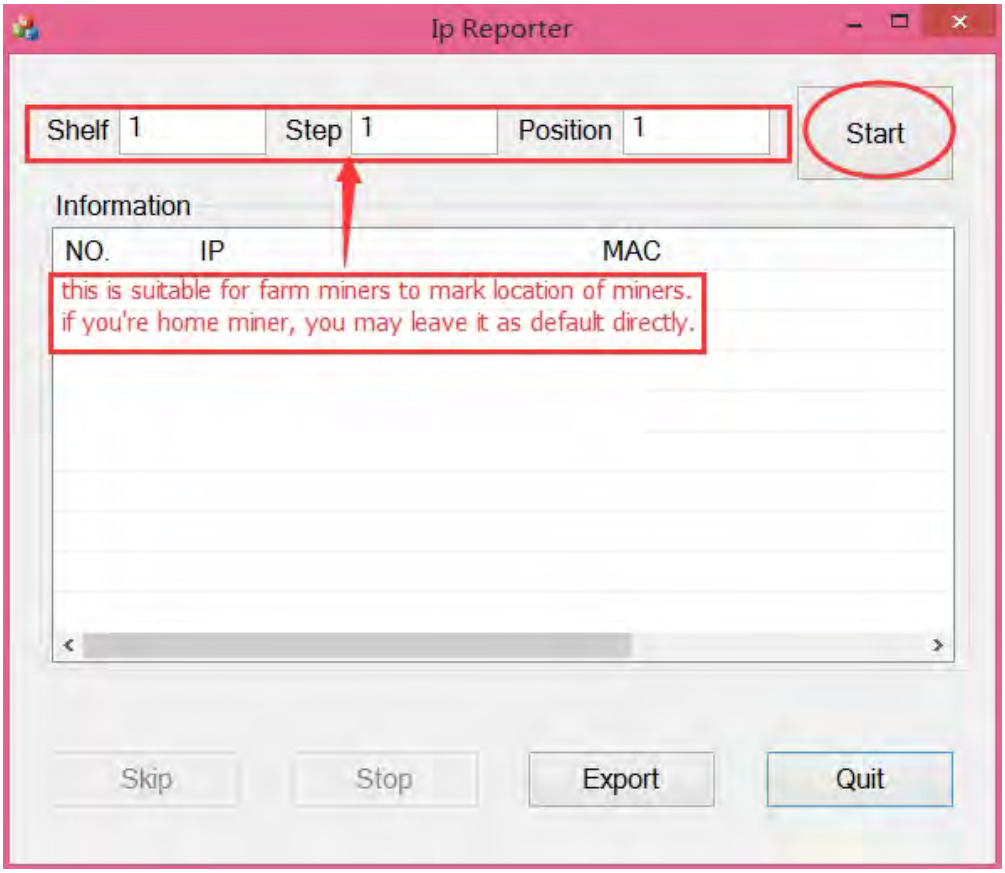
3. Setting Up the Miner

To set up the miner:

The file IPReporter zip is supported by Microsoft Windows only.

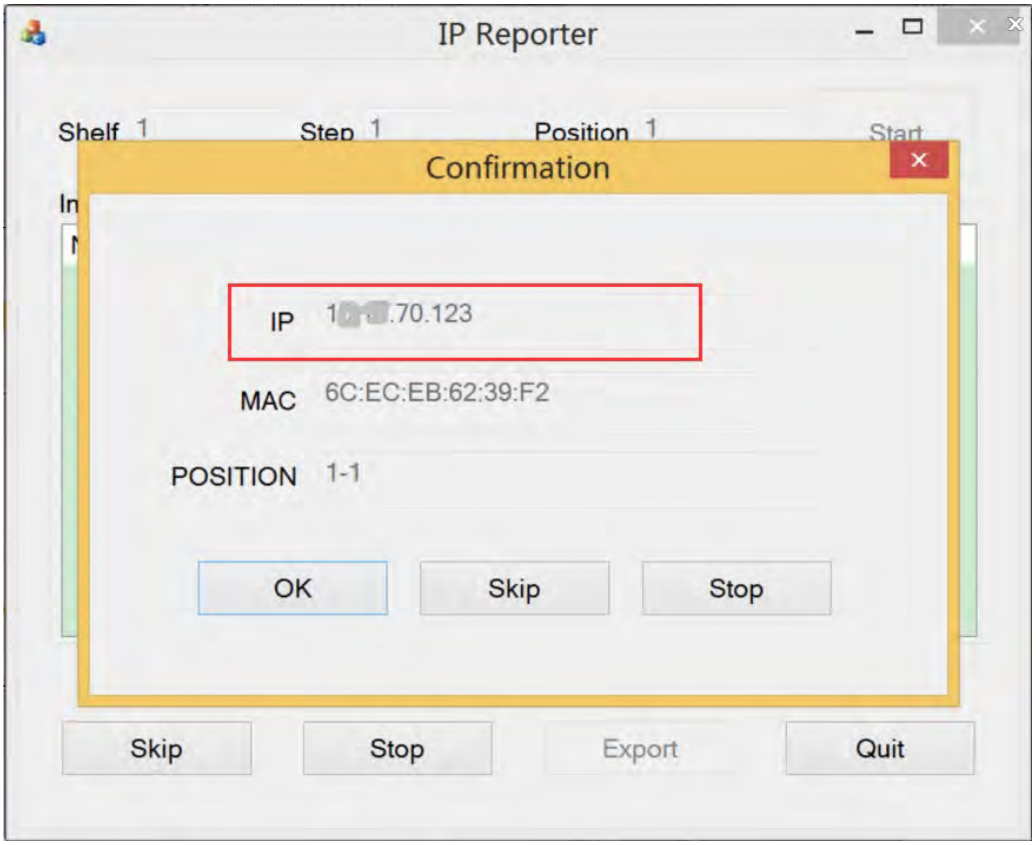
The default DHCP network protocol distributes IP addresses automatically.

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

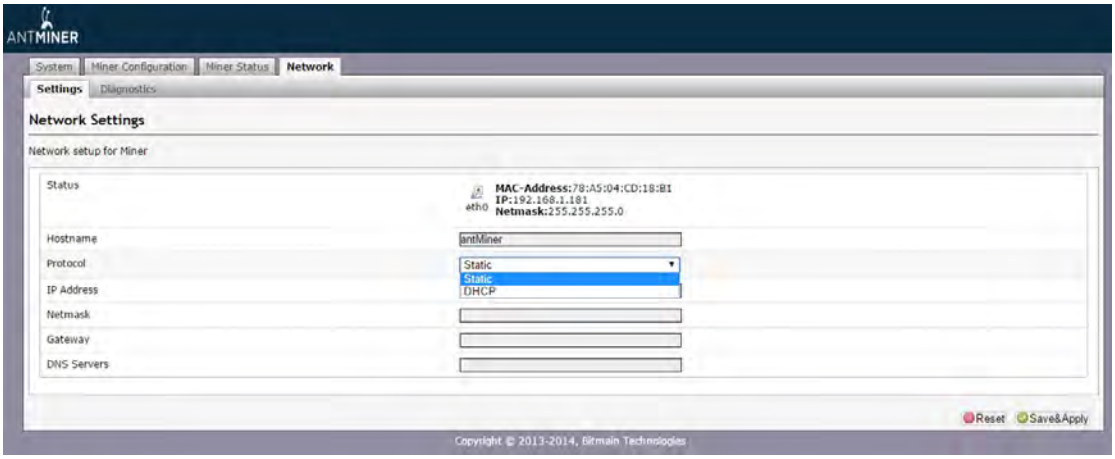


7. On the controller board, click the IP Report button. Hold it down until it beeps (about 5 seconds).

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 Static IP address (optional).
11. Click **Save & Apply**.



4. Configuring the Miner

4.1 Setting Up the Pool

To configure the miner:

1. In Miner Configuration, click **General Settings**.
2. Set the options according to the following table:

Option	Description
Pool URL	Enter the URL of your desired pool. The AntMiner S9 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. Select **Stop running when temperature is over 80°C (optional)** to stop mining when the PCB temperature exceeds 80°C.

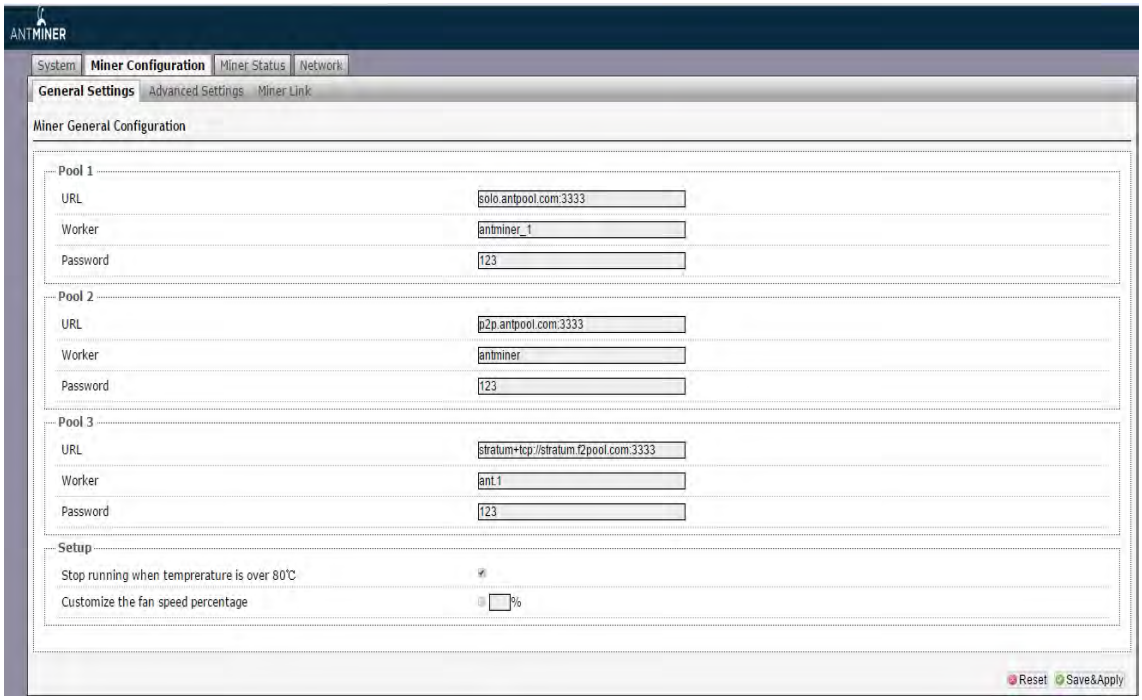
This option is recommended to protect the miner from damage. If you do not select this option, the miner will continue to work at temperatures exceeding 80°C .

4. Select **Customize the fan speed percentage** to manually control the fan speed.

The fan speed must be set above 60% to keep the PCB temperature below 80°C, and chip temperature below 115°C.

If you do not select this option, the fan speed will be determined by the temperature of the hash boards.

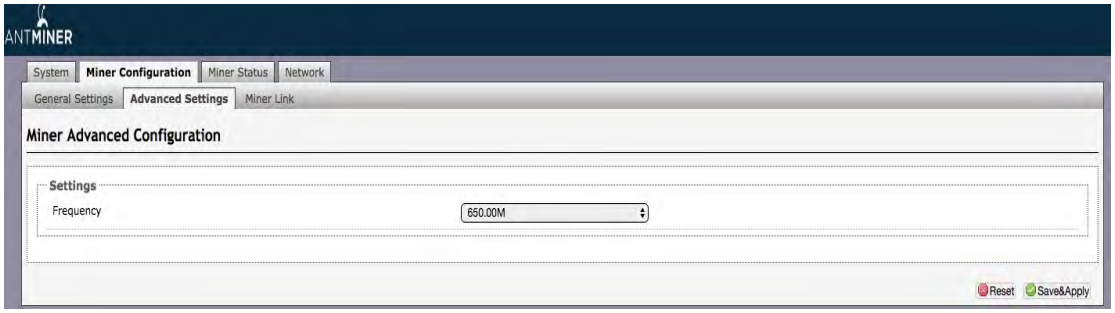
5. Click **Save & Apply** to save and restart the miner.



4.2 Modifying the Frequency

To modify the frequency value:

1. In **Miner Configuration**, click **Advanced Settings**.
2. Select a frequency. The default frequency for the AntMiner S9 is:
   - 11.85TH/s: 550MHz (550M)
   - 12.93TH/s: 600MHz (600M).
   - 14.00TH/s: 650MHz (650M).

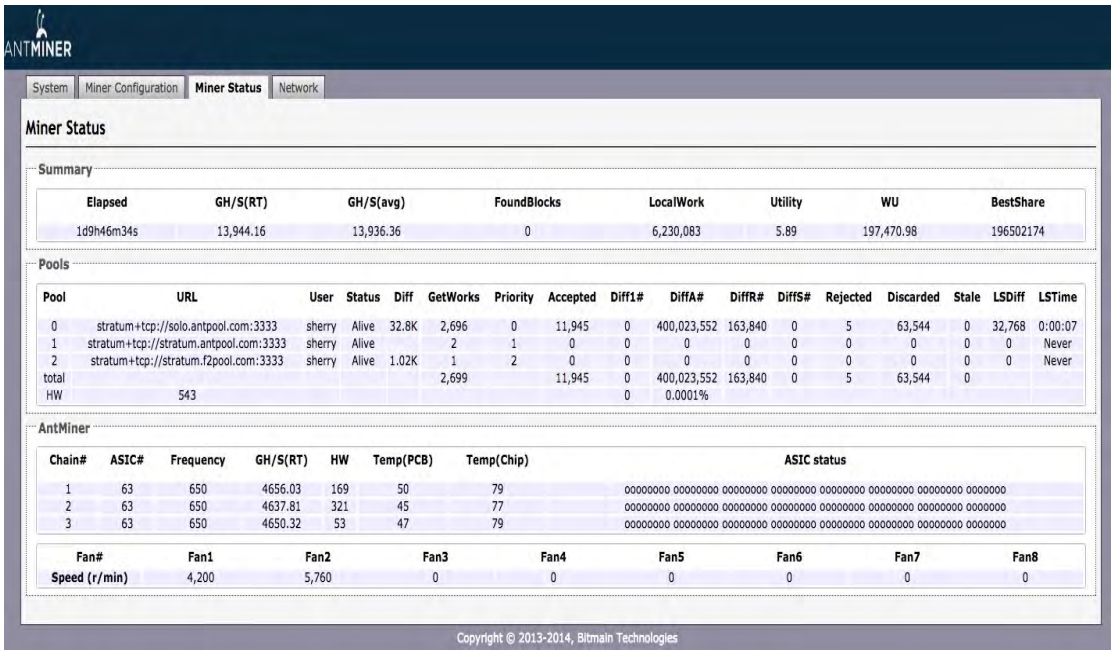


5. Monitoring Your Miner

To check the operating status of your miner:

1. Click **Miner Status**.
2. Under AntMiner, monitor your miner 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).
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

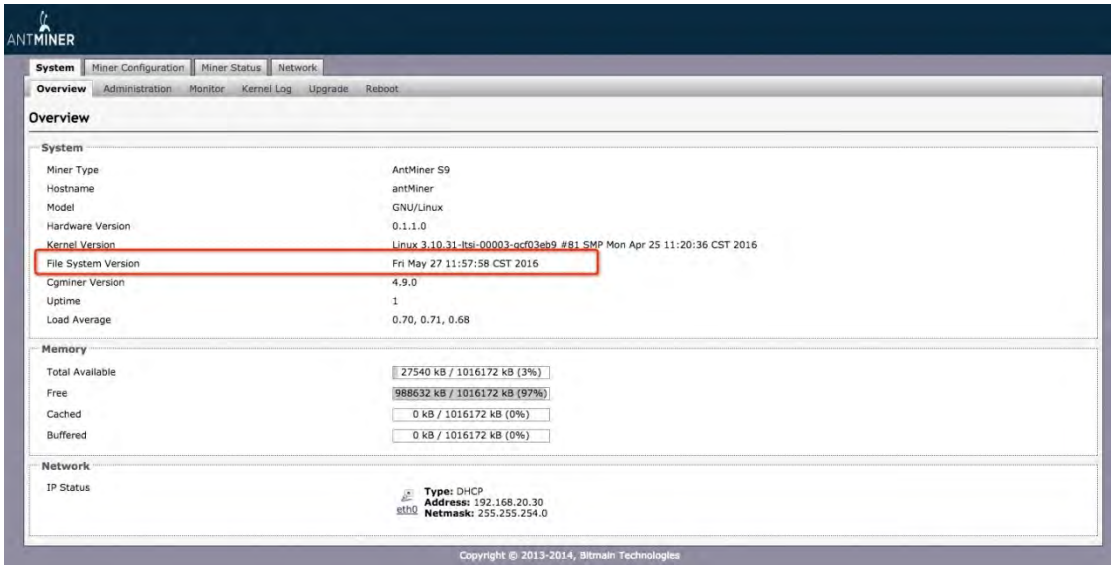


6. Administering Your Miner

6.1 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 miner use. In the example below, the miner is using firmware version 20160527.



6.2 Upgrading Your System

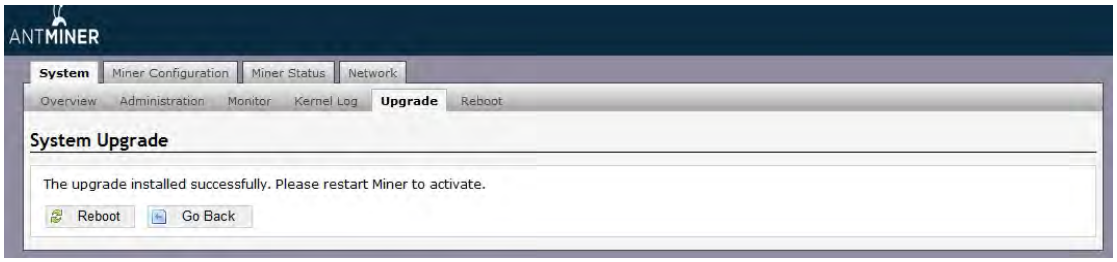
> Make sure that the AntMiner S9 remains powered during the upgrade process. If power fails before the upgrade is completed, you will need to return it to Bitmain for repair.

To upgrade the miner'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 miner 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 AntMiner S9 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 miner with the new firmware.
   - **Go Back** - to continue mining with the current firmware. The miner will load the new firmware next time it is restarted.

6.3 Modifying Your Password

To change your login password:

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

6.4 Restoring Initial Settings

To restore your initial settings

1. Turn on the miner and let it run for 5 minutes.
2. On the controller front panel, press and hold the **Reset** button for 10 seconds.

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