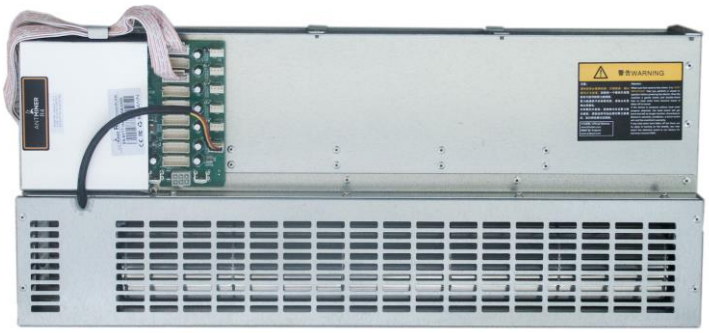
BITMAIN

R4 Server Manual

Contents

1 Overview

The R4 server with 8.6th/s is Bitmin's newest iteration. The R4 server uses the fully custom made, state of the art BM1387 chip powered by ultra-low power 16nm technology. The R4 is tested and configured prior to shipping to make your setup as easy and seamless as possible.



Please note:

1. **You must prepare your own ATX Power Supply**

2 Features

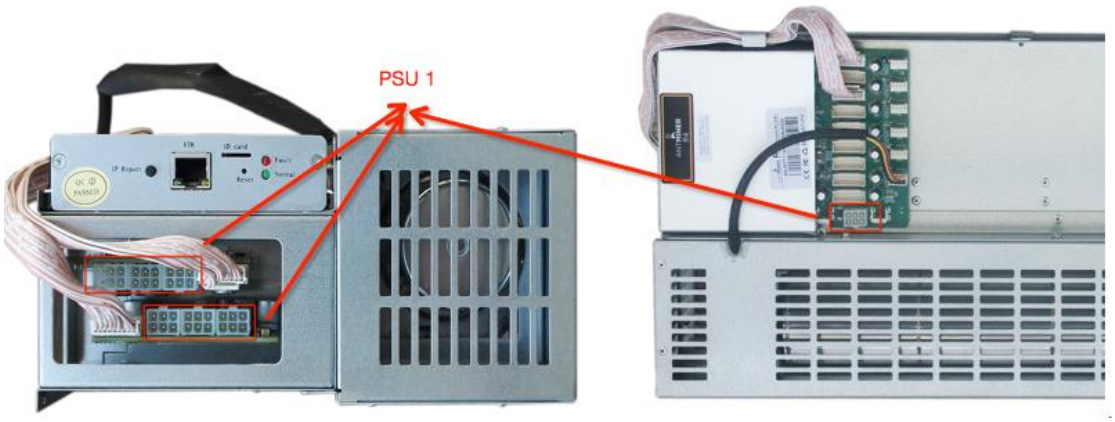
Ideal Hash Rate (GH/s)	8.6TH/S ±5%
Default chip clock (M)	600
Input Voltage (V)	11.6~13.00
Estimate power on wall (W) - assume with APW3, 93% efficiency, 25℃ ambient temp	845W + 9%
Estimate efficiency on wall (J/GH)	0.1J/GH + 9%
Dimensions (mm)	515*100*222
Net Weight (kg)	5
Operating ambient temperature (°C)	0 ~ 40
Noise	52dB@ambient temperature of 35℃
Networking connection mode	Ethernet cable

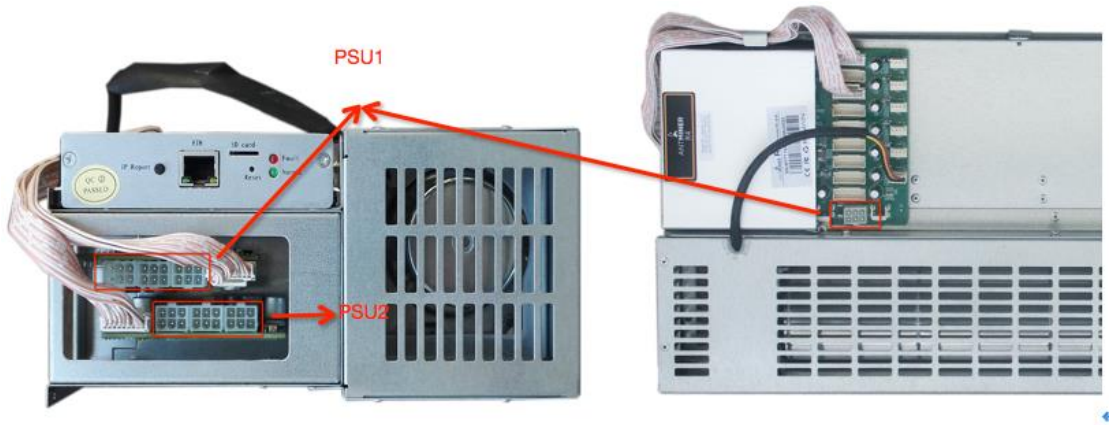
Notes: All the 3 PCIE connectors are required on each hash board and there is no DC/DC inside the server. Higher input voltage will cause higher mining efficiency.

3 Power Supply

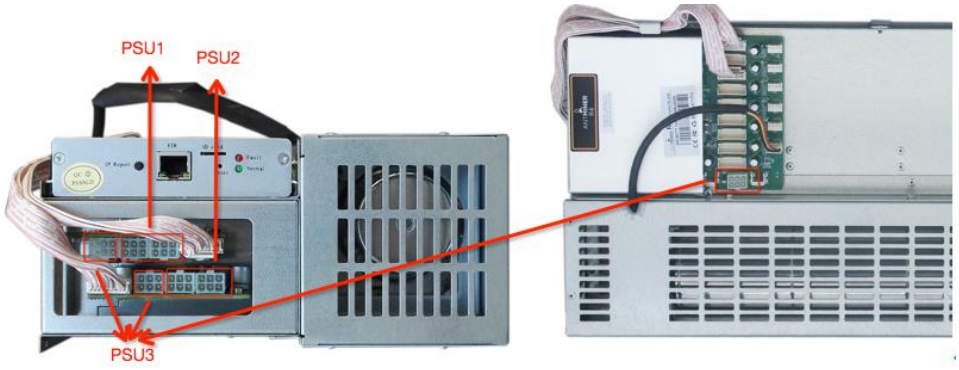
Each R4 Server has 6 PCI-e connectors for +12V/15A DC **STABLE** input on hash boards and 1 PCI-e connector on the controller, **all the 7 PCI-e connectors are required**. **Do not connect more than one PSU to the same hash board to prevent possible damage and instability. After connecting all the hash boards and the controller to PSU and the wire cable to the ETHERNET port, you can start the server.** See the screen shot below for the CORRECT and INCORRECT connection of the PCI-E connectors:

Correct connection:





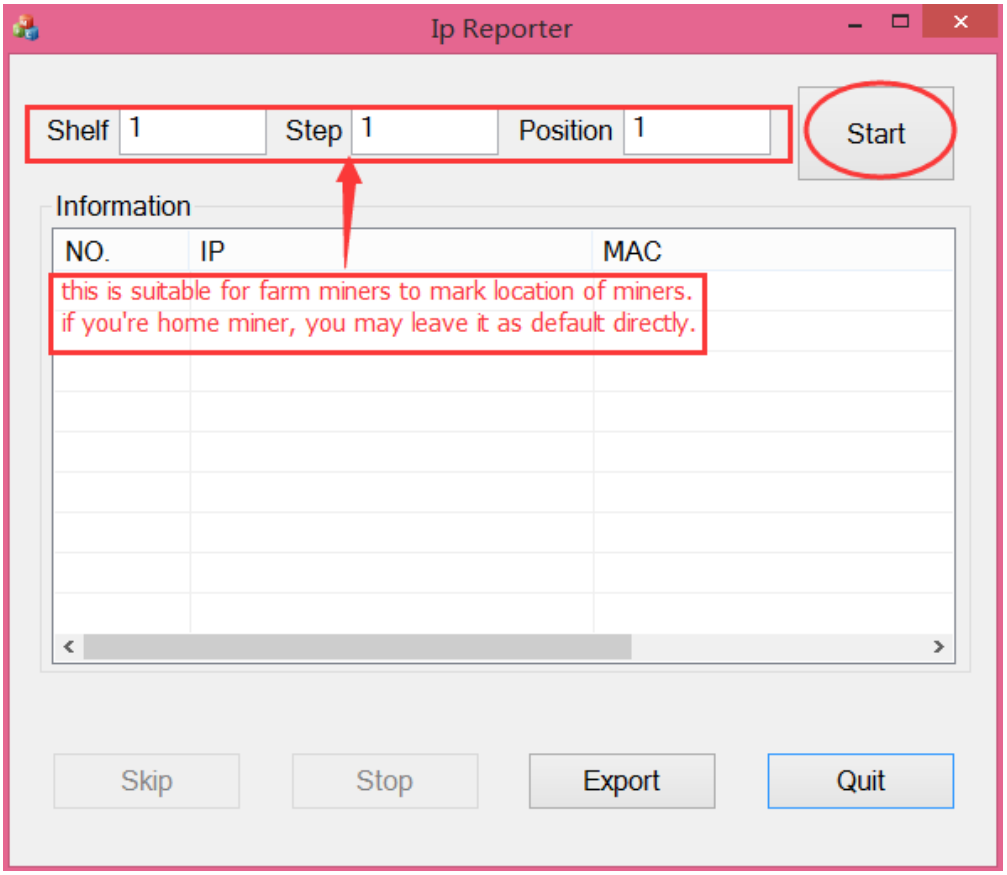
Incorrect connection:



4 Connect to Server

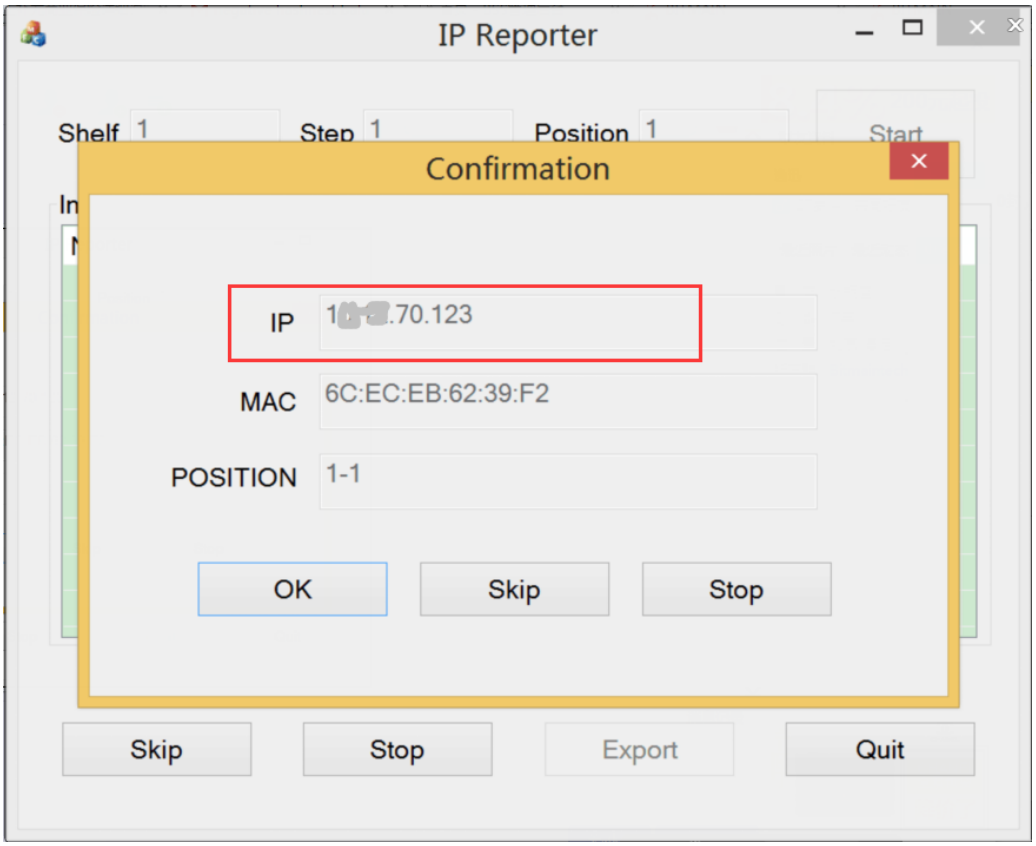
Step 1. The default DHCP network protocol distributes IP addresses automatically. Please download IPReporter.zip (only supported by Windows) , then please follow the below steps to find out the IP of the server.

1. Extract the file and double click 'IPReporter.exe'.
   The 'Shelf, Step, Position' options are suitable for farm servers to mark the location of the servers. For home servers, it can be left as default.
   Then click 'Start'.



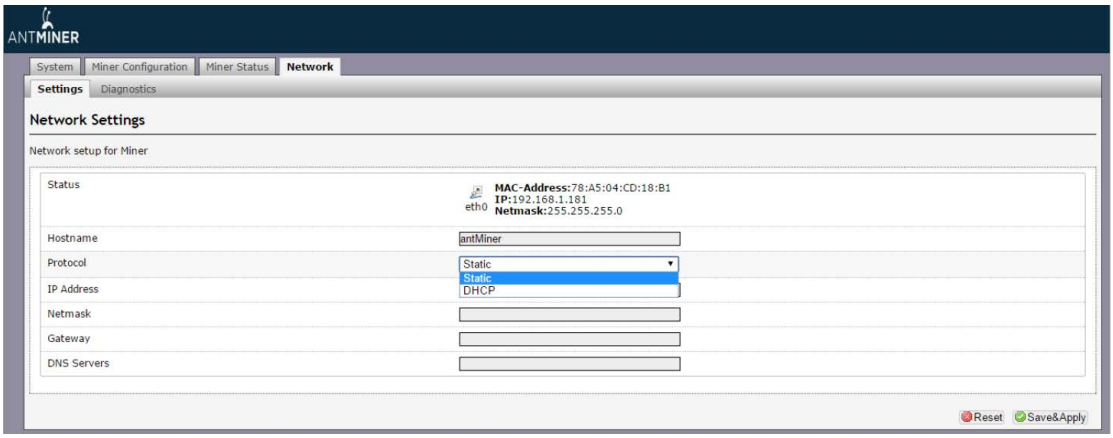
2. Press the IP Reporter button on the controller board for about 5 seconds and you'll hear a beep sound:

3. Check your PC, you'll see the IP address showing in the pop-up window.



Step 2. Enter the IP address provided into your WEB browser and proceed to login using 'root' for both the username and password.

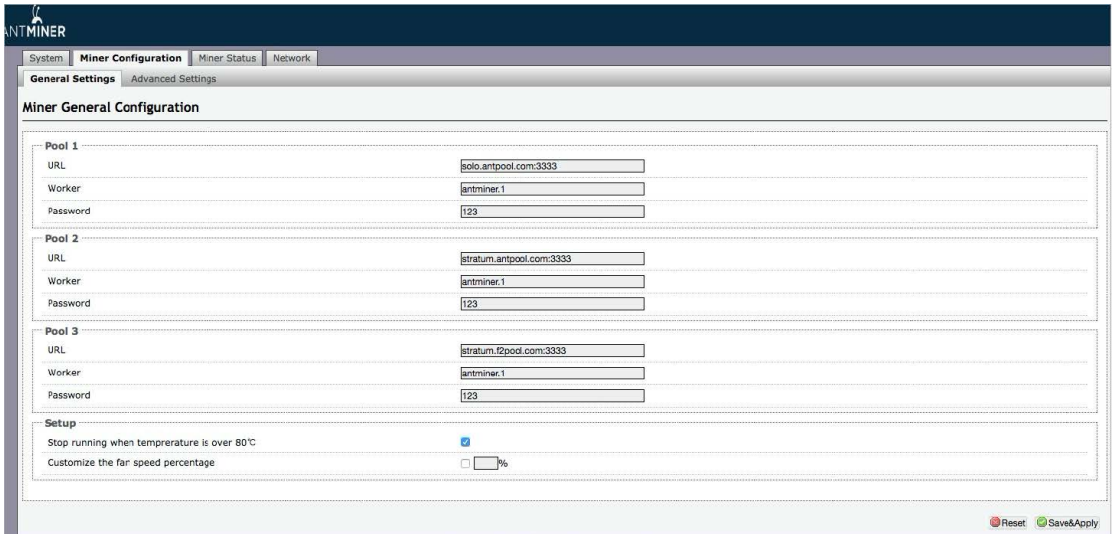
In the 'Network' section, you can assign a 'Static' IP address if you like. Click 'Save & Apply' after modifying it.



5 Server Configuration

5.1 General Settings

You can configure your server through ‘ Configuration->General Settings’.
Pool URL- Enter the URL of your desired pool in this column.
Worker- This is your worker ID on the selected pool.
Password- This is the password for your selected worker.
Comment:
5.1.1 The R4 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 have gone offline.**
5.1.2 When ‘Stop running when temperature is over 80℃’ is checked, the server will stop mining when the temperature(PCB) exceeds 90℃ to protect the server. If it is unchecked, the server will still mine even at high temperatures. Note that while the interface says 80℃ the PCB temperature will actually go to 90℃ before the machine stops mining.
5.1.3 When “Customize the fan speed percentage” is checked, the fan speed can be controlled by the user. If it is unchecked, the fan speed will depend on the temperature of the hash boards.
Click ‘Save & Apply’ to save and restart server.
Kindly reminder: Please set the fan speed above 80% to keep the temp(PCB) below 90 degrees and the temp(chip) below 115 degrees.



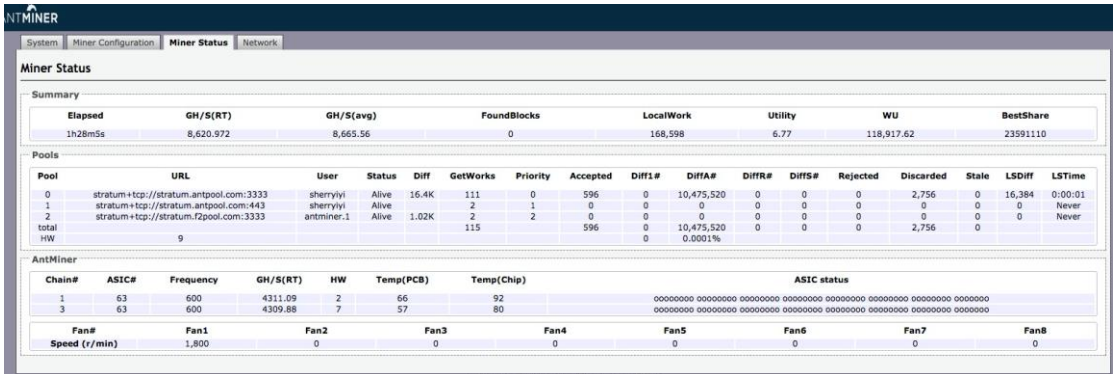
5.2 Frequency Modification

You are able to modify the frequency value through ‘ Configuration->Advanced Settings’. The default frequency for the R4 server is 600M.

6 Server Status

You can check the operating status of your server on the page below.

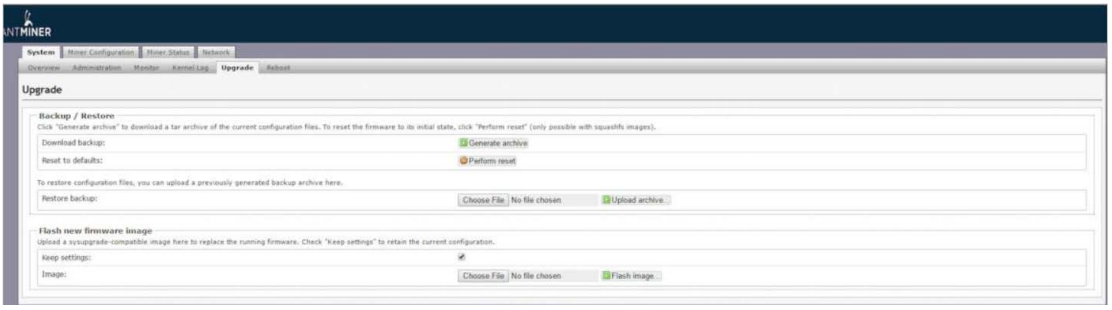
ASIC#: Number of chips detected in the chain
Frequency: ASIC frequency setting
GH/S(RT): Hash rate of each hash board
Temp(PCB): Temperature of the hash board, centigrade
Temp(Chip): Temperature of the chips on the hash board, centigrade
ASIC status: ‘o’ denotes OK, ‘x’ denotes error ‘-‘ denotes dead.



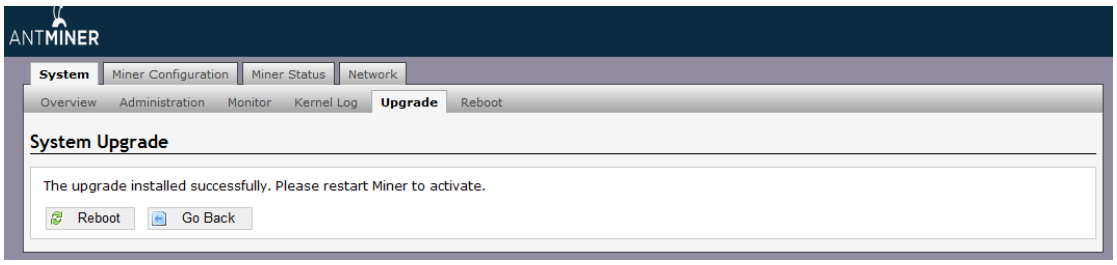
7 System Configuration and status

7.1 System Upgrading

You can upgrade the server's firmware on the 'System > Upgrade' page.



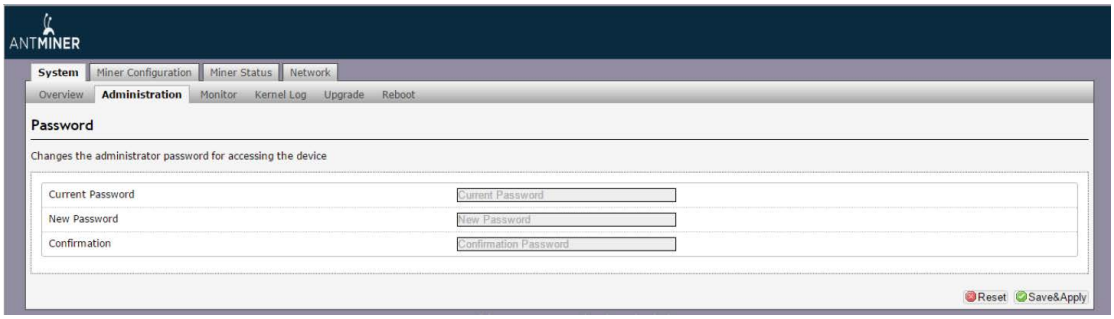
'Keep setting' is chosen by default and should be enabled if you want to keep your current settings. You should deselect this option if you are trying to return the server to default settings. Click 'Browse' button to choose upgrade file. Select the upgrade and click the 'Flash image' button. The interface will display if the firmware can be upgraded and download the software. During the upgrade process, you need to **wait patiently, and must keep power on, otherwise, the server can only be fixed with returned to factory.** You will see below screenshot after upgrading successfully.



Clicking the 'Reboot' button will restart the server so it can load the new software. Clicking 'Go Back' will keep the server mining before switching to the new software when it is restarted next time or power cycled.

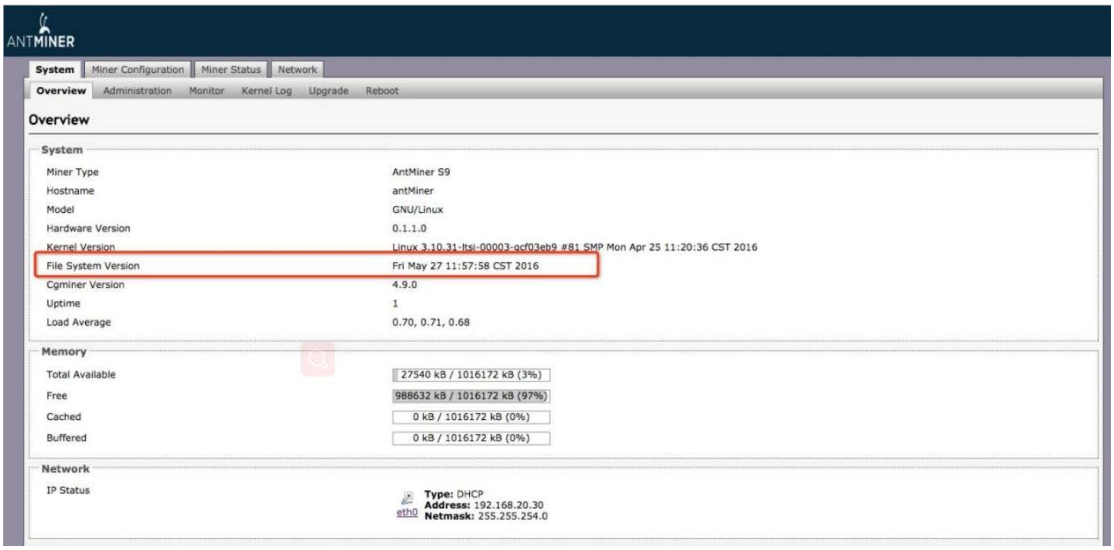
7.2 Password Modification

The server login password can be changed on the 'System->Administration' page. Once modified, press 'Save and Apply' to save the new password.



7.3 Software Version

You can check which version of the software you are currently running on the 'System > Overview' page. 'File System version' displays the date of the firmware your server use. In the example below, the server is using 20160527 firmware.



7.4 Restore Initial Setting

There is a 'Reset' button on the right hand side of the ETH port, next to the green and red LED light. Power on server and let it run for 5 minutes, then press and hold the reset button for 10 seconds in order to restore to the default settings and reboot. The red LED will flash once every 15 seconds automatically if the reset is operated successfully.

Regulation:

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：　　，型號：

單元	有害物质					
	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