



# L3+ Server Installation Guide

**Document Version 0.1**

**April 2017**

© Copyright Bitmaintech Pte.Ltd. 2007– 2017. All rights reserved.

Bitmaintech Pte.Ltd. (Bitmain) reserves the right to make corrections, modifications, enhancements, improvements, and other changes to its products and services at any time and to discontinue any product or service without notice.

Customers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All products are sold subject to Bitmain's terms and conditions of sale supplied at the time of order acknowledgment.

Bitmain warrants performance of its products to the specifications applicable at the time of sale in accordance with Bitmain's standard warranty. Testing and other quality control techniques are used to the extent Bitmain

deems necessary to support this warranty. Except where mandated by government requirements, testing of all parameters of each product is not necessarily performed.

Bitmain assumes no liability for third-party applications assistance. Customers are responsible for their products and applications using Bitmain components. To minimize the risks associated with customer products and applications, customers should provide adequate design and operating safeguards.

Bitmain does not warrant or represent that any license, either express or implied, is granted under any Bitmain patent right, copyright or other Bitmain intellectual property right relating to any combination, machine, or process in which Bitmain products or services are used. Information published by Bitmain regarding third-party products or services does not constitute a license from Bitmain to use such products or services or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from Bitmain under the patents or other intellectual property of Bitmain.

Resale of Bitmain products or services with statements different from or beyond the parameters stated by Bitmain for that product or service voids all express and any implied warranties for the associated Bitmain product or service and is an unfair and deceptive business practice. Bitmain is not responsible or liable for any such statements.

All company and brand products and service names are trademarks or registered trademarks of their respective holders.

All text and figures included in this publication are the exclusive property of Bitmain Pte.Ltd. (Bitmain), and may not be copied, reproduced, or used in any way without the express written permission of Bitmain. Information in this document is subject to change without notice and does not represent a commitment on the part of Bitmain. Although the information in this document has been carefully reviewed, Bitmain does not warrant it to be free of errors or omissions. Bitmain reserves the right to make corrections, updates, revisions or changes to the information in this document.

Bitmain Pte. Ltd.

Tel: +86-400-890-8855

[www.bitmain.com](http://www.bitmain.com)

## Table of Contents

---

<b>1.Overview</b>	4
1.1 L3+ Server Components	5
1.2 Specifications	6
<b>2.Connecting the Power Supply</b>	7
<b>3.Setting Up the Server</b>	9
<b>4.Configuring the Server</b>	11
4.1 Setting Up the Pool	11
4.2 Modifying the Frequency	12
<b>5.Monitoring Your Server</b>	13
<b>6.Administering Your Server</b>	14
6.1 Checking Your Firmware Version	14
6.2 Upgrading Your System	14
6.3 Modifying Your Pass word	15
6.4 Restoring Initial Settings	15

## 1. Overview

The L3+ server is Bitmain's newest version in the L3+ server series. It boasts a state-of-the-art BM1485 custom-made chip. All L3+ servers are tested and configured prior to shipping to ensure easy set up.



Power supply unit is **not included**. Please provide your own ATX power supply.

## 1.1 L3+ Server Components

The L3+ server main components and controller front panel are shown in the following figure:



## 1.2 Specification

Feature	Description
Ideal Hash Rate	504MH/S
Default chip frequency	384M
Estimated wall outlet power consumption (with APW3, 93% efficiency, 25°C ambient temperature)	800W +10%
Rated voltage	11.6 - 13.00V
Estimated wall outlet power efficiency (with APW3, 93% efficiency, 25°C ambient temperature)	1.6J/MH +10%
Dimensions (L x W x H)	352mm (l) x 130mm (w) x 187.5mm (h)
Net weight	5.2kg
Operating ambient temperature	0 - 40°C



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

## 2. Connecting the Power Supply

Nine PCI-e connectors are located at the top of the L3+ server for connecting the PSU as follows:

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



Each hashboard must be powered by the same PSU on both connectors to prevent possible damage and instability.

### To connect the power supply:

1. Connect PSU power cable connectors to each of the eight PCI-e connectors on the top of the L3+ server, ensuring that each hash board is powered by the same PSU.
2. Connect a PSU power cable connector to the L3+ server PCI-e connector on the controller.
3. Connect the network cable to the ETH port.
4. To power up your L3+ server, 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).

## 2. Connecting the Power Supply

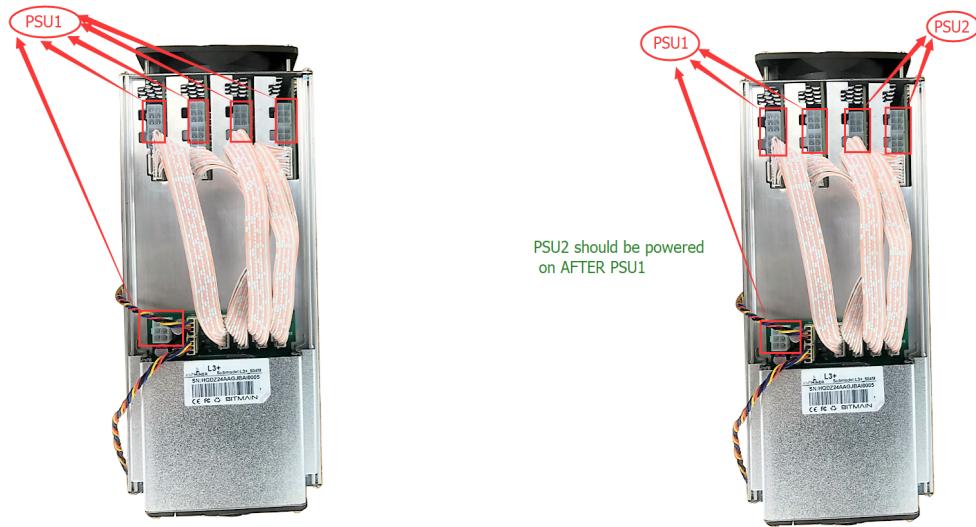


Figure 2-1. PCI-E Connectors - Correct Connection



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

### 3. Setting Up the Server

To set up the server:



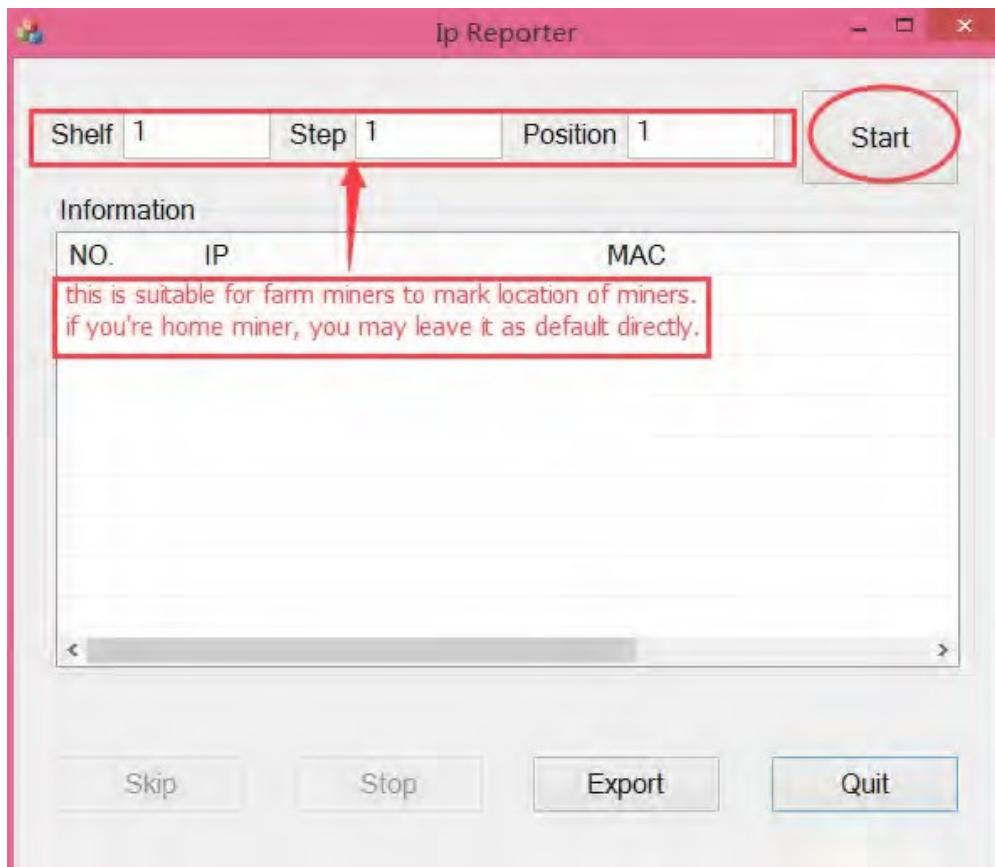
The file IPReporter.zip is supported by Microsoft Windows only.

1. Go to the following site:  
<https://cnshop.bitmain.com/support.htm?pid=007201512210613294744rqn82k7068A>
2. Download the following file: IPReporter.zip
3. Extract the file.3.



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**.

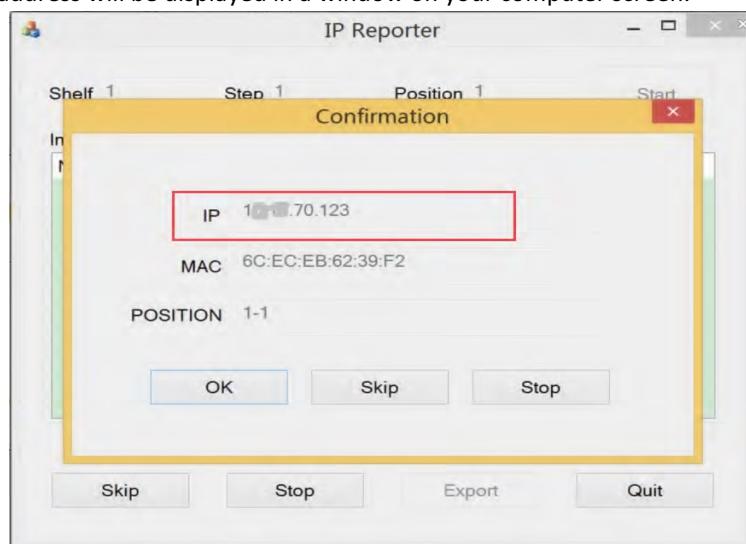


### 3. Setting Up the Server

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

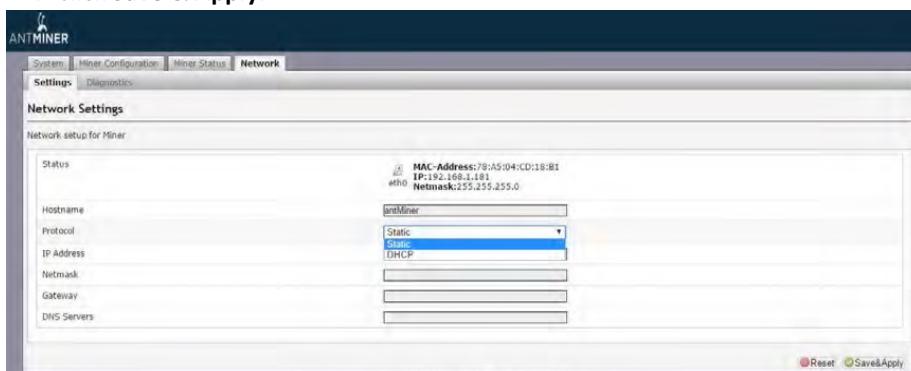


The IP address will be displayed in a window on your computer screen.



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 Static IP address (optional).

11. Click **Save & Apply**.



## 4. Configuring the Server

### 4. Configuring the Server

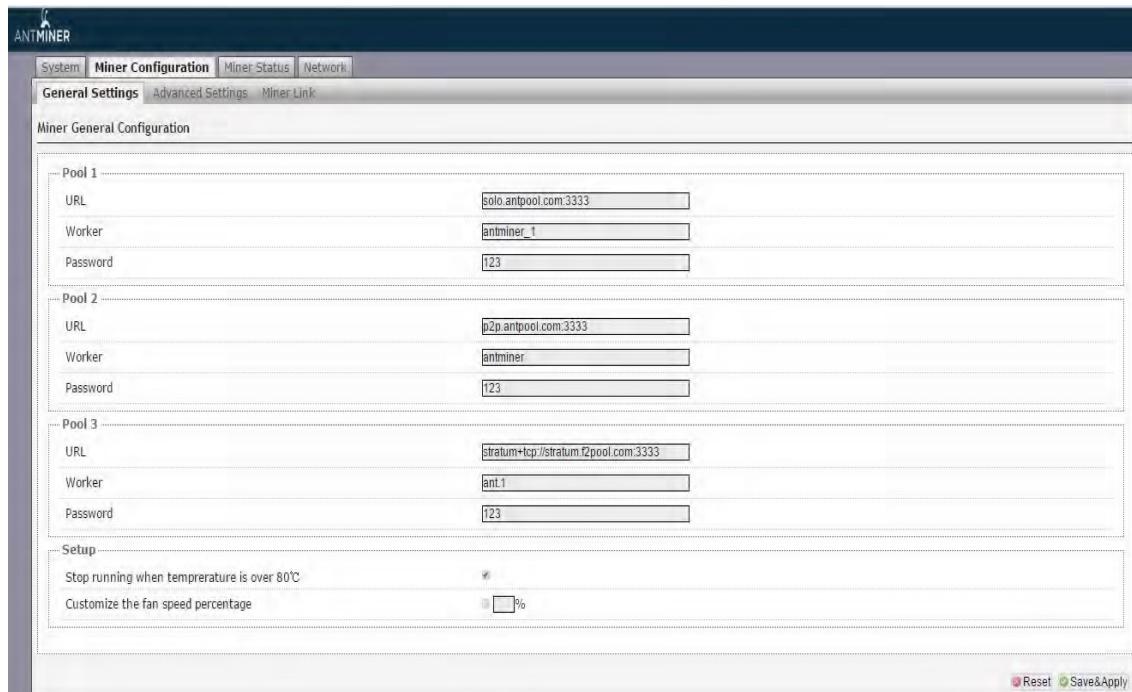
#### 4.1 Setting Up the Pool

**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. <div style="border: 1px solid #ccc; padding: 10px; margin-top: 10px;"> <p>The L3+ 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. </p> </div>
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.



The screenshot shows the Miner Configuration interface with the General Settings tab selected. It displays configuration for three mining pools (Pool 1, Pool 2, Pool 3) under the Miner General Configuration section. Each pool has fields for URL, Worker, and Password. In the Setup section, there are checkboxes for 'Stop running when temperature is over 80°C' and 'Customize the fan speed percentage'.

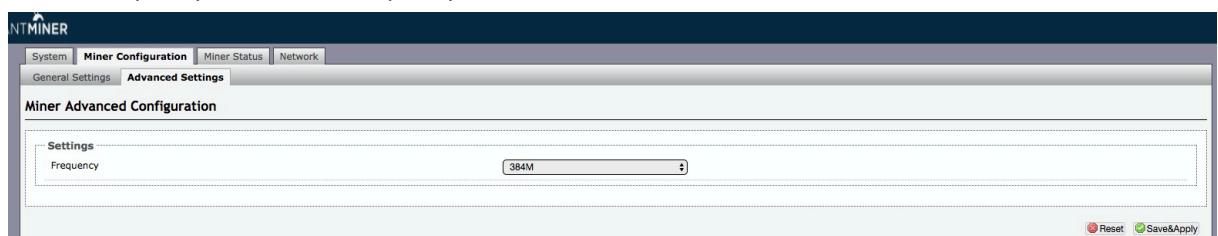
Pool	URL	Worker	Password
Pool 1	solo.antpool.com:3333	antminer_1	123
Pool 2	p2p.antpool.com:3333	antminer	123
Pool 3	stratum+tcp://stratum2pool.com:3333	ant1	123

## 4. Configuring the Server

### 4.2 Modifying the Frequency (Applied only to fixed frequency firmware)

To modify the frequency value:

1. click **Advanced Settings**
2. Select a frequency. The default frequency for the L3+ server is 384M



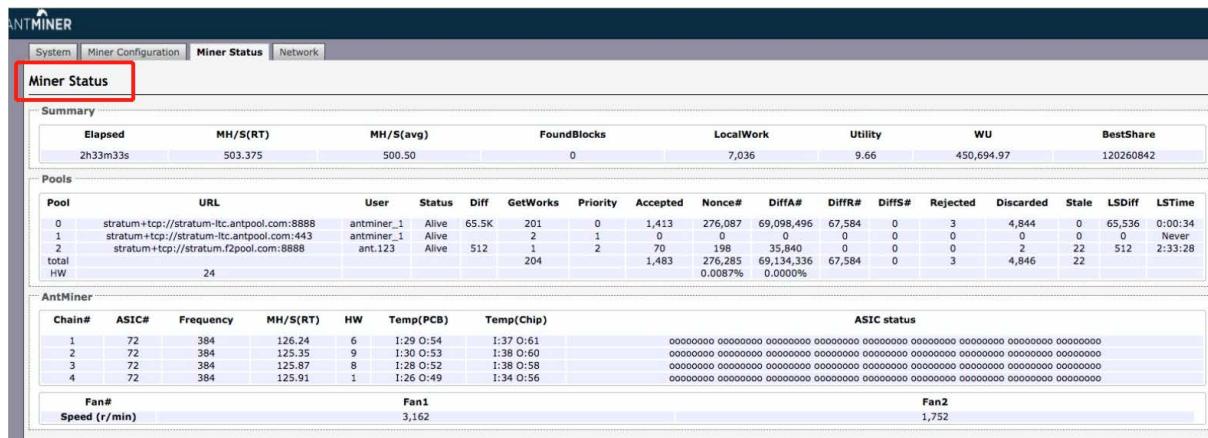
## 5. Monitoring Your Server

### 5. Monitoring Your Server

To check the operating status of your server:

1. Click the status marked below.
2. Monitor your server according to the descriptions in the following

Option	Description
ASIC#	Number of chips detected in the chain.
Frequency	ASIC frequency setting.
GH/S(RT)	Hash rate of each hash board ( MH/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: <ul style="list-style-type: none"> <li>● <b>O</b> - indicates OK</li> <li>● <b>X</b> - indicates error</li> <li>● <b>-</b> - indicates dead</li> </ul>



Elapsed	MH/S(RT)	MH/S(avg)	FoundBlocks	LocalWork	Utility	WU	BestShare
2h33m33s	503.375	500.50	0	7,036	9.66	450,694.97	120260842

Pool	URL	User	Status	Diff	GetWorks	Priority	Accepted	Nonce#	DiffA#	DiffR#	DiffS#	Rejected	Discarded	Stale	LSDiff	LSTime
0	stratum+tcp://stratum-ltc.antpool.com:8888	antminer_1	Alive	65.5K	201	0	1,413	276,087	69,098,496	67,584	0	3	4,844	0	65,536	0:00:34
1	stratum+tcp://stratum-ltc.antpool.com:443	antminer_1	Alive	512	1	2	0	198	35,840	0	0	0	0	0	0	Never
2	stratum+tcp://stratum.f2pool.com:8888	ant.123	Alive	512	1	2	70	198	35,840	0	0	0	2	22	512	2:33:28
total							1,483	276,285	69,134,336	67,584	0	3	4,846	22		
HW					24			0.0087%	0.0000%							

Chain#	ASIC#	Frequency	MH/S(RT)	HW	Temp(PCB)	Temp(Chip)	ASIC status
1	72	384	126.24	6	1:29 O:54	1:37 O:61	00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
2	72	384	125.35	9	1:30 O:53	1:38 O:60	00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
3	72	384	125.87	8	1:28 O:52	1:38 O:58	00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
4	72	384	125.91	1	1:26 O:49	1:34 O:56	00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000

Fan#	Fan1	Fan2
Speed (r/min)	3,162	1,752

Note :The server will stop running when the PCB temperature is over 85°C

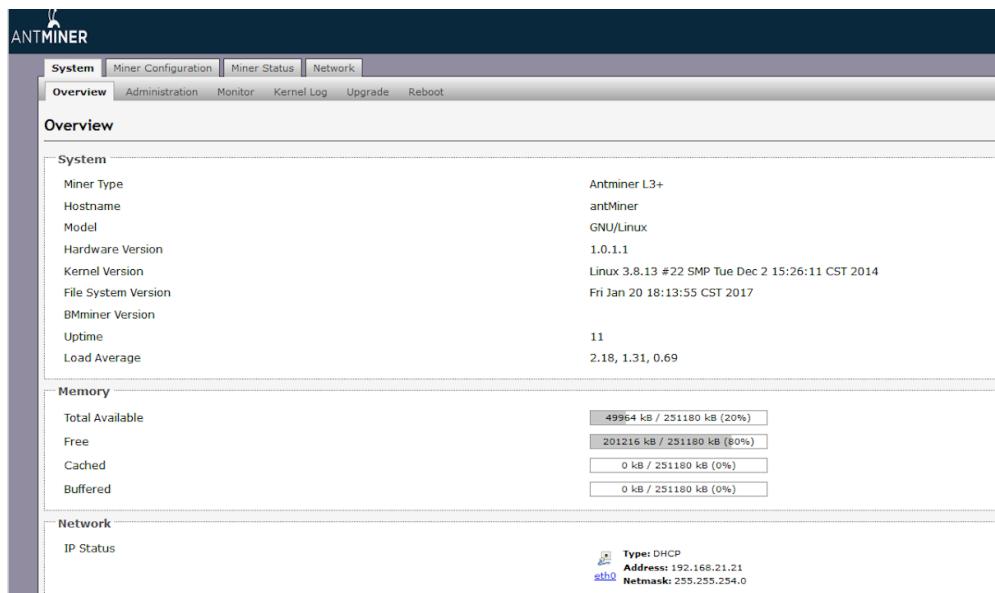
## 6. Administering Your Server

### 6. Administering Your Server

#### 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 server use. In the example below, the server is using firmware version 20170120.



System	
Miner Type	Antminer L3+
Hostname	antMiner
Model	GNU/Linux
Hardware Version	1.0.1.1
Kernel Version	Linux 3.8.13 #22 SMP Tue Dec 2 15:26:11 CST 2014
File System Version	Fri Jan 20 18:13:55 CST 2017
BMminer Version	
Uptime	11
Load Average	2.18, 1.31, 0.69

Memory	
Total Available	49964 kB / 251180 kB (20%)
Free	201216 kB / 251180 kB (80%)
Cached	0 kB / 251180 kB (0%)
Buffered	0 kB / 251180 kB (0%)

Network	
IP Status	<p>Type: DHCP            s0: Address: 192.168.21.21            Netmask: 255.255.254.0</p>

#### 6.2 Upgrading Your System



Make sure that the L3+ 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**.



**Backup / Restore**  
 Click "Generate archive" to download a tar archive of the current configuration files. To reset the firmware to its initial state, click "Perform reset" (only possible with squashfs images).

Download backup:

Reset to defaults:  Perform reset

To restore configuration files, you can upload a previously generated backup archive here.

Restore backup:

**Flash new firmware Image**  
 Upload a sysupgrade-compatible image here to replace the running firmware. Check "Keep settings" to retain the current configuration.

Keep settings:

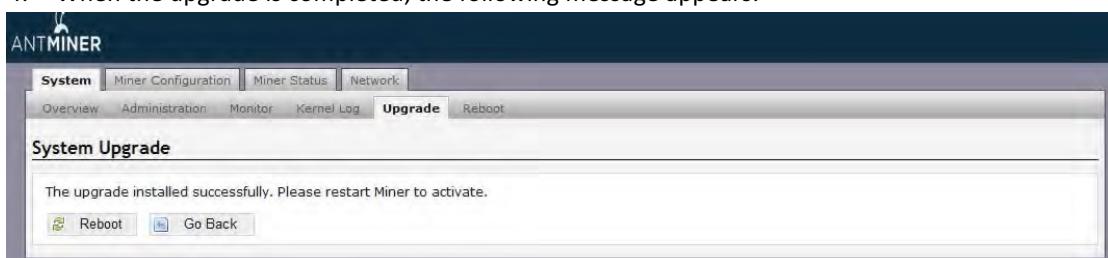
Image:

**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 L3+ server firmware can be upgraded and if yes, will then proceed to flash the image.**

**4. When the upgrade is completed, the following message appears:**



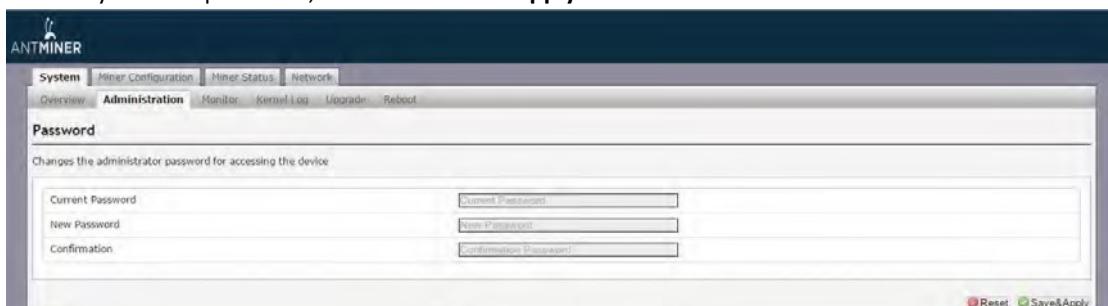
**5. Click one of the following options:**

- **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 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 server and let it run for 5 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.

**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 handing 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 you purchased the product.

**台灣 ROHS:**

設備名稱: _____, 型號: _____						
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