S9k Server

Installation Guide

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1. Overview

The S9k server is Bitmain's newest version in the S9k server series. All S9k servers are tested and configured prior to shipping to ensure easy set up.



Front View



Back View



Placement

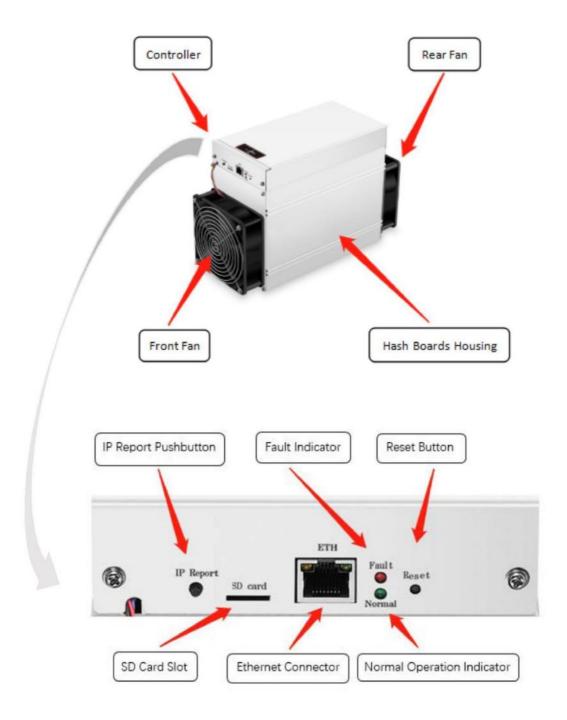


1. You must provide your own ATX power supply.

2. Please refer to the layout above to place your goods in usage in case of any damage.

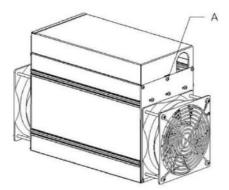
1.1 S9k Server Components

The main components and controller front panel of S9k server are shown in the following figure:



1.2 Connecting to the Power Supply

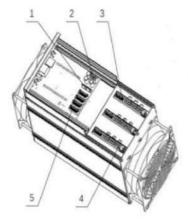
1. Remove the screw at the position indicated by A with a cross screwdriver.



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.



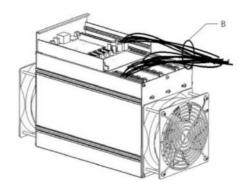
3. The position and name of the socket are shown in the figure blow after removing the upper cover of the control board.



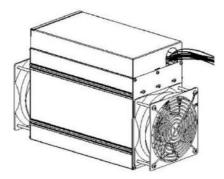
No.	Item	Quantity
1	Fan Socket	2
2	Main Control PSU Socket	1
3	Hashboard Signal Socket	3
4	Hashboard PSU Socket	9
5	Main Control Board PSU Socket	4

Upper Cover of the Control Board

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.



Marning: 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: S9k

Product Glance		Value			
Crypto Algorithm/Coins	Sł	HA256/BTC/BCH			
Hashrate, TH/s		13.50			
Reference power on wall, Watt		1148			
Reference power efficiency on wall @25°C, J/TH		85.00			
Adapted AC/DC output requirement, Watt/ Volt		1389 / 12.00			
Detailed Characteristics		Value			
	Min	Тур	Max		
Hashrate & Po	wer				
Hashrate, TH/s	85.00	13.50	13.95		
Power efficiency on wall @25°C, J/TH ⁽¹⁻¹⁾	90.07		90.95		
Power efficiency on wall @40°C, J/TH ⁽¹⁻²⁾	1148	1148 9			
Reference power on wall, Watt ⁽¹⁻³⁾	11.60		1344		
DC input voltage range, Volt ⁽¹⁻⁴⁾		12.00 13.			
DC input current range, Amp ⁽¹⁻⁵⁾		95.7 115.			
Adapted AC/DC output power requirement, Watt ⁽¹⁻⁶⁾	1250	1250 1389			
Hardware Configu	ration	<u>.</u>			
Quantity of hash chips		180			
Quantity of hash boards		3			
Networking connection mode	R	J45 ethernet 10,	/100M		
Server Size (Length*Width*Height, w/o package), mm⁽²⁻¹⁾	298.0*129.6	298.0*129.6*187.5/321.3*129.6*200.0			
Net weight, kg ⁽²⁻²⁾		3.95/4.50			
Noise, dBA @25° C ⁽²⁻³⁾			76		
Environment Req	uirements				
Operation temperature,° C	0	25	40		
Storage temperature,° C	-40	25	85		
Operation humidity, RH	5%		95%		

Notes:

- (1-1) Refers PSU power conversion efficiency of 93%.
- (1-2) Refers PSU power conversion efficiency of 93%.
- (1-3) Min condition: $25 \,^{\circ}$ C, minJ/TH, typical hashrate. Max condition: $40 \,^{\circ}$ C, 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°C, 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 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) Domestic and international version.
- (2-2) Domestic and international version.
- (2-3) 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:

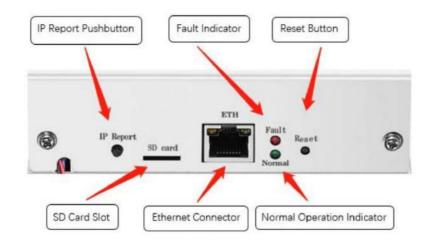
https://shop.bitmain.com/support.htm?pid=00720160906053730999PVD2K0vz0693

- 2. 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.

		tþ	Reporter			
Shelf 1	Step	1	Positi	on 1	Start)
Information	-					-
NO. IF	2			MAC		
this is suitable if you're home	for farm mi	ners to ma	ark location	of miners.		
in you're norne	rinner, you	may icav	e it as uelat	in an easy.		
<						>
<						>
< Skip		Stop		Export	Quit	>



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.

helf 1	Step 1 Co	Position		Start
	IP 1010.70.12	13		
	MAC 6C:EC:EB:0	52:39:F2		
PO	SITION 1-1			
	OK	Skip	Stop	
Skip	Stop		xport	Quit

- 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.

Network Settings Network Settings Network setup for Hene Status MAC-Address sete (Prioz.iol.1.1 retimask255. Protocol Discr	004-07 12:07.78:17 949 958-235:0
Status at MAC-Address at 19102.iol.1. Hostname jutilized	
Stanis Zana Advances and Advances and Hermanica and Herman	
and the second	
Protocol	
IF Address	
Netmask	
Gateway	
DNS Servers	

3. Configuring the Server

Setting Up the Pool

To configure the server:

1. click General Settings.

System Miner Configuration Rever Status Justacok		
Miner General Configuration		
Pool 1		
URL.	jstnatum+tcp.//stnatum.antpool.com.3333	
Worker	jachtsinie_1	
Password	(123	
Pool 2		
URL	stratum+tcp.//stratum.antpost.com.443	
Worker	entruiser_1	
Password	(123	
Pool 3		
URL	Schaltum Hop: //straitum antpool.com 25	
Worker	antminar_1	
Password	(12)	
		Bresst Save&Apply

2. Set the options according to the following table:

Option	Description
Pool URL	Enter the URL of your desired pool. The S9k 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

To check the operating status of your server:

1. Click the status marked below.

Here is an example of S9k-13.5T server:

						_						_	_	_		_	_	
Andrew Martine Cliff	Spectrum Mine	r Status (Satural)																
iner Status																		
Summary																		
Elaps	at	GH/S(RT)		GH/S	(gread)		fo	endMocks		Loca	Work		unitiny		wu .		BestShare	
3433m	168	12608.01		1393	95.0					1703	13247		3.88	148	903.34		140458638	
Poole																		
Paul		WRE.		User	Matur	OW	GetWorks	Priority	Accepted	DHLA	DIRAF	Diffur	Diffs.e	Rejected	Discarded	Stale	LSDIFF	LATIMA
		//w/wisen.artipacii.com:13333		Attents.X	More	65.28	7194		12540	0	822345725				138696		65576	0.00.56
+	struture+tig	p://wateni.antpoli.com/443		artminar_1	Alivie		1	1						0		9		
total.	SDRUTH-G	p://whitelum.antpool.com/25		artress_1	Alve		2158	-	12540		822345728				138090	1		
HIS		1540							32346		8.0009%				1.0000			
AntHines																		
Chaind	ANICE	Frequency	684/5(001)	HW	Ter	(PCB)	Tem	(Chip)					ARE N	alus .				
1	62	365	4265.09	1298		36-57	19-80			International disponders a publication appropriate parameters and appropriste parameters and appropriate parameters and approprio								
2.	40	399	4205.99	4217		18-55		5-45		annotative appropriate autophone economic between autophone appropriate and								
3	- 40	275	4156-04	1927		16-56	5	1.76			81810009	< 00000088 340	000000 00000000	1 96966999 093899	00 00000000 0000			
Face					Ten1.									fam2				
Face Speed (11)					Text 1. 45.00									5400				



Note: The S9k 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.

NTHINER		
System Mirer Configuration, Mirer Shahar, Mitwark		
Overview Administration Mandar Ramal Log Langeste Autout		
Overview		
System		
Hour Type	Automate SWe	
Pusharet	ant/Moner	
Hodel	CHUILING	
Hardware Version	13 10.1.3	
Kernel Version	Linux 4.6.0 -admin gff81376-dirty 425 SMP REEMPT fm files 23 13:30:52 CST 2018	
File System Version	Sian 3an 36 10:43:06 CST 2019	
CGerainer Versuoe	4.9.0	
Optome	30	
Load Average	0.66, 0.41, 0.29	
Hemory		
Total Available	837572 88 / 2009 + H (19%)	
Tree	962373 588 2 533794 49 (47%)	
Cated	11004 AN / 211744 AN (5%)	
Duffered	82+18 / 2117+448 (D%)	
Network		
2º Status	20 1990 1997 Address 1997 1993 199	

5.2 Upgrading Your System

Make sure that the S9k 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**.

System Miner Configuration Miner Status Network		
Overview Administration Monitor Kernel Log Upgrade	Reboot	
Jpgrade		
Backup / Restore Click "Generate archive" to download a tar archive of the current of	configuration files. To reset the firmware to its initial state, click "Perform reset" (only possible with squashfs images).	
Download backup:	Cenerate archive	
Reset to defaults:	Perform reset	
To restore configuration files, you can upload a previously generat	ed backup archive here.	
Restore backup:	调范	
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:	20 N	
Image:	调透 未选择文件。 III Flash 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 (Browse) button and navigate to the upgrade file. Select the upgrade file, then click Flash image. A message appears notifying you if the S9k firmware can be upgraded and if yes, will then proceed to flash the image.
- 4. When the upgrade is completed, the following message appears:

NTMINER	
System Miner Configuration Miner Status Network	
Overview Administration Monitor Kernel Log Upgrade Reboot	
System Upgrade	
The upgrade installed successfully. Please restart Miner to activate.	
🐉 Reboot 🔄 Go Back	

- 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.

System Mner Configuration Mner Status Network Overvein Administration Monetor Kernel Log Upgrade Rebox		
Password		
Changes the administrator password for accessing the device		
Current Password	Current Password	
New Password	Ferri Password	
Confirmation	Confirmation Passward	
		Reset @SaveBApply

5.4 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.

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°C
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 ² h

2.2 Requirements of Corrosive Gas

Corrosive Gas	Unit	Concentration		
H ₂ S	ppb	< 3		
SO ₂	ррb	< 10		
Cl ₂	ррb	< 1		
NO ₂	ррb	< 50		
HF	ррb	< 1		
NH ₃	ppb	< 500		
O ₃	ррb	< 2		
Note: ppb (part per billion) refe	rs 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:

	有害物質					
單元	鉛 (Pb)	汞 (Hg)	鎘 (Cd)	六價鉻 (Cr+6)	多溴聯苯 (PBB)	多溴二苯醚 (PBDE)
外殼	0	0	0	0	0	0
電路板組件		0	0	0	0	0
其他線材	—	0	0	0	0	0
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. "一"係指該項限用物質為排除項目						

設備名稱: S9k 服務器,型號: 120-K