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BITMAIN

BITMAIN ANTMINER S19j XP Server



Overview

The S19j XP server is one of Bitmain's latest Air-Cooling server product in the 19 server series. This guide set S19j XP as an example introduce various operations in details, and other server operation are the same.



Front view



Back view

Caution:

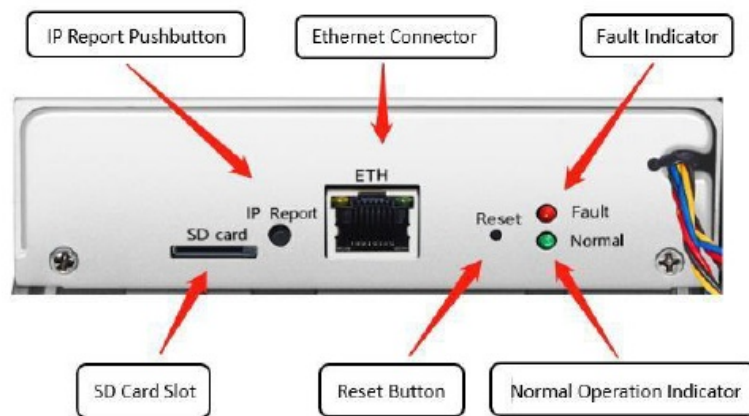
1. Please note that the equipment must only be placed vertically as shown in the diagram above. Placing it horizontally will increase the failure rate of the equipment!!!
2. The equipment must be connected to an earthed mains socket-outlet. The socket-

outlet shall be installed near the equipment and shall be easily accessible.

3. When the equipment is power off, be sure to power off all power inputs.
4. DO NOT remove any screws and cables tied on the product.
5. DO NOT plug or remove the device when it is powered on.
6. The equipment relies on the PDU being powered down to disconnect the power.

Server components

The main components and controller front panel of S19j XP servers are shown in the following figure:



Control Panel Version 1



Control Panel Version 2

NOTE:

There are three versions of the control panel, please refer to the pictures above to check the differences of SD Card Slots.

**Power Supply:****NOTE:**

1. Power supply APW17 is part of S19j XP server. For detailed parameters, please refer to the specifications below.
2. One ANTWIRE-20SP power cord is needed and should be connected to PDU.

Server specification

Table 1-1 Product Glance

Product Glance	Value			
Model	S19j XP			
Version	K1-20			
Crypto algorithm/coins	SHA256 BTC/BCH			
Typical hashrate, TH/s (1-1)	151	143	136	130
Power on wall @25°C ⁽¹⁻²⁾ , Watt (1-1)	3247	3075	2924	2795
Power efficiency on wall@25°C ⁽¹⁻²⁾ , J/TH (1-1)	21.5			

Table 1-2 Detailed Characteristics of Product

Detailed Characteristics	Value
Power supply	
Power supply AC input voltage, Volt (2-1)	220~277V
Power supply AC Input Frequency Range, Hz	50~60
Power supply AC Input current, Amp	20
Adapted AC output power requirement, W	4000
Hardware Configuration	
Network connection mode	RJ45 Ethernet 10/100M
Server size (Length*Width*Height, w/o package), mm	400*195*290
Server size (Length*Width*Height, with package), mm	570*316*430
Net weight, kg	14.9
Gross weight, kg	16.6
Noise(2-2) @30°C, dBA	76
Max airflow(2-3) CFM	480
Environment Requirements	
Operation temperature, °C	-15~35
Storage temperature, °C	-20~70
Operation humidity, RH	10%~90%(non-condensing)
Operation altitude m (2-4)	≤2000

Notes:

1. The Hashrate value, Power on wall, and Power efficiency on wall are all typical values, The actual Hashrate value fluctuates by $\pm 3\%$, and the actual Power on wall and Power efficiency on wall fluctuate by $\pm 5\%$.
2. Inlet air temperature.
3. Caution: Wrong input voltage may probably cause server damaged
4. The noise is loudest when the fan is under maximum RPM(rotation per minute).(2-3)
When the server is dusty or the environment is poorly ventilated, the server airflow will reduce.
5. When the server is used at an altitude from 900m to 2000m, the highest operating temperature decreases by 1 °C for every increase of 300m.

Setting up the server

NOTE

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

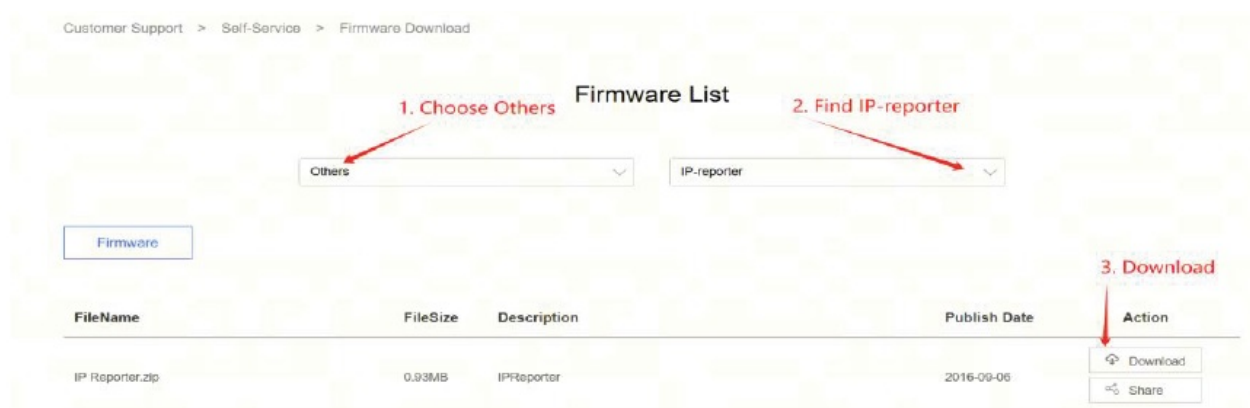
Get server IP

Prepare tools to get server IP:

1. Go to the following site: <https://file12.bitmain.com/shop-product/firmware/IP%20Reporter.zip>.

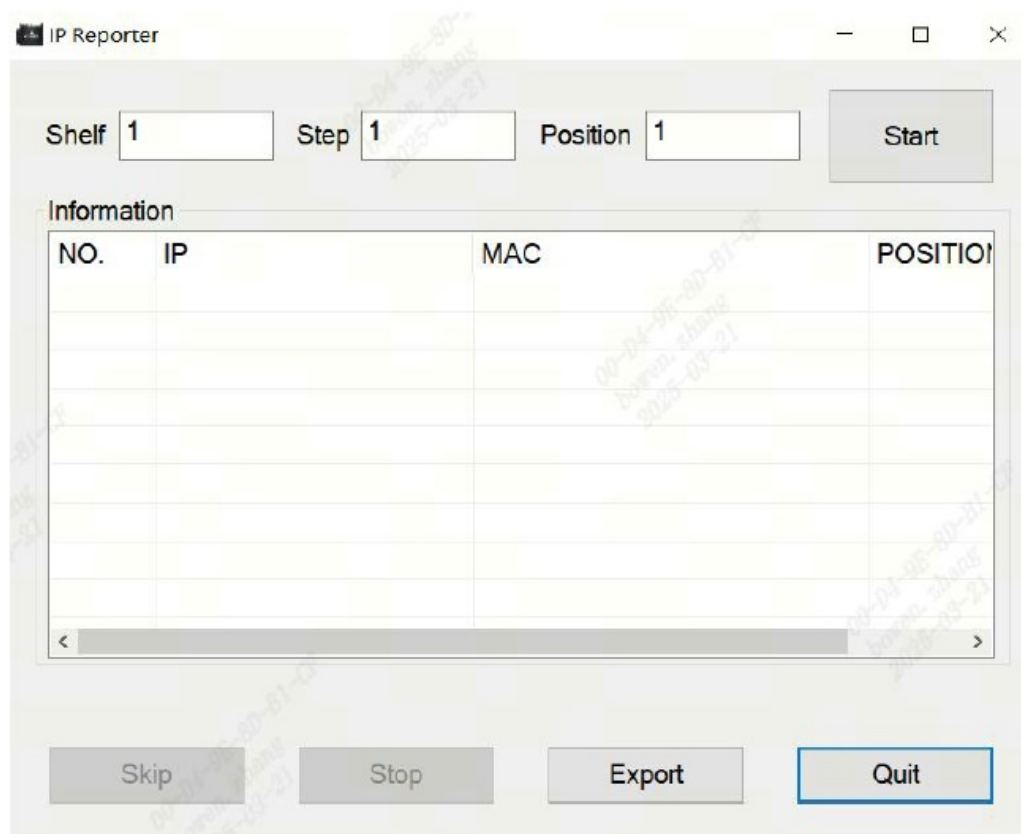
If the link is invalid, please visit the official firmware download page

(<https://service.bitmain.com/support/download>) and select as shown in the image to download IPReporter.zip.

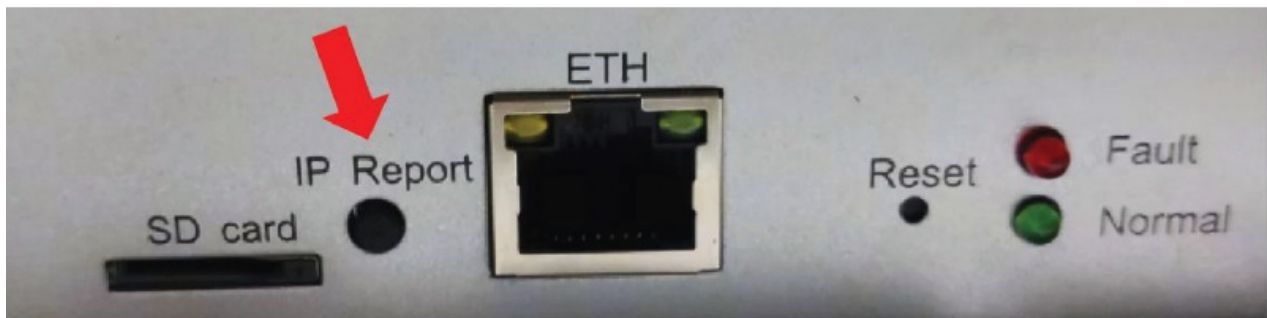


2. Download the following file: IPReporter.zip.
3. Extract the file.
4. Right-click IPReporter.exe and run it as Administrator.

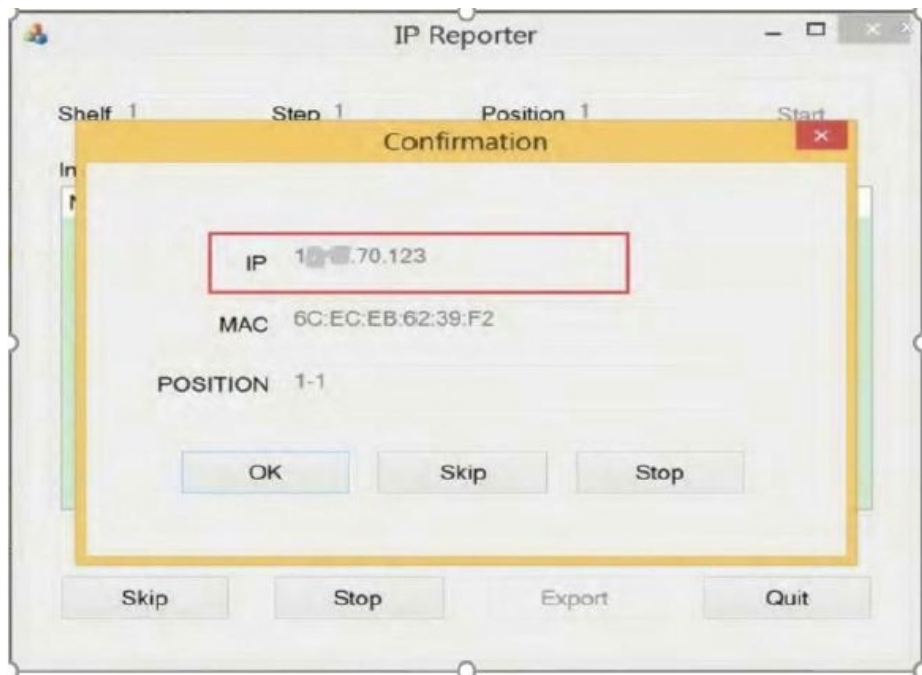
5. Click Start.



6. On the control panel, click the IP Report button. Hold it down until it beeps (about 5



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



7. In your web browser, enter the IP address provided.

8. Proceed to login using root for both the username and password.
9. In the Protocol section, you can assign a Static IP address (optional).
10. Enter the IP address, Subnet mask, gateway and DNS Server.
11. Click “Save”.
12. Click <https://support.BITMAIN.com/hc/en-us/articles/360018950053> to learn more about gateway and DNS Server.

ANTMINER

Antminer S19j XP [Algorithm: SHA256d] Online

Locate Miner ☐ Refresh Timer 2023-06-27 11:05:41 English

IP Setting

Network Information
eth0
MAC-Address: 02:C6:70:9C:C2:54
IP Address: 192.168.1.99
Subnet Mask: 255.255.255.0

HostName:

Protocol:

Configuring the server

To configure the server:

1. Click Settings as below.
2. Set the options according to the following table:

ANTMINER

Antminer S19j XP [Algorithm: SHA256d] Online

Locate Miner ☐ Refresh Timer 2023-06-27 11:07:41 English

Pools

	Mining Address	Miner Name	Password (optional)
Pool1	<input type="text"/>	<input type="text"/>	<input type="text"/>
Pool2	<input type="text"/>	<input type="text"/>	<input type="text"/>
Pool3	<input type="text"/>	<input type="text"/>	<input type="text"/>

Setup

Mode:

Note:

There are two working modes of S19j XP server: Normal mode and Sleep mode. The server enters the sleep mode under the condition that the control board is powered while hashboards are not powered.

Option	Description
--------	-------------

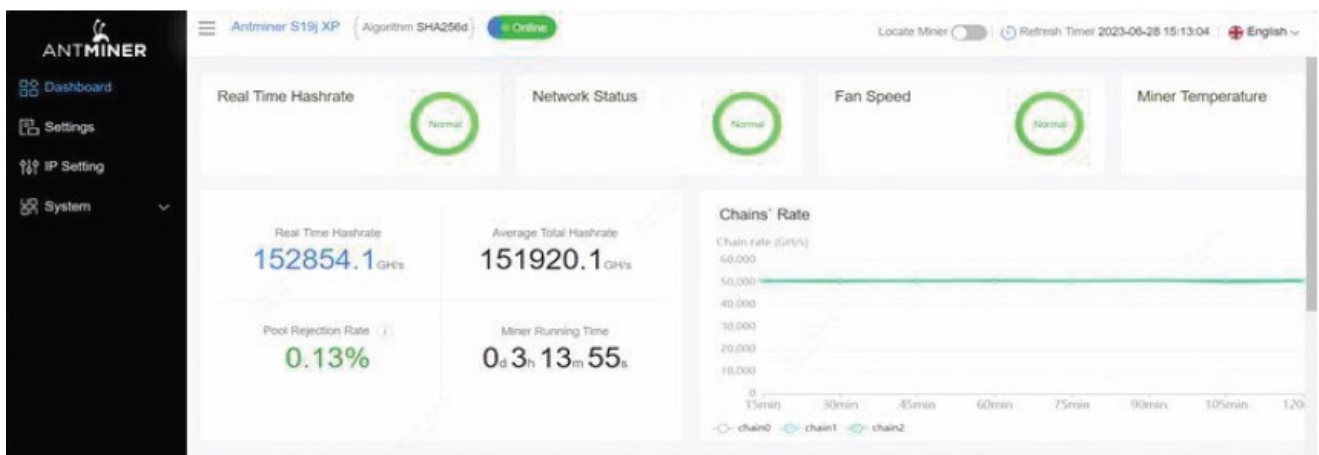
Mining address	Enter the address of your desired pool. The S19j XP server can be set up with three mining pools, with decreasing priority from the first pool (pool 1) to the third pool (pool 3). The pools with low priority will only be used if all higher priority pools are offline.
Name	Your worker ID on the selected pool.
Password (optional)	The password for your selected worker.

3. Click Save after the configuration.

Monitor your server

To check the operating status of your server:

1. Click Dashboard marked below to check the server status (taking S19j XP 151T as example).



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

Option	Description
Number of chips	Number of chips detected in the chain.
Real Hashrate	Real-time hashrate of each hash board (GH/s).
Inlet Temp	Temperature of the inlet (°C).
Outlet Temp	Temperature of the outlet (°C).

Chip state	<p>One of the following statuses will appear:</p> <ul style="list-style-type: none"> • The Green Icon – indicates normal • The Red Icon– indicates abnormal
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3. Monitor your server according to the LED indicator light:

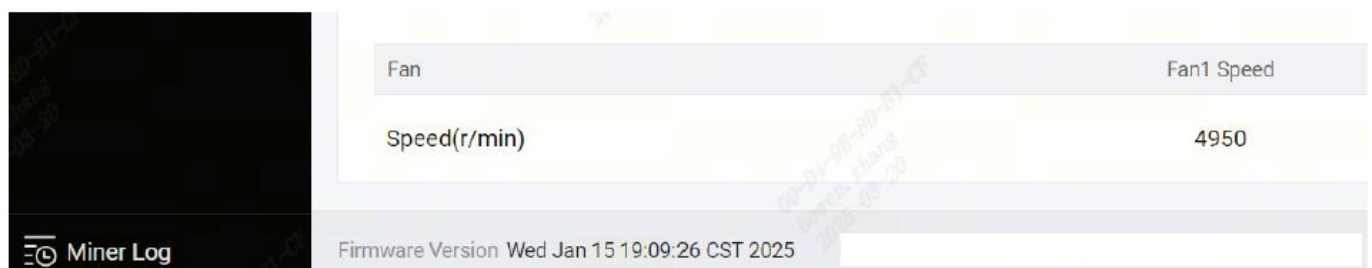
Status	Fault Indicator(RED)	Normal Indicator(GREEN)
Normal	OFF	ON
Over temperature	ON	OFF
Network disconnection	ON	OFF
Fan failure	ON	OFF

Administering Your Server

Checking Your Firmware Version

To check your firmware version:

1. Enter the backstage of your server, find the firmware version on the bottom.
2. Firmware Version displays the date of the firmware your server uses. In the examples below, the server is using firmware version 20250115190926.



Upgrading Your System

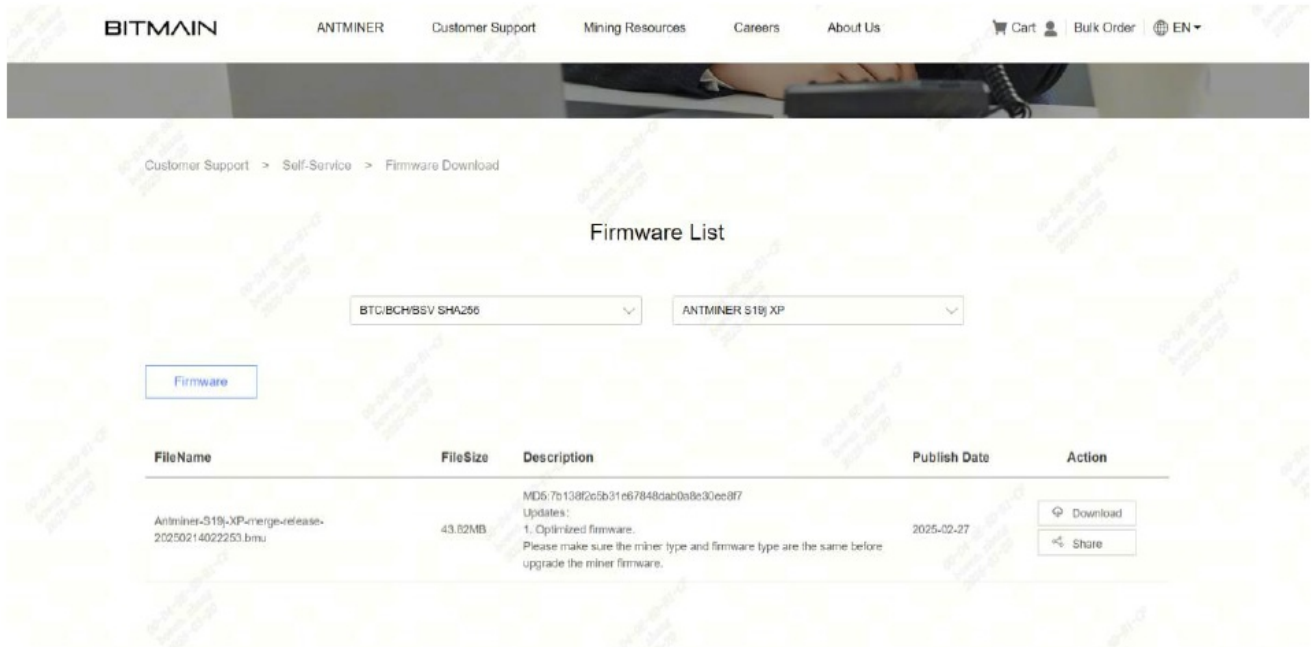
Caution: Make sure that the S19j XP server remains powered during the upgrade process. If power fails before the upgrade is completed, you will need to return it to

BITMAIN for repair.

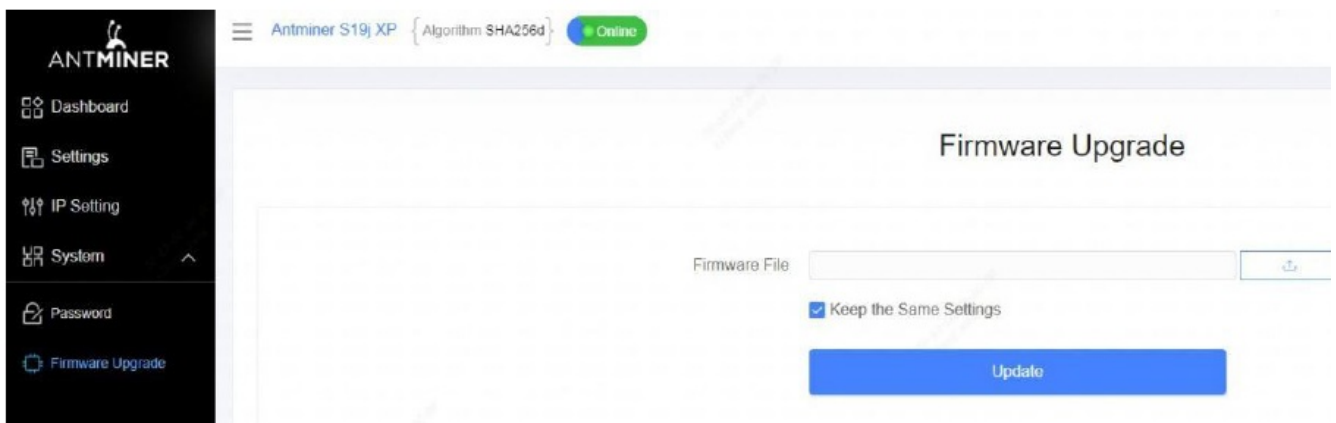
To upgrade the server's firmware:

1. The latest Firmware is available on the BITMAIN official website:

<https://shop.bitmain.com/support/download>




2. In System, click Firmware Upgrade.



3. For Keep Settings:

1. Select "Keep the same settings" to keep your current settings (default).
2. Unselect "Keep the same settings" to reset the server to default settings.

4. Click the  button and navigate to the upgrade file. Select the upgrade file, then click Update.
5. When the upgrade is completed, restart the server. It will return to the settings page.
6. 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.

Modifying your Password

To change your login password:

1. In System, click the Password tab.
2. Set your new password, then click Save.

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.

Caution: 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.

Error Code

Here is the server error code and the corresponding reasons and suggestions:

Error Code	Reason	Suggestion
R:1	Average total hashrate is low	Update the firmware to the latest version, replace the power supply, or return to factory for repair
R1:1	Chain1 is broken or has low hashrate	Check if chain1 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
R2:1	Chain2 is broken or has low hashrate	Check if chain2 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair

R4:1	Chain3 is broken or has low hashrate	Check if chain3 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
R8:1	Chain4 is broken or has low hashrate	Check if chain4 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
J1:1	Chain1 has bad ASIC	Update the firmware to the latest version, replace the power supply, or return to factory for repair
J2:1	Chain2 has bad ASIC	Update the firmware to the latest version, replace the power supply, or return to factory for repair
J4:1	Chain3 has bad ASIC	Update the firmware to the latest version, replace the power supply, or return to factory for repair
J8:1	Chain4 has bad ASIC	Update the firmware to the latest version, replace the power supply, or return to factory

		for repair
N:1	Average total hashrate exceeds the sale hash rate too much	Update the firmware to the latest version
N:2	Frequency is reduced too much	Update the firmware to the latest version

V:1	Power initialization error	Replace the power supply, or return to factory f or repair
V:2	Power supply i s not calibrated	Update the firmware to the latest version, repla ce the power supply, or return to factory for rep air
V:3	Power exceeds specified value	Check the current ambient temperature,replace the power supply, or return to factory for repair
V:4	Power supply v oltage error	Check power output wiring, replace the power supply, or return to factory for repair
F1:1	Fan1 is not det ected or its spe ed is low	Check if the fan1 connection is normal, replace the power supply, or replace the fan
F2:1	Fan2 is not det ected or its spe ed is low	Check if the fan2 connection is normal, replace the power supply, or replace the fan
F4:1	Fan3 is not det ected or its	Check if the fan3 connection is normal, replace the power supply, or replace the fan

	speed is low	
F8:1	Fan4 is not det ected or its spe ed is low	Check if the fan4 connection is normal, replace the power supply, or replace the fan
J:8	The number of hashboards is l ess than the design	Check if the hashboard connection is normal, o r replace the hashboard

P:1	High temperature protection	Check if the environment temperature is normal, or check if the gel on the hash board is effective
P:2	Low temperature protection	Check if the environment temperature is normal
J1:4	Chain1 EEPROM data error	Redo the factory test for chain1
J2:4	Chain2 EEPROM data error	Redo the factory test for chain2
J4:4	Chain3 EEPROM data error	Redo the factory test for chain3
J8:4	Chain4 EEPROM data error	Redo the factory test for chain4
J:6	Temperature sensor error	Check if the hashboard connection is normal, update the firmware to the latest version,

		replace the hashboard, or return to factory for repair
J1:5	Chain1 PIC error	Check if chain1 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
J2:5	Chain2 PIC error	Check if chain2 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair

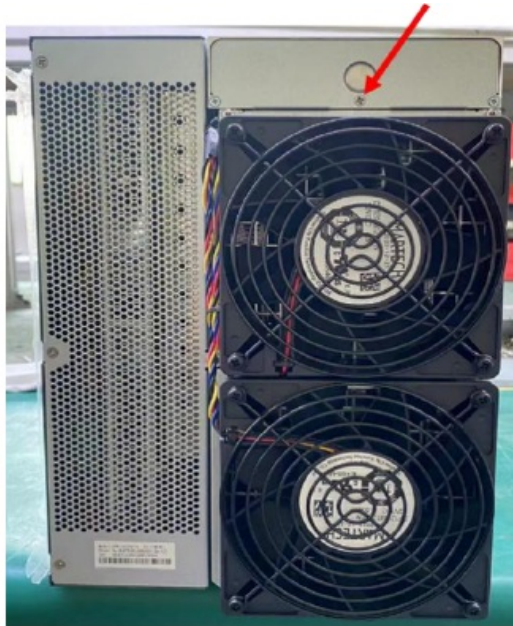
J4:5	Chain3 PIC error	Check if chain3 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
J8:5	Chain4 PIC error	Check if chain4 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
M:1	Memory allocation error	Update the firmware to the latest version, replace the control board, or return to factory for repair
J1:2	The number of chain1 chips is less than the design	Check if chain1 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
J2:2	The number of chain2 chips is less than the design	Check if chain2 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
J4:2	The number of chain3 chips is less than the	Check if chain3 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair

	design	
J8:2	The number of chain4 chips is less than the design	Check if chain4 connection is normal, update the firmware to the latest version, replace the hashboard, or return to factory for repair
N:4	Network connection is lost	Check if the network connection is normal

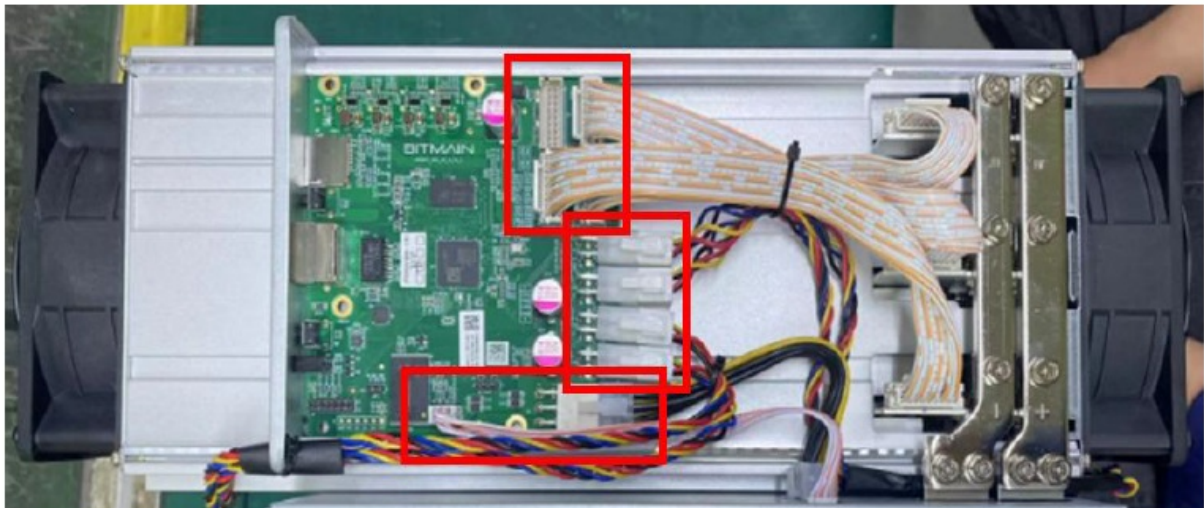
Server Disassembly and Installation

Control Panel Disassembly and Installation

1. Remove the screws from the upper cover of the server, as shown in the figure



2. Remove the upper covers and unplug a total of 9 cables on the control board, including the operation board arrangement cables, the fan cables, the control board power supply cables and the power supply voltage regulating cables, as shown in the figure



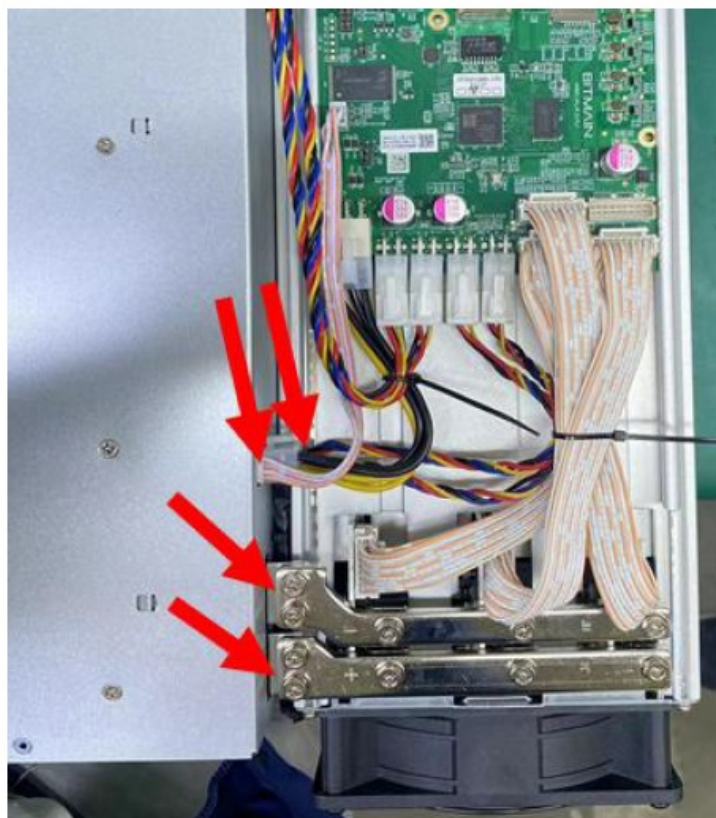
3. Remove 2 screws from the front cover of the control panel, remove the front cover, and push the control panel along the chute, as shown in the figure



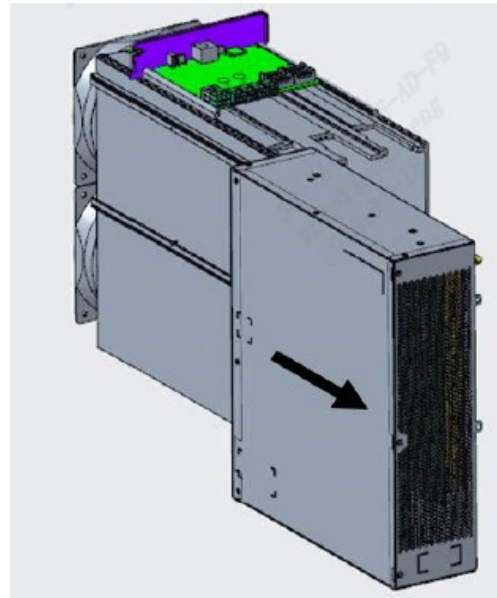
4. The installation steps are opposite to the disassembly steps, and it can be install in the steps of the opposite above order.

Power Supply Disassembly and Installation

1. Remove the 2 upper caps according to the above method.
2. Unplug the 2 cables connected to the control board and remove the 4 copper screws, as shown in the figure



3. Remove the power supply and chassis fixing screws, as shown in the figure
4. Take out APW power supply, as shown in the figure



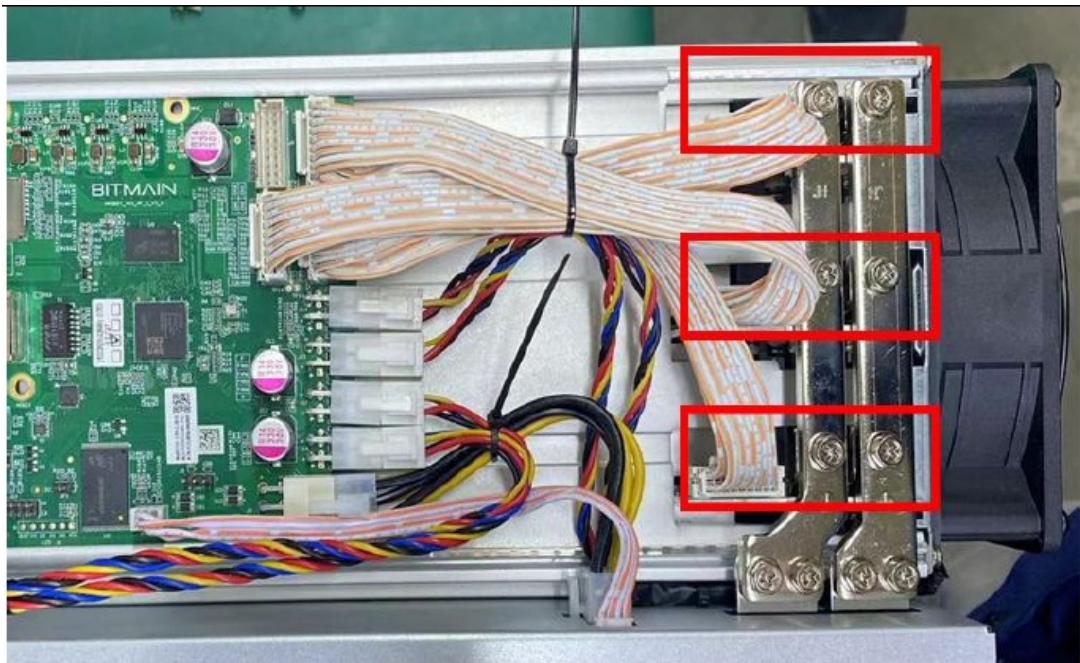
5. The installation steps are opposite to the disassembly steps, and it can be install in the steps of the opposite above order.

Hash Board Disassembly and Installation

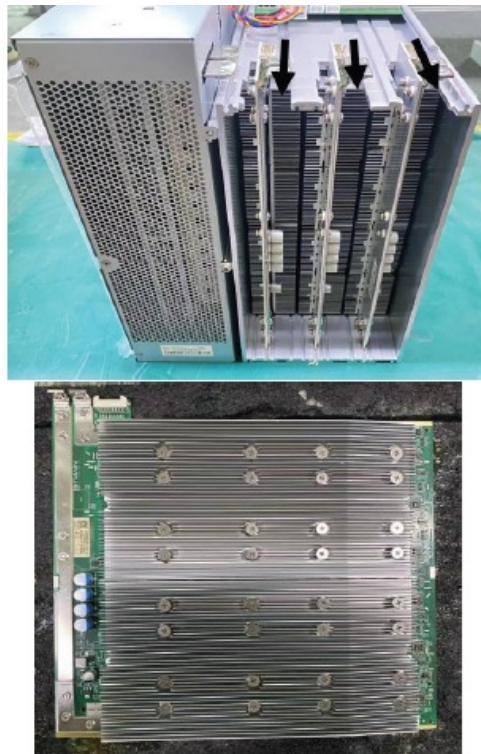
1. Remove the 2 upper caps according to the above method.
2. Remove 4 screws and remove the fan and baffle, as shown in the figure



3. Pull out the cable of the hash board, unscrew two screws on the copper bar, and the hash board can be pulled out, as shown in the figure



4. Remove the cables and screws, the rest of the hash board can be extracted, as shown in the figure:



5. The installation steps are opposite to the disassembly steps, and you can install in the steps of the opposite above order.

Environmental Requirements

Please ensure that your server operates in accordance with the following environmental requirements.

Basic Environmental Requirements

Climatic Conditions

Table 4-1 Requirements of climatic conditions

Descriptions	Requirements
Operating Temperature, °C	-15-35
Operating Humidity, RH	10%~90%(non-condensing)
Storage Temperature, °C	-20-70
Storage Humidity, RH	10%~90%(non-condensing)
Altitude, m	≤2000

Site Requirements of the Server Running Room

Please ensure that the server operating room is kept away from industrial pollution sources:

1. For heavy pollution sources such as smelters and coal mines, maintain a distance of more than 5 km.
2. For moderate pollution sources such as chemical industries, rubber, and electroplating industries, maintain a distance of more than 3.7 km.
3. For light pollution sources such as food factories and leather processing factories, maintain a distance of more than 2 km. If unavoidable, choose a site in the perennial upwind direction of the pollution source.

Please do not set up your location within 3.7 km of the seaside or a saltwater lake. If this is unavoidable, ensure that the structure is as airtight as possible and equipped with air conditioning for cooling.

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.

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.

Mechanical Active Substances

Table 4-2 Requirements of mechanical active substances

Mechanical Active Substance	Requirement
Sand, mg/m³	≤30
Dust (suspended), mg/m³	≤0.2
Dust (deposited) , mg/ m²h	≤1.5

of Corrosive Gas

Table 4-3 Requirements of corrosive gas

Corrosive Gas	Unit	Concentration
H ₂ S	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

Federal Communications Commission (FCC)

FCC Notice

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.

Caution:

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Industry Canada

CAN ICES-003(A) / NMB-003(A)

European Community

Warning: Operation of this equipment in a residential environment could cause radio interference.

UAB Bitmain Development Lithuania

Vilnius, Bistrycios g.40-21

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.

FCC Supplier's Declaration of Conformity

Supplier's Declaration of Conformity

Trade Name:  **ANTMINER** **BITMAIN**

Model Number: S19j XP

Responsible Part—U.S. Contact Information

- **Company:** Bitmain Technologies Delaware Limited

- **Street Address:** 100 Spectrum Center Drive, Suite 1255
- **City, State:** City of Irvine, State of CA-California
- **Zip Code:** CA 92618
- **Telephone number:** +1 [949-381-9884](tel:949-381-9884)
- **Internet contact information:** <https://www.bitmain.com/>


FCC Compliance Statement:

This device complies with Part 15 of the FCC Rules.

EU Declaration of Conformity

- **Manufacturer's Name:** BITMAIN DEVELOPMENT PTE. LTD.
- **Manufacturer's Address:** 1 Raffles Place, #36-01 One Raffles Place, Singapore 048616


For the following equipment

- **Trade Mark:**  ANTMINER BITMAIN
- **Product:** Server
- **Model No.:** S19j XP

is herewith confirmed to comply with the requirements set out in Directive 2014/35/EU, Directive 2014/30/EU, and Directive 2011/65/EU. Compliance with 2014/35/EU and 2014/30/EU are evaluated by applying the following standards:

- **Safety standard:** EN 62368-1:2014+A11
- **EMC standard:** EN 55032:2015+A11:2020(Class A); EN 55032: 2015; EN 55035: 2017; EN 55035: 2017+A11:2020 EN IEC 61000-3-2: 2019; EN 61000-3-3: 2013+A1:2019

This declaration of conformity is issued under the sole responsibility of the manufacture.

- **Signature:**  Xiaoxian Luo
- **Position/Title:** President of Product II

Warranty

1. A 365-day warranty is provided starting from the shipping date. BITMAIN will cover shipping costs when shipping a replacement unit within the warranty period.
2. The warranty only applies to the original purchaser who purchased the machine directly from BITMAIN. Once the miner is resold, warranty coverage becomes the responsibility of the re-seller.
3. If the user fails to use the product per the given instructions, specifications, and conditions provided or changes the function settings of the unit without BITMAIN's prior consent, BITMAIN will not be liable for any damage arising therefrom.
4. Click <https://service.bitmain.com/support/policy> for a complete list of the Terms & Conditions that apply to all orders placed on <https://shop.bitmain.com>.


Note:

Only new machines are eligible for a 365-day warranty; used machines are not included.

Frequently Asked Questions

- **Q: Can the S19j XP server be operated horizontally?**
 - A: No, the equipment must only be placed vertically as shown in the user manual for proper operation.
- **Q: What is the typical hashrate of the S19j XP server?**
 - A: The typical hashrate is 21.5 TH/s for the S19j XP server.

Documents / Resources

	BITMAIN ANTMINER S19j XP Server [pdf] User Guide S19j XP, ANTMINER S19j XP Server, ANTMINER S19j XP, ANTMINER, Server
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References

-  [BITMAIN](#)

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- [BITMAIN](#)
- [User Manual](#)

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BITMAIN ANTMINER S19 XP Hyd Server Specification
Product Glance Value Model S19 XP Hyd. Sub 257T

246T 235T...

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algorithm/coins SHA256 |...

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S21 Bitmain Antminer Specifications Product Glance
Value Model S21 Sub Version 200T Crypto
algorithm/coins SHA256 | BTC/BCH/BSV Typical...



[BITMAIN ANTMINER X5 Server With Power Supply Instructions](#)

X5 Product Manual Sep. 2023 BITAMIN
TECHNOLOGIES INC. www.bitmain.com Specification

Product Glance Value Model X5 Version 240-X Crypto...

🔍 AntMiner, AntMiner S19j XP, ANTMINER S19j XP Server, BITMAIN, S19j XP,

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Email

Website

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