iBeLink S1 Specification and Operation Guide

This document is mainly used for the configuration and usage of the iBeLink S1 mining machine, and there are also some useful suggestions which may reduce your loss.

CONTENT

Content

Version Update Information

Date	Introduction	Version
2021-08-27	Initial release version	0.1

Packing List

Item	Component	Number	Introduction
1	Machine Box	1	Size(cm)
2	Power Cabal	1	Power supply
3	Technique & Manual	1	Within this document

0 Declaration

1.   iBelink does not assume any responsibility for any damage or loss caused by force majeure.

2.   iBelink does not assume any responsibility for any damage or loss caused by unauthorized modification of software and hardware.

3.   iBelink does not assume any responsibility for any damage or loss caused by artificially adjusted overclock (set the specification Frequency over the maximum) or improper temperature.

4.   iBelink does not assume any responsibility for any mining machines sold through unauthorized sales channels.

5.   iBelink does not assume any responsibility for the loss of hash rate caused by nonmainstream or abnormal ore pools.

6.   iBelink does not assume any responsibility for any loss caused by the price fluctuation of digital currency.

1 Product Features

1.1 S1 6.2T

- Blake2B Hash Algorithm
  Hash Rate: 6.2 TH/s ±5%
  Power Consumption: 2250 W (at the wall, with 25°C ambient temp)
- Operating Temperature: 0°C to 40°C
- Network Connection: Ethernet
- Power Supply: 190V to 240V, 50Hz/60Hz
- Packing Dimensions: 505 mm(L) * 205 mm(W) * 317 mm(H)
- Machine Dimensions: 402 mm(L) * 128 mm(W) * 201 mm(H)
- Weight: 9kg
- Warranty Period：A 180-day warranty is provided starting from the shipping date.
- Support POW Blake2B algorithm(SC)
- Support mainstream stratum protocol pool
- Provide a web interface management platform, simplifying system setup and large-scale deployment
- Web interface provides computing power statistics and status monitoring
- Support restarting software or system using web interface
- Provide power-on system self-check function and monitor chip status in real time
- Provide the status display of the power blade LED, which is convenient for large-scale machine management
- Provide settings and automatic switching of the main and multiple standby pools
- Has independent error monitoring and automatic restart recovery functions of computing power blades
- The hardware watch dog ensures that the system can automatically recover from network or system errors

1.2 S1 6.8T

- Blake2B Hash Algorithm

  Hash Rate: 6.8 TH/s ±5%
  Power Consumption: 2350 W (at the wall, with 25°C ambient temp)
- Operating Temperature: 0°C to 40°C
- Network Connection: Ethernet
- Power Supply: 190V to 240V, 50Hz/60Hz
- Packing Dimensions: 505 mm(L) * 205 mm(W) * 317 mm(H)
- Machine Dimensions: 402 mm(L) * 128 mm(W) * 201 mm(H)
- Weight: 9kg
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2 Guidelines

- **Connect**
  After connecting the network cable and power line, power on the device
- **Power on**
  When power on the device, the front panel lights up with 2 LED lights, one red and one green.
- **Working mode**
  After about 1 minute, the red light goes out and the green light continues flashing, which means the machine starts working normally.

2.1 Searching Mining Machine

Find Mining Devices with Searing Tool in Figure 1.
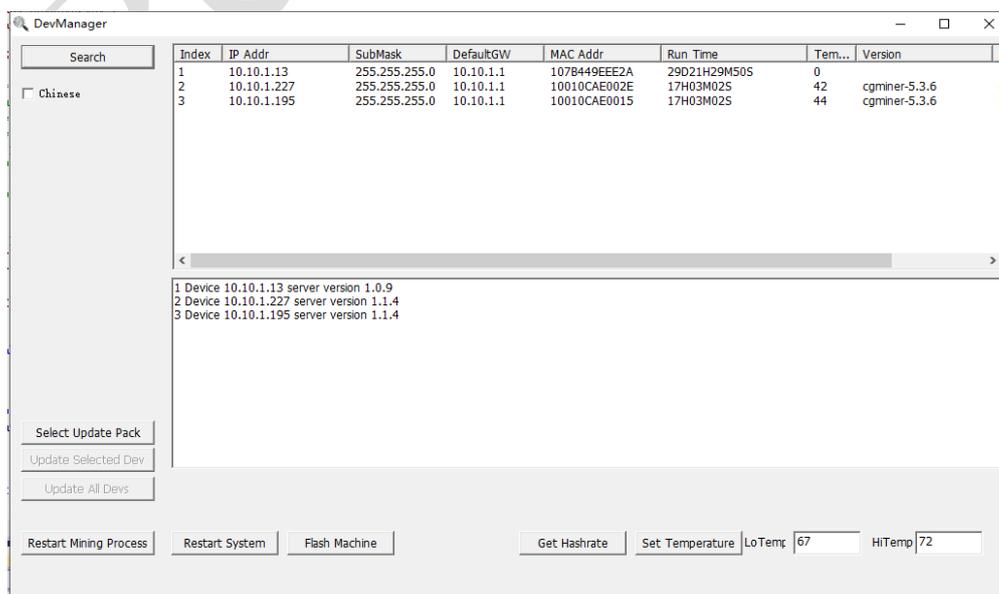
Figure 1 Search Device

The tool can be got from: http://en.ibelink.com.hk/xiazai/
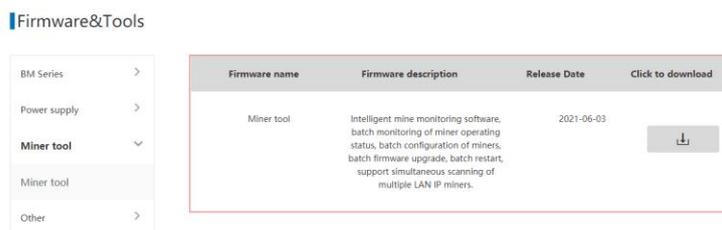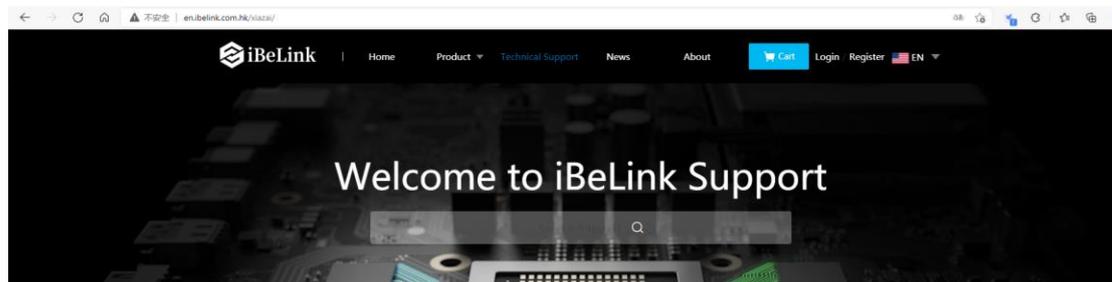
Figure 2 Search Device

2.2 Login

Open a web browser and enter the miner address to login, the password is *ibelink*. Click the [**Login**] button to login to the mining machine. The login page is shown in Figure 3.

Figure 3 Login Page

You can modify the username and password by clicking [**Password**] button. The password management interface is shown as below in Figure 4.
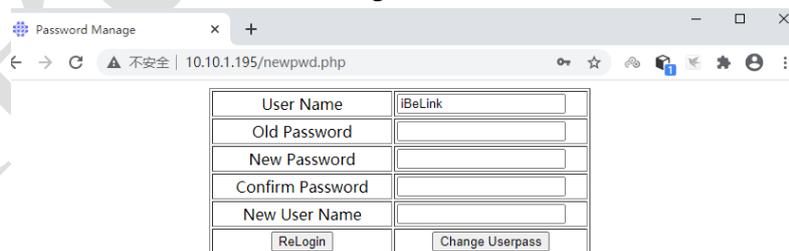
Figure 4 Management Interface

Enter in the old password, the new password and confirm password should be same. Then click [**Change Userpass**] to update the password. To modify the default username, please enter the new username in New User Name, otherwise leave it blank.

2.2 Mining Machine Status

After logging in to the miner system, the management homepage of the mining machine will be

shown as in Figure 5.
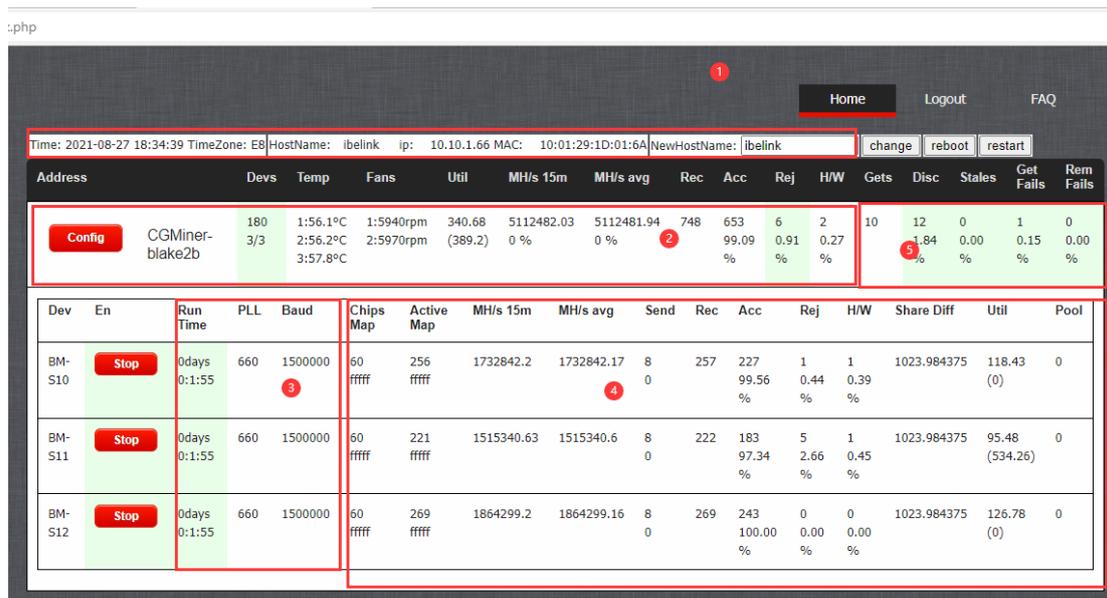
Figure 5 iBeLink S1 Mining Machine Homepage

Basic information of the mining machine will be showing respectively in these four areas on the screen:

1. current time, time zone, machine name, IP address, MAC address.

2. number of mining chips and blades, temperature, number of nonce per minute, hashrate per five seconds.

number of nonce returned by chips, times of acceptance/rejection/error.

3. continuous running period of single blade, PLL frequency and serial port rate.

4. Number of single-blade chips, current chip bitmap, number of nonce received by the chip in the past 30 minutes and its chip bitmap, times of acceptance/rejection/error, current depth of difficulty, average nonce per minute, other parameters.

5. Statistics of the mining pool.

2.3 Mining Configuration

Address			Devs	Temp	Fans	Util	MH/s 15m	MH/s avg	Rec	Acc	Rej	H/W	Gets	Disc	Stales	Get Fails	Rem Fails
Config		CGMiner-blake2b	180 3/3	1:56.1°C 2:56.2°C 3:57.8°C	1:5940rpm 2:5970rpm	340.68 (389.2)	5112482.03 0 %	5112481.94 0 %	748	653 99.09 %	6 0.91 %	2 0.27 %	10	12 1.84 %	0 0.00 %	1 0.15 %	0 0.00 %

Dev	En	Run Time	PLL	Baud	Chips Map	Active Map	MH/s 15m	MH/s avg	Send	Rec	Acc	Rej	H/W	Share Diff	Util	Pool
BM-S10	Stop	0days 0:1:55	660	1500000	60 fffff	256 fffff	1732842.2	1732842.17	8 0	257	227 99.56 %	1 0.44 %	1 0.39 %	1023.984375	118.43 (0)	0
BM-S11	Stop	0days 0:1:55	660	1500000	60 fffff	221 fffff	1515340.63	1515340.6	8 0	222	183 97.34 %	5 2.66 %	1 0.45 %	1023.984375	95.48 (534.26)	0
BM-S12	Stop	0days 0:1:55	660	1500000	60 fffff	269 fffff	1864299.2	1864299.16	8 0	269	243 100.00 %	0 0.00 %	0 0.00 %	1023.984375	126.78 (0)	0

Figure 6 iBeLink S1 mining configuration

1. Modify Host Name：As shown in Figure 6. First click the[**change**] button and enter in new host name then click [**restart**] to activate it.

2. Click [**reboot**] to restart the system.

3. Click [**restart**] to restart the mining software.

4. Configuration

Click the [**Config**] button on the left side of Figure 6 to enter in the configuration interface, which is mainly divided into 3 parts, as shown in Figure 7.

Part One:

Click the [√] button to display the details of the selected mining pool.

Click the [**Top**] button to set this mining pool to the highest priority.

Click the [**Stop**] button to cut off the connection with this mining pool.

Click the [**Delete**] button to delete this mining pool.

Part Two：

Type in the mining pool address in Pool URL, name of the miner in Pool User, and the password in Pool Password, and then click the [**Add Pool**] button to add the new mining pool to the mining software.

Figure 7 Configuration

5. Set Temperature Reminder

Fill out your mail address, alarm temperature interval and temperature limit, and click the [**Set Warning Param**] button to complete the mail reminder setting. The alarm temperature is used for automatic frequency adjustment. The mining frequency will be reduced automatically to protect the chips when the current blade temperature is over the warning temperature. The maximum alarm temperature cannot be over 70°C.

6. Set Fixed IP

The miner is preset to use DHCP. If you want to use a fixed IP, you need to manage the setting as follows:

Fill out the fixed IP, subnet mask, network entry, enable IP Enable, and then click the [**Set IP Config**] button. If you want to return to DHCP mode in the future, you only need to remove IP Enable and click the [**Set IP Config**] button. Note that some routers require corresponding settings to use fixed IP addresses for mining. in that case you need to have a full understanding of the router you are using to correctly use the fixed IP address for mining. The IP mode settings need to restart the machine to take effect.

7. Save Configuration

After setting all the parameters, click [**SaveConfiguration**] to save all the parameters. If not saved, these parameters will become invalid after restarting the miner.

8. ASIC Chip Parameter Settings

The maximum working frequency PLL preset by the miner is 660Mhz. You can modify the upper limit of the frequency by entering a valid PLL value, and then click the [**Set PLL**] button to complete the setting. Unless there with professional advice, we do not recommend you change the preset PLL frequency. The new highest PLL frequency will take effect after restarting the system.

Part Three：

9. The updateMiner/rollbackMiner/restoreMiner function is used to upgrade and restore the version of the Miner program.

The current mining software version is shown in the third part of Figure 7, similar to cgminer 5.3.6..

2.4 Update

Since there may be bugs in the version of the production test or the firmware has been optimized in the future, it is suggested that the user should check whether the firmware version of the machine is consistent with the latest version on the official website as soon as it is received first time. If not, the latest version should be downloaded and upgraded.

Update your machines by DevManager.

Download the update package from our website http://en.ibelink.com.hk/xiazai/, As Figure 8. Select the device that you want to update as figure 9. And then click the button [Select Update Pack] to choose the update package which you can. The tool DevManager can also be downloaded in the item 'Others' of the same page. Then click [Update Selected Dev] to update the device you selected. Or, you can click [Update All Devs] to update all the device by your searching. More details you can see in Figure 8~10.

Figure 8 Download update pack
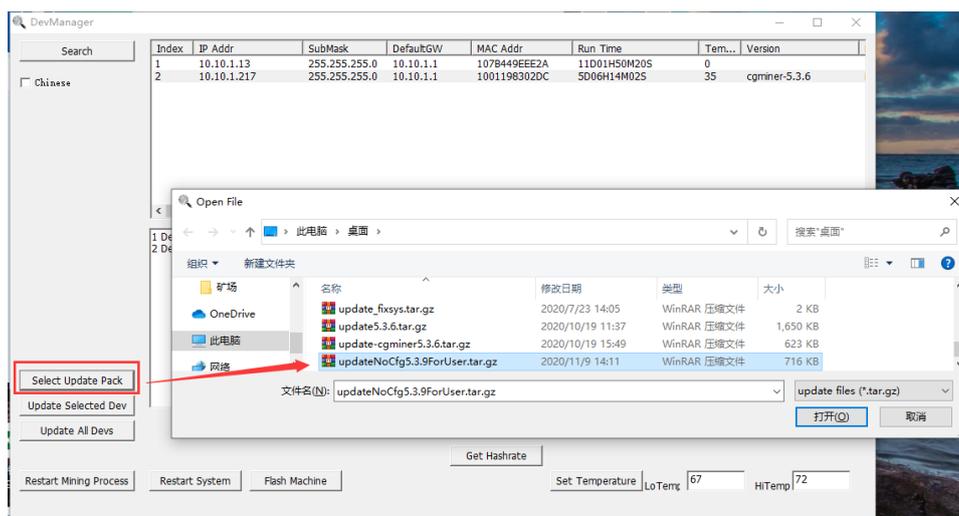
Figure 9 Select Update Pack
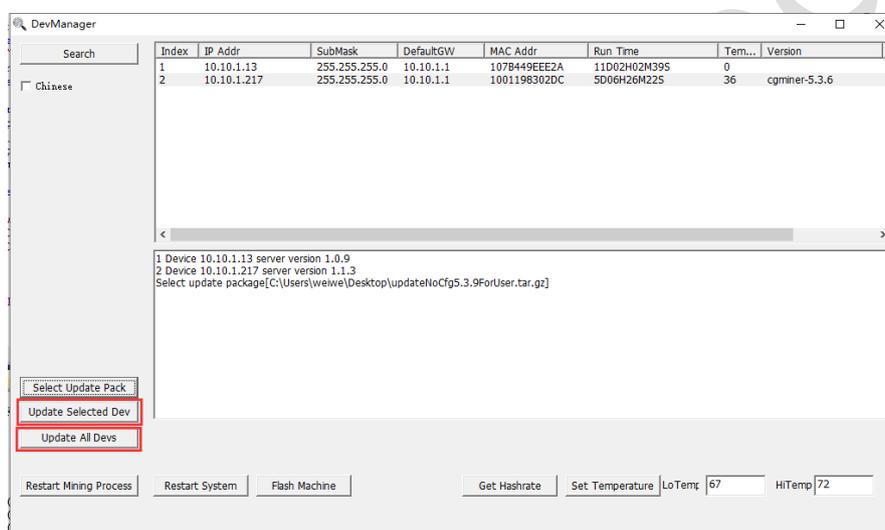
Figure 10 Update Selected Dev/Update All Devs

3 FAQ

3.1 Can iBeLink S1 mining machine be over clocked?

No, don't do this. Overclock has a high possibility of causing permanent damage to the ASIC chip.

3.2 How to maintain the efficient operation of iBeLink S1 mining machine?

Keep this miner running at a cool ambient temperature as much as possible. Maintaining the ambient temperature below 35°C can achieve good efficiency.

3.3 What does DIY problem diagnosis and repair mean?

The design idea of iBeLink S1 mining machine is modular design. The original intention of this

design is to make it easier for miners to diagnose and repair by themselves when they encounter problems with the mining machine without having to send the entire mining machine back to the manufacturer for repair. Most of the problematic miners should be able to resolve or reduce the loss of computing power through diagnosis and repair. We will publish a series of "how to" videos to help miners achieve DIY. We believe that iBeLink S1 will provide the best product life cycle holding cost.

3.4 Why can't my browser configure the mining machine parameters?

It is recommended to use Google's Chrome browser to save the miner configuration.

3.5 What does the bitmap of the chip on the homepage mean?

When the mining software starts, it will detect all ASIC chips on each blade. If the chip at the corresponding position is normal, then its bitmap value is 1, otherwise it is 0. If the 60 chips of each blade are normal, the value of the bitmap will be 0xfffffffffffffff, and the corresponding binary value is 60 ones. If the first chip is abnormal, the value of the bitmap will be 0xffffffffffffffe, its binary value is 111...1111111111110. The meaning of the parameter *Active Map* is similar to that of the parameter *Chips Map*. When the chip calculates the correct result, the value of the corresponding position is 1, otherwise it is 0. The value will be updated to 0 every 10 minutes.

3.6 Why sometimes the number of ASIC chips on my homepage is less than 0xfffffffffffffff?

Due to electrical instability and possible bugs in the software driver, the checking process of mining software may miss out 1 or 2 chips occasionally.

3.7 Why does the mining software restart automatically?

The mining software supports automatic recovery from network or driver errors and has a hardware watchdog to monitor the entire system. When an abnormality is detected, the mining software automatically restarts to try to recover itself, so it's normal that the mining software occasionally restarts automatically.

3.8 How to recover mining software from a crash?

Update the device as 2.4.

3.9 Why the hash rate statistics results are different in different mining pools?

The mining software performs hash rate statistics based on the returned nonce. The difference in the difficulty of the mining pool will result in a different number of nonce, which will affect the hash rate statistics and lead to different results.

3.10 Why my worker is not in the main mining pool but in other mining pools sometimes?

When multiple mining pools are configured, the mining software will mine in the most important mining pool (main mining pool), but if the main mining pool loses connection due to the network and other reasons, the mining software will automatically switch to standby pool to continue mining.

3.11 Mainstream Blake2s mining pool

stratum+tcp://ckb.f2pool.com:4300
stratum+tcp://ckb.antpool.com:9018

4 iBeLink S1 Technical Support Information

http://ibelink.com.hk/zhichi/