iBeLink DM384M Specification

Version Update List

Time	Description	Version
2016-01-22	Initial version	1.0
2016-02-18	Fixed some bug	1.1
2016-03-02	Updated pool list	1.2
2016-04-22	1. Added temperature monitor 2. Supported the extra nonce(xnsub) protocol 3. Fixed the configuration failure bug 4. Updated the web UI	1.3
2016-05-12	1. Supported static IP configuration 2. Updated the web UI	1.4

Component list

Index	Component	count	description
1	Main box	1	Size 49x35x18 cm
2	Power cord	1	Power supply
3	Specifications	1	This document

Feature

- Hash rate: 384MHash ±10%, power consumption: <2W/MHash
- Support all POW X11 algorithm encryption currency mining
- Support the Stratum protocol pool and solo mining
- Provide web management platform, ease of setup and large-scale deployment
- Web platform providing hash rate statistics, mining pool status monitor
- Support to restart mining software or to restart the machine through the web platform
- Support power-on self-test function and identifying each fault chip location
- Support hashing blade LED status indication, convenient for large scale mining operation
- Support main pool and multi backup pool settings, and automatic switching of faulty pool
- Support email warning for hash rate abnormality and nonce rejection rate abnormality, maximizing your miner's up time
- Support email warning for hashing blade loss, and restart for self-recovery
- Support self-recovery from network and driver fault with independent system watchdog

Operation Guide

State of miner machine

After linked to network and power up about 1 minute, the four LED lights on the front panel will turn from red to blue one by one, indicating mining started normally. On any computer in the same local network (exactly the same route) with the mining machine, enter the hostname (default name: iBeLink) or its IP address in the browser, such as: http://iBeLink/, you can open the mining machine home page web management platform, as shown in Fig. 1.

Fig. 1 iBeLink DM384M miner web management platform homepage

The home page shows the basic information of the mining machine:
1. The current time, time zone, hostname, IP address, MAC.

2. Mining machine chip count, blade count, temperature, average nonce count per minute, 5S and average hash rate statistics, returned nonce count from chip, accept/reject/error nonce count and rate from the startup time.

3. The running time of the machine, PLL and serial baud rate parameter

4. The chips count, the test result bitmap, returned nonce count from chip and bitmap during last 20 minutes, accept/reject/error nonce count and rate, the current task difficulty, average nonce count per minute, and current mining pool index, all for each blade.

5. Statistics of task information from the mining pool.

Mining Configuration

1. Modify hostname: as shown in Fig.1, input the new hostname at the text box next to NewHostName, Click **[change]** button to modify the hostname, and reboot machine to take effect.

2. Click **[reboot]** button to restart the whole machine.

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

4. Pool configuration
   In Fig.1, click the **[Config]** button to link to the mining machine configuration page as shown in Fig.2.
   As shown in Fig.2, filling the mining pool site in the Pool URL input box, mining worker name in the Pool user input box, mining worker password in the Pool Password input box, click the **[Add Pool]** button to add the mining pool.
   Click the **[Top]** button to set the highest priority pool of mining.
   Click the **[Stop]** button to disconnect the mining pool.
   Click the **[Delete]** button to delete the mining pool.

Pool	Priority	URL			Gets	Diff	Accepts	Rejects	Discards	Stales	Get Fails	Rem fails
0	0 Top	stratum+tcp://mine1.coinmine.pl:6099	Stop	Delete	10	0.328	75 100.00 %	0 0.00 %	18 180.00 %	0 0.00 %	0 0.00 %	0 0.00 %
1	1 Top	stratum+tcp://mine1.coinmine.pl:6090	Stop	Delete	2	0	0	0 ---	0 ---	0 ---	0 ---	0 ---

Pool URL	Pool User	Pool Password	Action
stratum+tcp://x11.eu.nicehash.com:3336	1DhA2222233333344445555566677788979	x	Add Pool

Email Server	Email User	Email Password	Action
smtp.gmai.com	ibelinkserver@gmai.com	••••••	Set Email Server

Email Target	Low Hashrate Threshold(MH)	High Reject Threshold(%)	Action
ibelink@foxmail.com	300	10	Set Warning Param

Low Hashrate & High Reject Warning Duration(m)	Start Time(m)	Time Zone
10	60	8

Temperature Warning Duration(s)	Warning Temperature(°C)	Shutdown Temperature(°C)	Sensor Fault Warning
60	60	80	☑ Enable

Static IP	Netmask	Gateway	Action
192.168.1.120	255.255.255.0	192.168.1.1	Set Static IP

Static IP Enable	API Port
☑ Enable	4030

Already send Low hashrate warning Email count: 0 and High reject warning Email count: 0 and Temperature warning Email count: 0

Click the button to save configuration — **Save Configuration**

To restart/quit cgminer or update/rollback/restore cgminer version, click the checkbox, then press the button. Current version cgminer-3.5.6

☑ Restart	☐ Quit	☐ Update	☐ Rollback	☐ Restore

Fig.2 Mining Machine configuration

5. Email warning configuration
   Mining machine provides Email warning of low hash rate and the high rejection rate of pool. Setup as following:
   Filled the Email server address, Email user and password, click the **[Set Email Server]** button to set the mail server,

Filled the target Email, the low hash rate threshold value (MHash/s), the pool high rejection threshold (%), the warning duration(minute) and the warning start time(minute), click **[Set Warning Param]** button to set Email warning parameters.

The time zone is used to correct time zone difference on the homepage showing current time.

6. Temperature monitor configuration

   Mining machine provides temperature monitor function, and it can be configured as following:

   Filled the temperature warning duration(second), warning threshold temperature(℃) and shutdown miner threshold temperature(℃), and selected the temperature sensor fault warning, click **[Set Warning Param]** button to enable the temperature monitor. Attention, shutdown temperature must above the warning temperature and the maximum value is 80℃, and it will shutdown the miner if temperature above threshold value for a fixed duration of more than 5 seconds.

7. Static IP and API port configuration

   Mining machine provides DHCP as default, if you want to configure a static IP, it can be configured as following:

   Filled the Static IP, Netmask, Gateway and selected the static IP enable checkbox, click **[Set Static IP]** button to enable the static IP, if you want to switch to default DHCP mode, just clear static IP enable checkbox and click **[Set Static IP]** button. Attention, some routers need to be configured also when PI switch to static IP.

   The API port is default 4029, and you can fill new API Port and click **[Set Static IP]** button to change it.

   IP mode and API port configuration will take effect after save the configuration and reboot the PI system.

8. Save configuration

   After all parameters are configured, click **[Save Configuration]** button to save the parameters.

9. Mining software restart/quit/update/rollback/restore

   As shown in Fig.2, the default mining software version: cgminer-3.5.6

   Check the **[Restart]** selection box, click the **[Restart]** button to restart mining software.

   Check the **[Quit]** selection box, click the **[Quit]** button to exit the mining software.

   Check the **[Update]** selection box, click the **[Update]** button to update the software version.

   Check the **[Rollback]** selection box, click the **[Rollback]** button to rollback mining software last version.

Check the **[Restore]** selection box, click the **[Restore]** button to restore mining software default version and load factory default configuration.

10. ASIC chip parameter configuration

In Fig.1, click the **[Modify]** button to link to the ASIC chip parameter configuration page shown in Fig.3.

Check the Set PLL selection box, filling the PLL parameter, and then click the **[Apply Settings]** button to apply the PLL parameter to the ASIC chip.

Check the Set Baudrate selection box, filling the baud rate parameter, and then click the **[Apply Settings]** button to apply the baud rate parameter to the ASIC chip.

Check the Reconfig Blade selection box, filling the parameter to 1, and then click the **[Apply Settings]** button to re-configure the blade.

Edit settings below for DM0 on CGMiner-Dash			
Set	Min	Setting	Max
☑	25	Set PLL: **115** MHz	115
☑	115200	Set Baudrate: **921600** bps	921600
☑	0	Reconfig Blade:	1
Apply Settings			

Fig. 3 ASIC chip parameter configuration

Note

Don't forget to click the **[Save Configuration]** button shown in Fig.2, if you want to save the parameters of ASIC chip.

FAQ

- **Why my browser can't configure parameters of miner?**
  It is recommended to use the Goolge Chrome browser to configure the parameters of miner.

- **What does bitmap Chip mean in the home page?**
  While mining software startup, it will self test all ASIC chips at each blade, if the test result is normal, the bitmap values set to 1, otherwise to 0, corresponding to the chip position. Active bitmap values reflect the nonce return corresponding to chip position, and clear to 0 every 20 minutes.

- **Why my web shows ASIC chip count less than 192 sometimes?**
  Due to electrical instability or software driver abnormality, mining software fail to accurately detect all chip. As long as the detected chip number on a blade is greater than 32, the mining software will do the configuration as 48 chips for the blade, it does not affect the actual hash rate.

- **Why the temperatures show -80℃ sometimes?**
  It means that the temperature sensor is faulty and it needs to confirm the hardware is normal. If you configured the Email warning and selected the sensor fault warning, it will send warning Email to you if the abnormal situation last for more than the temperature warning duration.

- **Can the machine be over clocked?**
  It can be overclocked by modify the chip PLL parameters. But default PLL frequency is the ideal configuration of overall performance of the mining machine, so no need to overclock any more.

- **How to disable the Email warning?**
  Empty Target Email text box, click the [Set Warning Param] button to disable the Email warn function.

- **Why the blades loss warning is not required during configuration?**
  Blade abnormal loss influence hash rate substantially, so the corresponding Email warning function is enabled by default. After setting your warning mail server and target e-mail address to receive, with any abnormal loss of the blade, the mining software will automatically send emails and turn the corresponding LED to red, and it will wait for about 2 seconds and then restart mining software, tries to retrieve the lost blade. If warning email function is disabled, no warning email will be sent out, but mining software will still automatically restart to retrieve the lost blade.

- **Why mining software automatically restart?**
  Mining software support self recovery from network or driver fault, with watchdog monitoring for the whole system , when an anomaly is detected, the mining software will automatically restart, trying to self-recover from the fault, so mining software auto restart is a normal phenomenon.

- **How to recover the mining software after crash?**
  After the miner crashed, click the [Config] button and link to the web shown in Fig. 4, you can choose to update latest mining software version or roll back to last version or restore to default version and factory configuration.

Fig. 4 Recover the miner after crash

- **Why hash rate statistical results are not the same in different mining pools?**
  Mining software do hash rate statistics by returned nonce, different mining pools provide different difficulty, returned nonce count are not the same, leading to the hash rate statistical results are not the same. If low hash rate e-mail warning function is enable, please pay attention to different mining pool configuration and corresponding threshold value.

- **Why some mining pool rejection rate is very high?**
  Since the hash rate of iBeLink DM384M mining machines is very high, orders of magnitude of those typical GPU miner, some mining pools are unfriendly to ASIC mining machine, causing very high rejection rate. If mining pool can set the difficulty, please appropriately raise the difficulty of mining, reduce nonce average quantity, so as to reduce the rejection rate, or switch to other ASIC friendly mining pool.

- **Why my miner is not in the main mining pool but in reserve pool sometimes?**
  In multi mining pools configuration, mining software work in the highest priority of mining pool, if the main mining pool connection failed, it will automatically switch to the available reserve mining pool to mine.

- **Popular X11 algorithm mine pool**
  https://www.nicehash.com
  https://www2.coinmine.pl
  https://www.suchpool.pw
  https://www.multipool.us
  https://www.coinotron.com
  http://www.p2poolmining.us

Disclaimer

- The manufacturer is not liable for any loss or damage of the miner caused by irresistible force of nature.
- The manufacturer is not liable for any loss or damage of hardware and/or software caused by unauthorized alteration of the miner.
- The manufacturer is not liable for any loss or damage of the miner caused by over-clocking or improper heat dissipation.
- The manufacturer is not responsible for any miner sold through unauthorized distribution channels.
- The manufacturer is not responsible for any loss of the mining capability caused by ASIC unfriendly mining pool.
- The manufacturer is not responsible for any loss due to the price fluctuation of crypto currency.

iBeLink DM384M Technical Support Info

- https://dashtalk.org/ support account: iBeLink_1