Miner Log Technical Guidance

File NO.： QS-AMS-001

Version： A/0

Department： Quality Department

Date： 2022/03/08

Change list

NO.	Version	Description	Editor	Date
1	A/0	Initial Version	Hongliang Hao	2022-03-08

1. Introduction

Explain the parameters of the miner in the LOG, and guide how to check the miner status, such as the temperature, network delay status, power supply failure code and the reason for restart.

2. Scope

For all A10\A11\A12 mining machine

3. Main content

3.1 Main log explain：

field	Name	Remark
When	MM board power-on time	
Elapsed	Total running time of miner after starting (unit: s)	Total HASH board running time
Ver	Version number of miner firmware	Don't send the miners with T which failed commit to factory, these miners are only for test
DNA	The Unique miner ID。	
MEMFREE	The remaining memory	
NETFAIL	After connecting the pool successfully, the time to disconnect from the mine pool and the time to resume the connection are also included.	The odd number items (items 1, 3 and 5) are the time of disconnection from the pool, and the even number items (items 2, 4 and 6) are the time for resuming the connection with the pool. The time is in seconds, and the starting time of miner is the 0 second.
SYSTEMSTATU	The current status of the system, including the working status and the number of hash boards in operation。	
BOOTBY	Last system restart reason	0： AM_BOOTBY_CLEAR 1: AM_BOOTBY_POWRON 2: AM_BOOTBY_OVERHEAT 3: AM_BOOTBY_NETFAIL 4: AM_BOOTBY_WEB 5: AM_BOOTBY_API 6: AM_BOOTBY_OPTIONS 7: AM_BOOTBY_POLLING 8: AM_BOOTBY_POOL_INACTIVE 9: AM_BOOTBY_LOW_MEM 10: AM_BOOTBY_UNKNOWN
LW	Local work， number of works sent by the MM board to the chip	Ideally LW/time/ number of chips=2（ two works are sent in one second）， Normally <3, > 3 indicates low hashrate
MH	How many errors occur to each hash board	Normal: less than 0.02%
HW	Hardware error	

DH	Average error rate. The normal range is 0.6-1.6%.	
Temp	Ambient temperature	
TMax	Maximum chip temperature。	
TAvg	Average chip temperature 。	
Fan1	Fan 1 rotating speed	
Fan2	Fan 2 rotating speed	
FanR	Fan rotating percentage	
Vo	Average chip voltage	Power output/ String number
PS	Power supply status	The meanings of items 1-6 are as follows: Item 1: error code.0 indicates normal, other values indicate power failure or output short circuit. Item 2: voltage supplied to the control board, the normal value is 12xx. Item 3: the normal voltage supplied to the hash board is between 1300 and 1400(Unit:10mv). Item 4: Power supply output current to hashboard. It's related to the output voltage of the power supply. Item 5: the output power of the power supply to the hash board, the normal value is between 3000 and 3200. Item 6: the desired output voltage of the power supply to the force calculation board, which is configured by the control board. If the six parameters in the PS field of the power supply are all 0, it means that the control board cannot communicate with the power supply.
PLL	The number of cores at each frequency	
PLLCNT	The distribution of the every chip core at which frequency point。	
GHSspd	New theoretical hashrate value	
GHSmm	Theoretical hashrate, Unit GH/s.	Note: the actual hashrate is the value obtained by deducting DH (calculation error rate) from theoretical hashrate.

GHSavg	Average Hashrate in 1 hour.	According to the 1-hour average hashrate by the actual work submitted, this value is closest to the 24-hour average hashrate of the mining pool.
WU	Effective work submitted every minutes	
Freq	Equivalent frequency	The chip works at different frequency points, and the equivalent frequency is the comprehensive equivalent frequency of the complete machine.
Led	White LED status	When you need to find a specific one among many miners, use API to light up the yellow green flashing LED light of the miner. Here is the status of whether the yellow and green flashing LED is on, 1 indicates that it is on, 0 means it is not
MGHS	The hashrate of a single hashboard, unit GH / S	All value add=GHSavg
MTmax	Maximum chip temperature in a single hashboard	
MTavg	Average chip temperature in a single hashboard.	
TA	ASIC chip numbers	
PING	The total time from submission to mining pool reception	Unit: ms
ECHU	Error code	ECHU shows 0 or 512 as normal, 513 as abnormal and 128 as overheated
ECMM	Control board status	When ECMM[0] is displayed, it indicates that the Control board is in normal state. When ECMM[1] is displayed, it indicates that the Control board may be faulty or improperly connected to the Hash board. The hash board problem can be determined according to the returned value. If ECHU displays 0 or 512, it is normal. If ECHU displays 513, it is abnormal.
SF0	The freq configuration state of the hashboard 0.	For example, SF0 [500 525 550 575] indicates that freq 1 is 500MHz and freq 4 is 575mhz.
SF1	The freq configuration state of the hashboard 1.	
PVT_T0	Temperature list of all chips of hashboard 0.	

PVT_T1	Temperature list of all chips of hashboard 1.	
PVT_V0	Voltage list of all chips of hashboard 0.	
PVT_V1	Voltage list of all chips of hashboard 1.	
MW	The total NONCE value calculated by all chips	
MW0	The calculated NONCE value for each chip	
CRC	Number of communication errors	For the status doesn't go up with time is normal, but there's a problem with large numbers
SoftOFF	Soft-off mark	SoftOFF[0]：normal SoftOFF[1]：soft reboot
ATAOPTS0	Low power mode parameters	
ATAOPTS1	High power mode parameters	
ATABD	frequency	
WORKMODE	Mode parameters	WORKMODE[0]： low-performance mode, WORKMODE[1]： in high-performance mode.
MPO	The target power consumption	
MVL	Voltage limit	
ADJ	Aging status	ADJ[1]：before aging ADJ[0]：aging is in process ADJ[2]：aging is completed If ADJ[1] is displayed after the restart, it indicates that the system has been aged
POWS	Power supply status parameter	Pows[1]：faulty Pows[0]：normal
HASHS	HASHboard parameters	HASHS[1]：faulty HASHS[0]：normal
POOLS	Connection pool network	POOLS [1]：faulty POOLS [0]：normal

3.2 Restart reason（find the BOOTBY CODE）

AM_BOOTBY_POWRON = 0x01	Hard reboot or unknown reboot
AM_BOOTBY_OVERHEAT = 0x02	Overheating. Partial firmware will be 0A1E
AM_BOOTBY_NETFAIL = 0x03	Network problems
AM_BOOTBY_WEB = 0x04	Network back end reboot
AM_BOOTBY_API = 0x05	API reboot
AM_BOOTBY_NOSHARE = 0x11	Five minutes without hashrate
AM_BOOTBY_LOW_HASHRATE = 0x12	hashrate <70% (some firmware will be changed)
AM_BOOTBY_SOFTON = 0x21	Soft reboot