

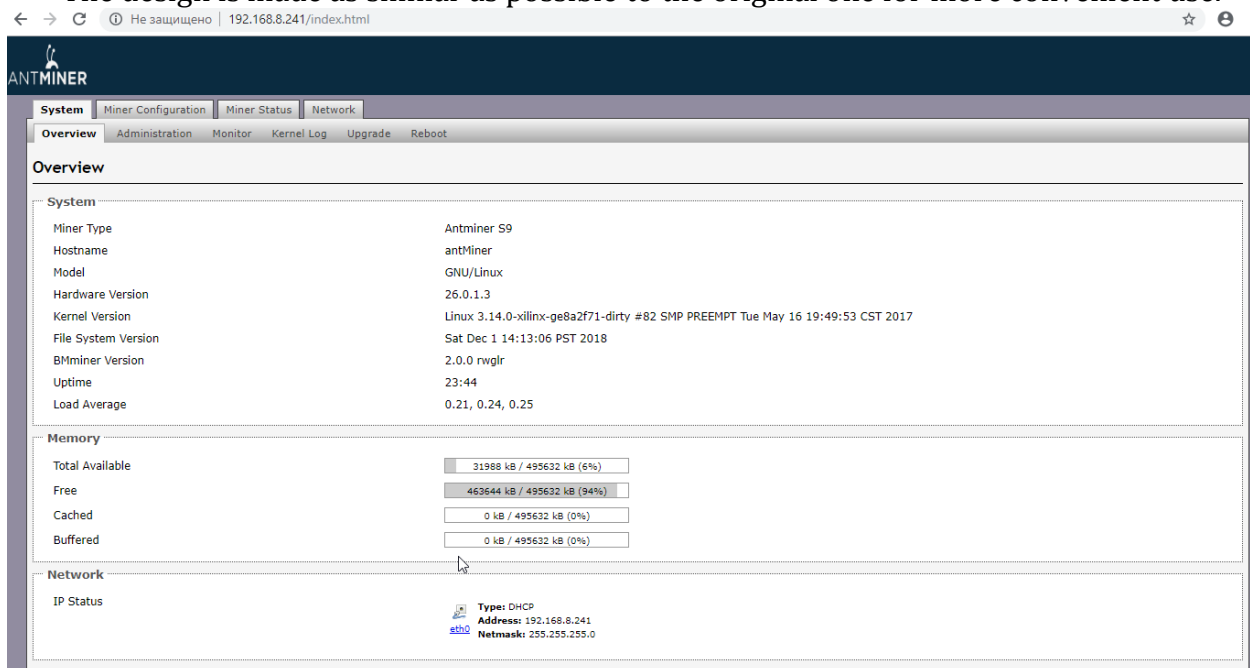
AsicFW.io

AntMiner s9 / s9i / s9j

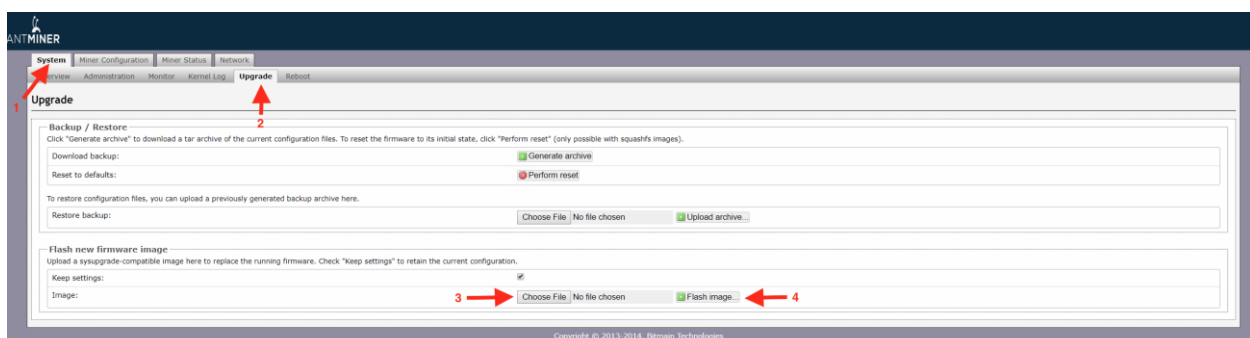
The firmware from asicfw.io is available for download free of charge, but it has a Dev Fee of 1.3% -2% (mining is not interrupted, the dev fee works parallel to the main mining). The firmware from asicfw.io makes it possible (with the same consumption as standard firmware from Bitmain) to get more computing power and extend the life of AntMiner 5 times due to the tuning of each chip separately.

AntMiner s9 / s9i / s9j firmware from asicfw.io fits all models. The first custom firmware with AsicBoost S9 saves up to 250W on pools that support AsicBoost technology (slushpool, antpool, btc.com, f2pool and others).

The design is made as similar as possible to the original one for more convenient use.



The firmware is installed in a standard way.



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The firmware AsicFW.io for S9 / S9i / S9j with control of each hashboard's frequency, voltage and overclocking templates up to 18 + TH in the air and 19-22TH in immersion cooling. (Be careful, the overclocking requires a more powerful power supply. You can use 2 standard power supplies or 3 standard power supplies (1600W) for 2 Antminers – **You must not connect one hashboard to two different power supplies!**

The screenshot shows the 'Miner General Configuration' and 'Advanced settings' tabs. Red arrows and numbers 1 through 12 highlight specific configuration options:

- 1**: Points to the 'Disable fan check (Immersion cooling only!!!)' checkbox.
- 2**: Points to the 'Fan speed (auto when unchecked)' dropdown menu.
- 3**: Points to the 'Low power mode (AsicBoost)' checkbox.
- 4**: Points to the 'Use new Bitmain fan management profile (increased speed, lower chip temp)' checkbox.
- 5**: Points to the 'Global Frequency' dropdown menu, which is set to 550.
- 6**: Points to the 'Global Voltage' dropdown menu.
- 7**: Points to the 'Frequency' dropdown menu for 'Setup chain 1', 'Setup chain 2', and 'Setup chain 3', all of which are set to 456.
- 8**: Points to the 'Voltage' dropdown menu for 'Setup chain 1', 'Setup chain 2', and 'Setup chain 3', all of which are set to 4 (8.3v).
- 9**: Points to the 'Reboot if temperature is above:' dropdown menu, set to 100.
- 10**: Points to the 'Restart if hashrate is below given number of percents of ideal hashrate:' dropdown menu, set to 90%.
- 11**: Points to the 'Reset' button.
- 12**: Points to the 'Save&Apply' button.

Below the 'Advanced settings' section, there is a warning: 'Attention! Frequency higher than 550 and voltage higher than default consumes more than 1600 W which requires more powerful Bitmain APW - APWS 2600 W. For example - Frequency 825 with highest voltage produces 17.5 TH and consumes 2100 W.'

1. Fan check disable for immersion into the immersion cooling.
2. Manual change of the fan speed in % or auto.
3. Enable or disable the AsicBoost feature.
4. Enable or disable low-noise fan auto mode.

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5. Change the frequency of all hashboards.
6. Change the Voltage of all hashboards.
7. Change the frequency of each hashboard individually.
8. Change the Voltage of all hashboards.
9. Watchdog - reboot when reaching the set temperature.
10. Watchdog - restart when the hashrate drops.
11. Reset.
12. Save and apply.

- The Watchdog function allows you to automatically configure a reboot when the hashrate drops and when the set temperature is reached.

1. Auto tuner profiles depending on power consumption.
2. Available in Manual - minimum frequency value. At this value the Auto tuner finishes tuning.
3. Available in Manual - maximum frequency value. From this value the Auto tuner starts tuning.
4. Available in Manual - minimum Voltage for Auto Tuner.
5. Available in Manual - with this value the Auto tuner starts tuning the Voltage.
6. Available in Manual - setting in % the amount of chips on the hashboard that work perfectly when changing the Voltage settings.
7. Available in Manual - time in seconds for CGMiner restart while the Auto tuner is being set.
8. Available in Manual - Auto tuner check duration.
9. Available in Manual - statistics poll interval.
10. Chip tuning section.
11. Running Auto tune chips that are not working perfectly.
12. Time in minutes for restart.
13. Frequency step auto tune settings.
14. Maximum amount of restarting auto tune chips.
15. Save and run auto tune settings.
16. Save and run only auto tune chips.

Manual mode is not recommended to be used by ordinary users!

THE AUTO TUNE SETTING TAKES FROM 30 TO 60 MINUTES. IT IS NECESSARY TO WAIT UNTIL THE AUTO TUNE SETTING IS DONE!

- When the antminer is connected to pools for more than 6 minutes - the auto tune finishes setting, then you can make changes.

There are auto tuning profiles from 700W to 1900W here that allow to adjust the optimal power and frequency on each board in one click. And after that to adjust the optimal mode of each chip separately.

After 60 minutes we see below.

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🔒 Не защищено | 192.168.8.241/cgi-bin/minerStatus.cgi

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ANTMINER

SystemMiner ConfigurationMiner StatusNetwork

Miner Status

Summary

Elapsed	GH/S(RT)	GH/S(avg)	FoundBlocks	LocalWork	Utility	WU	BestShare
23h44m40s	9,829.586	9,822.95	0	3,102,492	24.65	138,718.84	75108976

Pools

Pool	URL	User	Status	Diff	GetWorks	Priority	Accepted	Diff1#	DiffA#	DiffR#	Diffs#	Rejected	Discarded	Stale	LSDiff	LSTime
0			Alive	6.97K	3,080	0	28,941	0	193,835,966	619,785	0	95	45,421	0	6,969	0:00:00
1			Alive		1	1	0	0	0	0	0	0	0	0	0	Never
2			Alive		1	2	0	0	0	0	0	0	0	0	0	Never
3			Alive	512	3,084	998	6,179	0	3,163,648	8,704	0	2	845	0	512	0:18:41
4			Alive	32.8K	2,993	999	35,120	0	196,999,614	628,489	0	97	46,266	0	0	Never
total					9,159				0.0000%							
HW	91															

AntMiner

Chain#	ASIC#	Frequency(avg)	Watts	GH/S(ideal)	GH/S(RT)	HW	Temp(PCB)	Temp(Chip2)	ASIC status
6	63	456.00	266.76	3,274.99	3,241.26	30	38	53	00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
7	63	456.00	266.76	3,274.99	3,303.40	45	39	54	00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
8	63	456.00	266.76	3,274.99	3,284.93	10	38	53	00000000 00000000 00000000 00000000 00000000 00000000 00000000 00000000
Total	189	456.00	800.28 (AB)	9,824.97	9,829.59				

Fan#	Fan1	Fan2	Fan3	Fan4	Fan5	Fan6	Fan7	Fan8
Speed (r/min)	0	0	0	0	2,880	1,320	0	0

- The Dev fee is from 1.3% to 2%.
- Reserve address of dev fee if the primary one is not available.
- Power usage indicators of each hashboard and the total one.
- The number of DiffA# (work performed by a worker) user antminer.
- The number of DiffA# (work performed by a worker) Dev fee.
- The sum amount of DiffA# work done.

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How to calculate % dev fee = ("5"/"6")*100%=dev fee %

(3163648/196999614)*100%=1.6% dev fee

Setting of each chip individually allows you to reach the maximum power of Antminer and extend its service life, and sometimes it even makes it possible to bring a dead hashboard back to life.

On this page you can manually configure each chip individually.

The screenshot shows the 'Manual chips frequency config' page in the Antminer web interface. The page is divided into sections for 'Chain #6, frequency 456', 'Chain #7, frequency 456', and 'Chain #8, frequency 456'. Each chain contains a grid of chips, each with a frequency value and a color-coded status. A legend at the bottom explains the chip colors: Red (unacceptable deviation), Yellow (tolerance), Green (ideal), and Gray/Black (HW errors). The interface also includes navigation tabs like 'System', 'Miner Configuration', 'Miner Status', and 'Network'. A legend at the bottom explains the chip colors: Red (unacceptable deviation), Yellow (tolerance), Green (ideal), and Gray/Black (HW errors).

COLOURING CHIPS:

- Red chip - means an unacceptable deviation from the ideal operational mode.
- Yellow chip - means tolerance from the ideal operational mode.
- Green chip - means an ideal operational mode.
- Gray and black chip - means that these chips give HW (errors).

***Decrease frequency of all red chips** – 1 frequency step down for all red chips.

***Increase frequency of all green chips** - 1 frequency step up for all green chips.

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***Decrease frequency of all HW chips** – 1 frequency step down for all chips that produce errors.

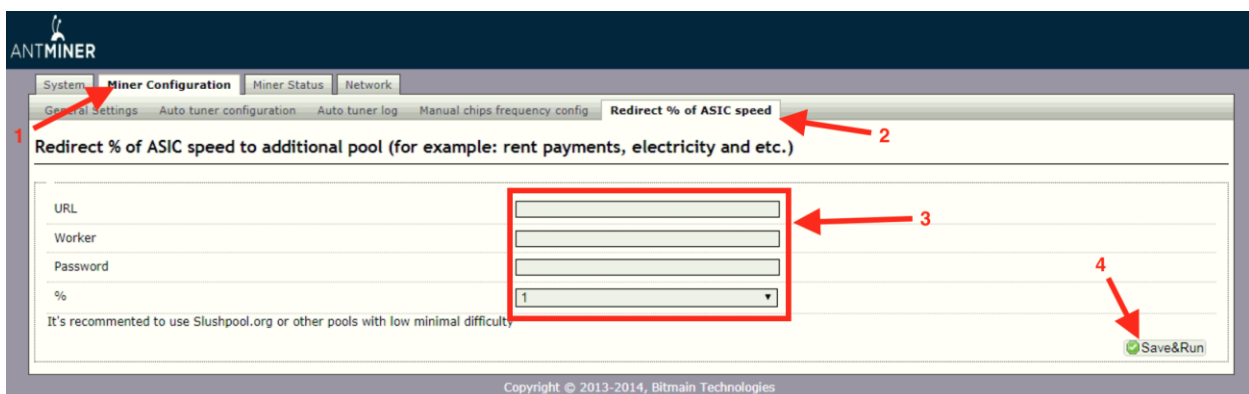
*** Show HW if number of HW is more than** - this value shows chips with the number of errors from 4 HW for 1 chip. The error gradation goes from light gray to black. The more errors the blacker the chip is.

It also provides managing the hashboards separately.

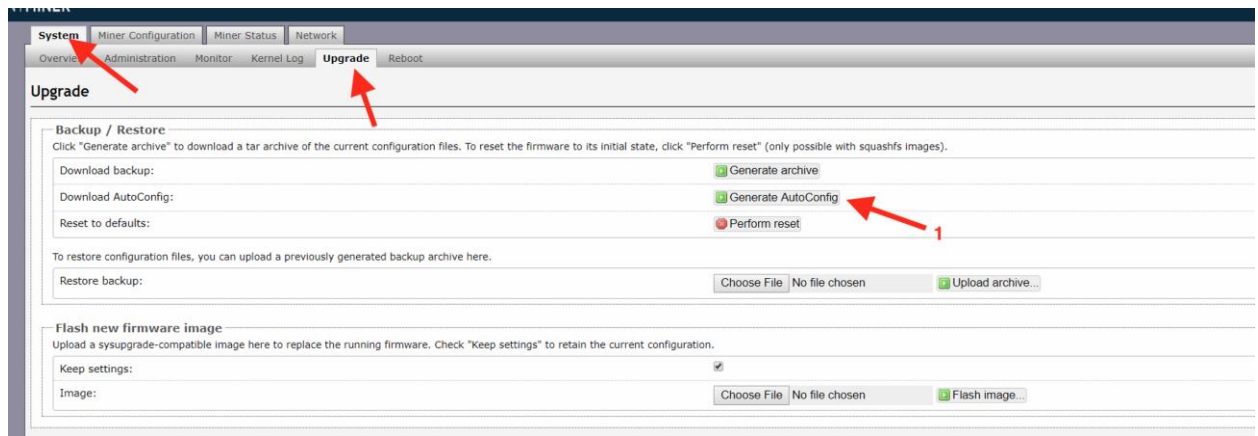
Chain #6, frequency     

- **Green** button - 1 frequency step up for all green chips on this hashboard,
 - **Red** button - 1 frequency step down for all red chips on this hashboard,
 - **Yellow** button - 1 frequency step down for all yellow chips on this hashboard,
 - **Gray** button - step down for all chips on this board that have HW,
- and also
- Button DEL – remove chip settings on this board.

The AsicFW.io firmware has an additional user's dev fee for a mining hotel and managers. It works the same way as the ASICFW.io dev fee - parallel to the main mining.



The AsicFW.io firmware has file generation **(1)** with URL pool and auto tuner settings. This makes it possible to apply the settings massively to a large number of Antminers. The last 2 octets of the antminer IP address will be added to the worker. (For example, worker: Alex ip 192.168.1.20 generates worker: Alex.1×20, etc.)



1. Configure the first Antminer as necessary - settings of pools and worker.
2. Run the selected Autotune W\Mhz mode
3. Without waiting for the Auto tuner setup **(1)** completion - save Patch AutoConfig - save the resulting Patch .tar file
4. In case you download this file as an update for AsicFW.io firmware to other Antminers, the config (pool, worker, auto tuner) will be applied to Antminer. Only .SUBNETxIP will be added to the worker to simplify the identification of Antminer on the pool.
5. You can do this procedure either manually or by using BTC Tools or Bitmain Toolkit for massively flashing of Antminers (upgrade firmware)- this really simplifies updating and tuning on large farms.