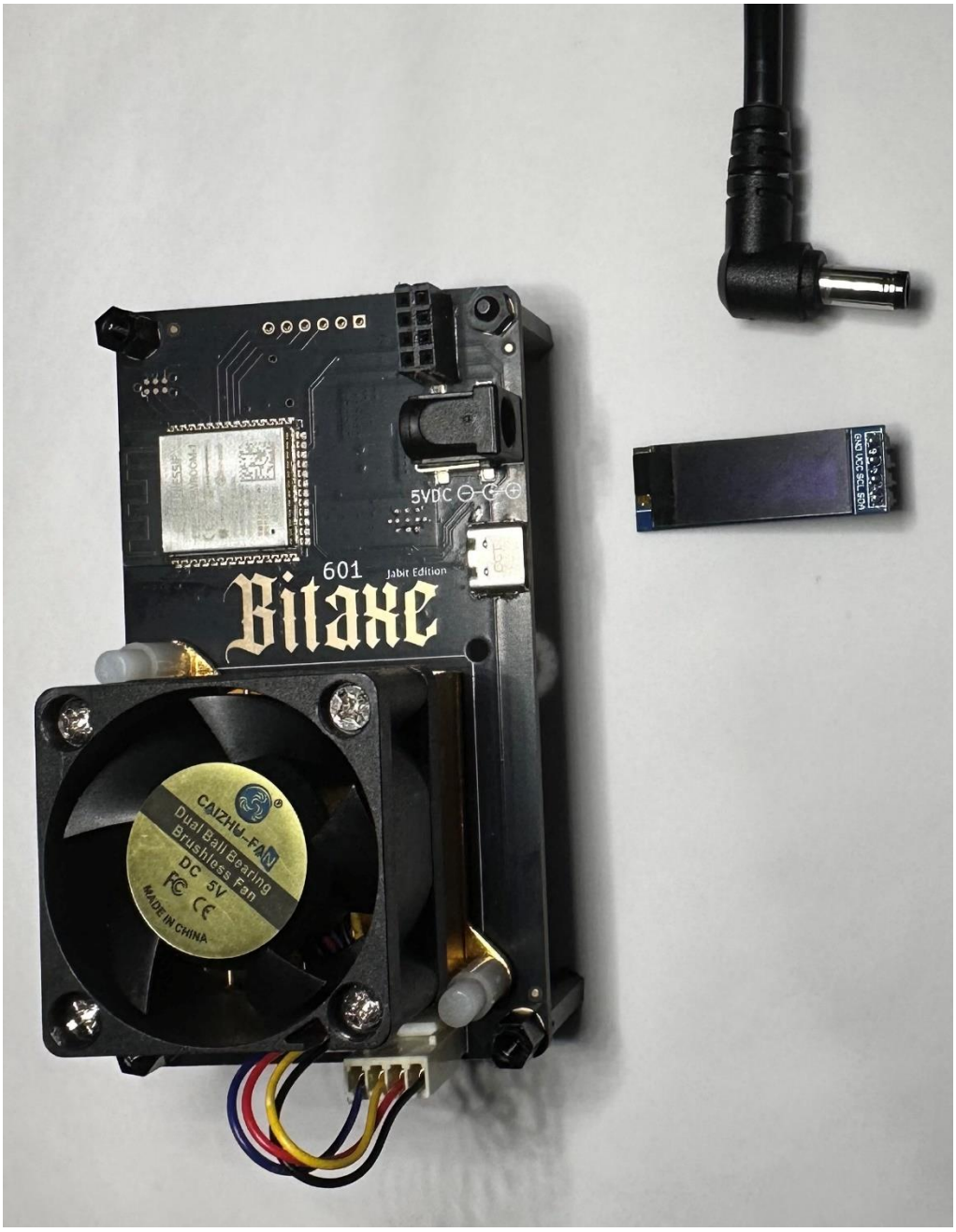
JABITAXE SETUP GUIDE (https://www.jabitaxe.com):

HOW TO SETUP BITAXE GAMMA CORRECTLY

This guide walks you through each step to get your mining rig up and running quickly and effectively. The Bitaxe Gamma unit comes installed with the latest Factory firmware



Step 1: Attaching the Screen

- Your Bitaxe Gamma includes a detachable screen to protect it during transit. Attach the screen to the unit using the fixtures provided.

Step 2: Power Connection

- Connect the 5V power cable to a suitable wall outlet. The Bitaxe Gamma is compatible with global voltage standards.
- Attach the other end of the power cable to your miner.

Step 3: Initial Boot-Up

- Power on your device and wait for the default factory screen to display "Bitaxe_XXXX," indicating it is ready for setup. You will notice your display scrolling with the following text:

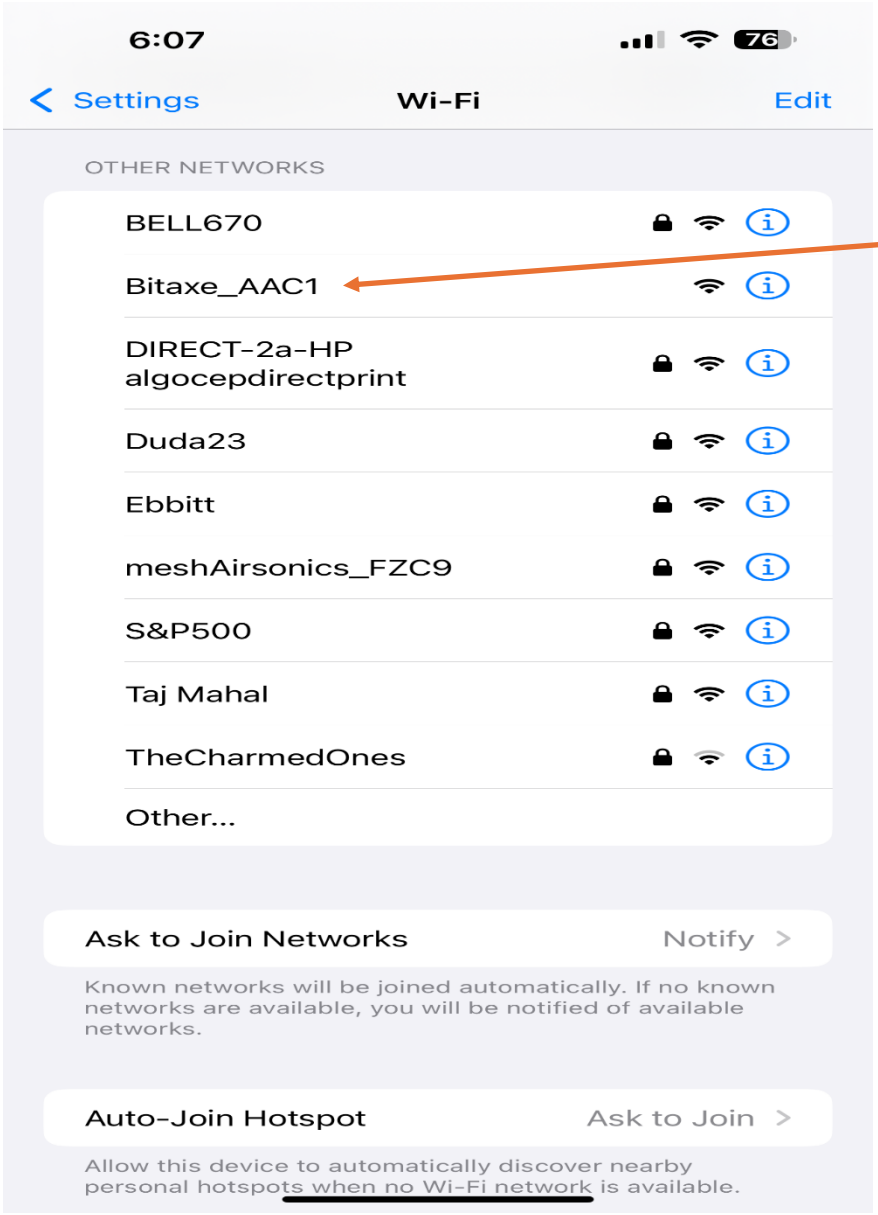
  Welcome to your new Bitaxe! Connect to the configuration Wi-Fi and connect the Bitaxe to your network

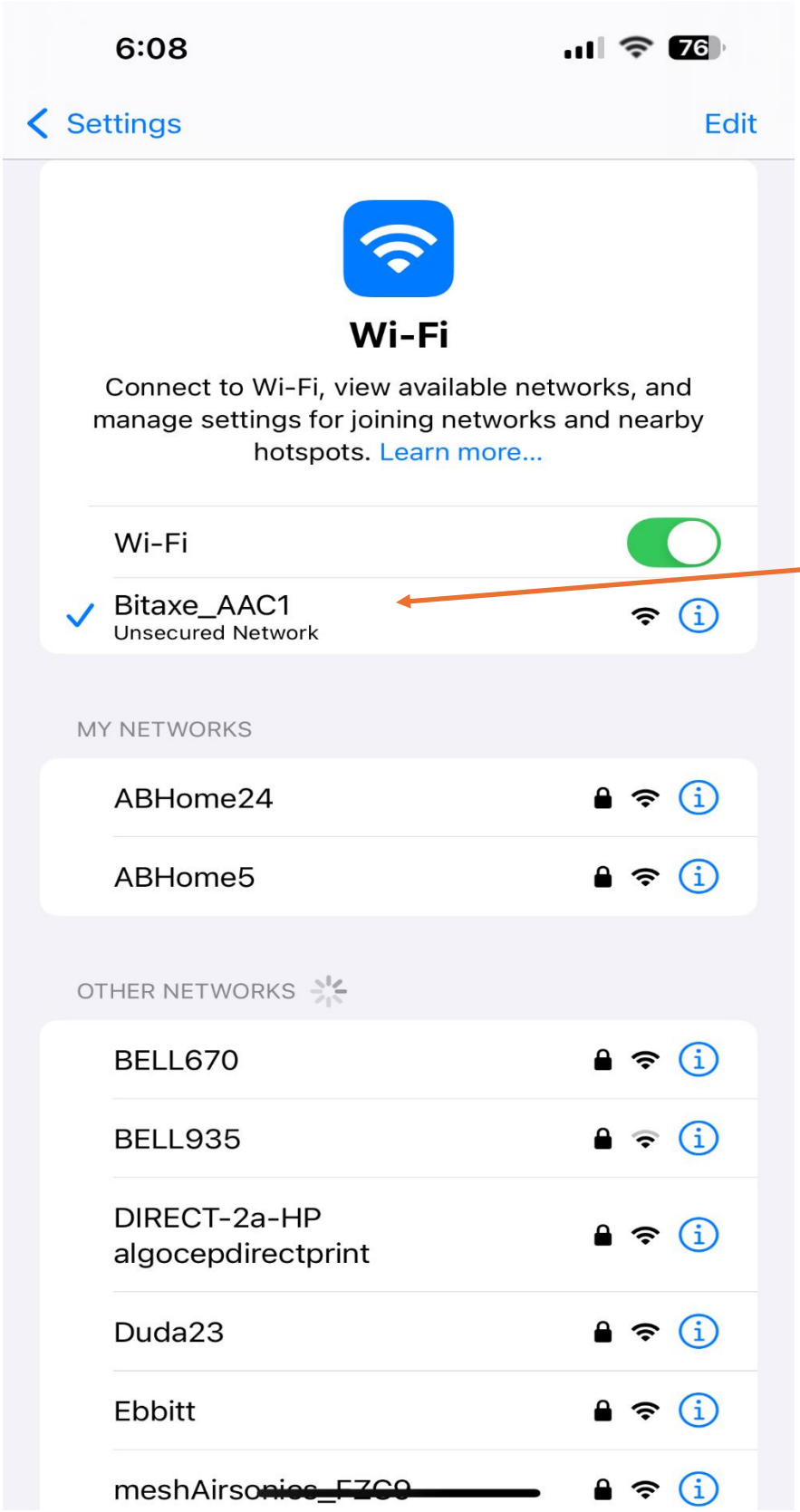
  Wi-Fi (For setup)

  Bitaxe_XXXX

Step 4: Wi-Fi Connection

- Use your smartphone or computer to locate and connect to the "**Bitaxe_XXXX**" Wi-Fi network. Select '**YES**' if asked to continue without internet access.
- **Note:** This is the built-in Bitaxe Setup Wi-Fi network that allows you to setup Bitaxe on your actual home Wi-Fi
- If the setup page doesn't automatically appear, open a browser and go to msftconnecttest.com.
- Under the 'Settings' in AxeOS, enter your home Wi-Fi details:
    - Wi-Fi ID: Your 2.4G Wi-Fi SSID
    - Wi-Fi Password: Make sure it's correct to avoid issues.
- **Save your Actual Home Wi-Fi settings and then click Restart in AXEOS**

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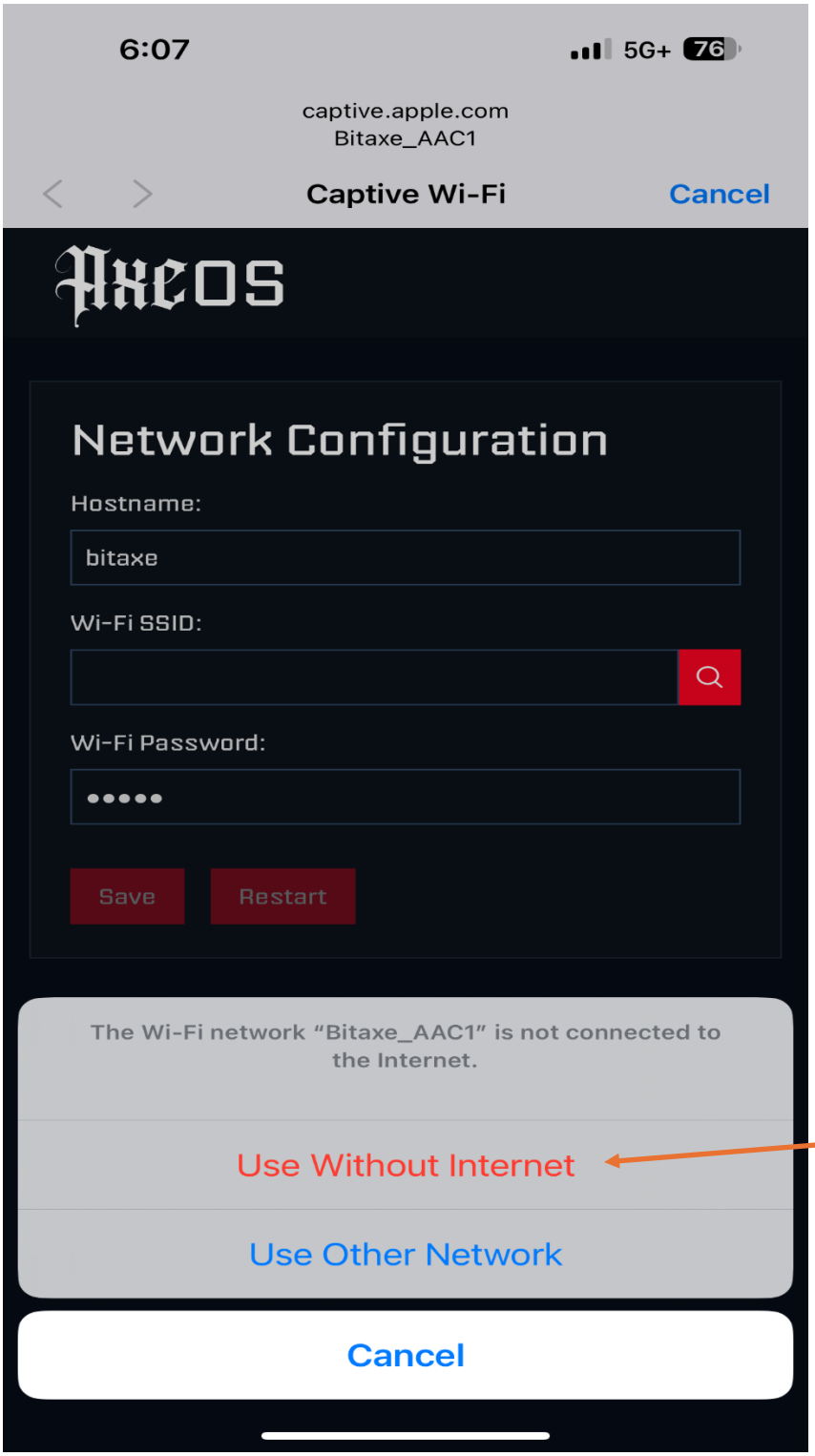
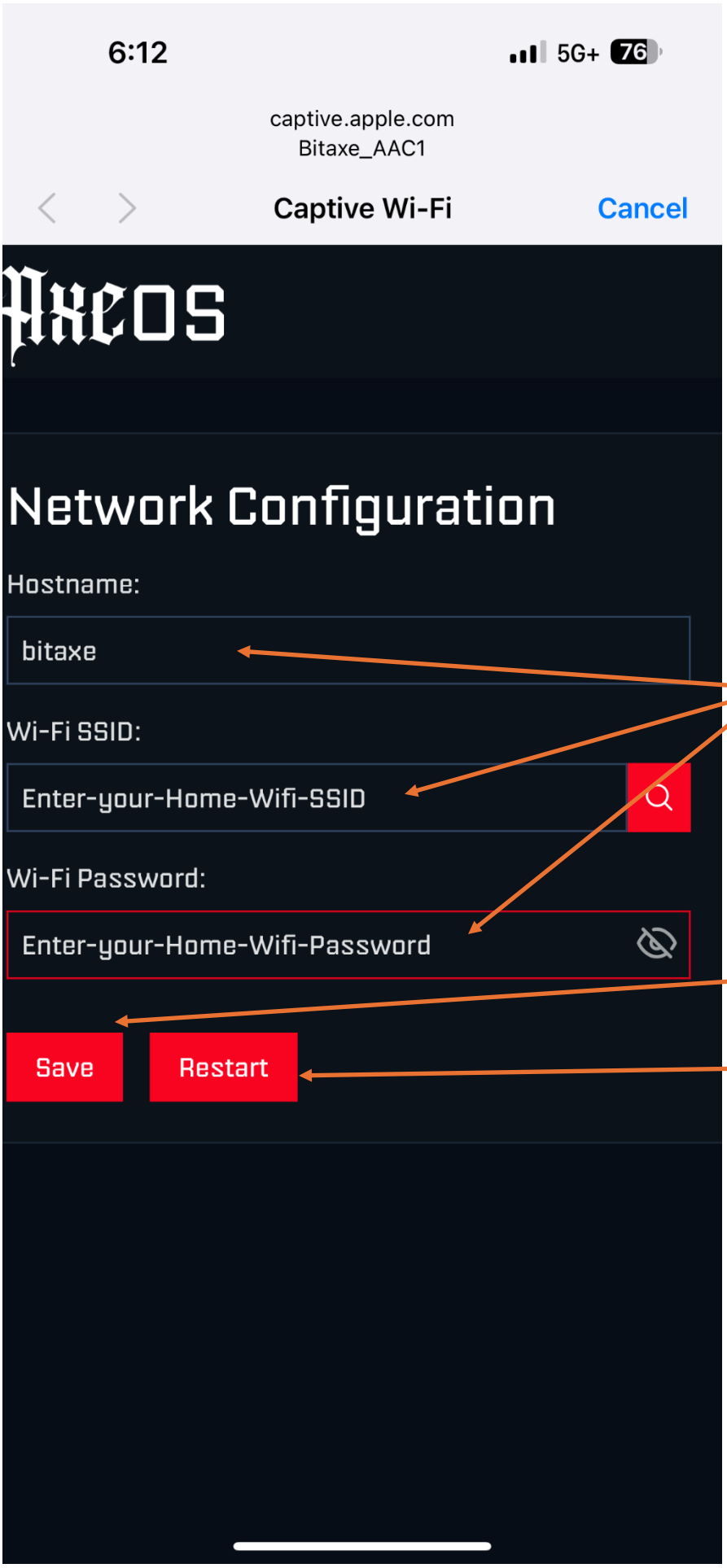
76
Settings
Edit
Wi-Fi
Connect to Wi-Fi, view available networks, and manage settings for joining networks and nearby hotspots. Learn more...
Wi-Fi
Bitaxe_AAC1
Unsecured Network
MY NETWORKS
ABHome24
ABHome5
OTHER NETWORKS
BELL670
BELL935
DIRECT-2a-HP algocepdirectprint
Duda23
Ebbitt
meshAirsonics_FZC9
Bitaxe_XXXX Setup Network connected



Select " Use without Internet " if asked after entering your 2.4 GHz Home Wi-Fi SSID and Password



Enter your 2.4 GHz Home Wi-Fi SSID and Password as required and also your Hostname if you want a different miner hostname.

- **Click Save**
- **Then Click Restart**

Miner hashing away after restart

Step 5: Customizing Your Miner with your own settings

NOTE:

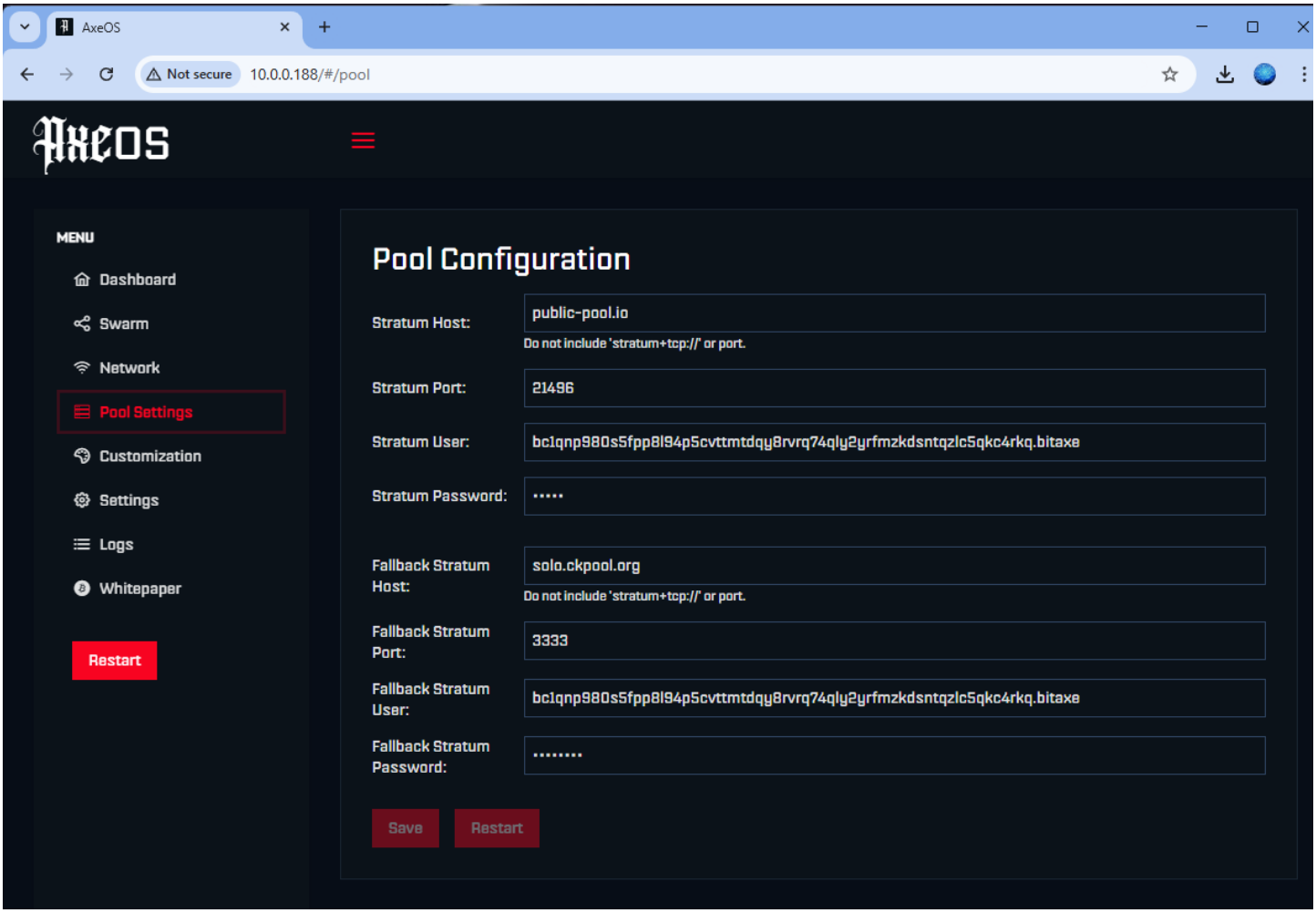
- **I recommend changing your fan control from automatic control to 100% under settings in AxeOS before any customization attempts. The Bitaxe Gamma ramp up when it starts mining will cause a very quick rise in Asic and Voltage Regulator from high 30's to low 60's C in just a few minutes when cooling is not optimal. After customizations are completed you can play around with fan control.**

- By default, the firmware factory configuration **does not** contain your mining Pool settings and bitcoin address. You must modify these settings with your own pool settings and bitcoin address.
- Connect to the AxeOS using your browser by looking at the IP address shown on the display of your Miner. It is in the format X.X.X.X
- Open your browser http://X.X.X.X

  If the IP Address shown is e.g. 10.0.0.188

  You would type in your browser: http://10.0.0.188

  NOTE: its **http** NOT **https**



- Go to Pool Settings.
- You will notice some default configurations that you need to change so that it can mine to your bitcoin address using the pool that you want.
- Enter both the Main pool and Fallback pool stratum settings including your bitcoin address and then Click Save.
- Then Click Restart and you are done. It will restart and start mining

Step 6: Before overclocking,

NOTE:

- **I recommend changing your fan control from automatic control to 100% under settings in AxeOS before any over clocking attempts.**
- **Overclocking the miner beyond the standard settings comes with high risk of damaging the miner. Please overclock at your own risk.**

Here is a simple sample of what you might need for a long lasting over Clock for your Bitaxe Gammas (we use the same in our OC lab)

(1) Mean Well LRS-350-5 Power Supply (Can handle up to 7 Over Clocked Bitaxe Gammas)

(2) 1 x 90 Degree DC Power Pigtails Cable, Right Angle DC 5.5mm x 2.1mm Male Plug (1 for each Bitaxe Gamma)

(3) 1 x Normal C13 Computer Power cable that you can cut one end and wire the LRS-350-5 PSU to the normal 120V AC outlet (Select the correct length 6 feet or 10 feet)

(4) 5 end-connectors for the cables going to PSU (3 from C13 power cable, 2 from each Bitaxe Gamma Power cable) -- we usually just buy a kit of various end terminals (much cheaper)

You will need a crimper (to crimp the terminals to the cables) if you don't have any

Links for amazon.ca below here:

(1) https://www.amazon.ca/MeanWell-LRS-350-5-Power-Supply-300W/dp/B077BP1F4Z

(2) https://www.amazon.ca/GINTOOYUN-Degree-Pigtails-Replacement-Monitors/dp/B0B6HT23WK

(3) https://www.amazon.ca/Amazon-Basics-Computer-Monitor-Replacement/dp/B072BYGKZZ

(4) https://www.amazon.ca/Qibaok-Connectors-Insulated-Electrical-Terminals/dp/B0869FSG86

Upgrading the Firmware

- DO NOT UPDATE THE FIRMWARE AT THIS TIME - IT Will BREAK The Unit. You can do this later if there is an upgrade available. Thank you!

KNOWN PSU ISSUE: VOLTAGE DROP FROM NON-ADJUSTABLE 5V DC PSU TO BITAXE GAMMA MINER

Using Simple explanation and calculations from rapidtables.com:

Voltage drop calculations

DC / single phase calculation (Single phase is the most common in most homes)

The voltage drop V in volts (V) is equal to the wire current I in amps (A) times 2 times one way wire length L in feet (ft) times the wire resistance per 1000 feet R in ohms (Ω/kft) divided by 1000:

$$V_{drop\ (V)} = I_{wire\ (A)} \times R_{wire(\Omega)}$$

$$= I_{wire\ (A)} \times (2 \times L_{(ft)} \times R_{wire(\Omega/kft)} / 1000_{(ft/kft)})$$

The voltage drop V in volts (V) is equal to the wire current I in amps (A) times 2 times one way wire length L in meters (m) times the wire resistance per 1000 meters R in ohms (Ω/km) divided by 1000:

$$V_{drop\ (V)} = I_{wire\ (A)} \times R_{wire(\Omega)}$$

$$= I_{wire\ (A)} \times (2 \times L_{(m)} \times R_{wire\ (\Omega/km)} / 1000_{(m/km)})$$

Using Non-Adjustable 5V DC PSU (5V, 10A = 50W) as an example , we can approximately calculate the voltage drop :

8:55

rapidtables.com

Wire type:
Copper
Resistivity:
1.72e-8 Ω·m
Wire diameter size:
14 AWG
Wire/cable length (one way):
1 meters
Current type:
DC
Voltage in volts:
5 V
Current in amps:
10 A

Calculate Reset

Voltage drop in volts:
0.165312 V
Percentage of voltage drop:
3.30625 %
Wire resistance:
0.0165312 Ω

8:55

rapidtables.com

Wire type:
Copper
Resistivity:
1.72e-8 Ω·m
Wire diameter size:
16 AWG
Wire/cable length (one way):
1 meters
Current type:
DC
Voltage in volts:
5 V
Current in amps:
10 A

Calculate Reset

Voltage drop in volts:
0.262857 V
Percentage of voltage drop:
5.25714 %
Wire resistance:
0.0262857 Ω

8:56

rapidtables.com

Wire type:
Copper
Resistivity:
1.72e-8 Ω·m
Wire diameter size:
18 AWG
Wire/cable length (one way):
1 meters
Current type:
DC
Voltage in volts:
5 V
Current in amps:
10 A

Calculate Reset

Voltage drop in volts:
0.417959 V
Percentage of voltage drop:
8.35918 %
Wire resistance:
0.0417959 Ω

8:56

rapidtables.com

Wire type:
Copper
Resistivity:
1.72e-8 Ω·m
Wire diameter size:
20 AWG
Wire/cable length (one way):
1 meters
Current type:
DC
Voltage in volts:
5 V
Current in amps:
10 A

Calculate Reset

Voltage drop in volts:
0.664581 V
Percentage of voltage drop:
13.2916 %
Wire resistance:
0.0664581 Ω

Wire Type: **Copper**

Input Voltage: 5**V**

Max Input Current: **10A**

Current Type: **DC**

Wire Length from PSU block to Bitaxe connector: **1m (100 cm)**

Wire Gauge: 14 AWG, 16 AWG, 18 AWG, 20 AWG

If we only vary the wire gauge due to resistance in the wire, we can clearly see why any 5V PSU always has a voltage drop that sometimes affects Bitaxe Gamma Miner

Wire Type	Copper	Copper	Copper	Copper
Input Voltage	5V	5V	5V	5V
Max Current	10A	10A	10A	10A
Current Type	DC	DC	DC	DC
Cable Length	1m	1m	1m	1m
DC PWR Wire Gauge	14 AWG	16 AWG	18 AWG	20 AWG
Voltage Drop (V)	**0.165312**	**0.262857**	**0.417959**	**0.664581**
Percentage of Voltage Drop	3.30625	5.25714	8.35918	13.2916
Wire Resistance	0.0165312	0.0262857	0.0417959	0.0664581
Average Voltage Delta	**4.834688**	**4.737143**	**4.582041**	**4.335419**
Required Input Voltage to compensate for Voltage Drop	**5.2V ~ 5.4V**	**5.2V ~ 5.4V**	**5.4V**	**5.4V**

Almost all of the affordable 5V PSU manufactured in China or Asia typically come with 16 AWG or **18 AWG (Most of 5V PSU**) or 20 AWG. This means that since they are Non-adjustable 5V PSU and have no way to adjust the voltage to compensate for the normal voltage drop, it will normally trigger under voltage threshold in Bitaxe which cause Bitaxe to shut off to avoid any damage due to high current being requested when the voltage drops.

Bitaxe Gamma Under Voltage Threshold = **4.5V**

Bitaxe Gamma Over Voltage Threshold = **5.5V**

The goal is to supply Bitaxe with consistent voltage at **5V+** at all the time during standard operations or over clocking operations.

Best required adjusted voltage = 5.2V ~ 5.4V (Max)

NOTE:

- **I recommend purchasing an adjustable DC 5V, 10A PSU (50W Minimum) that will allow for voltage drop compensation and over clocking.**
- **We offer the option of purchasing a readymade adjustable 5V PSU that allows for both voltage compensation and over clocking**