What is Bitaxe?

Bitaxe is a Bitcoin miner based on an open-source design and a modern mining ASIC, offering efficiency and customization for users.

Open-source nature allows users to inspect, modify, and enhance the hardware and software to optimize performance based on specific needs or mining environments. Bitaxe is ideal for miners looking for greater control over their operations while contributing to the decentralization of the Bitcoin network.

Bitaxe Hardwares

Bitaxe Gamma

Bitaxe Gamma is the 4th major revision of the Bitaxe that now includes the BM1370 ASIC from the S21 Pro.

Bitaxe Supra

Bitaxe Supra is the 3rd major revision of the Bitaxe that now includes the BM1368 ASIC from the S21.

Bitaxe Ultra

Bitaxe Ultra is the 2nd major revision of the Bitaxe that now includes the BM1366 ASIC from the S19XP.

Bitaxe Max

Bitaxe Max is the first Bitaxe including the BM1397 ASIC from the S17.

Bitaxe Ultrahex

Bitaxe UltraHex is a multichip revision of the Bitaxe Ultra that now includes six BM1366 ASIC from the S19XP.

Bitaxe Suprahex

Bitaxe SupraHex is a multichip revision of the Bitaxe Supra that now includes six BM1368 ASIC from the S21.

Features of Bitaxe

MINE BITCOIN

A quiet, cool, low power miner that you can run yourself, at home. Plug it in and let it run, or hack it how you want.

Pair the Bitaxe with your own node and be a top-to-bottom self-sovereign Bitcoin miner.

Open source

Like Bitcoin itself, Bitaxe is fully open source, the best way to ensure decentralization.

Legit

Mine to any stratum pool of your choice. Easily configured with the AxeOS dashboard.

Standalone

Onboard controller lets you mine Bitcoin directly over Wi-Fi. No External computer is needed.

Pimp by Bitaxe

Step-by-Step Instructions

we will show you step by step how to install the Pimp My Bitaxe Upgrade Kit.

This guide can also be used for other cooling upgrades. In general, the steps remain the same. If you are using heatsinks other than the ones shown here, different adapters may be required. However, with this guide, that should not be an issue.

WARNING!!!
When replacing the heatsink, mechanical modifications will be made to the Bitaxe. It is essential to disconnect the Bitaxe from the power source beforehand and to perform all steps with utmost caution.
We do not assume any liability for damage caused by improper handling of the Bitaxe during this upgrade.
Please use common sense and handle the device carefully to avoid causing any damage!

1. Check the package contents

Check if all parts are included in the package.

For the complete set, the following items should be included:

- ICE-Tower heatsink
- Mounting adapter for the ICE-Tower heatsink, including 4 push-pins for securing it to the Bitaxe
- Noctua fan
- Y-splitter cable
- Thermal paste
- Cleaning cloth for thermal paste
- Bag with screws and connectors: 8 large M3x20 screws, 2 small screws for the heatsink adapter, 1 4-pin connector for the fan (only needed if the Bitaxe does not already have the connector pre-soldered)

2. Apply the stickers

Take the stickers out of the box and stick them somewhere right away - like on your laptop, for example.

3. Check the fan connector

Check if the correct connector is present on your Bitaxe.

If your Bitaxe already has the correct connector, proceed to Step 4. (The color of the connector is not relevant, by the way.)

If the large 4-pin PWM connector is missing, it needs to be soldered first. We include the necessary connectors in the complete set. If you're not comfortable soldering yourself, ask a friend for help or reach out to us. For easy soldering, set your soldering iron to 330°C.

4. Remove the old heatsink

Carefully disconnect the fan connector.

Using pliers, gently squeeze the two push-pins on the backside of the Bitaxe that hold the heatsink in place. While squeezed, you can easily push the pins out of the board with your thumb.
Alternatively, you can carefully clip off the pins using side cutters.
Once the pins are removed, the heatsink can be easily lifted off.

5. Clean the ASIC

Clean the old thermal paste from the chip.
Use the included cleaning cloth to easily remove the old thermal paste from the chip.
Additionally, you can use cotton swabs or a soft cloth with IPA cleaner for a more thorough cleaning.

WARNING!!!
This step applies mechanical pressure to the soldered ASIC chip. Please be as careful as possible and never press forcefully on the chip, as this could damage it.

6. Attaching the heatsink

Use the two small screws from the bag to secure the adapter to the bottom of the heatsink.

Make sure the adapter is mounted in the correct orientation. The screws should fully sink into the adapter - if they do, you've attached it correctly.

7. Attaching the fan onto the heatsink

Use four of the included M3x20 screws to securely mount the fan onto the heatsink.

8. Cleaning the contact surfaces

The ASIC chip was already thoroughly cleaned of old thermal paste in Step 5.
In this step, it is recommended to briefly clean the heatsink's contact surface with the cleaning cloth to remove any potential contaminants. The contact surface is the area with the copper heat pipe that extends from the bottom of the adapter.

9. Applying the thermal paste

Using the syringe, carefully apply a pea-sized drop of thermal paste onto the ASIC chip.

The correct amount of thermal paste is shown in the reference image. Try not to use too little, but also avoid excessive paste.

Note:
The amount shown in the image is slightly more than necessary. However, we intentionally demonstrate a larger quantity, as too little thermal paste can lead to inadequate heat transfer.

10. Attaching the heatsink onto the Bitaxe

We recommend installing the heatsink with the fan facing upward to ensure optimal temperature management.

In its pre-assembled state, you can place the heatsink on a table with the contact surface facing up. This allows you to easily position the Bitaxe from above, aligning it correctly with the four push-pins.

Now, gently press all four pins through the corresponding holes on the Bitaxe. It is best to start with two diagonally opposite pins, then insert the remaining two.

10.1 Final Assembly Check

Alternatively, you can use screws and nuts instead of push-pins. However, be very careful when tightening them - applying too much pressure on the ASIC chip could cause damage.

11. Connecting the fan

If no rear fan is being installed, simply connect the fan to the board now.

Optionally, you can tidy up the cables using zip ties. You may also remove the yellow sticker on the fan cable for a cleaner look.

Without a rear fan, this concludes the installation guide. Enjoy your pimped Bitaxe!

12. Installing the second fan on the back

Use the remaining four M3x20 screws to secure the second fan to the back of the mount. We recommend placing it in the upper position, as this is where the voltage regulator, which requires the most cooling, is located.

13. Connecting the Y-splitter cable

The included Y-splitter cable can be easily connected to the corresponding fan connector on the Bitaxe. It doesn’t matter which end is connected to the front or rear fan - both will work the same way.

14. Mounting the backplate and connecting the fan cables

In this step, the Bitaxe can be screwed onto the backplate of the mount. Use the four small screws included with the mount for this. Next, connect the front and rear fan cables to the Y-splitter.

15. Cable Management

Once all cables are connected, they can be neatly bundled together. You can use a zip tie (not included in the set) or a wire (e.g., from the power supply) for this.

There are no strict rules for cable management - feel free to get creative! Just make sure that the cables do not come into direct contact with the board to avoid potential issues.

16. Done

Everything is now set up - your Bitaxe has been successfully pimped and will no longer have overheating issues. Enjoy the improved cooling performance!

Note:
The standard power supply provides 30 watts of power. For long-term use, it should not be operated at more than 80% load, which corresponds to a maximum power consumption of 24 watts. Keep this in mind if you plan to overclock your device.

A setting that has proven effective in our tests is 650 MHz at 1150 mV.

How to Update Firmware in Bitaxe ?

1. Open AxeOS and navigate to Logs.

Log in to AxeOS through your browser (to do this, enter the IP address displayed on the Bitaxe's screen into your browser's address bar and press Enter).

In AxeOS, you can then click on the "Logs" tab to view an overview of the device data and the currently installed firmware version.

2. Checking the current firmware version

Under "Overview," you can see various details about your Bitaxe. Among other things, you will find the currently installed firmware version of your Bitaxe (in this case, it's version v2.3.0).

3. Navigate to settings.

By clicking on "Settings," you can access the settings. Here, you can check if a newer firmware version is available and download and install it directly.

4. Check for the latest version.

The message **Current Version: v2.3.0** indicates that this is the latest version. To confirm, you can click the "Check" button.

5. Download the latest firmware.

After clicking the "Check" button, it will confirm that version v2.3.0 is currently the latest. By clicking on the links **"esp-miner.bin"** and **"www.bin"**, you can download the latest versions of the Bitaxe firmware and the AxeOS web interface.

6 . Update Firmware

By clicking on **”+Browse”**, the file selection window on your computer will open. Navigate to the location where you saved the **“esp-miner.bin”** file (usually your Downloads folder). Select the file and confirm. The installation of the new firmware will then proceed automatically. It’s best to wait at least 60 seconds before leaving the page or moving on to the next step.

7. Update AxeOS Webinterface

After the new firmware is installed and you’ve given your Bitaxe at least 60 seconds to complete the process, proceed with the new version of the AxeOS web interface. By clicking **”+Browse”**, the file selection window on your computer will open. Navigate to the location where you saved the **“www.bin”** file (usually your Downloads folder). Select the file and confirm. The installation of the new AxeOS web interface will then proceed automatically. It’s best to wait at least 60 seconds before leaving the page.

Afterward, it is recommended to restart your Bitaxe and refresh the browser window.

Congratulations! Your Bitaxe is now updated to the latest firmware version!

Step by Step Installation Guide for the newly purchased Bitaxe

we provide a step-by-step explanation on how to set up the Bitaxe for the first time after delivery.

1. Attach the stand

Screw the Bitaxe onto the stand. The mounting screws required for this are included in the package.

2. Plug in

Plug in the Bitaxe using the power supply. The device will start automatically.

3. Connect to Wi-Fi

Connect to the displayed Wi-Fi network using your smartphone or computer (e.g., Bitaxe_1075).

4. Settings

The Setup-View pops up automatically. Use the menu icon in the top left corner to access the settings.

5. Setup Wi-Fi

Enter your Wi-Fi credentials:

Hostname: The device name (not relevant, can remain as is)

WiFi SSID: Your Wi-Fi name (pay attention to capitalization and spaces!)

WiFi Password: Your Wi-Fi password

6. Mining Settings

The default values can mostly be kept. Only the fields **“Stratum User”** and **“Fallback Stratum User”** need to be filled out. Enter your (valid) Bitcoin address in both fields where you want to mine to.

To assign a name to the device in the mining pool, you can add “.bitaxe” after the address.

Example:

bc1qxdqywrg8w4l30hjh6wk5g0jjsk5gw2fcltq6p9.bitaxe

7. Restart the Bitaxe

Click on “Restart” in the navigation bar to reboot the device. Alternatively, you can briefly disconnect the Bitaxe from the power supply and plug it back in (please wait at least 10 seconds between unplugging and replugging).

The Bitaxe will now automatically connect to the configured Wi-Fi and start hashing.

8. View the Display

Once the Bitaxe successfully connects to the Wi-Fi, the Bitaxe logo briefly appears on the display.

The display then alternates every few seconds between two screens, showing all relevant information.

Using the IP address shown on the second screen, you can access the device via a web browser.

9. Access via Browser

The view after accessing the Bitaxe via the IP address shows that the device is running and actively mining.

Where can I Buy Bitaxe Mining Devices ?

Bitaxe Mining devices can be brought online from anywhere in the world through plebsource.com

BITAXE IN-STOCK SHIPS SAME BUSINESS DAY (BUY BEFORE ITS GONE)

PlebSource is dedicated to bringing open source products directly to you! Started by a group of professionals that are now focused on getting the Plebs into action!