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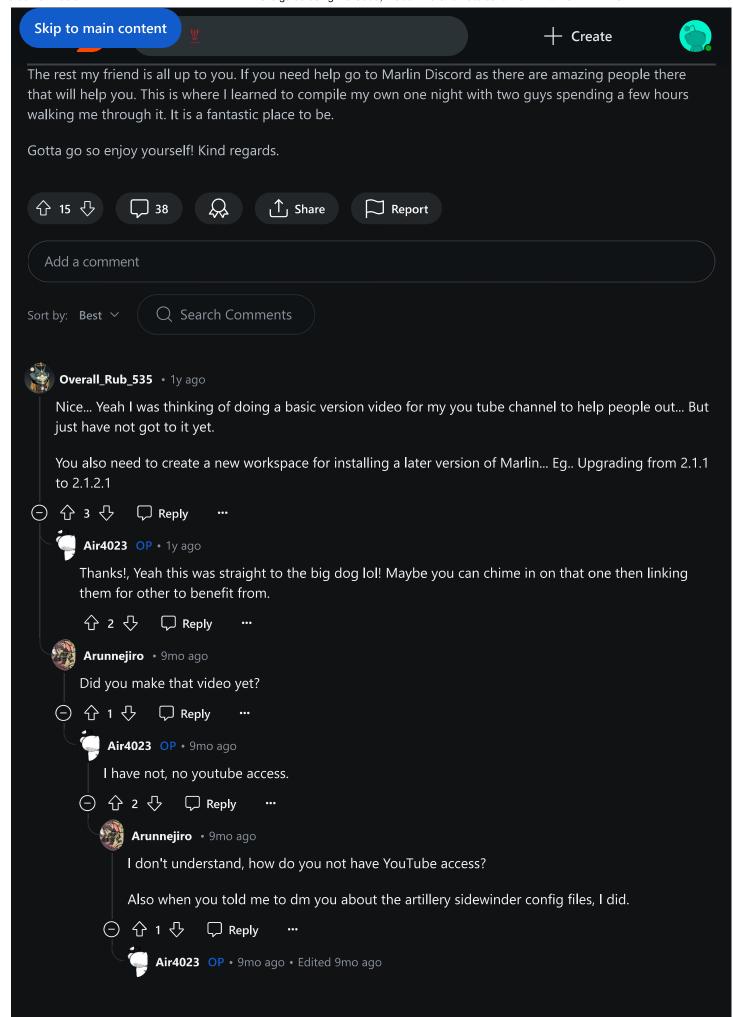




## Firmware guide using VS Code, PlatformIO and Auto build Marlin

Firmware guide using VS Code, PlatformIO and Auto build Marlin can actually be guite simple once you get the hang of it. Most tutorials on line seem so be geared towards someone having prior knowledge which can often be rather confusing. Once I learned to compile I thought it would be a good Idea to post a simple guide to help people though their journey to compile their own firmware. Follow these simple steps to compiling your own firmware then use a variety of places to solve your questions concerning settings for your printer or answers to errors during compiling. I hope this tutorial helps you.

- 1. Install VS code.
- 2. Add extension Platformlo on the left hand panel extension button
- 3. Add Auto build Marlin extension.
- 4. When it all configures it self and all updates then download Marlin 2.1.2.1 on desktop either from Marlin website or github.
- 5. Download configuration files for all the printers for Marlin 2.1.2.1 to desktop either from Marlin website or github.
- 6. Make you a folder on your desktop for your printer IE Ender 3/PRO/Ender 5 ect...
- 7. Copy Marlin 2.1.2.1 into that folder.
- 8. In configuration folders navigate to your printer of choice. Open that folder ,highlight, then right click copy Configuration.h and adv configuration.h. Bootscreen and Statusscreen can also be added here if wanted.
- 9. Navigate to your printer folder then click on Marlin 2.1.2.1 then in side that click the plain Marlin folder.
- 10. Inside Marlin folder there will be a copy of configuration.h and adv configuration.h. Your going to replace them pasting the previous copied files then close out that folder. Bootscreen and Statusscreen here also. Marlin website has bootscreen and Status screen maker for customization.
- 11. In VS Code click file in the upper left, go down to open folder then navigate to your printer folder clicking on Marlin 2.1.2.1 then select folder. If anything is needed by PlatformIO it will configure it. wait for it to finish metadata update.
- 12. Do a dry run compile before any other changes to see if there are any mistakes. When build button is pressed PlateformIO will download all necessary files from the net it needs updating all files. If any errors after attempted compile fix them following the error before you or go on line or to Marlin Discord to find out the fix. When completed and you have a successful compile you are now ready to make changes to the config files for your printer.
- 13. Use Notepad++ to open configuration .h and adv .h and change what ever you want to suit your needs then close that out and recompile. To search a setting in the config files with notepad++ use ctr+F and a search box will come up then paste what define you are looking for. Be sure to paste the whole define or it will not come up in the search box.



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EDIT: Mysteriously your DM just popped up. I had never seen it until today seriously. Sent email.

介10 Reply



PaganWizard2112 • 1y ago • Edited 1y ago

I apologize ahead of asking a completely noob question. I have NEVER compiled firmware, of any kind. I have a BTT SKR Pro v1.2 mainboard, TMC2209's, Keenovo AC powered bed heater, and a TFT70 screen. I will soon have a CR Touch, BTT auto shut down module, BTT Direct ESP8266EX ESP01S Serial Wireless Module WiFi Sensor, MSDD hotend, for my Ender 5 Plus. I plan on using 2 stepper drivers for the Z axis (independent Z control) for now, and "might" want to try 3 independent Z axis, but I think that's nothing more than a buck wild dream at this point. Will your instructions allow me to retain the BTT touch screen interface or will it be Marlin with only the use of the scroll wheel??









Air4023 OP • 1y ago • Edited 1y ago

Marlin allows for multi Z screw scenarios and the screen is a self contain mini Marlin code emulator so yes it will work and yes I have the guide for the tft to properly function. I was just looking at the config files and it will be tough cookie but what a challage lol!

Upgrades to Ender 3 Pro.

1.Ender-3 Direct Drive Extruding Kit.

2.Spider 500C High-temperature High-speed Hotend.

3. Meanwell 450 watt power supply.

4.Gulfcoast Robotics 250 watt Cast Auminum heater bed.

5.BTT SKR Mini E3 V3 board.

6.BTT TFT35-E3 V3.0 Display Touch Screen.

7.BTT SFS V1.0 Smart Filament Sensor Detection.

8. Slice Engineering 50 watt Heater.

9. PT 1000 Temp Sensor.

10.Bl Touch.

11. 92mm Gelid silent 9 power supply fan with low profile rear exhaust fan duct.

12. My own Compiled Marlin 2.1.2.1 with all the bells and whistles.





PaganWizard2112 • 1y ago

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would you recommend?? The original runout sensor no longer works.

○ 分 1 殳 Reply ··

**Air4023 OP** • 1y ago

I would go an optical as they are smaller. My BTT smart sensor is huge and I really don't like it but it works. My Bumat doesn't like it because it scraps it and leaves a lot of dust which will eventually clog it up.

⊝ 分 2 ♂ □ Reply ··

PaganWizard2112 • 1y ago

Good to know!!! Is this what you're talking about, or would you recommend something else??

Air4023 OP • 1y ago • Edited 1y ago

Yes that will work But always try to support your local community first and not a rich 500 million dollar Yacht owner prick! ROTFLMAO!

also just be aware that this is a single driver powering two motors in parallel so just be aware of this.

PaganWizard2112 • 1y ago

The only local supplier of 3D printing anything where I live, is Microcenter, and they don't sell anything that was made in the USA.

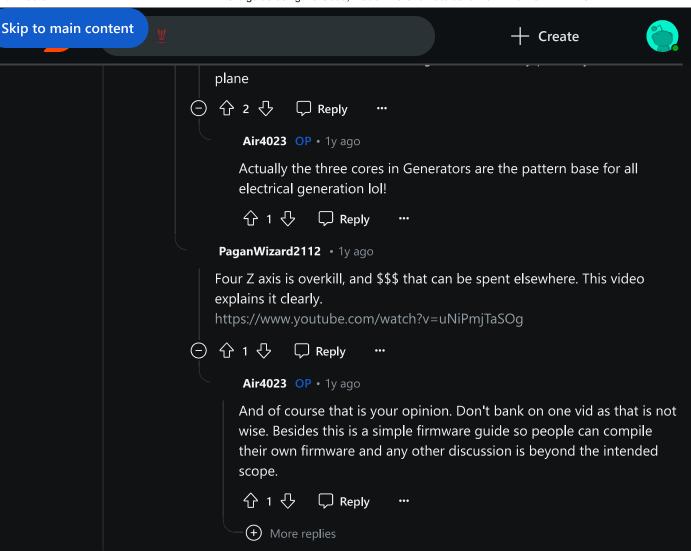
True, the stock Creality board ran both Z motors on a single driver, but the BTT SKR Pro v1.2 that is going into my Ender 5 Plus, has accommodations for 6 stepper drivers. I will initially be using one driver for each of these X, Y, Z0, E0, Z1. If everything goes the way I expect it to, I might try a triple Z configuration, or X,Y,Z0,E0,Z1,Z2

⊕ ↑ ↑ ↓ Paply •••

Air4023 OP • 1y ago • Edited 1y ago

I understand two, and I understand four, But why three as that one has me scratching my head Iol! And I do apologize because Of a momentary brain fart. Of course That board has a crap load of drives allowing for what ever your scenario dictates.:)

Or save a driver in case one goes out god forbid lol!



## **VettedBot** • 1y ago

Hi, I'm Vetted Al Bot! I researched the 'POLISI3D IR Filament Sensor for 3D Printer' and I thought you might find the following analysis helpful.

## **Users liked:**

- Sensor works as intended (backed by 10 comments)
- Easy installation and upgrade (backed by 7 comments)
- Minor issues resolved (backed by 6 comments)

## **Users disliked:**

- Inconsistent quality control leads to faulty units (backed by 2 comments)
- Incorrect wiring causes issues (backed by 2 comments)
- Missing components require additional purchases (backed by 1 comment)

If you'd like to **summon me to ask about a product**, just make a post with its Amazon link and tag me, like in this example.

This message was generated by a (very smart) bot. If you found it helpful, let us know with an upvote and a "good bot!" reply and please feel free to provide feedback on how it can be improved.



5.06.2024 00:54 Firmware guide using VS Code, PlatformIO and Auto build Marlin: r/BIGTREETECH Skip to main content + Create BOTS that have no business intervening with giberish. 介 1 ひ Reply **BR14N78** • 1y ago I have done all this on a Linux Chromebook. Not sure if you can help me but I did all the necessary configuring and successfully built the firmware. No errors. I have no idea what to do now. I can't find my firmware.bin file anywhere. On a windows PC I would have more options with more folders. I have a Skr 1.4 turbo I am trying to get working but 1 I can't get my Chromebook to recognize my board through usb. I assumed I could update the board with an sd card. Am I doing something wrong with platformio? 〇 41 4 Reply **Air4023 OP** • 1y ago Are you compiling with PlatformIO or Marlin Autobuild.?? One way to get it to upload through USB is in adv configuration.h through Binary transfer #define BINARY\_FILE\_TRANSFER... #define CUSTOM\_FIRMWARE\_UPLOAD and through OTA through wireless transfer #define OTASUPPORT // Support over-the-air firmware updates In Windows the firmware is in the PIO folder under build but unfortunately I do not know where Linux puts the firmware but I imagine it is in the working folder for PIO. As for the chromebook it will have to possibly have a driver to see the USB. They are finiky. It may be something similar to a ch340 for windows but for Linux. Weird Linux usually doesn't need drivers but then again Chromebook Iol! 介 1 仍 Reply **BR14N78** • 1y ago I did it through PlatformIO. I really wish there was just a .bin file out there that I could use but I guess it's not that easy. Lol. 〇 介 1 ひ Reply **Air4023 OP** • 1y ago I tell you what, go to Marlin Discord and present your problem there. There are some Linux guys there I think. **BR14N78** • 1y ago

Thank you so much.

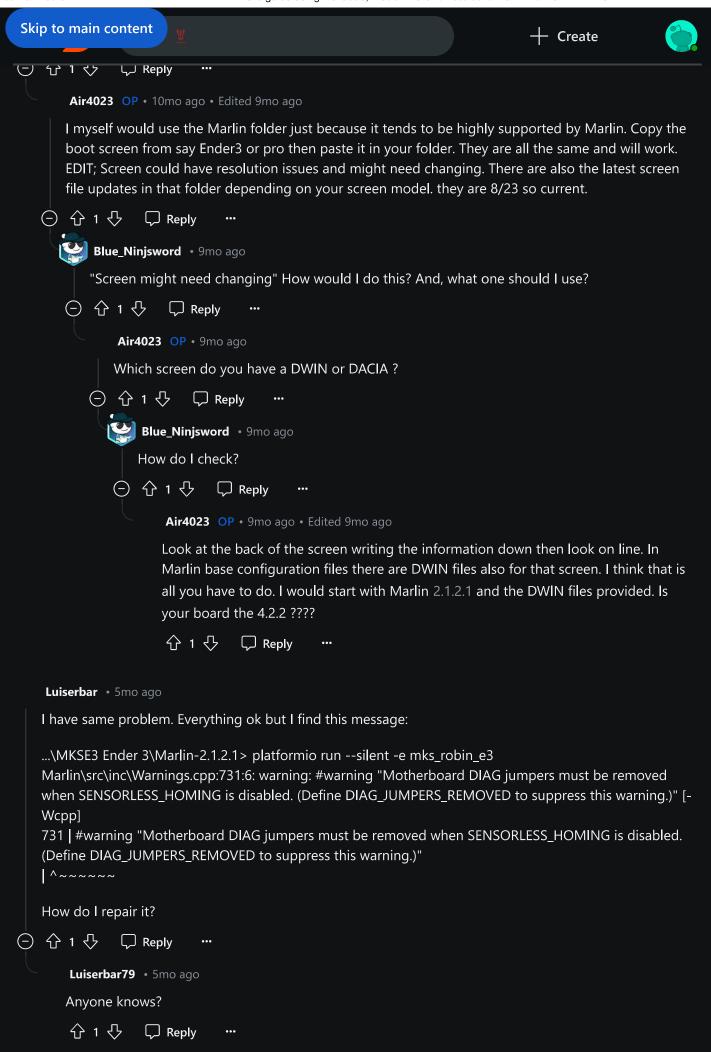
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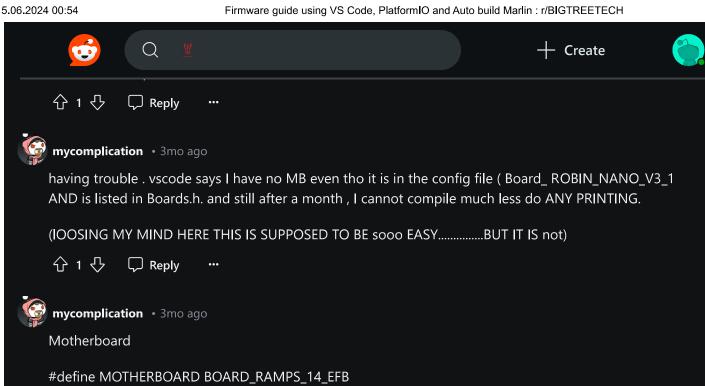
**Air4023 OP** • 1y ago

No prob, I live there lol!









The most important setting is Marlin is the motherboard. The firmware needs to know what board it will be running on so it can assign the right functions to all pins and take advantage of the full capabilities of the board. Setting this incorrectly will lead to unpredictable results.

Using boards.h as a reference, replace BOARD\_RAMPS\_14\_EFB with your board's ID. The boards.h file has the most up-to-date listing of supported boards - check there first if you don't see yours listed here. sO < DID THIS and MY rOBIN NANO BOARD IS LISTED AND DEFINED BUT MARLIN DOESNT ACCEPT IT WHAT IS WRONG HERE??

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