

FT EMS Trident 250 / Ender 5 Pro / Mercury One



Fizzy

[VIEW IN BROWSER](#)

updated 6. 4. 2024 | published 6. 4. 2024

Summary

As requested by many, the EMS frame that is compatible with Voron Trident, Ender 5 Pro & Mercury One.

[3D Printers](#) > [Other Printer Parts & Upgrades](#)

Tags: [ender5](#) [trident](#) [ender5pro](#) [vorontrident](#) [mercuryone](#)

INTRODUCTION

Due to popular demand we have designed the frame for a Voron Trident 250mm build. Because of the same frame dimensions this is also compatible with the Ender 5 Pro and Mercury One.

NOTE: This model is considered a **BETA** release until fully tested. Frame pieces 1 & 2 are different on the Voron 2.4 250 vs the Ender 5 Pro / Mercury One. Be sure to download and print the correct version.

THE DESIGN

This design was extended from the V0.2 and Switchwire Electronics Management solutions I previously created. It is designed to remove the need VHB tape (Yes VHB tape has its uses but NOT for mounting electronics!). The components are designed and mounted on hex stand-offs and can be moved to wherever your heart desires. My initial

implementation is intended as an example but it really is up to the end user to place the parts where they want them to be located and print only what is needed.

BOM

1. 8 x M5x10 BHCS
2. 8 x M5x16 BHCS
3. 8 x M3 Threaded Inserts
4. 8 x M3x6 BHCS

INSTALLATION INSTRUCTIONS

EMS is designed to be extremely flexible as to let the user decide what hardware to use on the printer. Therefore we have created a mounts repository where power supply, controller board, expansion board and single board computers (Raspberry Pi) mounts are stored. Please visit our mounts repository to download universal cable ducts and mounts for the hardware you intend to install - <https://www.printables.com/model/558357-ft-ems-mounts-repository>

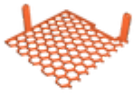
We recommend printing the whole set of parts and test fit them outside of the printer prior to installation. This will serve as a double check to ensure that all the correct parts are printed and prepared.

1. Prepare all of the parts and insert the heat-sets where needed.
2. Assemble the entire EMS frame along with the electronic components outside of the frame prior to installation
3. Use the correct mount and the hex (Mount A) or if you require a 5mm offset then use hex (Mount B)
4. An optional EMS Bone Bracket can be used to join the 4 frame pieces together. These are downloadable from the EMS Repository linked above.
5. Should you have any questions you can reach out to us via Discord - <https://discord.gg/fizzystech>

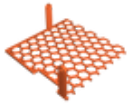
Hope that you appreciate the amount of time and effort to turn around such a big modification. If you like my designs and would like to contribute to fund filaments and other equipment required for prototyping, please do so at my [paypal.me](https://www.paypal.me) or [Ko-fi](https://www.ko-fi.com). Your support is greatly appreciated :)

Do let me know what other boards you intend to mount.

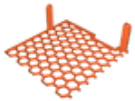
Model files



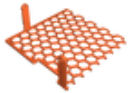
ft-ems-trident-250-frame-1-4.stl



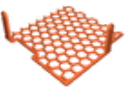
ft-ems-trident-250-frame-2-4.stl



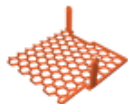
ft-ems-ender-5-pro-mercury-one-250-frame-1-4.stl



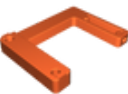
ft-ems-ender-5-pro-mercury-one-250-frame-2-4.stl



ft-ems-trident-250-ender-5-pro-mercury-one-frame-3-4 .stl



ft-ems-trident-250-ender-5-pro-mercury-one-frame-4-4 .stl



din_frame_mount_a_x2.stl



din_frame_mount_b_x2.stl

License

This work is licensed under a
Creative Commons (4.0 International License)



Attribution-ShareAlike

- ✗ | Sharing without ATTRIBUTION
- ✓ | Remix Culture allowed
- ✓ | Commercial Use
- ✓ | Free Cultural Works
- ✓ | Meets Open Definition