

## FT EMS Mounts Repository



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### Summary

FT EMS Electronics Mounts repository of ALL supported boards.

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

Tags: [raspberrypi](#) [bigtreetechskr](#) [voron](#) [meanwelllrs20024](#)  
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[bttocotopus](#) [bttskrpico](#) [u2c](#) [voron24r2](#) [bttskrminie3](#)  
[voron02](#) [bttmanta4p](#) [bttu2c](#)

FT EMS (Electronics Management System) was designed to use pretty much any board that can physically fit a designs.

The single mounts that have 3 vertical holes can be mounted vertically or horizontally. The boards that have a more than 1 mount will need to be designed specifically so IF required do let me know. Do take note that some boards do not support both orientations.

Below are the currently supported boards: -

1. Raspberry Pi 3/4
2. BTT Pi
3. BTT U2C
4. BTT SKR Pico

5. BTT SKR Mini E3
6. BTT SKR Pro
7. BTT SKR 3
8. BTT Manta M4P
9. BTT Manta M5P
10. BTT Manta M8P
11. BTT Manta E3EZ
12. BTT SKRat V1.0
13. Fysetc Cheeta V3
14. Mellow Fly-Gemini
15. LDO USB expander & Pi Zero
16. BTT Octopus
17. Mean Well IRM-90-48ST
18. Mean Well LRS-150-24
19. Mean Well RS-25-5
20. MornSun LMF-200-24
21. SSR
22. BTT SKR V1.4
23. Klipper Expander
24. Fysetc Mosfet module V1.0
25. Neo Pixel LED's
26. EMS Bone Bracket used for joining larger EMS frames.
27. Short DIN rail mount - thanks to Robert
28. Tobsun DC to DC buck converter - thanks to Robert
29. L shaped cable ducts
30. Mean Well LRS-100-24
31. BTT Kraken (yes its fixes now)
32. LDO Leviathan V1.2
33. LDO Nitehawk USB
34. 4010 Fan
35. Annex Constellation Supernova
36. Provok3d Therm^2
37. Mean Well UHP-350
38. BTT EXT-MOT
39. ERCF Easy-Brd
40. BTT MBB CAN V1.0
41. MKS Monster 8 V2
42. Orang Pi Zero
43. Fysetc Catalyst V2.0
44. BTT TMC5160T Plus
45. BTT EBB2209 USB V1.0
46. Quason USB HUB Isolator
47. BTT CEB V1.0

Additional mounts will be added as requested - Enjoy!

## INSTALLATION

Which hex mounts do I need? Here is a breakdown of what each are used for: -

1. Mount A = hole directly in the center of the hex and the screw is inserted from the mount side
2. Mount B = hole is with a 5mm offset and the screw is inserted from the mount side. Depending on which direction you need the offset you can rotate the hex so its actually 5mm offset in 6 directions!
3. Mount C = Cable tie in the center of the hex in the vertical orientation
4. Mount D = Cable tie in the center of the hex in the horizontal orientation
5. Mount E = These are used for electronic mounts that have a heat insert in them. The screw will go through the center of the hex from behind into the mount. These are typically used for SSR and some PSU mounts.
6. Mount F = These are used for electronic mounts that have a heat insert in them. The screw will go through the hex with a 4mm offset from behind into the mount. These are typically used for SSR and some PSU mounts.
7. EMS Bolt = this is used for awkward mounts and load into the channel on the electronics mount with an M3 heat thread insert preloaded. These work in combination of Mount E and F.

All mounts in this repository have been simplified to use either the standard Mount A hex and if you need a 5mm offset Mount B hex.

1. Raspberry Pi 3/4 - Use 2 x Mount A or B hexes with a heatset insert. Install the printed mount to the EMS frame before installing the Raspberry Pi. The Raspberry Pi uses 4 x M2 self tapping screws.
2. BTT Pi - Use 2 x Mount A or B hexes with a heatset insert. Install the printed mount to the EMS frame before installing the BTT Pi. The BTT Pi uses 4 x M2 self tapping screws.
3. BTT U2C - Use 2 x Mount A or B hexes with a heatset insert. Install the printed mount to the EMS frame before installing the BTT U2C. The BTT U2C uses 4 x M3x6 BHCS that screw into the plastic mount.
4. BTT SKR Pico - Use 2 x Mount A or B hexes with a heatset insert. Install the printed mount to the EMS frame before installing the BTT SKR Pico. The BTT SKR Pico uses 4 x M2 self tapping screws.
5. BTT SKR Mini E3 - Use 2 x Mount A or B hexes with a heatset insert. Install the printed mount to the EMS frame before installing the BTT SKR Mini E3. The BTT SKR Mini E3 uses 4 x M3x6 BHCS that screw into the plastic mount.
6. BTT SKR Pro -
7. BTT Manta M4P - Use 2 x Mount A or B hexes with a heatset insert. Install 4 x heatset inserts on the arms where the board will mount to.

Install the printed mount to the EMS frame before installing the BTT Manta M4P board. The BTT Manta M4P board uses 4 x M3x6 BHCS that screw into the heatset inserts.

8. BTT Manta M5P - Use 2 x Mount A or B hexes with a heatset insert. Install 4 x heatset inserts on the arms where the board will mount to. Install the printed mount to the EMS frame before installing the BTT Manta M5P board. The BTT Manta M5P board uses 4 x M3x6 BHCS that screw into the heatset inserts.
9. BTT Manta M6P - Use 2 x Mount A or B hexes with a heatset insert. Install 4 x heatset inserts on the arms where the board will mount to. Install the printed mount to the EMS frame before installing the BTT Manta M8P board. The BTT Manta M8P board uses 4 x M3x6 BHCS that screw into the heatset inserts.
10. Fysetc Cheeta V3 -
11. Mellow Fly-Gemini -
12. BTT SKRat V1.0 - Use 2 x Mount A or B hexes with a heatset insert. Install 4 x heatset inserts on the arms where the board will mount to. Install the printed mount to the EMS frame before installing the BTT SKRat board. The BTT SKRat board uses 4 x M3x6 BHCS that screw into the heatset inserts.

Hope that you appreciate the amount of time and effort to create EMS as many updates have been added since V1 was launched. 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.com/merchot/?cmd=_promote&item_name=Fizzystech%20Filaments) or [Ko-fi](#). Your support is greatly appreciated :)

Should you have any questions you can reach out to us via Discord - <https://discord.gg/fizzystech>

## CHANGE LOG

22-Feb-25

1. Added support for Mellow Fly-D5 board.

21-Feb-25

1. Added Wago 221-415 vertical 5x2 mount
2. Added Wago 221-415 vertical 5x3 mount
3. Added Wago 221-415 vertical 5x5 mount

20-Feb-25

1. Added Wago 221-415 vertical 3x2 mount
2. Added Wago 221-415 vertical 3x3 mount
3. Added Wago 221-415 vertical 3x4 mount

8-Feb-25

1. Updated BTT SKR Pico mount to V2

10-Jan-25

1. Updated the Wago mounts design
2. Mounts for Wago 221-415 2x3, 3x3, 4x3, 5x3
3. Mounts for Wago 221-415 1x5, 2x5, 3x5, 4x5, 5x5

8-Jan-25

1. Updated Wago 221-415 mount 3x3
2. Added Wago 221-415 mount 3x3 vertical as requested
3. Added Wago 221-415 mount 2x3

23-Nov-24

1. Updated BTT Manta M8P mount to V2 specifications.

15-Nov-24

1. Added details as to how each Hex mount (Mount A - F and EMS Bolt) should be used.

9-Nov-24

1. Added support for BTT CEB V1.0 board.

31-Oct-24

1. Updated heavy duty LDO Leviathan V1.2 mount.
2. Added support for Quason USB HUB Isolator board.

30-Oct-24

1. Added support for BTT EBB2209 USB V1.0 board.

25-Oct-24

1. Added support for BTT TMC5160T Plus board.

9-Oct-24

1. Added support for Fysetc Catalyst board.
2. Added 90mm L Cable duct.

6-Sep-24

1. Added support for Orange Pi Zero board.

20-Jul-24

1. Added support for MKS Moster 8 V2 board.

18-Jul-24

1. Fixed the LDO USB Nitehawk mount and replaced it with a screw into plastic and a 2nd version to use threaded inserts from below.

10-Jul-24

1. Added support for ERCF Easy-Brd board.
2. Added support for BTT MMB CAN V1.0 board.

9-Jul-24

1. Added support for Mean Well UHP-350 power supplies.
2. Added support for BTT EXT-MOT board.

8-Jul-24

1. Re-ordered folders in alphabetical order.
2. Added support for Annex Constellation Supernova board.
3. Added support for Provok3d Therm<sup>2</sup> board.

22-Jun-24

1. Added updated BTT Octopus mount. Works with Original Octopus, Pro and Max EZ.

11-Jun-24

1. Added mount for LDO Nitehawk USB board.
2. Added mount for 4010 Fans.

7-Jun-24

1. As requested, added additional length cable ducts (210mm, 240mm, 270mm & 300mm).

7-May-24

1. Added support for split Mount A & B hexes - Thanks to Terrance (kinematicdigit) for the amazing design!

24-Apr-24

1. Added mount for BTT Kraken boards.

23-Apr-24

1. Added mount for Mean Well LRS-100-24 PUS.

14-Apr-24

1. Added L shaped Cable Ducts (120mm, 150mm, 180mm & 210mm).

26-Mar-24

1. Added Mount F (4mm offset).

24-Mar-24

1. Added LM2596 Buck Converter mount.

23-Mar-24

1. Added optional EMS Bone Bracket for joining frames together.
2. Updated Wago 221-415 mounts (2x5 & 3x5)
3. Added support for Tobsun DC to DC buck converter
4. Added support for a short printed DIN rail

14-Mar-24

1. Added Wago 221-415 3x3 mount.

5-Mar-24

1. Added support for individual Neo Pixels to be mounted.

26-Feb-24

1. Fixed the Mean Well LRS 200-350 mount as per user input.

28-Jan-24

1. Added support for the Fysetc MOSFET Module V1.0.

21-Jan-24

1. Added support for Mean Well UHP-200 power supplies.

10-Jan-24

1. Updated Mean Well LRS-200/350 mount to make it more sturdy. This now mounts with rails in parallel and can be rotated 90 degrees by using the opposite rails.
2. Updated the EMS Bolt to make the head square so that it no longer spins while tightening.

9-Jan-24

1. Added support for Mean Well LRS-200/350 PSU's.
2. NEW FEATURE - Support for attaching mounts from behind the EMS frame (especially useful when mounting PSU's).
  1. Added Mount E that allows a screw to be inserted from behind the frame.
  2. Added EMS Bolt which holds in place within the adjustable rail. This does require an M3 Threaded Insert to be installed.

8-Jan-24

1. Added support for Klipper Expander board.

2-Jan-24

1. Fixed minor alignment issue with the Cable Ducts and lids. Now the lids can be installed in either direction without alignment issues.
2. Added support for BTT SKR V1.4 boards.
3. Added additional Cable Duct Lids with logo's.

1-Jan-24

1. Added upgraded Cable Ducts in 180mm, 150mm and 120mm lengths.
2. Added Cable duct Lids for the 3 lengths.

29-Dec-23

1. Removed the Kraken mount as the dimensions in BTT CAD are incorrect.

28-Dec-23

1. Added support for the BTT Kraken V1.0 board.

27-Dec-23

1. Updated the Mean Well RS-25-5 mount to V2 design.
2. Updated BTT Manta M4P to V2 design and use M3 screws into plastic.
3. Updated BTT Manta M5P to V2 design and use M3 screws into plastic.
4. Updated BTT Manta M8P to V2 design and use M3 screws into plastic.
5. Updated BTT Manta E3EZ to V2 design.
6. Updated BTT SKR Mini E3 to V2 design.
7. Updated BTT SKR Pro to V2 design.
8. Updated BTT SKR 3 to V2 design.
9. Updated BTT SKRAT to V2 design.
10. Updated LDO USB Expander Raspberry Pi Zero to V2 design.
11. Added/Updated SSR to V2 design.
12. Updated BTT Octopus to V2 design.



20-Dec-23

1. Added support for LDO Voron Leviathan V1.2 boards.

18-Dec-23

1. Added support for Fysetc Spider V3.0 boards.

25-Nov-23

1. Added updated BTT Pi v2 mount.
2. Added updated BTT Pi mount v2 with antenna mount support.
3. Added updated Raspberry Pi mount v2 mount.

20-Nov-23

1. Added updated BTT U2V mount v2.

19-Nov-23

1. Added a more flexible mount for BTT Manta E3EZ boards.
2. Added support for MeanWell LRS-150-24 PSU.
3. Added support for MeanWell IRM-90-48ST PSU.
4. Added support for MornSun LMF-200-24 PSU.

10-Nov-23

1. Added support for BTT Manta E3EZ boards.

28-Oct-23

1. Added support for BTT SKR 3 boards.
2. Added support for Ramalama's TinyFan board.

21-Oct-23

1. Added updated Octopus mount that can be mounted vertical or horizontal.

18-Oct-23

1. Added cable tie mounts C & D thanks to Kyle from TheVoronModder.

28-Sep-23

1. Added mount for LDO USB Expander/Raspberry Pi Zero.

26-Sep-23

1. Added Wago 221-415 x2 mount

22-Sep-23

1. Added the mount for SSR for those that are looking to add an AC bed to their printer.
2. Added 3x5 Wago mount for the EMS board.

21-Sep-23

1. Minor adjustments on the BTT Manta M4P mount for it to better work with EMS SWC boards.

19-Sep-23

1. Updated BTT Manta M4P 2 piece mount to a single mount that can be installed in either landscape or portrait.
2. Added support for BTT Manta M5P boards.
3. Added support for BTT SKRat V1.0 boards.
4. Added installation instructions.

5-Sep-23

1. Update instructions and added mount A and mount B (5mm offset) so users do not need to find them from other EMS boards.
2. Added images to show how the mounts attach (mount A hex inserted from behind with a heatset insert and screwed the board mount on the front with a M3x6 BHCS screw).

1-Sep-23

1. Added support for BTT SKR Pro

## Model files

 **Annex** 1 file

 **ft-annex-supernova-mount.stl**



## BTT CEB

1 file



**ft-btt-ceb-v1-0-mount.stl**



## BTT EBB2209 USB

1 file



**ft-btt-ebb2209-usb-v1-0-mount.stl**



## BTT EXT-MOT

1 file



**ft-btt-ext-mot-mount.stl**



## BTT Kraken

1 file



**ft-btt-kraken-v1-mount.stl**



## BTT Manta

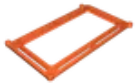
6 files



**ft-btt-manta-mp4-mounts.stl**



**ft-btt-manta-mp5-mount.stl**



**ft-btt-manta-m8p-mount-v2.stl**



**ft-btt-manta-m8p-mount.stl**



**ft-btt-manta-e3ez-mount-with-supports.stl**



**ft-btt-manta-e3ez-mount.stl**



**BTT MMB CAN**

1 file



**ft-btt-mmb-can-v1-0-mount.stl**



**BTT Octopus**

3 files



**ft-btt-octopus-mount-v2.stl**



**ft-btt-octopus-mount.stl**



**ft-btt-octopus-v1-pro-mount-hsi.stl**



**BTT Pi**

2 files



**ft-btt-pi-mount-w-antenna.stl**



**ft-btt-pi-mount.stl**



**BTT SKR**

6 files



**ft-btt-skr-mini-e3-mount.stl**



**ft-skr-pico-mount-v2.stl**



**ft-btt-skr-pico-mount.stl**



**ft-btt-skr-pro-mount.stl**



**ft-btt-skr-3-mount.stl**



**ft-btt-skr-v1-4-mount.stl**



**BTT SKRat**

1 file



**ft-btt-skrat-v1-mount.stl**



**BTT TMC5160T**

1 file



**ft-btt-tmc5160t-plus-mount.stl**



**BTT U2C**

1 file



**ft-btt-u2c-mount.stl**



## Buck Converters

2 files



**ft-lm2596-buck-converter-mount.stl**

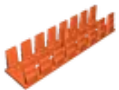


**ft-tobsun-dc-dc-converter.stl**



## Cable Ducts

42 files



**ft-cable-duct-120mm.stl**



**ft-lid-120mm-ft-logo.stl**



**ft-lid-120mm.stl**



**ft-lid-120mm-vm-logo.stl**



**ft-lid-120mm-ogmp-logo.stl**



**ft-lid-120mm-voron-logo.stl**



**ft-cable-duct-150mm.stl**



**ft-lid-150mm-ft-logo.stl**



**ft-lid-150mm.stl**



**ft-lid-150mm-multi-logo.stl**



**ft-lid-150mm-voron-logo.stl**



**ft-lid-150mm-vm-logo.stl**



**ft-lid-150mm-ogmp-logo.stl**



**ft-cable-duct-180mm.stl**





**ft-lid-180mm-ft-logo.stl**



**ft-lid-180mm.stl**



**ft-lid-180mm-multi-logo.stl**



**ft-lid-180mm-voron-logo.stl**



**ft-lid-180mm-vm-logo.stl**



**ft-lid-180mm-ogmp-logo.stl**



**ft-cable-duct-210mm.stl**



**ft-lid-210mm-ft-logo.stl**



**ft-lid-210mm.stl**



**ft-cable-duct-240mm.stl**



**ft-lid-240mm-ft-logo.stl**



**ft-lid-240mm.stl**



**ft-cable-duct-270mm.stl**



**ft-lid-270mm-ft-logo.stl**



**ft-lid-270mm.stl**



**ft-cable-duct-300mm.stl**



**ft-lid-300mm-ft-logo.stl**



**ft-lid-300mm.stl**



**ft-cable-duct-l-90mm.stl**



**ft-lid-l-90mm.stl**



**ft-cable-duct-l-120mm.stl**



**ft-lid-l-120mm.stl**



**ft-cable-duct-l-150mm.stl**



**ft-lid-l-150mm.stl**



**ft-cable-duct-l-180mm.stl**



**ft-lid-l-180mm.stl**



**ft-cable-duct-l-210mm.stl**



**ft-lid-l-210mm.stl**



**ERCF Easy-Brd**

1 file



**ft-ercf-easy-brd-mount.stl**



**Fan**

1 file



**ft-4010-fan-mount.stl**



**Fysetc**

4 files



**ft-fysetc-spider-v30-mount.stl**



**ft-fysetc-cheeta-v3-mounts.stl**



**ft-fysetc-mosfet-v1-0-mount.stl**



**ft-fysetc-catalyst-v2-0-mount.stl**



**Klipper**

1 file



**ft-klipper-expander-mount.stl**



**LDO**

4 files



**ft-ldo-voron-leviathan-v1-2-mount.stl**



**ft-ldo-usb-expander-rpi-zero-mount.stl**



**ft-ldo-nitehawk-usb-mount.stl**



**ft-ldo-nitehawk-usb-mount-threaded-inserts.stl**



**Mean Well LRS**

5 files



**ft-mean-well-lrs-200-350.stl**



**ft-mean-well-lrs-150-24-mount.stl**



**ft-mean-well-irm-90-48st-mount.stl**



**ft-mean-well-rs-25-5-mount.stl**



**ft-mean-well-lrs-100-24-mount.stl**



**Mean Well UHP**

2 files



**ft-mean-well-uhp-200-mount.stl**



**ft-meanwel-uhp-350-mount.stl**



**Mellow**

2 files



**ft-fly-gemini-mount.stl**



**ft-mellow-fly-d5-mount.stl**



**MKS**

1 file



**ft-monster-8-v2-mount.stl**

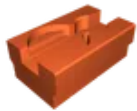


**Neo Pixel**

2 files



**ft-neopixel-mount-front.stl**



**ft-neopixel-mount-rear.stl**



**Orange Pi**

1 file



**ft-orange-pi-zero.stl**



**Provok3d**

1 file



**ft-therm2-mount.stl**



**Quason**

1 file



**ft-quason-usb-hub-isolator-mount.stl**



**Ramalama**

1 file



**ft-tinyfan-mount.stl**



**Raspberry Pi**

1 file



**ft-raspberry-pi-3-4-mount.stl**



**SSR**

2 files



**ft-ssr-mount.stl**



**ft-ssr-mount.stl**





## MornSun

1 file



**ft-mornsun-lmf-200-24-mount.stl**



## Wagos

16 files



**ft-wago-221-415-2x3-mount.stl**



**ft-wago-221-415-3x3-mount.stl**



**ft-wago-221-415-mount-3x3-vertical.stl**



**ft-wago-221-415-4x3-mount.stl**



**ft-wago-221-415-5x3-mount.stl**



**ft-wago-221-415-1x5-mount.stl**



**ft-wago-221-415-2x5-mount.stl**



**ft-wago-221-415-3x5-mount.stl**

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**ft-wago-221-415-4x5-mount.stl**

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**ft-wago-221-415-5x5-mount.stl**

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**wago\_221-415\_mount\_3x2-vertical-v2.stl**

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**wago\_221-415\_mount\_3x3-vertical-v2.stl**

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**wago\_221-415\_mount\_3x4-vertical-v2.stl**

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**wago\_221-415\_mount\_5x2-vertical-v2.stl**

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**wago\_221-415\_mount\_5x3-vertical-v2.stl**

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**wago\_221-415\_mount\_5x4-vertical-v2.stl**



**ft-mount-a-split.stl**

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**ft-mount-b-split.stl**

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**ft-mount-a.stl**

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**ft-mount-b-5mm-offset.stl**

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**ft-mount-c-cable-tie.stl**

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**ft-mount-d-cable-tie.stl**

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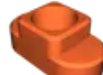
**ft-mount-e.stl**

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**ft-mount-f-4mm-offset.stl**

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**ft-ems-bolt.stl**

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**ft-ems-bone-bracket.stl**

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ft-din-mount.stl

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