



Bigtreetech HDMI 5''

Marathon



Introduction

Motivation

Klipper printers mainly rely on the Mainsail interface for controlling the printer. Marathon printers come standard equipped with an SPI display that allows for control of the printer and offline printing via USB stick, completely independent of the Mainsail interface.

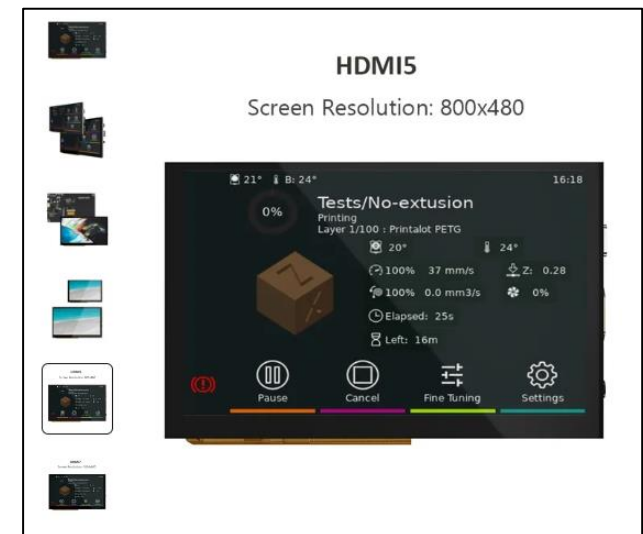
The SPI display is relatively small, and its performance is modest. Some users would like to have a more robust solution when it comes to the display controller.

HDMI displays from Bigtree tech are perfectly compatible with Marathon electronics since they are also from Bigtree tech.

Pros: Improved user experience

Cons: You end up with some cables in plain sight

https://a.aliexpress.com/_EzKYAax



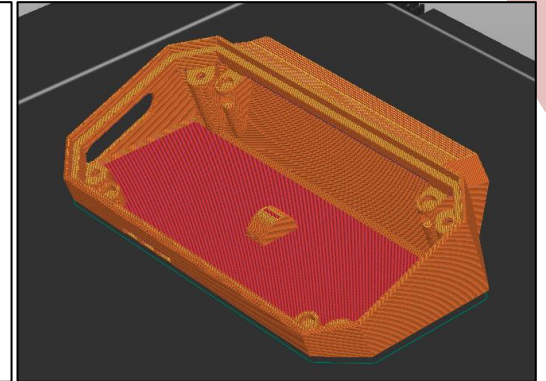
BOM

- 1x BTT HDMI 5 display → https://a.aliexpress.com/_EzKYAax
- 4x M3-Inserts → <https://a.co/d/2GOOxsY>
- 1x Zip tie
- 6x M3x10 DIN912 Screws

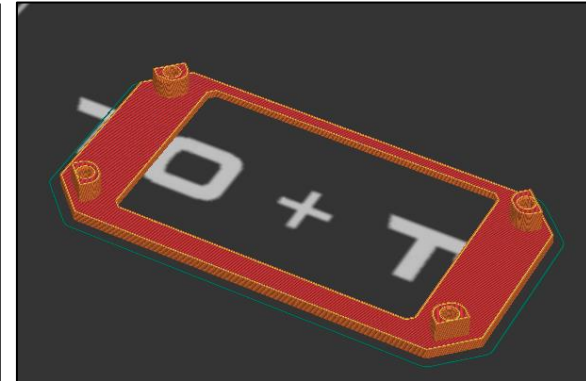
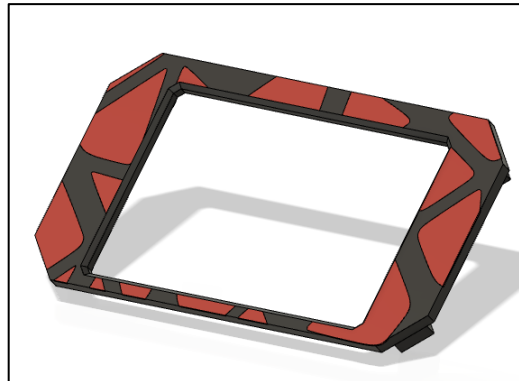
* The links are only for orientation; there are no affiliate links. You can purchase the hardware from wherever you like.

3d printed parts

- 1x Display case → with 30% infill, no supports. Chose the material and color you like.



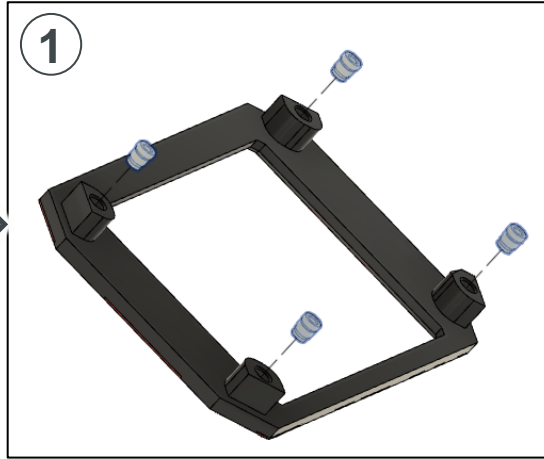
- 1x Display cover → with 30% infill, no supports. Chose the material and colours you like. The cover has a colour pattern, you can print in 'dual color' mode



Prepare and Installation

Before installing the new HDMI Display, the standard SPI screen has to be removed !

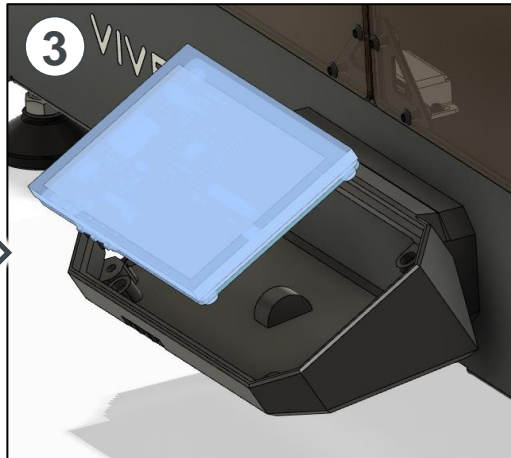
Install the 4x M3-Inserts as shown



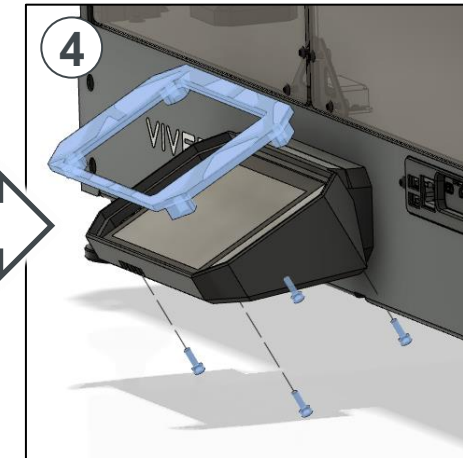
Install the display case to the printer using 2x M3x10 Screws



Place the HDMI Display in its designated place.



Fixate the cover with 4x M3x10 screw from beneath as shown



Cables connections

- Connect the HDMI and USB cables to the Display as indicated
- On the printer front side connect the other end of the cables.
- **Plug the HDMI connector in the indicated port form the printer interface**

The HDMI cable that is delivered together with the display is long and thick. To be used on Marathon, the included micro HDMI adapter also has to be used. To obtain cleaner and better-looking cable management, another HDMI cable was used for the installation.

<https://amzn.eu/d/gqPMJzU>

* The link is only for orientation; there is no affiliate link. You can purchase the hardware from wherever you like



Beneath the display case the excess cable length can be hidden and fixated with a cable tie



Software settings

- Open an SSH connection to your printer
- This can be also done from **Command Prompt** in Windows:
 - Type: **ssh biqu@<your printer ip>**
(ex: **ssh biqu@198.178.168.28**)
 - Password: **biqu** (in case you haven't changed it)
 - Type: **cd /boot**
 - Type : **sudo nano BoardEnv.txt**
 - Comment the lines corresponding to SPI screen
 - Uncomment the line corresponding to HDMI
 - Save the file (Ctrl+X)
 - Reboot

```
Microsoft Windows [Version 10.0.19045.4412]  
(c) Microsoft Corporation. All rights reserved.
```

```
C:\Users\marin>ssh biqu@192.168.178.42  
biqu@192.168.178.42's password:
```

```
BTT-CB1
```

```
Welcome to BTT-CB1 2.3.4 Bullseye with Linux 5.16.17-sun50iw9
```

```
System load: 12% Up time: 3 min  
Memory usage: 29% of 986M IP: 192.168.178.42  
CPU temp: 42°C Usage of /: 31% of 15G
```

```
Last login: Wed Jun 5 18:30:26 2024 from 192.168.178.26
```

```
biqu@BTT-CB1:~$ cd /boot
```

```
biqu@BTT-CB1:/boot$ sudo nano BoardEnv.txt
```

```
bootlogo=true  
overlay_prefix=sun50i-h616  
  
## 'sun50i-h616-biqu-sd' for CB1, 'sun50i-h616-biqu-emmc' for CB1 eMMC version  
#dtfile=sun50i-h616-biqu-sd  
  
## default 'display' for debug, 'serial' for /dev/ttyS0  
console=display  
  
## Specify HDMI output resolution (eg. extraargs=video=HDMI-A-1:800x480-24@60)  
extraargs=video=HDMI-A-1:1024x600-24@60  
  
## uncomment for ws2812  
#overlays=ws2812  
  
## uncomment for i2c-gpio, pwm3, disable uart0 for pwm3  
#overlays=light  
  
## uncomment for TFT35_SPI screen  
#overlays=tft35_spi  
## tft35 rotate: 0, 90, 180, 270  
#param_tft35_spi_rotate=0  
  
## uncomment MCP2515 spi to canbus module  
#overlays=mcp2515  
  
## uncomment to release 'i2c0'(PI5/PI6) to user space  
#overlays=i2c0  
  
## uncomment to release 'spidev0.0' to user space  
#overlays=spidev0_0  
  
## uncomment to release 'spidev1.0' to user space  
#overlays=spidev1_0  
  
## uncomment to release 'spidev1.1' to user space  
#overlays=spidev1_1  
  
## uncomment to release 'spidev1.2' to user space  
#overlays=spidev1_2  
  
## uncomment to set 'PH10' for IR  
#overlays=ir  
  
## uncomment 'param_gpio_shutdown_pin' & 'param_gpio_shutdown_level' to enable gpio_shutdown feature  
## set the gpio of detect pin  
#param_gpio_shutdown_pin=PC7  
## shutdown level: 0=falling, 1=Rising  
#param_gpio_shutdown_level=0  
  
## write the config after the 'overlays' and separate it with a space when multiple functions are enabled  
#overlays=disable_uart0_pwm_ws2812_light_tft35_spi_mcp2515_i2c0_spidev0_0_spidev1_0_spidev1_1_spidev1_2_ir
```

Marathon

Happy printing!



BTT Touch Screen Git:

<https://github.com/bigtreotech/BIGTREETECH-TouchScreenHardware/tree/master/BTT%20HDMI5>

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