BIGTREETECH
Pad7 V1.0
User Manual

Contents

Revision History

Version	Revisions	Date
01.00	Original	2022/06/18

Product Profile

The BIGTREETECH Pad7, developed by Shenzhen Big Tree Technology Co., Ltd., is a tablet featuring Klipper and KlipperScreen pre-installed. BTB headers are designed to allow customers to choose from CM4, CB1, and other solutions.

Specifications

1. Dimensions: 185.7 x 124.78 x 39.5 mm

2. Display Viewing Area: 154.2 x 85.92 mm

3. Display: 7 inches, 1024 x 600, 60Hz Refresh Rate

4. Viewing Angle: 178°

5. Brightness: 500 Cd/m²

6. Input: DC12V 2A

7. Rated Power: 7.3 W

8. Display Port: HDMI

9. Touch Port: USB-HID

10. PC Connection: Type-C (CM4 eMMC Writing OS)

11. Interface: USB 2.0 x 3, Ethernet, CAN, SPI, SOC-Card

12. Core Board: BIGTREETECH CB1 V2.2, 1GB, with a SanDisk 32 GB Memory Card

Feature Highlights

1. The 7 inches IPS touch screen provides a wider field of view, a more detailed display, and a more comfortable user experience;

2. A speaker is built in, and you can adjust the volume with the volume buttons;

3. Designed with a 3.5mm headphone jack for connecting headphones or speakers;

4. The vibration feedback enhances the touch experience;

5. With the built-in light sensor, the backlight brightness will automatically adjust based on available light;

6. Adopt GT911 high-performance touch chip, support 5-point touch;

7. The bracket attaches securely to the Pad7's back during storage and folding thanks to the built-in magnets, which is neat and convenient.
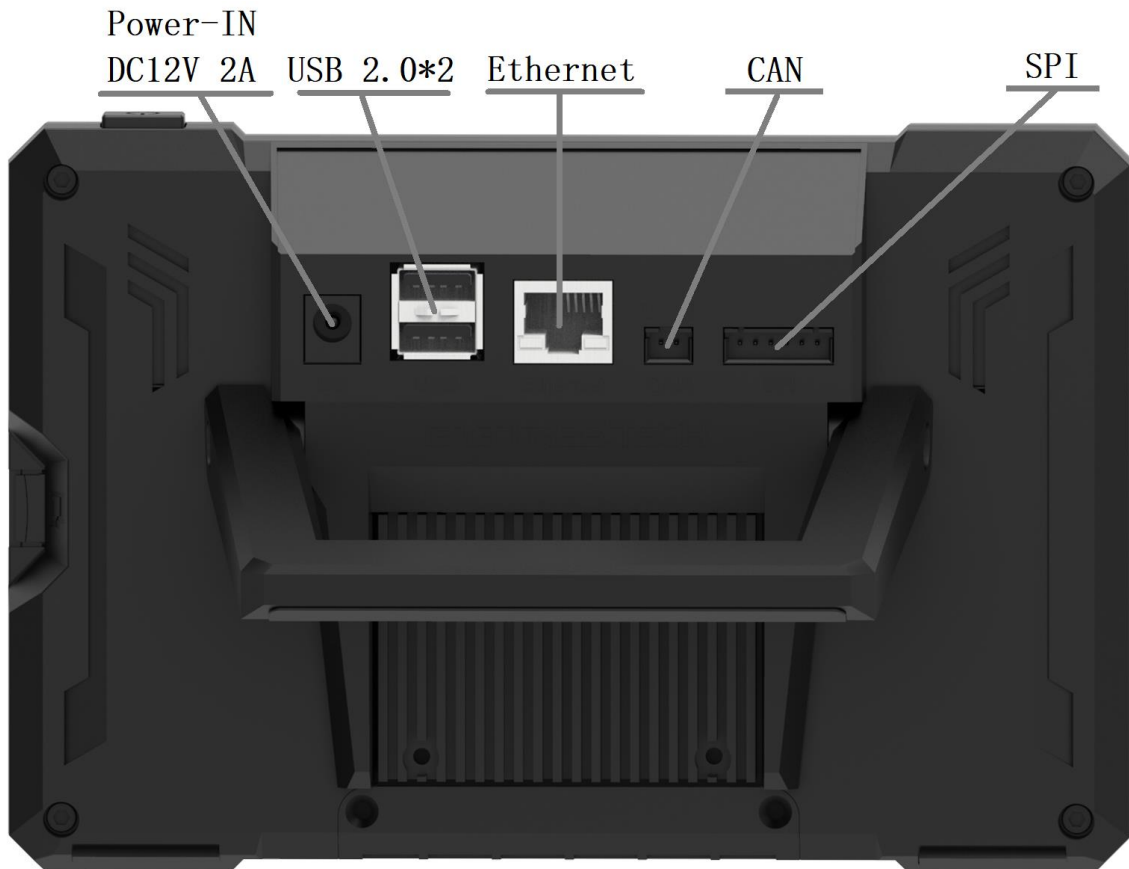
Dimensions
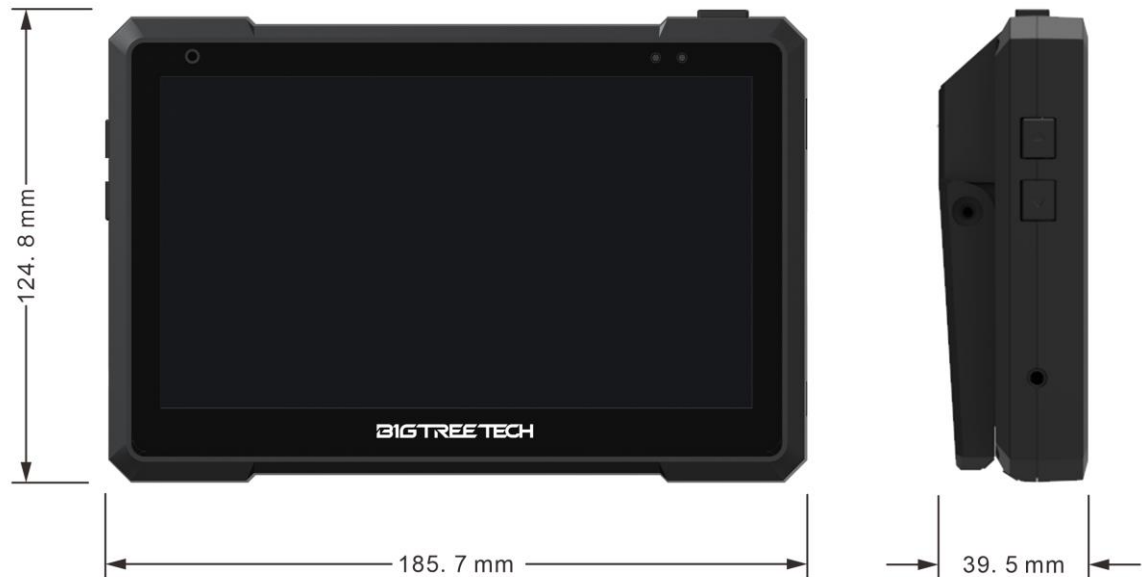
Connectivity
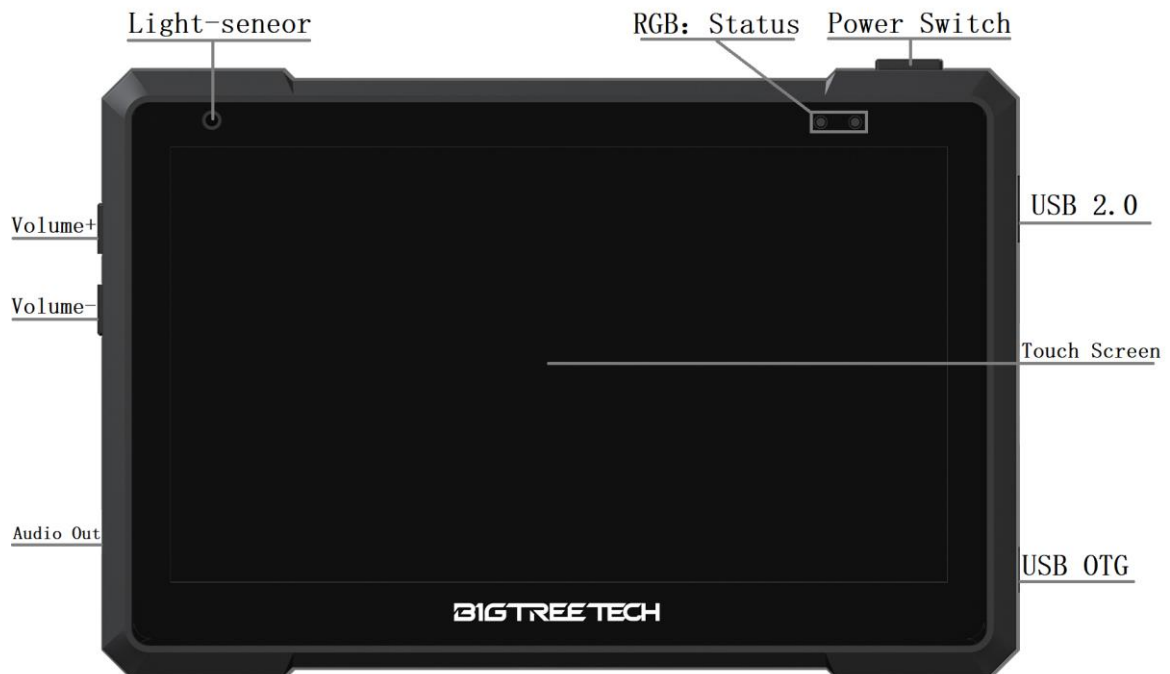
Light-Sensor: built-in light sensor to automatically adjust the brightness of the backlight based on light intensity.
RGB: Status Light

USB2.0: USB-Host Peripheral Interface
USB OTG: Communication Interface with Host Computer

Power-IN DC12V 2A: coming with a 12V 2A power adapter.

USB2.0*2: USB Host Peripheral Interface

Ethernet: RJ45 (CB1 supports 100M networking, CM4 supports Gigabit networking)

CAN: MCP2515 SPI to CAN

SPI: for connecting an ADXL345 accelerometer module.

Note: The CAN interface cannot be used simultaneously with the ADXL345 accelerometer SPI interface due to the conversion from MCP2515 SPI to CAN.

5V
GND
CS
CLK
MOSI
MISO

L H
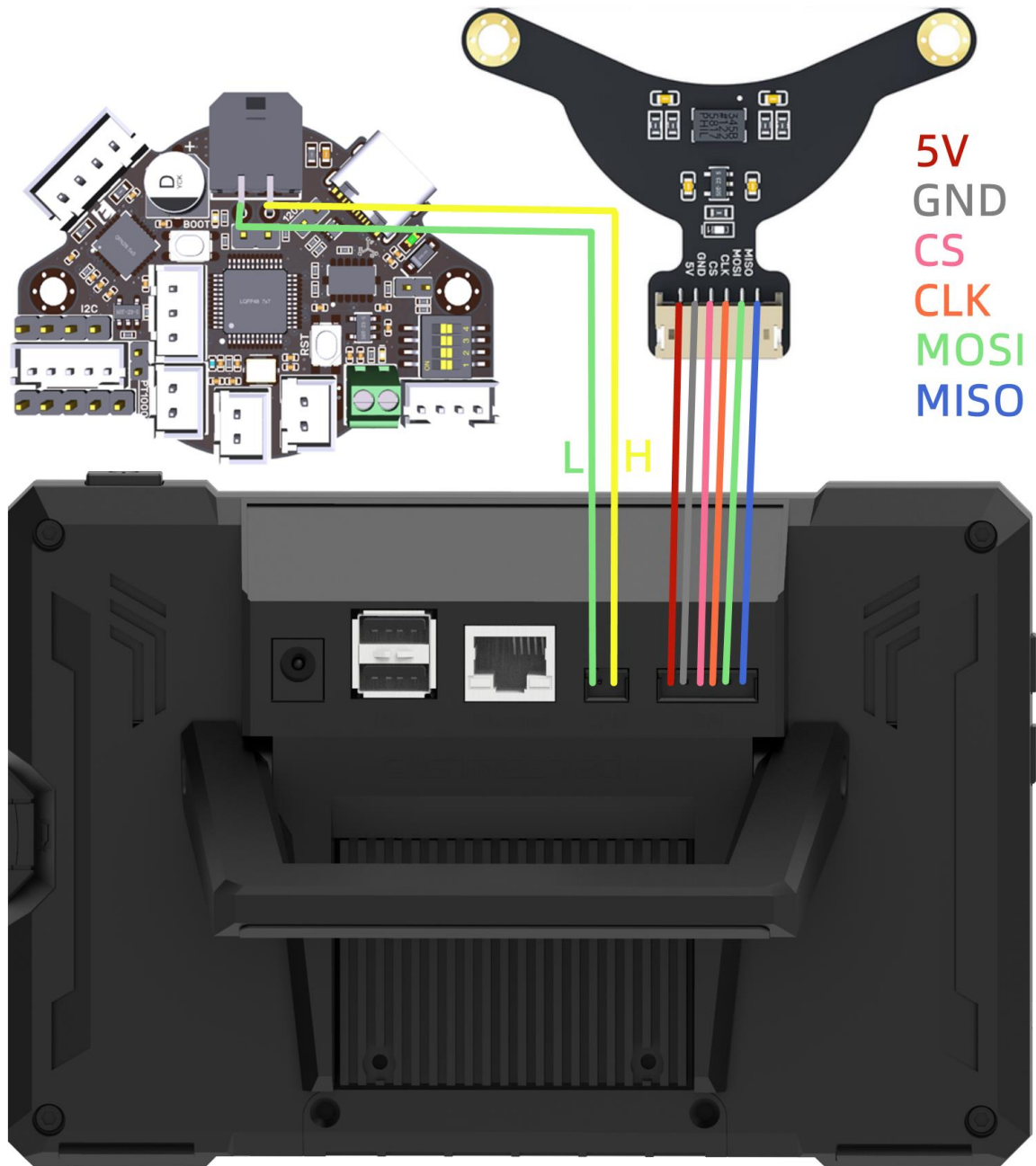
To Replace CB1 with CM4

1. Disconnect the power, and place the Pad7 backside up on the table;

2. Remove the two M2.5 x 3 flat head countersunk screws with a 1.5 mm hex screwdriver counterclockwise.

Then slide the bottom cover up with your fingers.
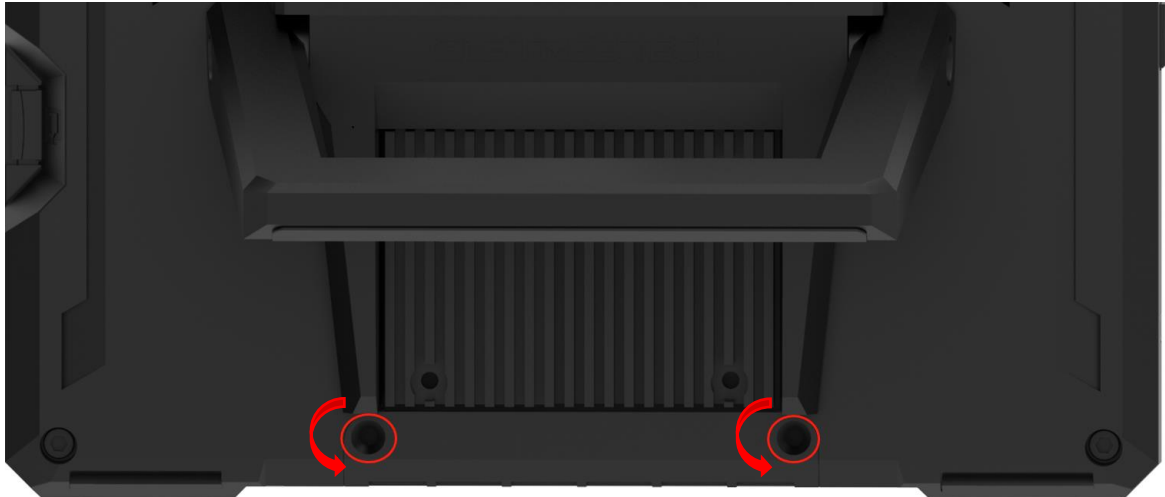
3. Remove the four M2.5 x 10 socket head cap screws with a 2.0 mm hex screwdriver counterclockwise.

Then remove the heatsink.
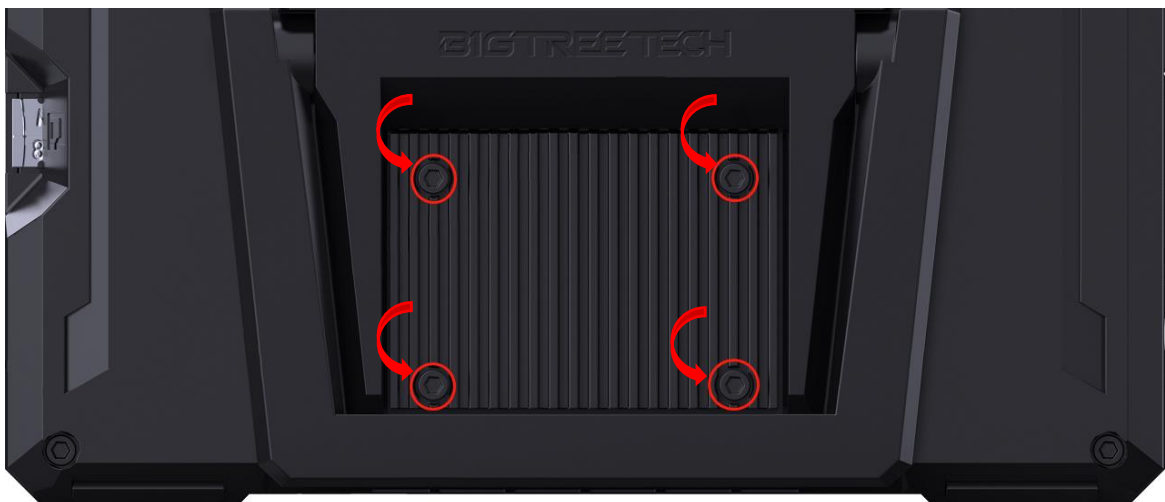
4. Use tweezers to slowly lift the antenna connector highlighted in 1 to disconnect it from CB1. Then remove CB1.

5. Install CM4 on Pad7 by aligning their BTB connectors and pressing down. Please note that CM4 should be installed in the direction shown in the figure below;

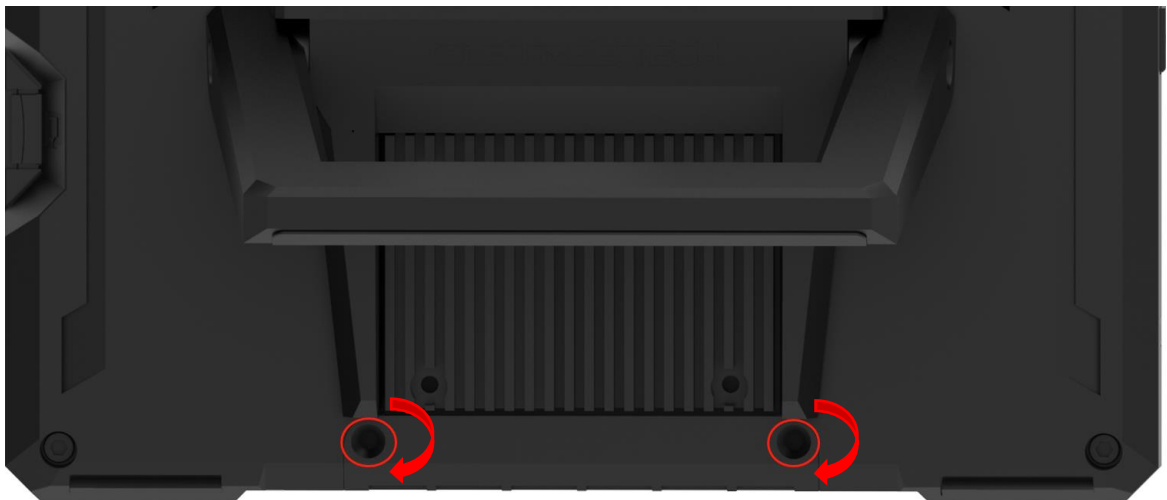Plug the antenna connector in the place highlighted in 2.

6. Cover the heatsink back, and use a 2.0mm hex screwdriver clockwise to tighten the four M2.5 x 10 socket head cap screws.

7. Please refer to the figure below, and slide the button of USB-Choose and CS-Choose to CM4;
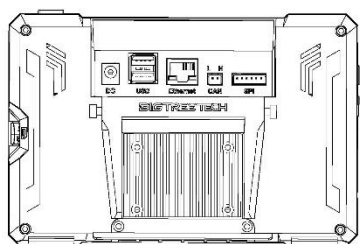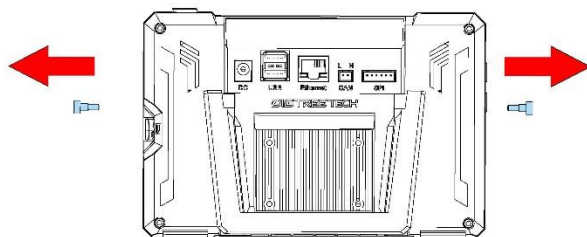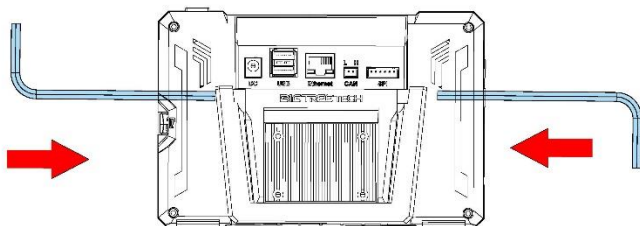

8. Cover back the bottom cover and fix it with the M2.5 x 3 flat head countersunk screws.

9. Finally, insert the TF card with the Raspberry Pi Imager into the card slot and then power the Pad7 on.

To Remove the Bracket

Remove the two screws fixing the bracket with a 3.0 mm hex screwdriver counterclockwise.
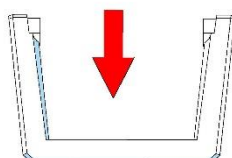
Write OS

Download OS Image

You can only download and install the OS image provided by BIGTREETECH:
https://github.com/bigtreetech/CB1/releases

Download and Install the Writing Software

Raspberry Pi Imager: https://www.raspberrypi.com/software/

BalenaEtcher: https://www.balena.io/etcher/
Just choose one of the above software to download and install.

Start to Write OS

Using Raspberry Pi Imager

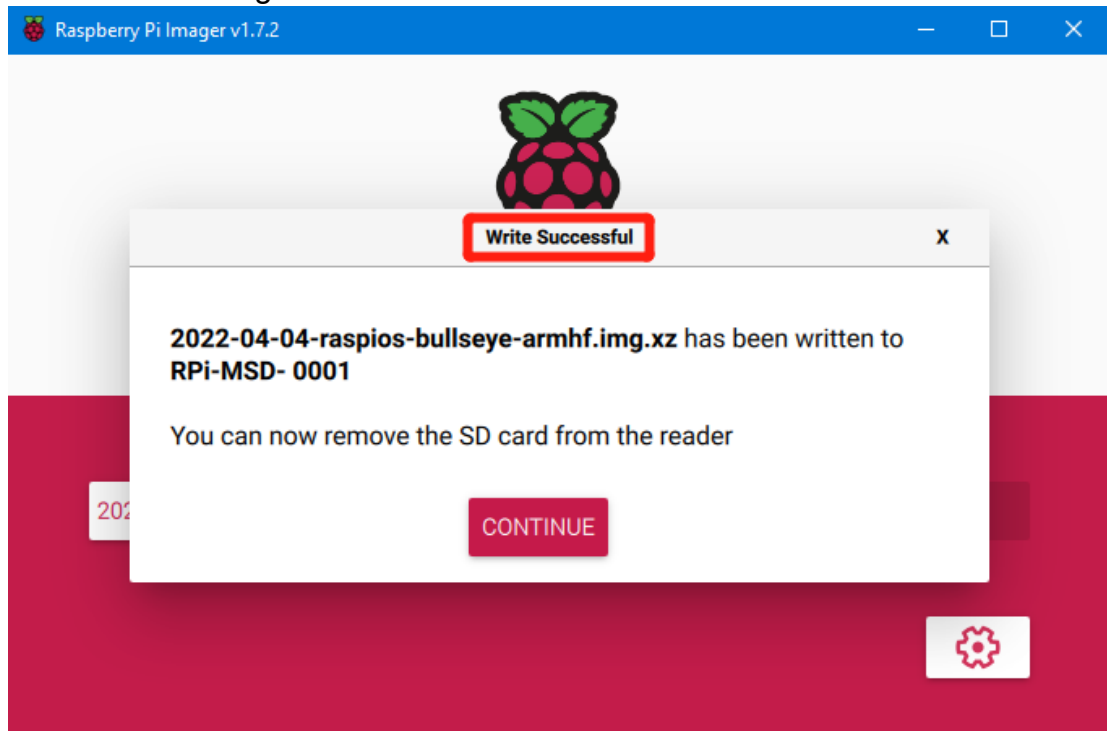1. Insert microSD into your computer via a card reader.

2. Choose OS.
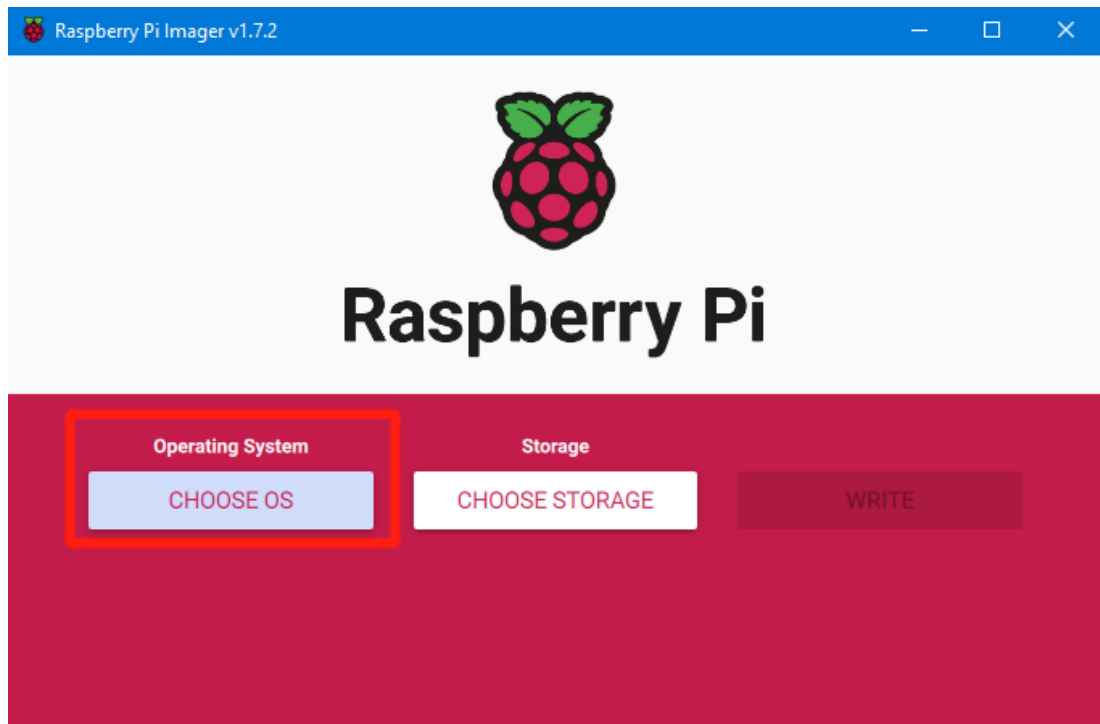
3. Select "Use custom", then select the image that you downloaded.
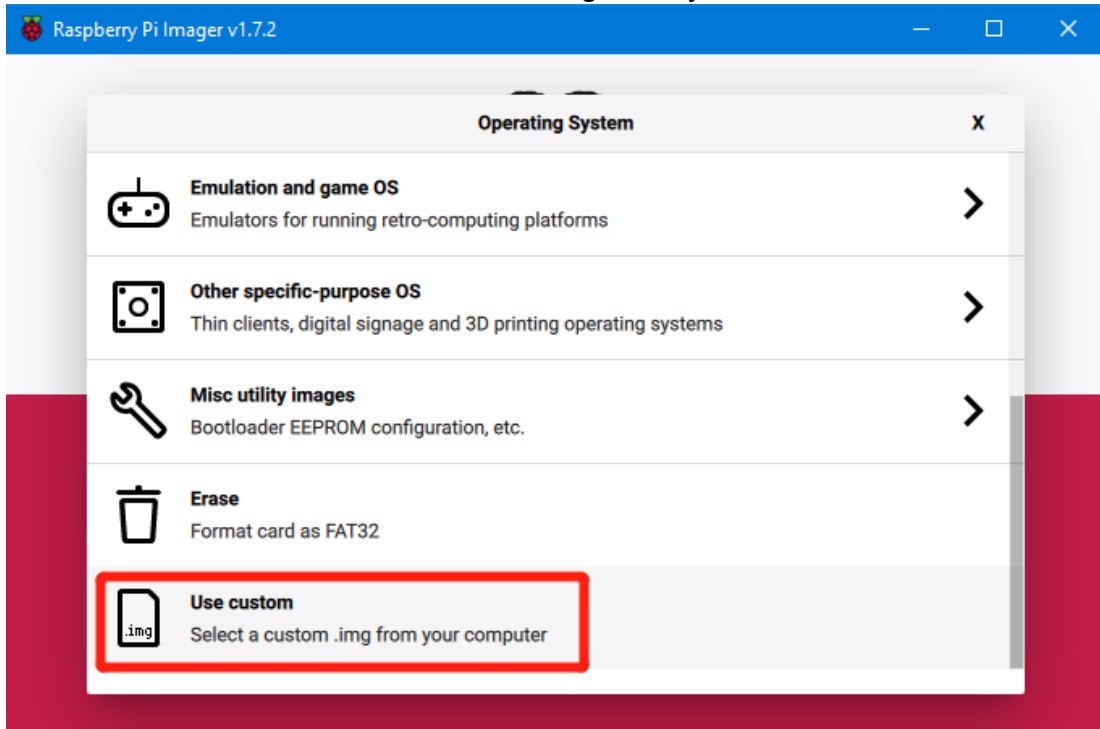
4. Select the microSD card and click "WRITE" (WRITE the image will format the microSD card. Be careful not to select the wrong storage device, otherwise the data will be formatted).
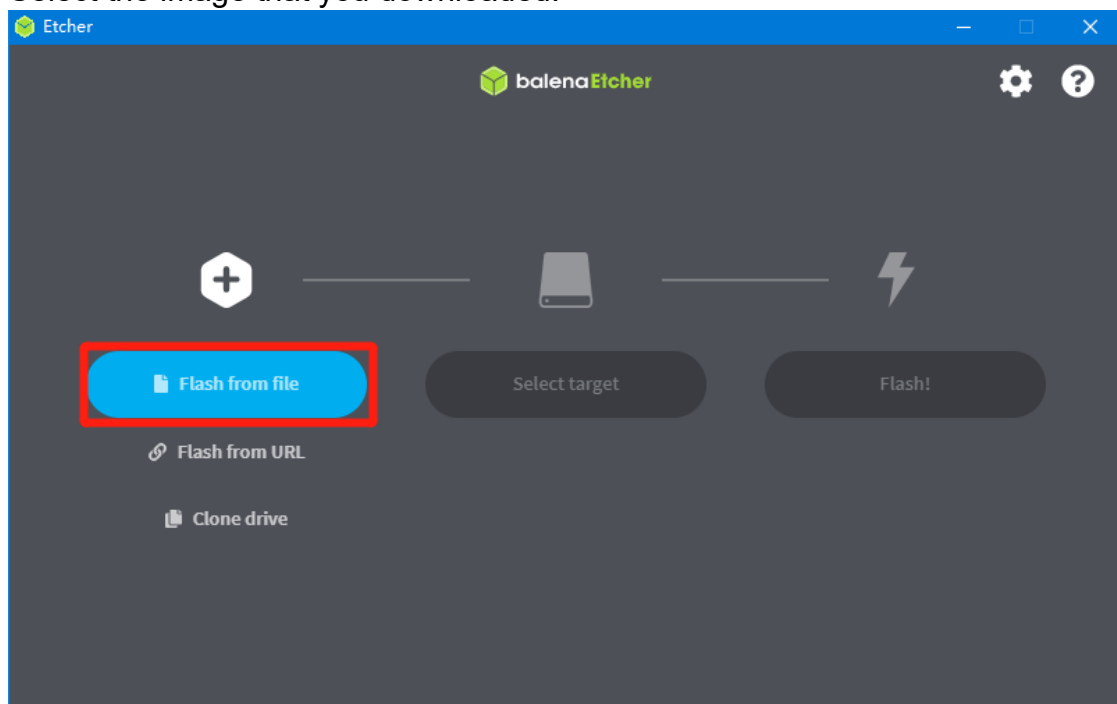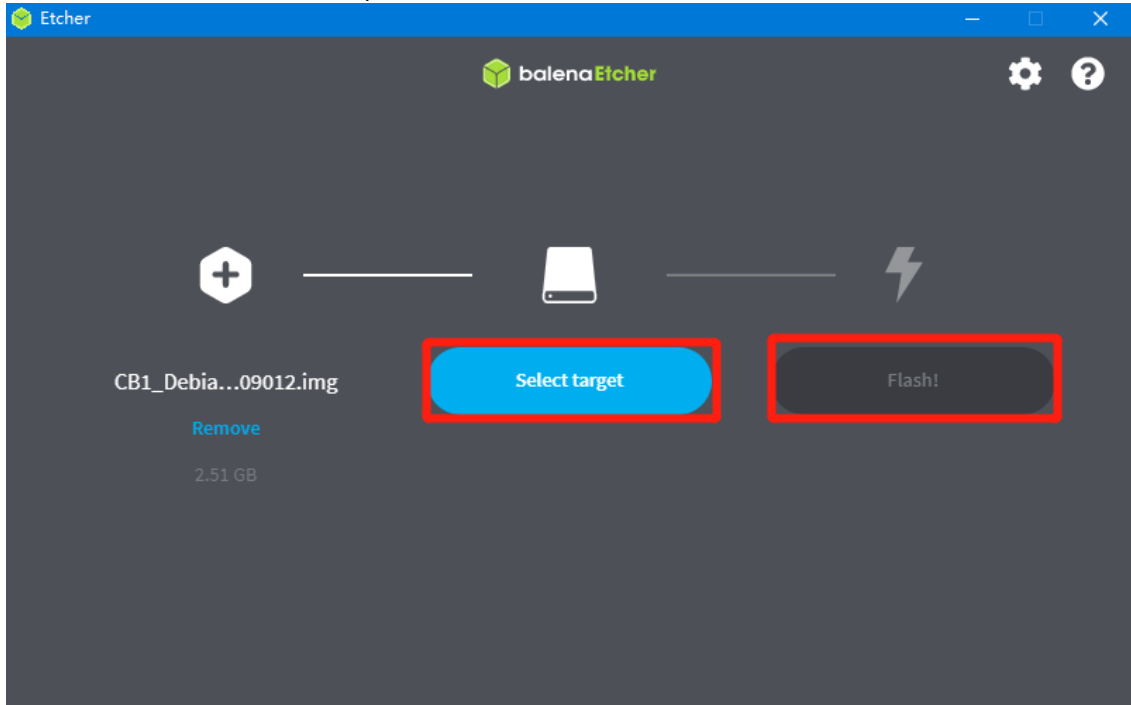
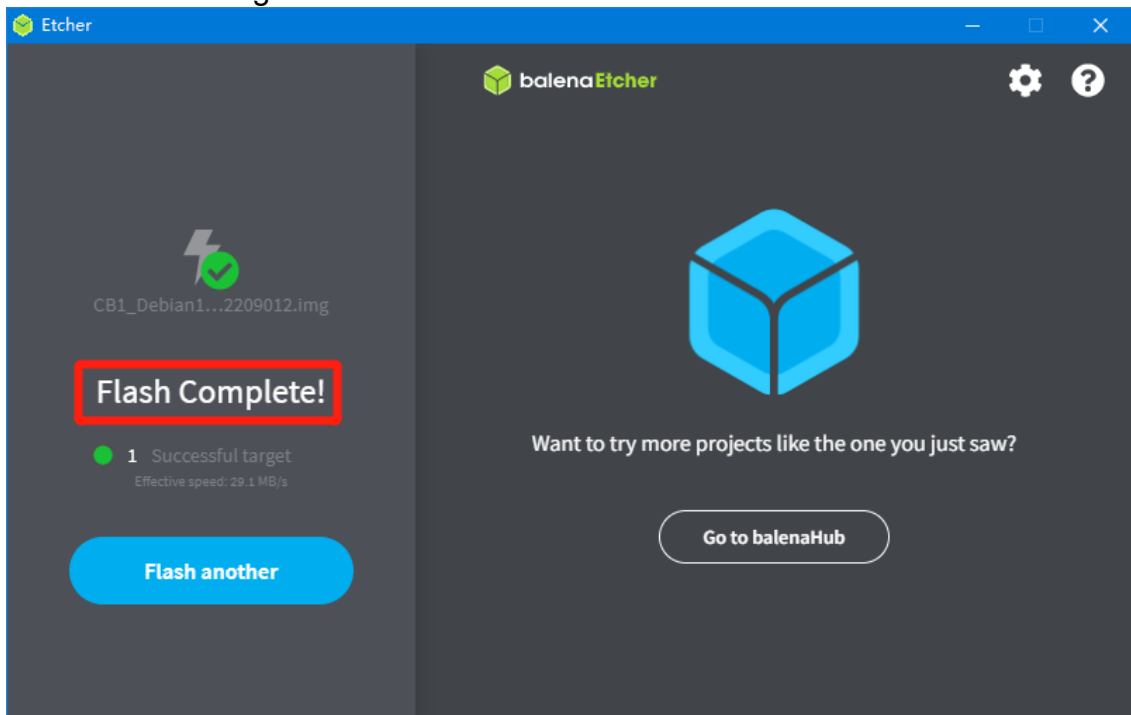5. Wait for the writing to finish.

Using BalenaEtcher

1. Insert a MicroSD card into your computer via a card reader.

2. Select the image that you downloaded.

3. Select the microSD card and click "WRITE" (WRITE the image will format the microSD card. Be careful not to select the wrong storage device, otherwise the data will be formatted).
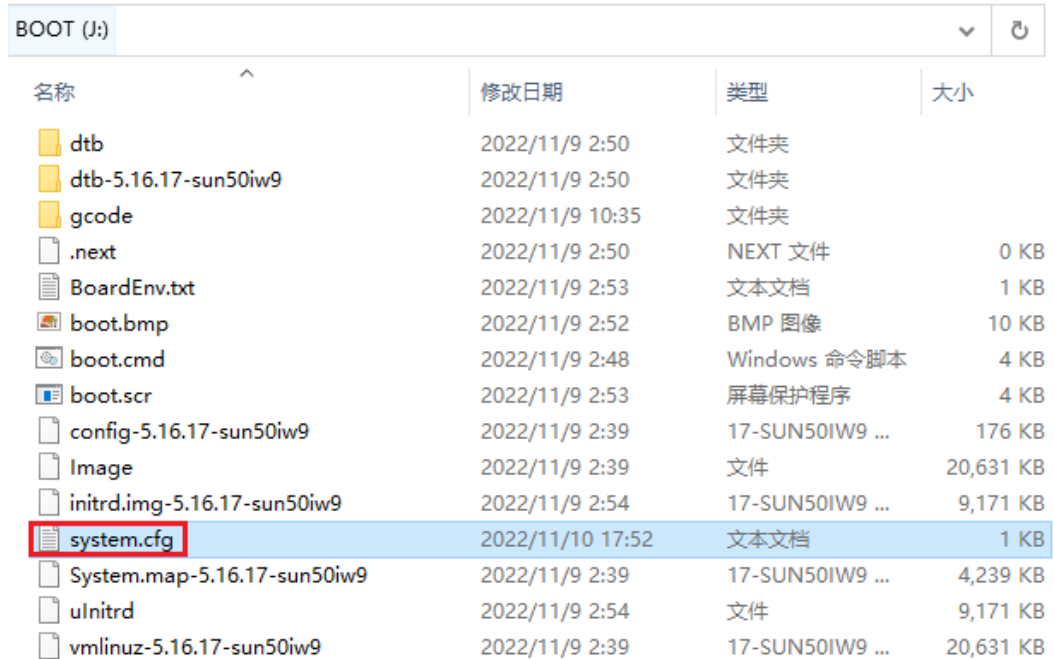

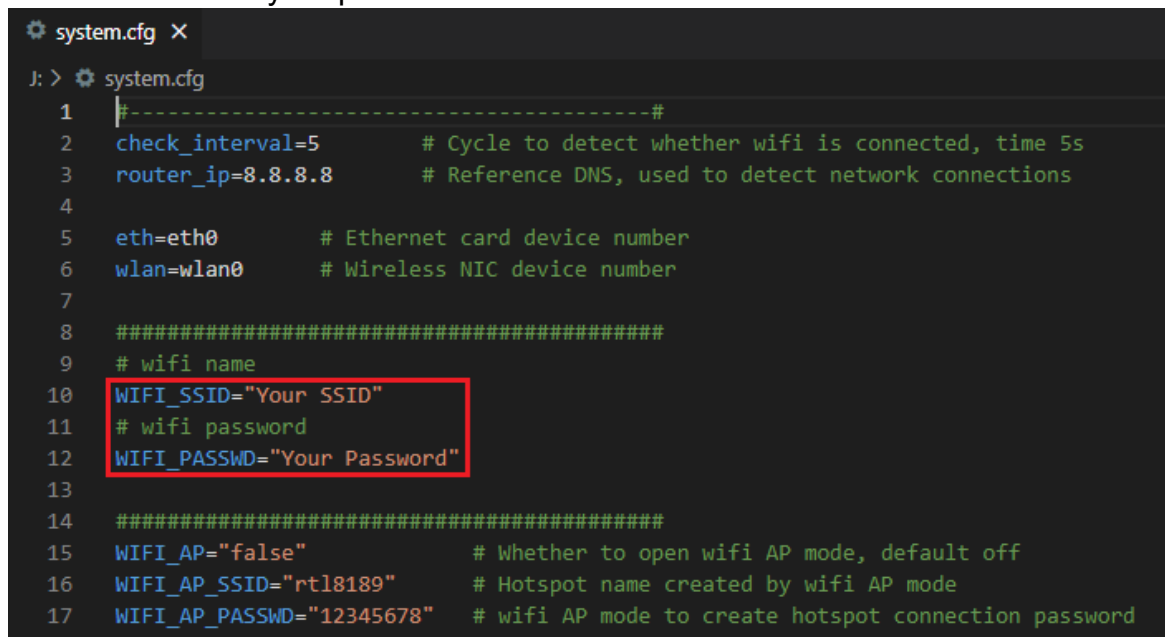4. Wait for the writing to finish.

WiFi Setting

Note: This step can be skipped if you are using a network cable connection.

After the OS image writing is completed, the microSD card will have a FAT32 recognized by the computer, find "system.cfg".

Open it with Notepad, replace WIFI-SSID with your WiFi name, and

PASSWORD with your password.

Cautions

1. The TF card cannot be hot-swapped. Please check that the TF card is properly inserted before turning on the power;

2. Customers are not recommended to disassemble the device, since they do not know the internal structure and it may easily result in a breakdown of the internal circuits; there will be no compensation for problems caused by disassembling;

3. Replace the core board according to the replacement steps (To Replace CB1 with CM4);

4. Please follow the silkscreen carefully when wiring the SPI interface to the expansion module to prevent short circuits.

If you need other resources for this product, please visit https://github.com/bigtreetech/ and find them yourself. If you cannot find the resources you need, you can contact our after-sales support.

If you encounter other problems during use, feel free to contact us, and we are answering them carefully; any good opinions or suggestions on our products are welcome, too and we will consider them carefully. Thank you for choosing BIGTREETECH. Your support means a lot to us!