BIGTREETECH Pad7 V1.0

User Manual



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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.



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: <u>https://github.com/bigtreetech/CB1/releases</u>

Download and Install the Writing Software

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

BalenaEtcher: <u>https://www.balena.io/etcher/</u> 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.

👹 Raspl	berry Pi Imager v1.7.2			—		×
Raspberry Pi						
	Operating System	Storage				
	CHOOSE OS	CHOOSE STORAGE				

3. Select "Use custom", then select the image that you downloaded.

Operating System	x
Emulation and game OS Emulators for running retro-computing platforms	>
Other specific-purpose OS Thin clients, digital signage and 3D printing operating systems	>
Misc utility images Bootloader EEPROM configuration, etc.	>
Format card as FAT32	
Limg Use custom Select a custom .img from your computer	

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).

👹 Ra	spberry Pi Imager v1.7.2		—		×
	Raspber	ry Pi			
	Operating System	Storage			
	2022-04-04-RASPIOS-BULLSEYE-ARMHF.IMG.XZ	RPI-MSD- 0	WRITI	E	
			Ę	3	

5.	Wait for th	e writing to finish.			
	🛛 🍯 Raspberry F	Pi Imager v1.7.2	—		×
		Write Successful	x		
		2022-04-04-raspios-bullseye-armhf.img.xz has been written to RPi-MSD- 0001			
		You can now remove the SD card from the reader			
	202	CONTINUE			
			Ę	3	

Using BalenaEtcher

- 1. Insert a MicroSD card into your computer via a card reader.
- 2. Select the image that you downloaded.

balena Etcher	🔶 Etcher		– 🗆 🗙
Flash from file Select target Flash from URL Clone drive		🕎 balena Etcher	¢ 0
Flash from file Select target Flash! Image: Clone drive Flash from URL	+		- 4
 Flash from URL Clone drive 	Flash from file		
Clone drive	& Flash from URL		
	🕒 Clone drive		

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).

😑 Etcher			- 🗆 X
	🜍 balenaEtcher		¢ 0
+		•	7
CB1_Debia09012.img	Select target		

4. Wait for the writing to finish.

🔶 Etcher		– 🗆 X
	🜍 balena Etcher	¢ 0
CB1_Debian12209012.img		
1 Successful target	Want to try more projects like the	one you just saw?
Flash another	Go to balenaHub	

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".

BOOT (J:)			~	ē
名称 ^	修改日期	类型	大小	
dtb	2022/11/9 2:50	文件夹		
dtb-5.16.17-sun50iw9	2022/11/9 2:50	文件夹		
📙 gcode	2022/11/9 10:35	文件夹		
.next	2022/11/9 2:50	NEXT 文件		0 KB
BoardEnv.txt	2022/11/9 2:53	文本文档		1 KB
🛋 boot.bmp	2022/11/9 2:52	BMP 图像		10 KB
💿 boot.cmd	2022/11/9 2:48	Windows 命令脚本		4 KB
📧 boot.scr	2022/11/9 2:53	屏幕保护程序		4 KB
config-5.16.17-sun50iw9	2022/11/9 2:39	17-SUN50IW9	17	76 KB
🗋 Image	2022/11/9 2:39	文件	20,63	31 KB
initrd.img-5.16.17-sun50iw9	2022/11/9 2:54	17-SUN50IW9	9,17	71 KB
system.cfg	2022/11/10 17:52	文本文档		1 KB
System.map-5.16.17-sun50iw9	2022/11/9 2:39	17-SUN50IW9	4,23	39 KB
🗋 ulnitrd	2022/11/9 2:54	文件	9,17	71 KB
vmlinuz-5.16.17-sun50iw9	2022/11/9 2:39	17-SUN50IW9	20,63	31 KB

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

PASSWORD with your password.

🌣 syster	m.cfg ×	
J: > 🏟 🤅	system.cfg	
1	#	#
2	check_interval=5	# Cycle to detect whether wifi is connected, time 5s
	router_ip=8.8.8.8	# Reference DNS, used to detect network connections
	eth=eth0 # Ethern	et card device number
	wlan=wlan0 # Wirele	ss NIC device number
	*****	#######################################
	# wifi name	
10	WIFI_SSID="Your SSID"	
11	# wifi password	
12	WIFI_PASSWD="Your Passwo	rd"
13		
14	*****	#######################################
15	WIFI_AP="false"	# Whether to open wifi AP mode, default off
16	WIFI_AP_SSID="rtl8189"	# Hotspot name created by wifi AP mode
17	WIFI_AP_PASSWD="12345678	# wifi AP mode to create hotspot connection 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 <u>https://github.com/bigtreetech/</u> 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!