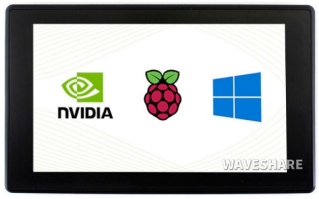
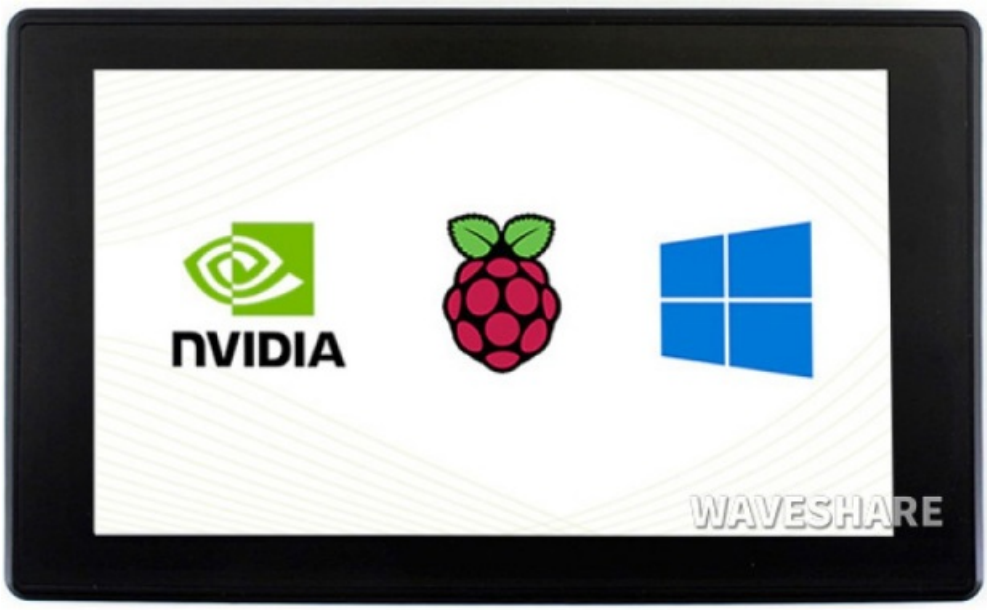


Waveshare IPS Monitor Raspberry Capacitive Touchscreen Display Instruction Manual

Contents

Waveshare IPS Monitor Raspberry Capacitive Touchscreen Display



Specifications

- **Product Name:** 10.1inch HDMI LCD (B) (with case)
- **Supported Systems:** Windows 11/10/8.1/8/7, Raspberry Pi OS, Ubuntu, Kali, Retropie

Product Usage Instructions

Working with PC
To use the 10.1inch HDMI LCD (B) with a PC, follow these steps:

1. Connect the Power Only port of the touch screen to a 5V power adapter.
2. Use a type A to micro USB cable to connect the Touch interface of the touch screen and any USB interface of the PC.
3. Connect the touch screen and the HDMI port of the PC with an HDMI cable.
4. After about a few seconds, you can see the LCD display normally.

Note:

- Please pay attention to connecting cables in order, otherwise it may not display properly.
- When the computer is connected to multiple monitors at the same time, the cursor on the main monitor can only be controlled through this LCD, so it is recommended to set this LCD as the main monitor.

Working with Raspberry Pi
To use the 10.1inch HDMI LCD (B) with a Raspberry Pi, follow these steps:

1. Download the latest version of the image from the Raspberry Pi official website and extract the img file.
2. Format the TF card using SDFormatter.
3. Open the Win32DiskImager software, select the system image prepared in step 1, and write it to the TF card.
4. Open the config.txt file in the root directory of the TF card and add the following code at the end: hdmi_group=2 hdmi_mode=87 hdmi_cvt 1280 800 60 6 0 0 0 hdmi_drive=1

Backlight Adjustment

To adjust the backlight of the LCD, follow these steps:

1. Download and enter the RPi-USB-Brightness folder using the command: git clone **https://github.com/waveshare/RPi-USB-Brightness** cd RPi-USB-Brightness
2. Check the number of system bits by entering uname -a in the terminal. If it shows v7+, it is 32 bits. If it shows v8, it is 64 bits. Navigate to the corresponding system directory using the command: cd 32 #cd 64
3. For desktop version, enter the desktop directory using the command: cd desktop sudo ./install.sh
4. After installation, open the program in the start menu – Accessories – Brightness for backlight adjustment.
5. For lite version, enter the lite directory and use the command: ./Raspi_USB_Backlight_nogui -b X (X range is 0~10, 0 is the darkest, 10 is the brightest).

Note: Only the Rev4.1 version supports the USB dimming function.

Hardware Connection
To connect the touch screen to a Raspberry Pi, follow these steps:

1. Connect the Power Only interface of the touch screen to a 5V power adapter.
2. Connect the touch screen to the HDMI port of the Raspberry Pi with an HDMI cable.
3. Use a type A to micro USB cable to connect the Touch interface of the touch screen to any USB interface of the Raspberry Pi.
4. Insert the TF card into the TF card slot of the Raspberry Pi, power on the Raspberry Pi, and wait for more than ten seconds to display normally.

FAQ

- **Q: Can I use the 10.1inch HDMI LCD (B) with Windows 11?**
  A: Yes, this LCD is compatible with Windows 11 as well as Windows 10/8.1/8/7.
- **Q: What systems are supported on Raspberry Pi?**
  A: This LCD supports Raspberry Pi OS, Ubuntu, Kali, and Retropie systems.
- **Q: How do I adjust the backlight of the LCD?**
  A: To adjust the backlight, you can use the provided RPi-USB-Brightness software. Please follow the instructions mentioned in the user manual.
- **Q: Can I connect multiple monitors to my PC when using the 10.1inch HDMI LCD (B)?**
  A: Yes, you can connect multiple monitors to your PC. However, please note that the cursor on the main monitor can only be controlled through this LCD when connected.
- **Q: Is it possible to modify the hardware for this product?**
  A: We do not recommend customers modify the hardware by themselves as it may void the warranty and damage other components. Please be careful and seek professional assistance if needed.

Working with PC

This Support PC version Windows 11/10/8.1/8/7 system.

Instructions

1. Connect the Power Only port of the touch screen to a 5V power adapter.
2. Use a type A to micro USB cable to connect the Touch interface of the touch screen and any USB interface of the PC.
3. Connect the touch screen and the HDMI port of the PC with an HDMI cable. After about a few seconds, you can see the LCD display normally.

- **Note** 1: Please pay attention to connecting cables in order, otherwise it may not display properly.
- **Note** 2: When the computer is connected to multiple monitors at the same time, the cursor on the main monitor can only be controlled through this LCD, so it is recommended to set this LCD as the main monitor.

Working with Raspberry Pi

Software setting
Supports Raspberry Pi OS / Ubuntu / Kali and Retropie systems on Raspberry Pi.

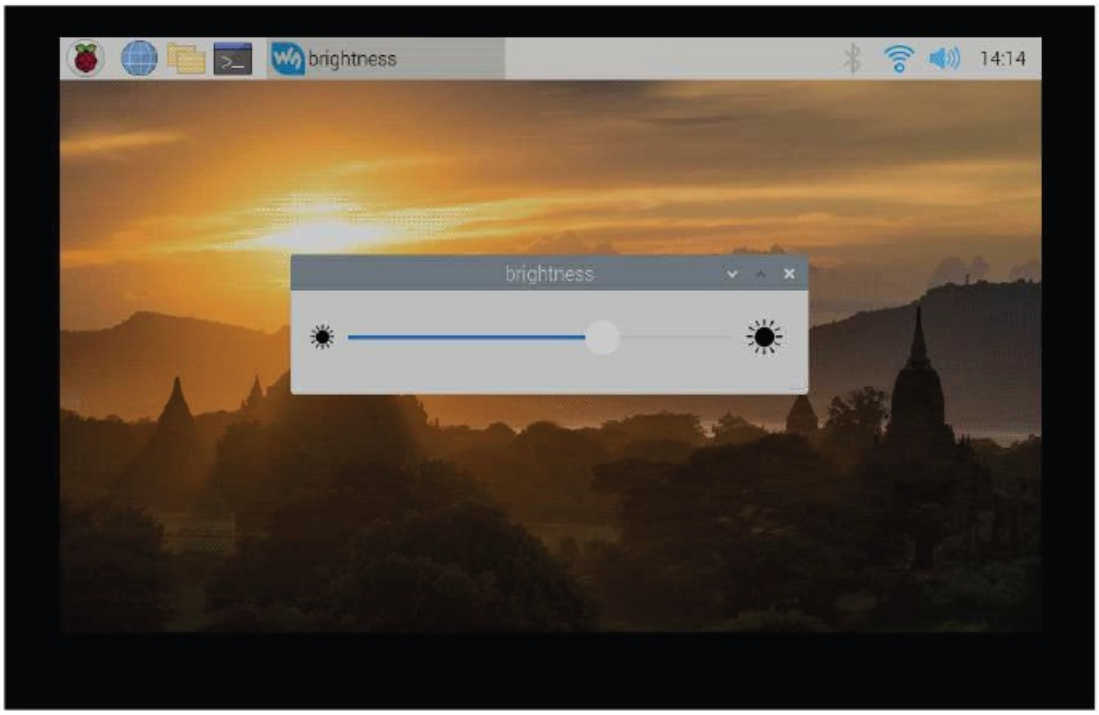
Please download the latest version of the image from the Raspberry Pi official website .

1. Download the compressed file to the PC, and extract the img file.
2. Connect the TF card to the PC and use SDFormatter to format the TF card.
3. Open the Win32DiskImager software, select the system image prepared in step 1, and click write to burn the system image.
4. After the programming is completed, open the config.txt file in the root directory of the TF card, add the following code at the end of config.txt and save it

```
hdmi_group=2
hdmi_mode=87
hdmi_cvt 1280 800 60 6 0 0 0
hdmi_drive=1
```

Backlight Adjustment

1. **#Step 1**: Download and enter the RPi-USB-Brightness folder git clone **https://github.com/waveshare/RPi-USB-Brightness** cd RPi-USB-Brightness
2. **#Step 2**: Enter uname -a in the terminal to view the number of system bits, v 7+ is 32 bits, v8 is 64 bits
    1. cd 32
    2. #cd 64
3. **#Step 3**: Enter the corresponding system directory
    1. #Desktop version Enter the desktop directory:
    2. cd desktop
    3. sudo ./install.sh
    4. #After the installation is complete, you can open the program in the start m enu – “Accessories – “Brightness for backlight adjustment, as shown below:

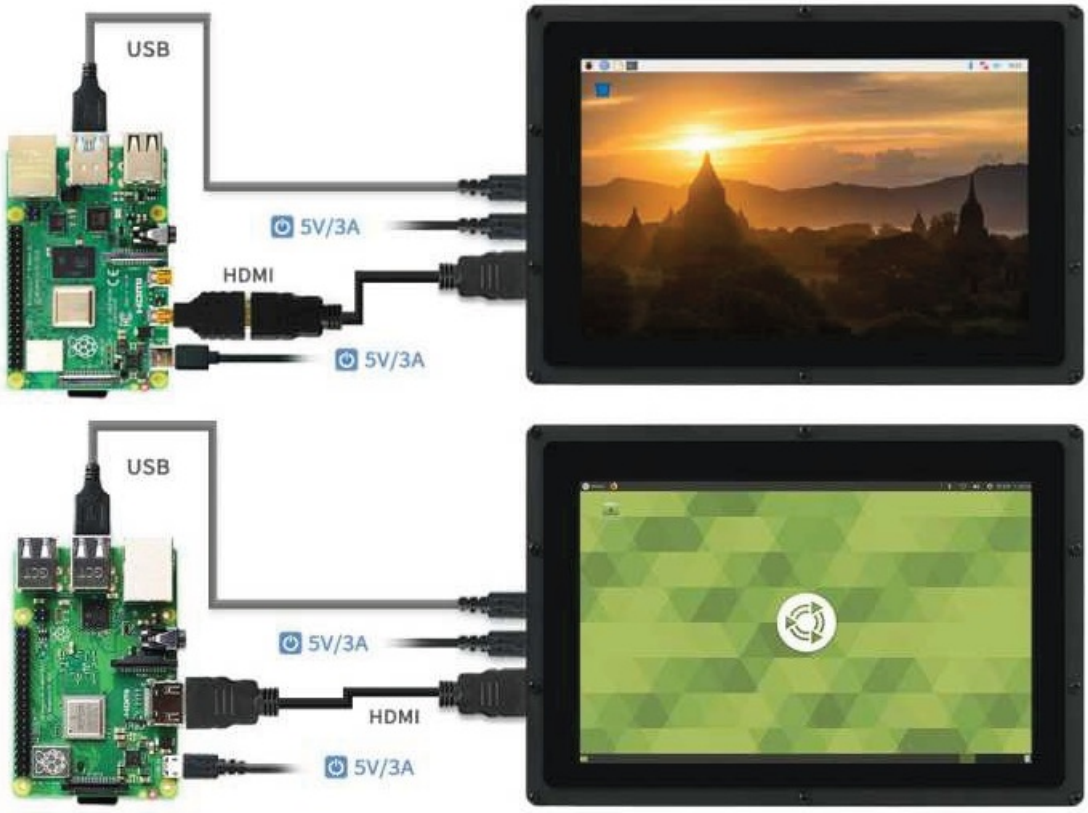



```
#lite version Enter the lite directory:
#cd lite
#./Raspi_USB_Backlight_nogui -b X
# X range is 0~10, 0 is the darkest, 10 is the brightest.
#For example: ./Raspi_USB_Backlight_nogui -b 3
```

Note: Only the Rev4.1 version supports the USB dimming function.

Hardware connection

1. The Power Only interface of the touch screen is connected to a 5V power adapter.
2. Connect the touch screen to the HDMI port of the Raspberry Pi with an HDMI cable.
3. Use a type A to micro USB cable to connect the Touch interface of the touch screen to any USB interface of the Raspberry Pi.
4. Insert the TF card into the TF card slot of the Raspberry Pi, power on the Raspberry Pi, and wait for more than ten seconds to display normally.



Resource

Document

- 10.1inch-HDMI-LCD-B-with-Holder-assemble.jpg
- 10.1inch HDMI LCD (B) Display Area
- 10.1inch HDMI LCD (B) 3D drawing
- CE RoHs certification information
- Raspberry Pi LCD PWM Backlight Control

Note: Under normal circumstances, we do not recommend customers modify the hardware by themselves. Modifying the hardware without permission may cause the product to be out of warranty. Please be careful not to damage other components when modifying.

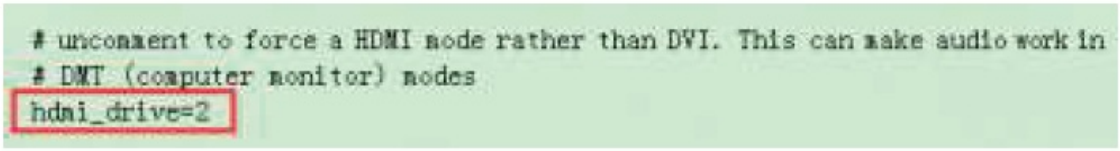
Software

- putty
- Panasonic_SDFormatter-SD card formatting software
- Win32DiskImager-Burn image software

FAQ

Question: After using the LCD for a few minutes, there are black shadows on the edges?

- This may be due to the customer turning on the option for hdmi_drive in config.txt



- The method is to comment out this line and reboot the system. After rebooting, the screen may not be fully recovered, just wait a few minutes (sometimes it may take half an hour, depending on the time of operation under abnormal conditions).

Question Using the LCD to connect to the PC, the display cannot be displayed normally, how can I solve it?

Make sure that the HDMI interface of the PC can output normally. PC only connects to LCD as display device, not to other monitors. Connect the power cable first and then the HDMI cable. Some PCs also need to be restarted to display properly.

Question Connected to a PC or other non-designated mini PC, using Linux system, how to use the touch function?

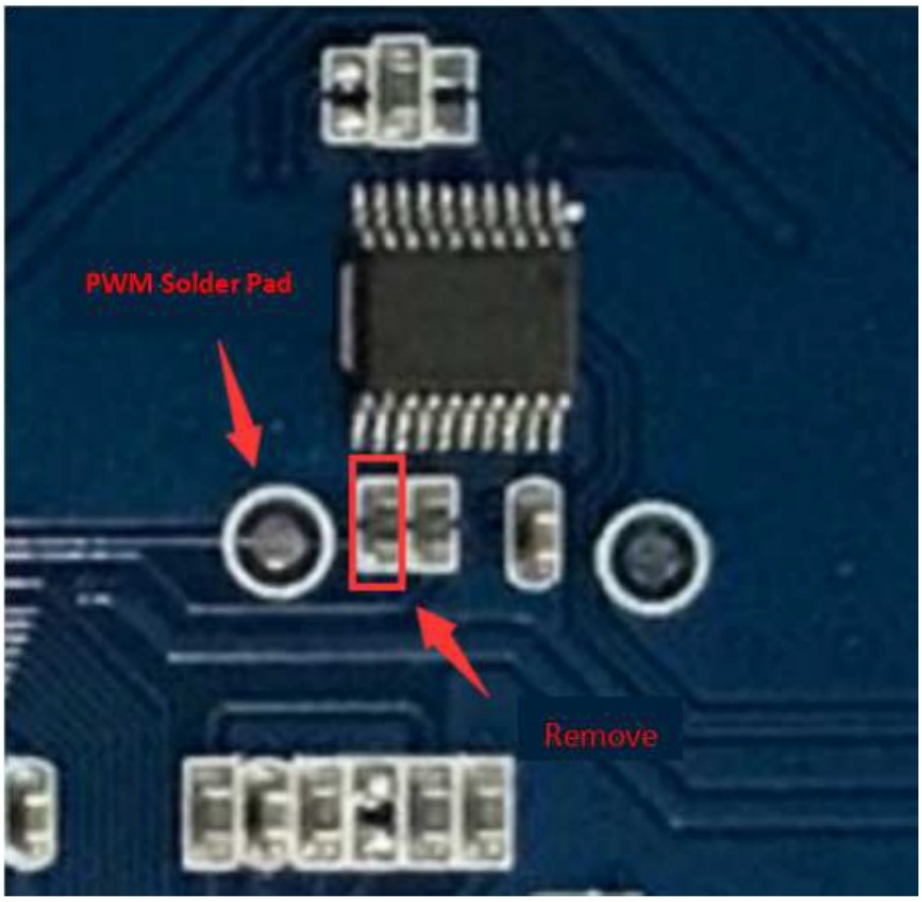
You can try compiling the general touch driver hid-multitouch into the kernel, which generally supports touch.

Question:What is the working current of the 10.1inch HDMI LCD (B)?

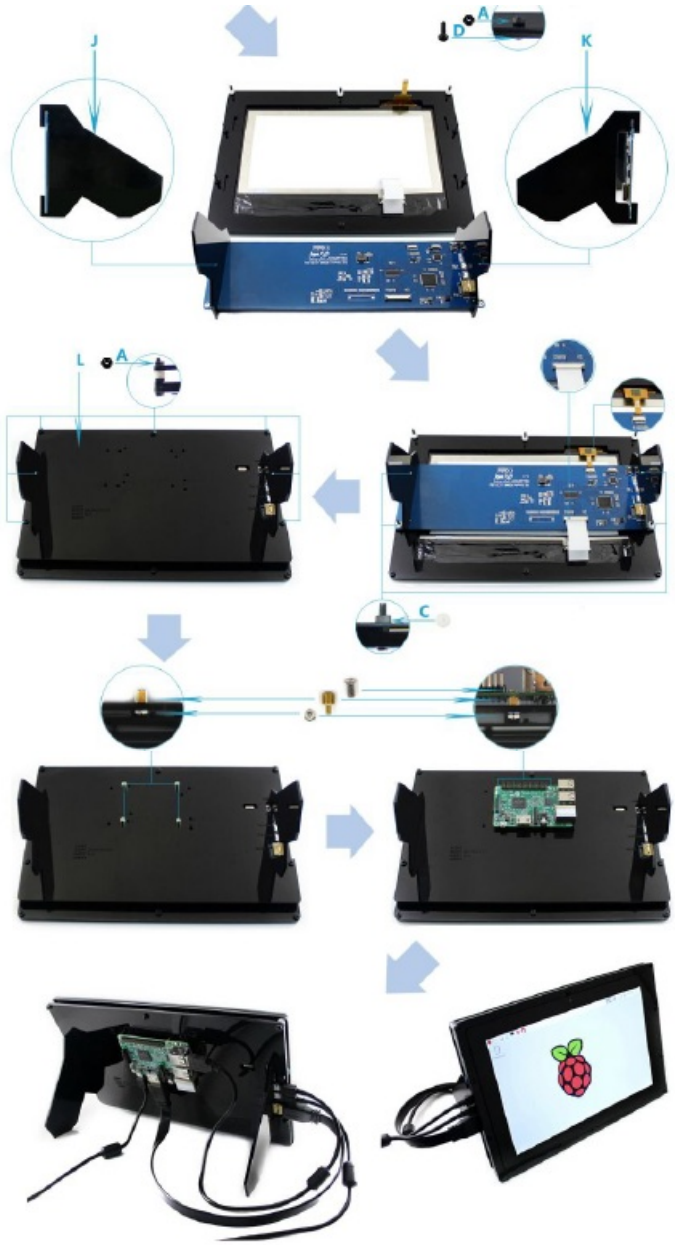
Using a 5V power supply, the working current of the backlight is about 750mA, and the working current of the backlight is about 300mA.

Question:How can I adjust the backlight of the 10.1inch HDMI LCD (B)?

Remove the resistor as shown below, and connect the PWM pad to the P1 pin of the Raspberry Pi. Execute the following command in the Raspberry Pi terminal:gpio -g pwm 18 0 gpio -g mode 18 pwm the occupied pin is the PWM pin gpio pwmc 1000 gpio -g pwm 18 X X value in 0~1024 0 represents the brightest and 1024 represents the darkest.



Question: How to install the bracket for the screen bottom plate?
Answer:



Support
If you require technical support, please go to the page and open a ticket.

Documents / Resources

	Waveshare IPS Monitor Raspberry Capacitive Touchscreen Display [pdf] Instruction Manual IPS Monitor Raspberry Capacitive Touchscreen Display, IPS, Monitor Raspberry Capacitive Touchscreen Display, Raspberry Capacitive Touchscreen Display, Touchscreen Display, Display

References

- GitHub - waveshare/RPi-USB-Brightness
- Operating system images – Raspberry Pi
- waveshare.com/w/upload/4/4a/10.1inch-HDMI-LCD-B-with-Holder-assemble.jpg
- File:10.1inch HDMI LCD (B) (with case)faq.png - Waveshare Wiki
- File:10.1inch-HDMI-LCD-B-FAQ-01.png - Waveshare Wiki

- File:10.1inch-HDMI-LCD-B-Manual-Pi.png - Waveshare Wiki
- File:10.1inch-hdmi-lcd-b-with-holder-4.jpg - Waveshare Wiki
- File:10.1inch-HDMI-LCD-B-with-Holder-assemble.jpg - Waveshare Wiki
- File:5inch-DSI-LCD-3.gif - Waveshare Wiki
- Waveshare Wiki
- User Manual