

5inch DSI LCD

From Waveshare Wiki

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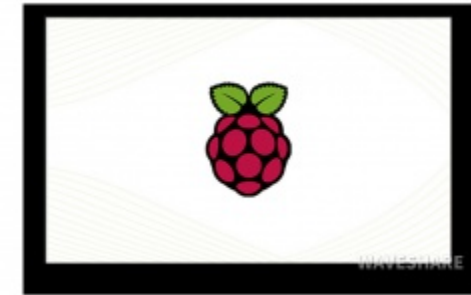
Introduction

5inch Capacitive Touch Display for Raspberry Pi, 800 × 480, TFT Wide Angle, MIPI DSI Interface.

Features

- 5inch TFT screen, hardware resolution is 800 x 480.
- Capacitive touch panel, support 5-point touch.
- Tempered glass capacitive touch panel, hardness up to 6H.
- Supports Pi 4B/3B+/3A+/3B/2B/B+/A+. Another DSI-Cable-15cm (<https://www.waveshare.com/dsi-cable-15cm.htm>) is required for CM3/3+/4.
- DSI interface, refresh rate up to 60Hz.
- When used with Raspberry Pi, it supports Raspberry Pi OS / Ubuntu / Kali and RetroPie without a driver.

5inch DSI LCD



(<https://www.waveshare.com/5inch-dsi-lcd.htm>)

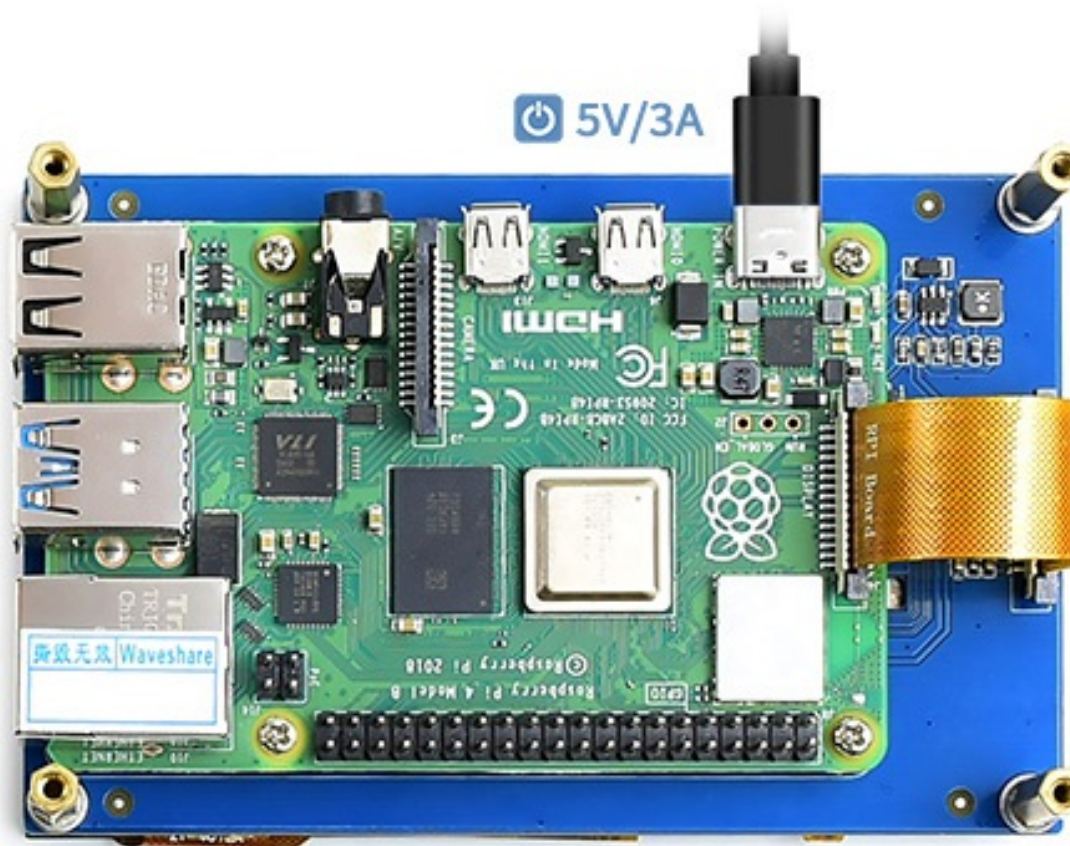
5inch capacitive Touch Screen LCD for
Raspberry Pi
DSI Interface

- Supports backlight brightness control with the software.

User guide

Hardware connection

- Using the FFC cable, connect the 5inch DSI LCD to the DSI port of the Raspberry Pi.
- For easy use, you can fix the Raspberry Pi on the backside of the 5inch DSI LCD by screws.



(/wiki/File:4.3inch-

DSI-LCD-2.jpg)

Software setting

Supports Raspberry Pi OS / Ubuntu / Kali and RetroPie systems for Raspberry Pi.

- 1) Download the image from the Raspberry Pi website (<https://www.raspberrypi.com/software/operating-systems/>).
- 2) Download the compressed file to the PC, and unzip it to get the .img file.

- 3) Connect the TF card to the PC, and use SDFormatter (https://files.waveshare.com/upload/d/d7/Panasonic_SDFormatter.zip) software to format the TF card.
- 4) Open the Win32DiskImager (<https://files.waveshare.com/upload/7/76/Win32DiskImager.zip>) software, select the system image downloaded in step 2, and click 'Write' to write the system image.
- 5) 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, save and eject the TF card safely.

```
dtoverlay=vc4-kms-v3d  
dtoverlay=vc4-kms-dsi-7inch
```

- 6) Power on the Raspberry Pi and wait for a few seconds until the LCD displays normally. And the touch function can also work after the system starts.

Backlight Control

The backlight brightness can be controlled by entering the following commands in the terminal:

```
echo X > /sys/class/backlight/rpi_backlight/brightness
```

Where X indicates any number from 0 to 255. 0 means the backlight is the darkest, and 255 means the backlight is the brightest. For example:

```
echo 100 > /sys/class/backlight/rpi_backlight/brightness  
echo 0 > /sys/class/backlight/rpi_backlight/brightness  
echo 255 > /sys/class/backlight/rpi_backlight/brightness
```

In addition, Waveshare provides a corresponding application (which is only available for the Raspberry Pi OS system), which users can download and install by the following way:

```
wget https://files.waveshare.com/upload/f/f4/Brightness.zip  
unzip Brightness.zip  
cd Brightness  
sudo chmod +x install.sh  
./install.sh
```

Once the installation is complete, the demo can be opened in the Start Menu -> Accessories -> Brightness, as follows:



(/wiki/File:43H-800480-IPS07.GIF)

Sleep

Run the following commands on the Raspberry Pi terminal, and the screen will enter sleep mode:

```
xset dpms force off
```

Disable touch

At the end of the config.txt file, add the following commands corresponding to disabling touch (the config file is located in the root directory of the TF card, and can also be accessed through the command: `sudo nano /boot/config.txt`):

```
disable_touchscreen=1
```

Note: After adding the command, it needs to be restarted to take effect.

Resources

3D Drawing

- 5inch DSI LCD 3D Drawing (https://files.waveshare.com/upload/e/ed/5inch_DSI_LCD_3D_Dra

wing.zip)

Software

- Panasonic SDFormatter (https://files.waveshare.com/upload/d/d7/Panasonic_SDFormatter.zip)
- Win32DiskImager (<https://files.waveshare.com/upload/7/76/Win32DiskImager.zip>)
- PuTTY (<https://files.waveshare.com/upload/5/56/Putty.zip>)

FAQ

Question:What is the power consumption of 5inch DSI LCD?

Answer:

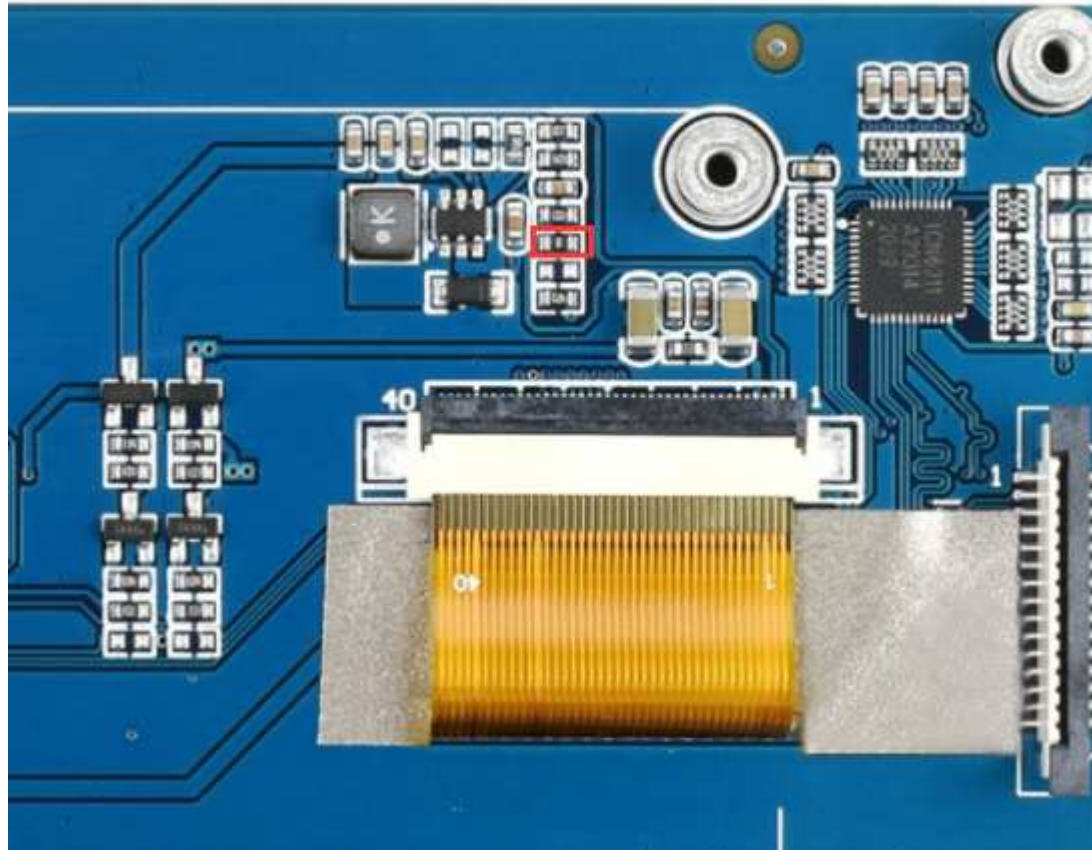
With a 5V power supply, the operating current for the maximum brightness is about 250mA and the operating current for the minimum brightness is about 150mA.

Question:Can a 5-inch DSI LCD control the backlight with an external PWM signal?

Answer:

The default state is to support software adjustment, it is recommended to view #Backlight Control, you can also weld PWM to control the backlight as follows:

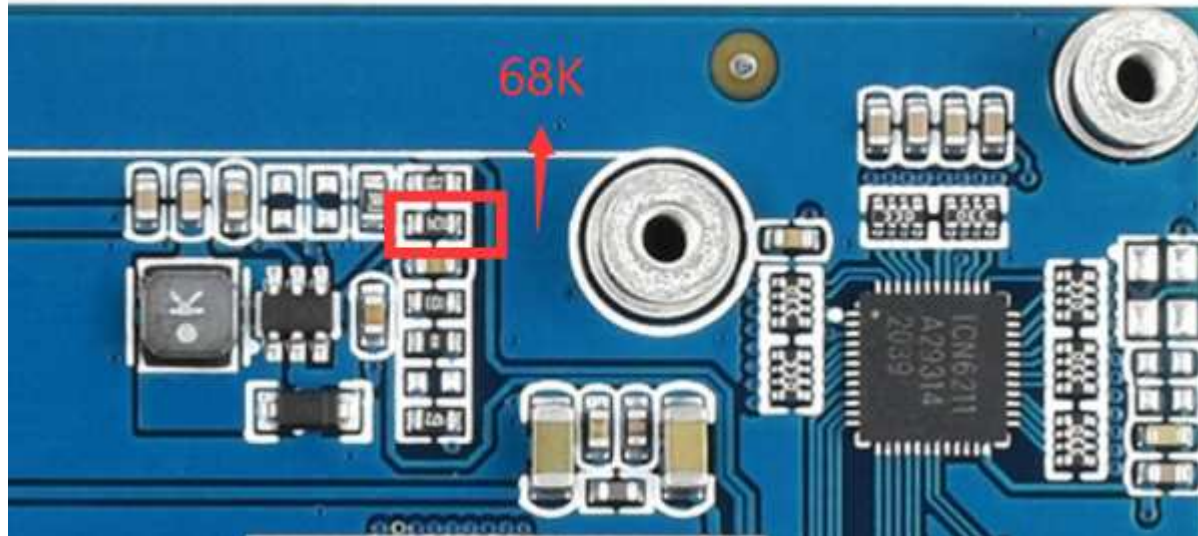
As shown in the figure below, first remove the original soldered resistor, and then connect the pad (left pad) of the resistor to the P1 pin of the Raspberry Pi, and you can use GPIO to control the backlight.



(/wiki/File:5inch-DSI-faq.png)

- `gpio -g pwm 18 0`
- `gpio -g mode 18 pwm` (the occupied pins are PWM pins)
- `gpio pwmc 1000`
- Control brightness:

- `gpio -g pwm 18 X` (X is between 0 and 1024, 0 is the darkest, and 1024 is the brightest)
- PS: In order to ensure a good customer experience, the default factory minimum brightness is the visible state. If you need to completely turn off the backlight to achieve a black screen effect, please manually change the 100K resistor as shown below to a 68K resistor:

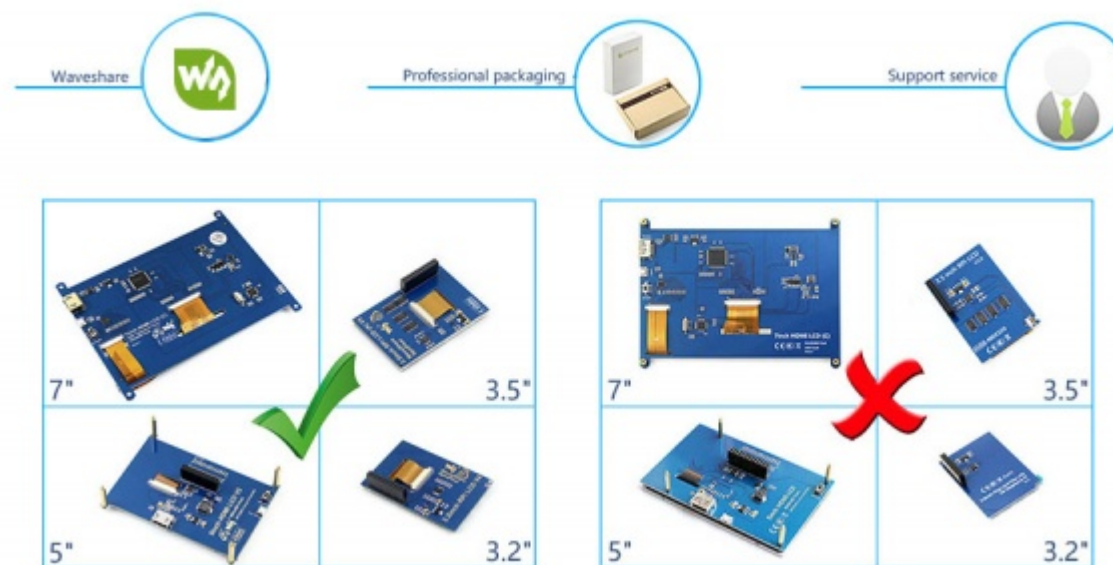


(/wiki/File:4.3DSI-brightness-2.png)

Anti-Piracy

Since the first-generation Raspberry Pi released, Waveshare has been working on designing, developing, and producing various fantastic touch LCDs for the Pi. Unfortunately, there are quite a few pirated/knock-off products in the market. They're usually some poor copies of our early hardware revisions, and comes with none support service.

To avoid becoming a victim of pirated products, please pay attention to the following features when purchasing:



(<https://files.waveshare.com/upload/6/6d/RPi-LCD-Anti-Piracy-l.jpg>)

(Click to enlarge (<https://files.waveshare.com/upload/6/6d/RPi-LCD-Anti-Piracy-l.jpg>))

Beware of knock-offs

Please note that we've found some poor copies of this item in the market. They are usually made of inferior materials and shipped without any testing.

You might be wondering if the one you're watching or you've purchased in other non-official stores is original, feel free to contact us.

Support

Technical Support

If you need technical support or have any feedback/review, please click the **Submit Now** button to submit a ticket, Our support team will check and reply to you within 1 to 2 working days. Please be patient as we make every effort to help you to resolve the issue.

Working Time: 9 AM - 6 AM
GMT+8 (Monday to Friday)

Submit Now (<https://support.waveshare.com/hc/en-us/requests/new>)

*Retrieved from "https://www.waveshare.com/w/index.php?title=5inch_DSI_LCD&oldid=70206
(https://www.waveshare.com/w/index.php?title=5inch_DSI_LCD&oldid=70206)"*
