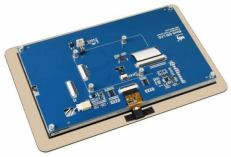

Waveshare 8inch Capacitive Touch Display for Raspberry Pi User Manual

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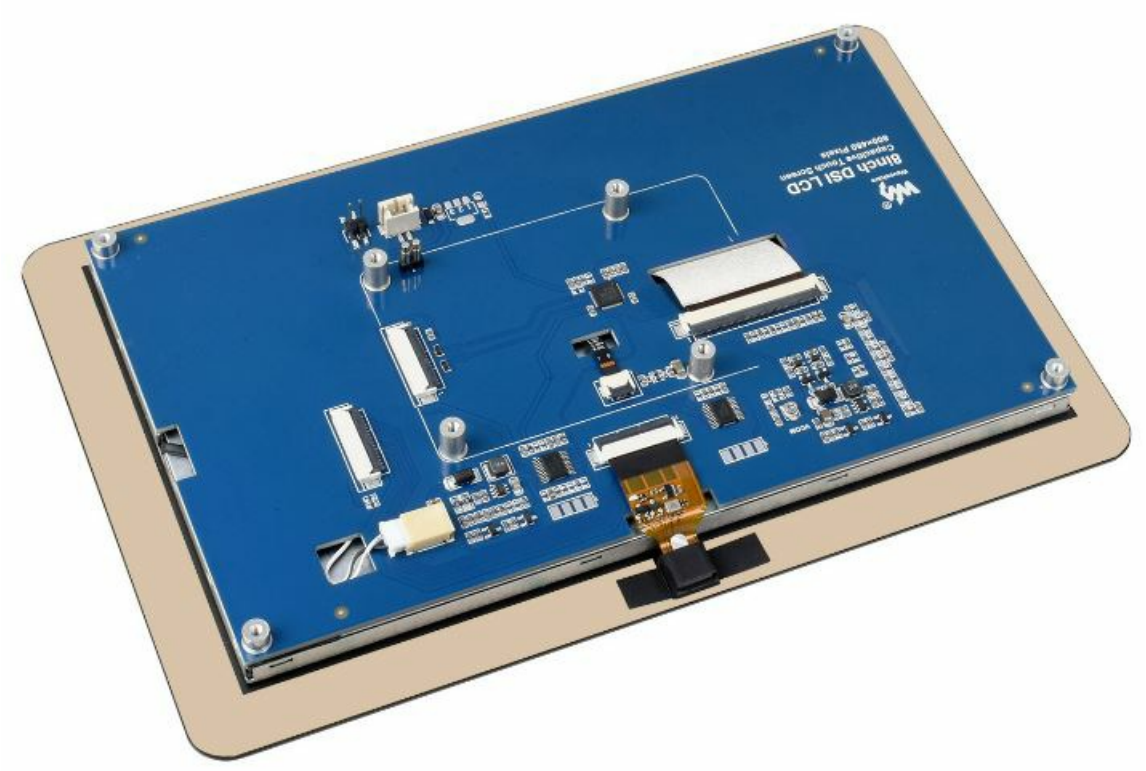


Product Information

Specifications

- Product Name: 8inch DSI LCD
- Features:
  - LCD FFC cable anti-interference design is more stable for industrial applications.
  - VCOM voltage adjustment for optimizing display effect.
  - Power supply via pogo pins, eliminating messy cable connections.
  - Two types of 5V output headers, for connecting cooling fans or other low-power devices.
  - The reversed camera hole on the touch panel allows integration external camera.
  - Large front panel design makes it easy to match user-defined cases or to be integrated into sorts of devices.
  - Adopts SMD nuts for holding and fixing the board, a more compact structure.

Product Usage Instructions

Working with Raspberry Pi Hardware Connection

1. Use the 15PIN FPC cable to connect the DSI interface of the 8inch DSI LCD to the DSI interface of the Raspberry Pi.
2. For ease of use, you can attach the Raspberry Pi to the back of the 8-inch DSI LCD fixed with screws, and assemble the copper pillars. (The Raspberry Pi GPIO interface will power the LCD through the pogo pin).

Software Settings

Add the following lines to the config.txt file located in the root directory of the TF card:

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

Power on the Raspberry Pi and wait for a few seconds until the LCD displays normally. The touch function should 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/10-0045/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.
Alternatively, you can download and install the Brightness application provided by Waveshare for Raspberry Pi OS system:

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

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

Sleep

To put the screen in sleep mode, run the following command on the Raspberry Pi terminal:

```
xset dpms force off
```

Disable Touching

To disable the touch function, modify the config.txt file by adding the following line:

```
disable_touchscreen=1
```

Save the file and reboot the system for the changes to take effect.

FAQ

Question: Cameras cannot work when using the 2021-10-30-raspios-bullseyearmhf image.
Answer: Please configure as below and try to use the camera again.
`sudo raspi-config -> Choose Advanced Options -> Glamor -> Yes(Enabled) -> OK -> Finish -> Yes(Reboot)`

Question: What is the full white brightness of the screen?
Answer: 300cd/

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

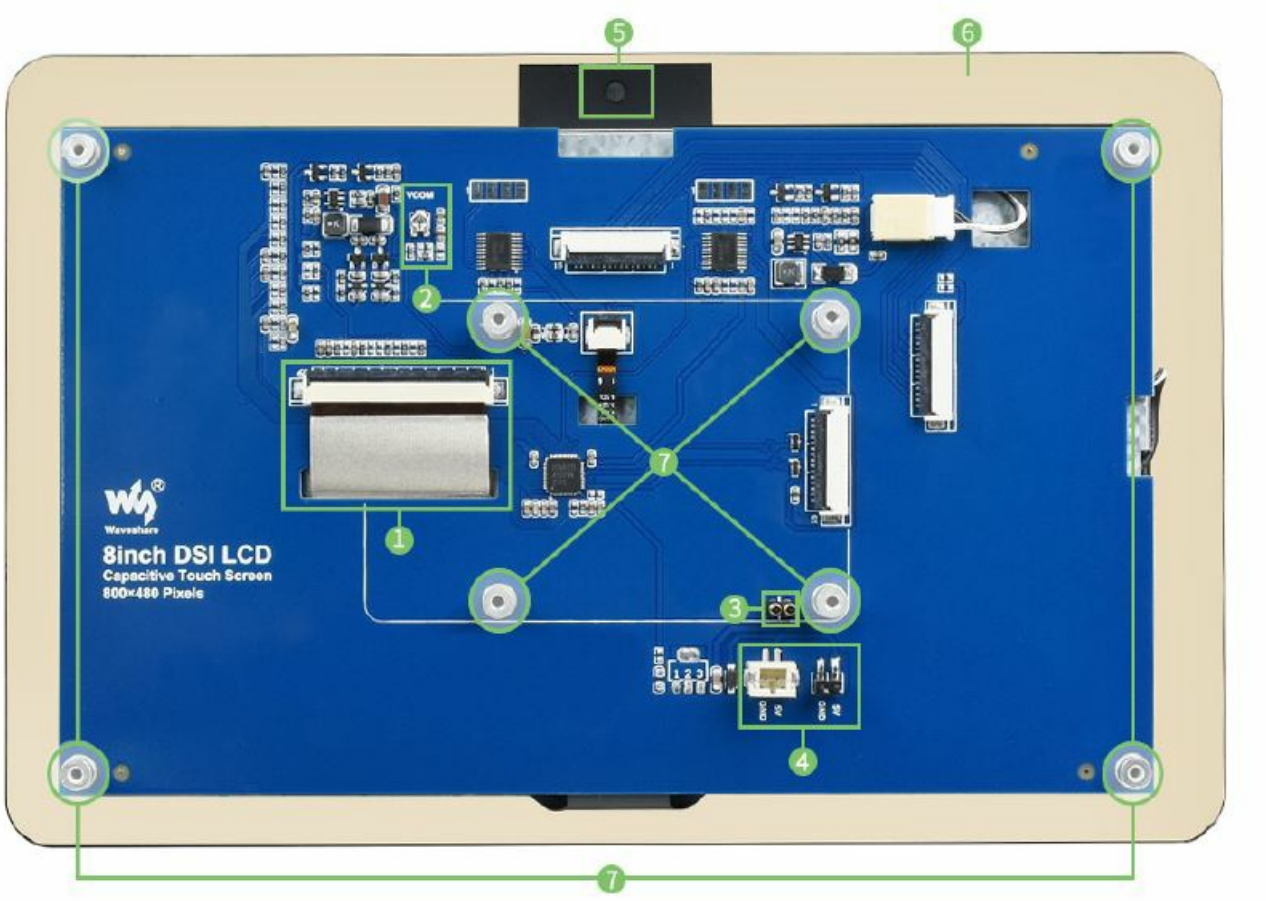
Introduction

8inch Capacitive Touch Display for Raspberry Pi, 800 × 480, MIPI DSI Interface

Features

- 8-inch capacitive touch screen with a hardware resolution of 800 × 480.
- The capacitive touch panel, support 5-point touch.
- Toughened glass capacitive touch panel with 6H hardness.
- Supports Pi 4B/3B+/3A+/3B/2B/B+/A+. Another adapter cable is required for CM3/3+/4a: DSI-Cable-15cm .
- Directly drive LCD through DSI interface of Raspberry Pi, refresh rate up to 60Hz.
- Supports Raspberry Pi OS / Ubuntu / Kali and Retropie when used with Raspberry Pi, drive-free.
- Support backlight adjusts by software.

Featured Design



1. LCD FFC cable anti-interference design is more stable for industrial applications.
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4. Two types of 5V output headers, for connecting cooling fans or other low-power devices.
5. The reversed camera hole on the touch panel allows integration external camera.
6. Large front panel design, makes it easy to match user-defined cases or to be integrated into sorts of devices.

7. Adopts SMD nuts for holding and fixing the board, a more compact structure

Working with Raspberry Pi

Hardware connection

1. Use the 15PIN FPC cable to connect the DSI interface of the 8inch DSI LCD to the DSI interface of the Raspberry Pi.
2. For ease of use, you can attach the Raspberry Pi to the back of the 8inch DSI LCD fixed with screws, and assemble the copper pillars. (The Raspberry Pi GPIO interface will power the LCD through the pogo pin). The connection as below:

Software settings
Support Raspberry Pi OS / Ubuntu / Kali and Retropie systems.

1. Download image (Raspbian, Ubuntu, Kali) from the Raspberry Pi website.
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 software to format the TF card.
4. Open the Win32DiskImager software, select the system image downloaded in step 2, and click ‘ Write’ to write the system image.
5. After programming is finished, 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/10-0045/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/10-0045/brightness
  echo 0 > /sys/class/backlight/10-0045/brightness
  echo 255 > /sys/class/backlight/10-0045/brightness
- In addition, Waveshare provides a corresponding application (which is only available for the
- Raspberry Pi OS system), which users can download and install in the following way:
  wget **https://www.waveshare.com/w/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:

Sleep
Run the following commands on the Raspberry Pi terminal, and the screen will enter sleep mode: xset dpms force off

Disable Touching

If you want to disable the touch function, you can modify the config.txt file, add the following line to the file and reboot the system. (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

Software

- Panasonic SDFormatter
- Win32DiskImager
- PuTTY

FAQ

Question: Cameras cannot work when using the 2021-10-30-raspios-bullseyearmhf image.
Answer: Please configure as below and try to use the camera again. sudo raspi-config -> Choose Advanced Options -> Glamor -> Yes(Enabled) – > OK -> Finish -> Yes(Reboot)

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Documents / Resources

	Waveshare 8inch Capacitive Touch Display for Raspberry Pi [pdf] User Manual 8inch Capacitive Touch Display for Raspberry Pi, 8inch, Capacitive Touch Display for Raspberry Pi, Display for Raspberry Pi, Raspberry Pi

References

- Operating system images – Raspberry Pi
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- File:8inch-DSI-LCD-3.jpg - Waveshare Wiki
- File:8inch-DSI-LCD-Manual-design.jpg - Waveshare Wiki
- Waveshare Wiki
- User Manual