



## WAVESHARE 119inch IPS Display Capacitive Touch Panel Screen Instruction Manual

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## Dimension


11.9inch DSI LCD



320 x 1480, RPi, DSI

## Overview

### Feature

- 11.9inch IPS display with capacitive touch panel, hardware resolution is 320 x 1480.
- Capacitive touch, supports up to 5-point touch.
- Toughened glass capacitive touch panel, 6H hardness.
- DSI interface, refresh rate up to 60Hz.
- Working with Raspberry Pi, we provide the driver for Raspberry Pi OS.
- Brightness is adjustable by software.
- Support Pi 4B/3B+/3A+, CM3+/4, must be used with [adapter cable](#) .

# Working with RPi

## Hardware Connection




1. Use a 15PIN FPC cable to connect the display DSI interface to the DSI interface of the Raspberry Pi board.
2. The Raspberry Pi is installed on the display board with the back facing down, and the 5V power supply and I2C communication are connected through the 4PIN.

**The back lock installation effect is as follows:**



## Software Debugging

### Method 1: Install Manually

1. Download the image from the [Raspberry Pi website](#) .
2. Connect the TF card to the PC, use [SDFormatter](#)  software to format the TF card.
3. Open the [Win32DiskImager](#)  software, select the system image downloaded in step 1, and click 'Write' to burn the system image.
4. After the programming is completed, connect the TF card to the Raspberry Pi, start it and log in to the terminal of the Raspberry Pi. (you can connect the Raspberry Pi to an HDMI display or log in remotely with ssh.)

#Step 1: Download and enter the Waveshare-DSI-LCD driver folder

```
git clone https://github.com/waveshare/Waveshare-DSI-LCD
```

```
cd Waveshare-DSI-LCD
```

#Step 2: Enter `uname -a` in the terminal to view the kernel version and cd to the corresponding file directory

#5.15.61 then run the following command

```
cd 5.15.61
```

#Step 3: Please check the bits of your system, enter the 32 directory for 32-bit systems, and enter the 64 directory for 64-bit systems

```
cd 32
```

```
#cd 64
```

#Step 4: Enter your corresponding model command to install the driver, pay attention to the selection of the I2C DIP switch

#11.9inch DSI LCD 320×1480 driver:

```
sudo bash ./WS_xinchDSI_MAIN.sh 119 I2C0
```

#Step 5: Wait for a few seconds, when the driver installation is complete and no error is prompted, restart and load the DSI driver and i

```
sudo reboot
```

**Note:** The above steps need to ensure that the Raspberry Pi can be connected to the Internet normally.

5. Wait for the system to restart, it will be able to display and touch normally.

## Method 2: Program Pre-install Image

1. Select your corresponding Raspberry Pi version image, download, and decompress it as “.img” file.

**Raspberry Pi 4B/CM4 version download:** [Waveshare DSI LCD – Pi4 pre-install image](#)

**Raspberry Pi 3B/3B+/CM3 version download:** [Waveshare DSI LCD – Pi3 pre-install image](#)

2. Connect the TF card to the PC and use [SDFormatter](#) to format the TF card.

3. Open [Win32DiskImager](#) software, choose the system image prepared in the first step, and then click “write” to write the system image.

4. After the programming is finished, open the config.txt file in the root directory of the TF card, add the following code under [all], save, and eject the TF card safely.

```
dtoverlay=WS_xinchDSI_Screen,SCREEN_type=6,I2C_bus=10
```

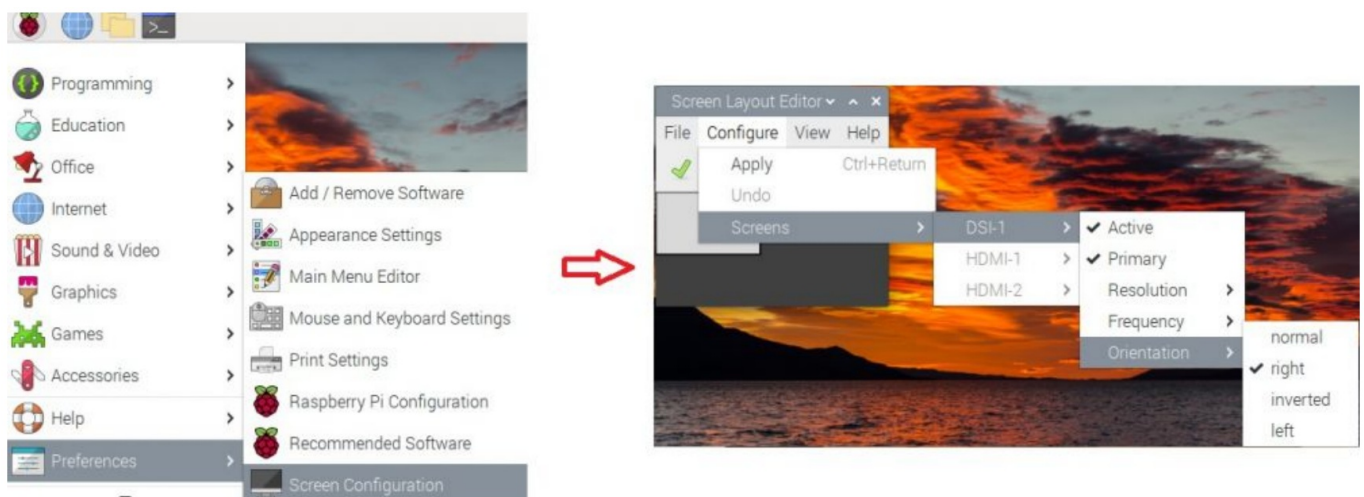
```
dtoverlay=WS_xinchDSI_Touch,invertedx,invertedy,I2C_bus=10
```

5. Connect the TF card to the Raspberry Pi, and start the Raspberry Pi, wait for about 30 seconds to display and touch normally.

## Rotation

### Method 1: Graphical Interface Rotation

In the start menu, select: Preferences->Screen Configuration->Configure->Screens->DSI1->Orientation, select the corresponding angle in it, click “√”, select Yes, and restart.



## Method 2: Rotation Display In Lite Version

```
sudo nano /boot/cmdline.txt
#Add a command corresponding to the display rotation angle at the beginning
of the cmdline.txt file, save it and restart it to take effect
#display rotated 90 degrees
video=DSI-1:320x1480M@60,rotate=90
#display rotated 180 degrees
video=DSI-1:320x1480M@60,rotate=180
#display rotated 270 degrees
video=DSI-1:320x1480M@60,rotate=270
```

## Touch To Rotate

```
sudo nano /boot/config.txt
#Modify the instruction of the touch rotation angle at the end of the config.txt
file, and it will take effect after restarting (there is a 0° touch direction
instruction by default)
#90
dtoverlay=WS_xinchDSI_Touch,invertedy,swappedxy
#180
dtoverlay=WS_xinchDSI_Touch
#270
dtoverlay=WS_xinchDSI_Touch,invertedx,swappedxy
#0
dtoverlay=WS_xinchDSI_Touch,invertedx,invertedy
```

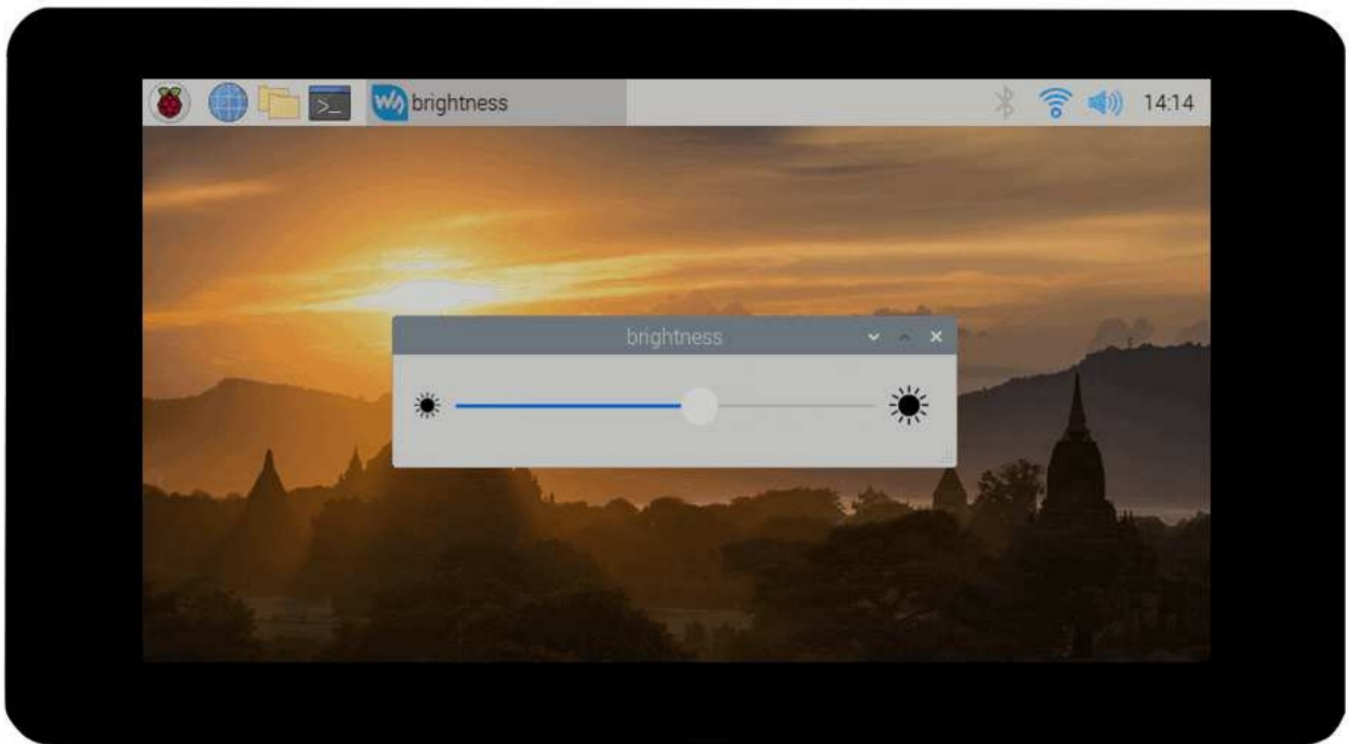
## Backlight Control

### Method 1: Graphical Interface Dimming

Using the application provided by WaveShare:

```
cd WaveShare-DSI-LCD
# Determine the currently used kernel version, such as the 5.15.61 kernel,
and run the following command
cd 5.15.61
#Check the bits of the system, 32-bit system enters 32 directory, 64-bit s
ystem enters 64 directory
cd 32
#cd 64
cd Backlight
sudo ./install.sh
```

After the installation is complete, you can open the program in the Start menu – > Accessories – > Brightness, as shown below:



## Method 2: Lite Version Dimming Command

To adjust the system command of the lite version, after entering the root privilege, execute the following command on the Raspberry Pi terminal:

```
echo X > /sys/waveshare/rpi_backlight/brightness
```

(X value in the range of 0~255)

### For example:

```
sudo su root
```

```
echo 100 > /sys/waveshare/rpi_backlight/brightness
```

## 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
```

## Precaution

1. Update the system, such as executing the following command:

```
sudo apt-get update
```

```
sudo apt-get full-upgrade
```

After updating the system, some files of the originally installed driver may be overwritten, and the driver needs

to be reinstalled to display normally.




## 2. Replace the motherboard

If the driver is originally installed on the Raspberry Pi 4 Model B, the user replaces the motherboard, such as modifying it to a Raspberry Pi 3 Model B+, the display will not display properly.

Because Pi4 and Pi3 need to load different driver files, you need to reinstall the driver on the new motherboard to display properly.

## Resource



### Software

- [Panasonic\\_SDFormatter](#) 
- [Win32DiskImager](#) 
- [putty](#) 

### 3D Drawing

- [11.9inch DSI LCD 3D Drawing](#) 

### Pre-install image

- [Waveshare DSI LCD – Pi4 pre-install image](#) 
- [Waveshare DSI LCD – Pi3 pre-install image](#) 

## FAQ

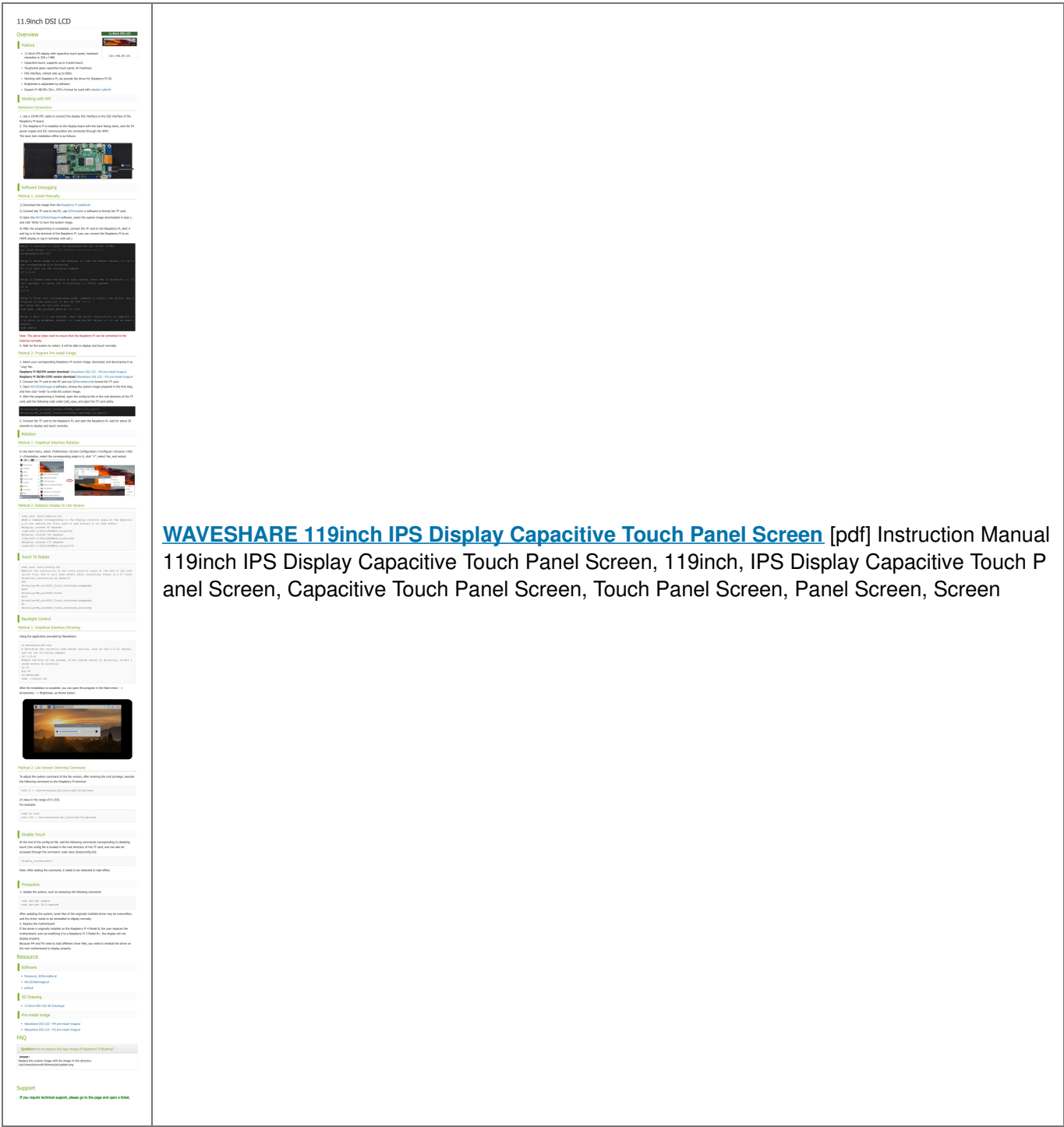
**Question:** How to replace the logo image of Raspberry Pi Booting?

**Answer:**

Replace the custom image with the image in this directory </usr/share/plymouth/themes/pix/splash.png>

## Support

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



**WAVESHARE 119inch IPS Display Capacitive Touch Panel Screen** [pdf] Instruction Manual  
119inch IPS Display Capacitive Touch Panel Screen, 119inch, IPS Display Capacitive Touch Panel Screen, Capacitive Touch Panel Screen, Touch Panel Screen, Panel Screen, Screen

**References**

-  [Operating system images – Raspberry Pi](#)
-  [DSI FFC Flexible Flat Cable 15cm](#)
-  [Waveshare Wiki](#)
- [User Manual](#)