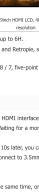
7.9inch HDMI LCD

Introduction

This product is a general-purpose 7.9-inch HDMI display with a resolution of 400×1280 and a capacitive touch panel - which supports Raspberry Pi and can also be used as a computer monitor.



7.9inch HDMI LCD, 400x1280 resolution

Features

- 7.9inch IPS screen, 400x1280 resolution, HDMI/USB interfaces.
- 5-point capacitive touch control, tempered glass panel, hardness up to 6H.
- Used with Raspberry Pi, supports Raspberry Pi OS / Ubuntu / Kali and Retropie, single touch and driver free.
- Using as a computer monitor, it supports Windows 11/ 10 / 8.1 / 8 / 7, five-point touch and driver free.
- HDMI audio input, 3.5mm headphone/speaker jack.

Working with PC

This LCD supports Windows 7/8/8.1/10/11 when working with PC via HDMI interface. :
1. Connect the TOUCH interface of LCD to the USB interface of PC. Waiting for a moment, The touch will be recognized by Windows automatically.
2. Connect the HDMI interface of LCD to the HDMI port of PC. About 10s later, you can see that the LCD display properly.If you need to output sound, you can connect to 3.5mm headphones through HP audio output port.

Note:
1) When the computer is connected to several different displays at the same time, only this LCD can be used to control the cursor on the main display, so we recommended to set this LCD as the main display.
2) Sometimes LCD will flicker because of undersupplying from USB cable of PC. You need to connect an external power supply (5V/2A) to DC port.

Working with Raspberry Pi

This LCD can support Raspberry Pi OS / Ubuntu / Kali / Retropie systems.

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

1) Download the compressed file to the PC, and unzip it to get the .img file.

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 write the system image.

4) After the image has finished writing, open the config.txt file in the root directory of the TF card, add the following code at the end of config.txt, then save and quit the TF card safely.

```
hdmi_group=2
hdmi_mode=87
hdmi_timings=400 0 100 10 140 1280 10 20 20 2 0 0 0 60 0 63000000 3
```

5) Insert the TF card into the Raspberry Pi

6) Connect the Touch interface of the LCD to the USB port of Raspberry Pi.

7) Connect the HDMI interface of the LCD to the HDMI port of Raspberry Pi and then power on the Raspberry Pi, it can display normally after waiting for about a few seconds.

The screen is displayed vertically by default. For convenience, you can adjust the display orientation of the screen, see #Rotation(Working with Raspberry Pi).

Rotation(Working with Raspberry Pi)

- Display orientation

To change the orientation, you can add the following line to config.txt file and reboot.

```
display_rotate=X
```

X can be 1: 90°; 2: 180°C; 3: 270°

For example, if you want to rotate it for 90 degrees, you can add the line display_rotate=1

Note: If it is Raspberry Pi 4, also need to comment out dtoverlay=vc4-fkms-v3d.

And then restart the Raspberry Pi after saving.

```
sudo reboot
```

- Touch orientation

After the display is rotated, the position of touch is incorrect because the touch doesn't change with the display angle. So the touch also needs to be modified.

For this display, we provide two touch rotation methods.

Rotation by modifying the software

1.Install libinput.

```
sudo apt-get install xserver-xorg-input-libinput
```

2.Create the xorg.conf.d directory under /etc/X11/ (if the directory already exists, proceed directly to step 3).

```
sudo mkdir /etc/X11/xorg.conf.d
```

3.Copy the 40-libinput-conf file to the directory you created just now.

```
sudo cp /usr/share/X11/xorg.conf.d/40-libinput.conf /etc/X11/xorg.conf.d/
```

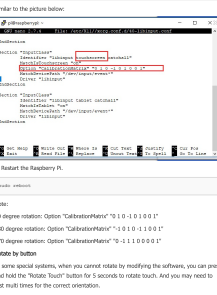
4.Edit this file.

```
sudo nano /etc/X11/xorg.conf.d/40-libinput.conf
```

Find the part of the touchscreen, add the following statement inside, and then save the file.

```
Option "CalibrationMatrix" "0 1 0 -1 0 1 0 0 1"
```

Similar to the picture below:



5. Restart the Raspberry Pi.

```
sudo reboot
```

Note:

90 degree rotation: Option "CalibrationMatrix" "0 1 0 -1 0 1 0 0 1"

180 degree rotation: Option "CalibrationMatrix" "-1 0 1 0 -1 1 0 0 1"

270 degree rotation: Option "CalibrationMatrix" "0 -1 1 1 0 0 0 0 1"

Rotate by button

In some special systems, when you cannot rotate by modifying the software, you can press and hold the "Rotate Touch" button for 5 seconds to rotate touch. And you may need to test multi times for the correct orientation.

We recommend using the software modification method. Otherwise, when using the new system, it may cause touch reverse errors. At that time, you need to press and hold "Rotate Touch" to rotate.

Disable power saving

Open lightdm.conf

```
sudo nano /etc/lightdm/lightdm.conf
```

Modify lightdm.conf to find the 'xserver-command' under the [SeatDefaults] section, uncomment it, and modify it as follows:

```
#xserver-command=X
```

Change into

```
xserver-command=X -s 0 -dpms
```

- -s 0 – set screen saver not enabled
- -dpms turn off power saving management

Resart

```
sudo reboot
```

Backlight control

You can control the backlight brightness by long pressing ON/OFF on the back of the LCD.

Note: If you increase the brightness, it may cause the insufficient power of the LCD by getting power through the USB interface. To solve this problem, you can input 5V/2A power through the Power interface on the back of the LCD.

Resources

Software

- Panasonic SDFormatter
- Win32DiskImager
- PuTTY

Drawing

- 7.9inch HDMI LCD 3D Drawing

FAQ

Question: What is the thickness of the 7.9inch HDMI LCD?

Answer:

Touchpad + LCD Thickness: 7.8mm

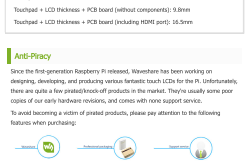
Touchpad + LCD thickness + PCB board (without components): 9.8mm

Touchpad + LCD thickness + PCB board (including HDMI port): 16.5mm

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:



(Click to enlarge)

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.