

# 7.9inch HDMI LCD

## Introduction

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This is a 7.9inch Capacitive Touch Screen LCD, IPS screen, which supports Raspberry Pi and can also be used as a computer monitor.

[More](#)

## Features

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- 7.9inch IPS screen, 400x1280 resolution, HDMI/USB interfaces.
- Toughened glass capacitive touch panel
- Supports popular mini PC such as Raspberry Pi, Jetson Nano
- Used with Raspberry Pi, supports Raspbian / Ubuntu / Kali and RetroPie, single touch and driver free.
- Using as a computer monitor, it supports Windows 10 / 8.1 / 8 / 7, five-point touch and driver free.
- Touch orientation is adjustable with button.
- HDMI audio input, 3.5mm headphone/speaker jack.

## Working with PC

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This LCD supports Windows 7/8/8.1/10 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) Some of PC cannot support HDMI screen Hot Plug. In this case, restart the PC can solve.
- 3) 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.

## Orientation setting

### Display orientation

You can adjust the display orientation by display setting.

### Touch orientation

The physical button on the backside can be used to adjust the orientation of touch. You can hold it for 5s to change.

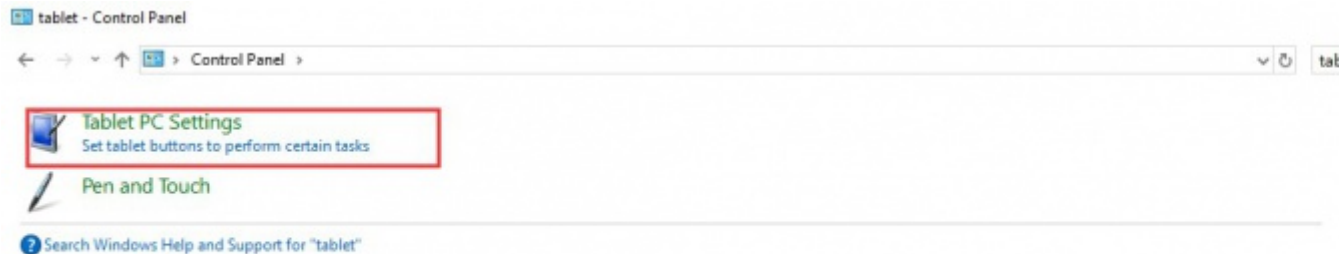
You may need to test multi times for the correct orientation.

## Touch Settings on Win 10 PC

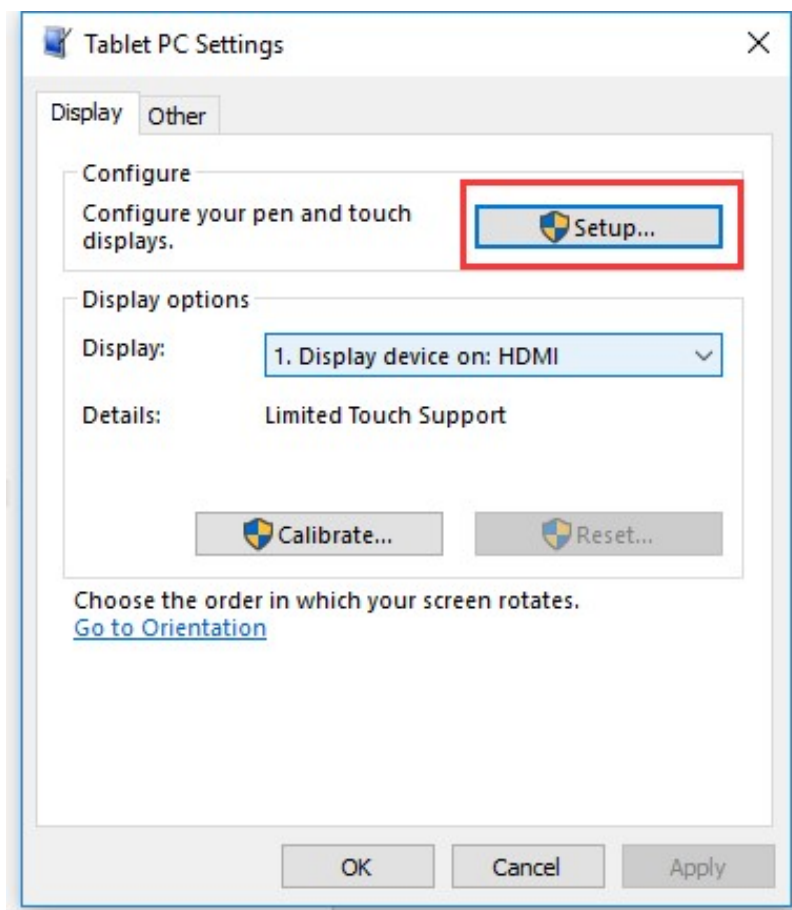
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Some users want to connect more than one display to their PC. Here we talk about how to setting the touch to make the touchscreen control its screen separately.

- Connect touchscreen to PC. Here we use a standard PC monitor and connect a 7inch HDMI LCD (C) for example. We make the monitor as the main screen and the touchscreen as a secondary screen.
- By default, The touchscreen can only control the cursor on the main screen. Here we set it to control the secondary screen.
- Open Control Panel and search Tablet PC setting on the control panel and open the tool.



- Click button "Setup..." to set the touchscreen



- After clicking the setup you can find that it is prompt on your first screen with white color background and other screens are white.

Tap this screen with a single finger to identify it as the touchscreen.

If this is not the Tablet PC screen, press Enter to move to the next screen. To close the tool, press Esc.

- If we want the touch of the touchscreen to control the desktop of the touchscreen itself. Just press Enter key to pass the first screen. And the second screen, when you find that the black text is displayed on the touchscreen, just touch the center of the touchscreen to finish this setting.
- After this setting, the touch on the screen will just control this touchscreen even though it is not the main screen.

**Note:**

1 If the first screen and the second screen are touchscreens as well, you can touch them when the text is displayed on the screens. Then you can find that all the touchscreen can work.

2 This method is just tested on win 10 PC.

## **Working with Raspberry Pi**

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This LCD supports Raspbian/Ubuntu mate/Kali/RetroPie/Windows 10 IoT Core.

When working with Raspberry Pi, you should set the resolution of the LCD by yourself, or else the LCD screen will not work. For more detail information, please read the following section.

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.exe software to format the TF card.
- 3) Open the Win32DiskImager.exe 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.

```
max_usb_current=1
hdmi_group=2
hdmi_mode=87
hdmi_timings=400 0 100 10 140 1280 10 20 20 2 0 0 0 60 0 43000000 3
```

**Note: For Raspberry Pi 4, you need to comment out `dtoverlay=vc4-fkms-V3D`.**

```
#dtoverlay=vc4-fkms-V3D.
```

You must make sure that there are no spaces on either side of the equal sign.

- 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.

### **Note:**

- Resolution of Ubuntu Mate OS or Windows 10 IoT Core OS can also be set properly by editing config.txt.
- For Pi Zero / Zero W: if you've used an SD card on a Pi 3 and then attached the card to the Pi Zero, the touch screen often doesn't work. In such cases, you have to write a fresh system image to the SD card. The first boot up must be done on the Pi Zero but not Pi 3, due to initialization for a corresponding device.
- The screen is displayed in portrait mode by default. For ease of use, the screen display direction can be adjusted, please read the following section.

## **Orientation setting(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°; 3: 270°**

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

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.

### Rotate by modifying the config.txt

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:

```
pi@raspberrypi: ~
GNU nano 2.7.4 File: /etc/X11//xorg.conf.d/40-libinput.conf

EndSection

Section "InputClass"
    Identifier "libinput touchscreen catchall"
    MatchIsTouchscreen "on"
    Option "CalibrationMatrix" "0 1 0 -1 0 1 0 0 1"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

Section "InputClass"
    Identifier "libinput tablet catchall"
    MatchIsTablet "on"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

^G Get Help ^O Write Out ^W Where Is ^K Cut Text ^J Justify
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell
```

## 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.

### Others

## Disable power saving.

If you want to keep the display turning on all the time, you can disable the power saving function.

Modify file lightdm.conf

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

Find the [SeatDefaults] option and uncomment the line "xserver-command", modify it as below:

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

Modify this code to

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

- -s # –Disable the display protecting.
- dpms Disable power saving.

Reboot

```
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.

## Some advanced uses of Pi4

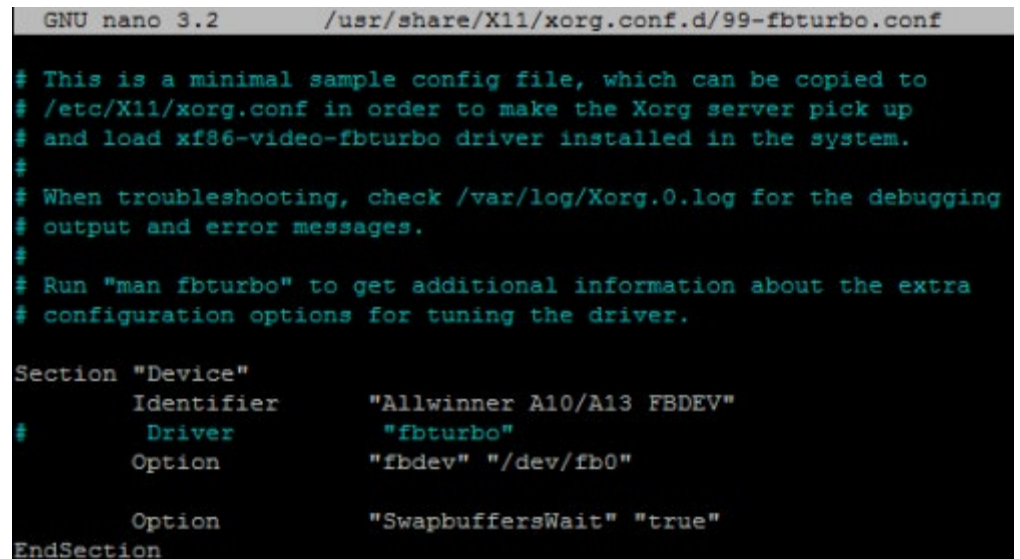
If you want to make some advanced display applications on Pi4, in these applications, the dtoverlay=vc4-fkms-v3d function in config.txt must be opened. The following section describes how to open dtoverlay=vc4-fkms-v3d and rotate the display in Pi4.

1. Open the config.txt file in the root directory of the TF card, add the following code at the end of config.txt, and comment out dtoverlay=vc4-fkms-V3D, save and quit the TF card safely, insert the TF card into the Raspberry Pi, and start the system.

```
max_usb_current=1
hdmi_group=2
hdmi_mode=87
hdmi_timings=400 0 100 10 140 1280 10 20 20 2 0 0 0 60 0 43000000 3
```

2. Edit `/usr/share/X11/xorg.conf.d/99-fbturbo.conf` and comment out Driver "fbturbo", as shown below:

```
sudo nano /usr/share/X11/xorg.conf.d/99-fbturbo.conf
```



```
GNU nano 3.2 /usr/share/X11/xorg.conf.d/99-fbturbo.conf
# This is a minimal sample config file, which can be copied to
# /etc/X11/xorg.conf in order to make the Xorg server pick up
# and load xf86-video-fbturbo driver installed in the system.
#
# When troubleshooting, check /var/log/Xorg.0.log for the debugging
# output and error messages.
#
# Run "man fbturbo" to get additional information about the extra
# configuration options for tuning the driver.

Section "Device"
    Identifier      "Allwinner A10/A13 FBDEV"
    # Driver        "fbturbo"
    Option          "fbdev" "/dev/fb0"

    Option          "SwapbuffersWait" "true"
EndSection
```

3. Open config.txt file

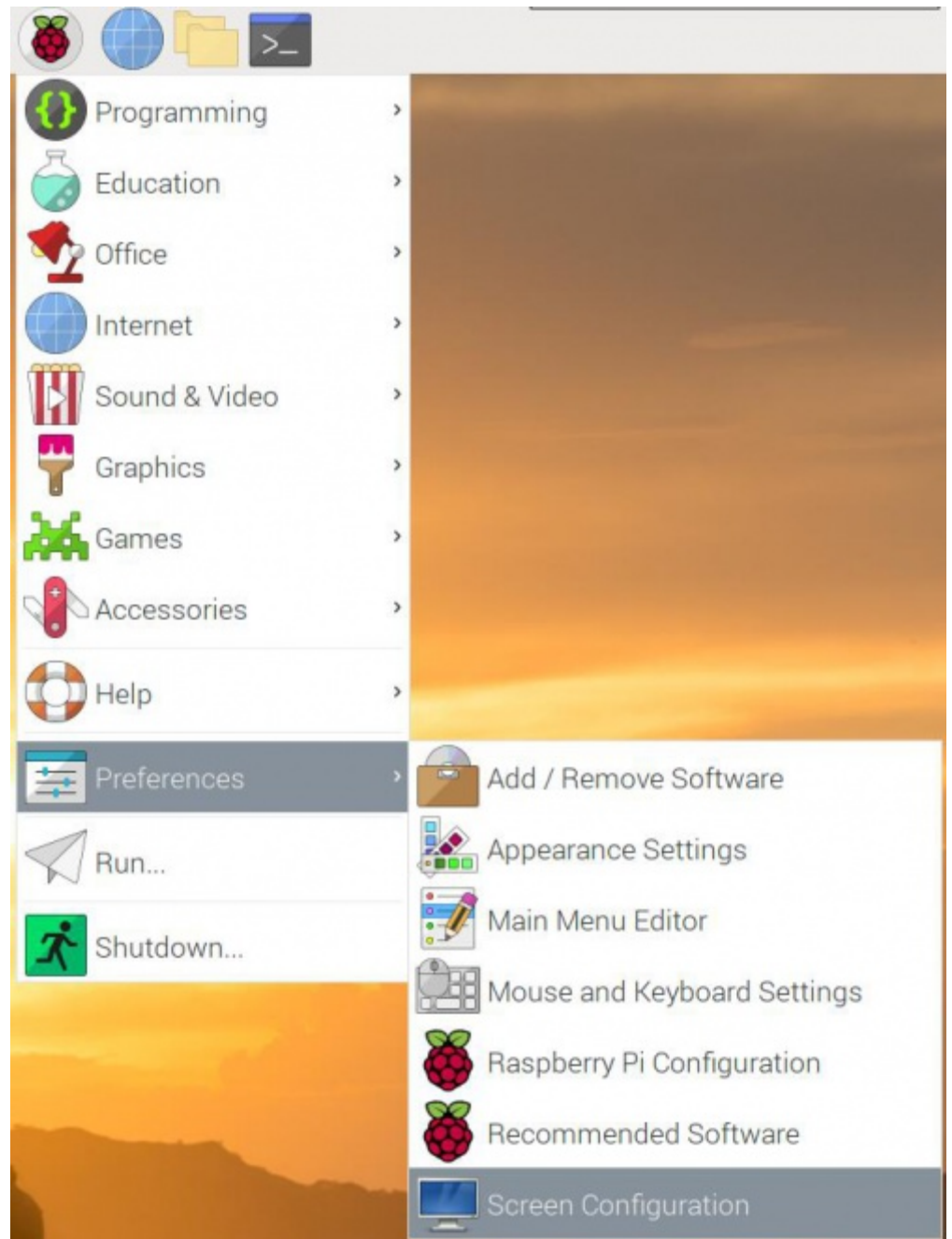
```
sudo nano /boot/config.txt
```

Turn on `dtoverlay=vc4-fkms-V3D` and reboot the system. (uncomment the line `dtoverlay=vc4-fkms-V3D`)

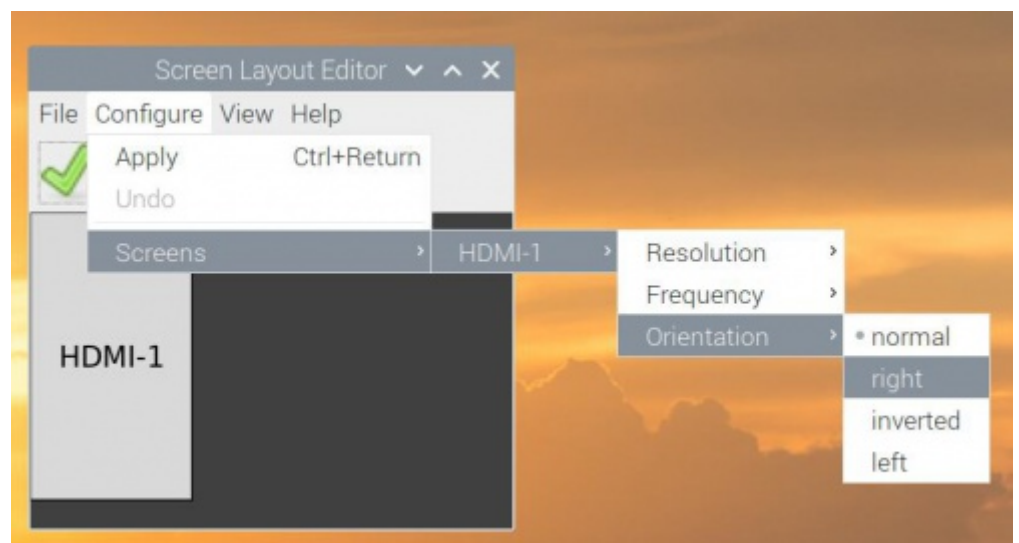
Note: In `config.txt`, the `display_rotate` function cannot be turned on.

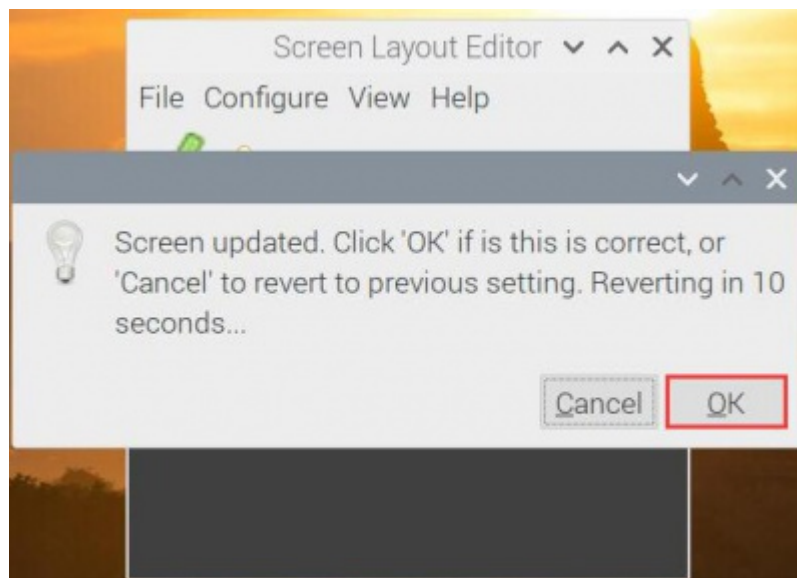
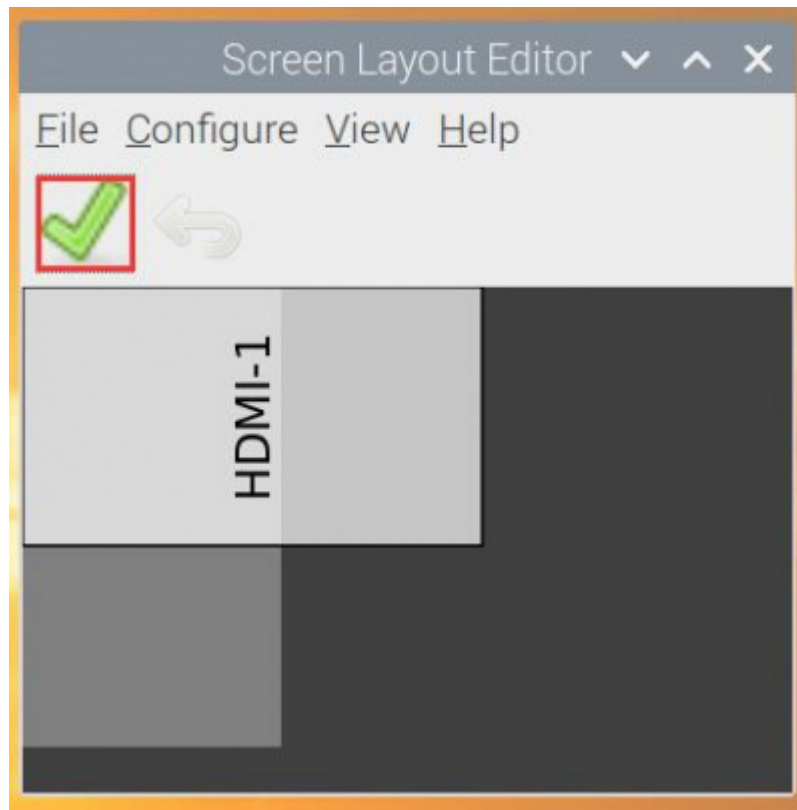
4. Open Screen Configuration.





5. Set the rotation as shown below.





6. And then after rotating touch, the LCD can be used normally.

Note: When rotating the display in this way, there will be a few seconds to display the vertical screen when booting up the system. After entering the system, it will display on the horizontal screen.

## **Working with Jetson Nano**

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To work with Jetson Nano Developer Kit, you just need to connect the LCD and power on.

- Connect the Touch interface of the LCD to the USB port of Jetson Nano
- Connect the HDMI interface of the LCD to HDMI port of Jetson Nano
- Power on the Jetson Nano and the LCD can display after a few seconds.

### **Orientation setting**

#### **Display orientation**

You can change the display orientation by display setting (system setting -> display setting).

#### **Touch orientation**

The physical button on the backside can be used to adjust the orientation of touch. You can hold it for 5s to change.

You may need to test multi times for the correct orientation.

## **Keys Introduction**

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- On/OFF: Turn on/off the backlight.
- Rotate Touch: Hold it for 5s to change the touch orientation.

## **Resources**

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### **Software**

- [Panasonic SDFormatter](#)
- [Win32DiskImager](#)
- [PuTTY](#)

### **Drawing**

- [7.9inch HDMI LCD 3D Drawing](#)