

9HP-CAPQLED

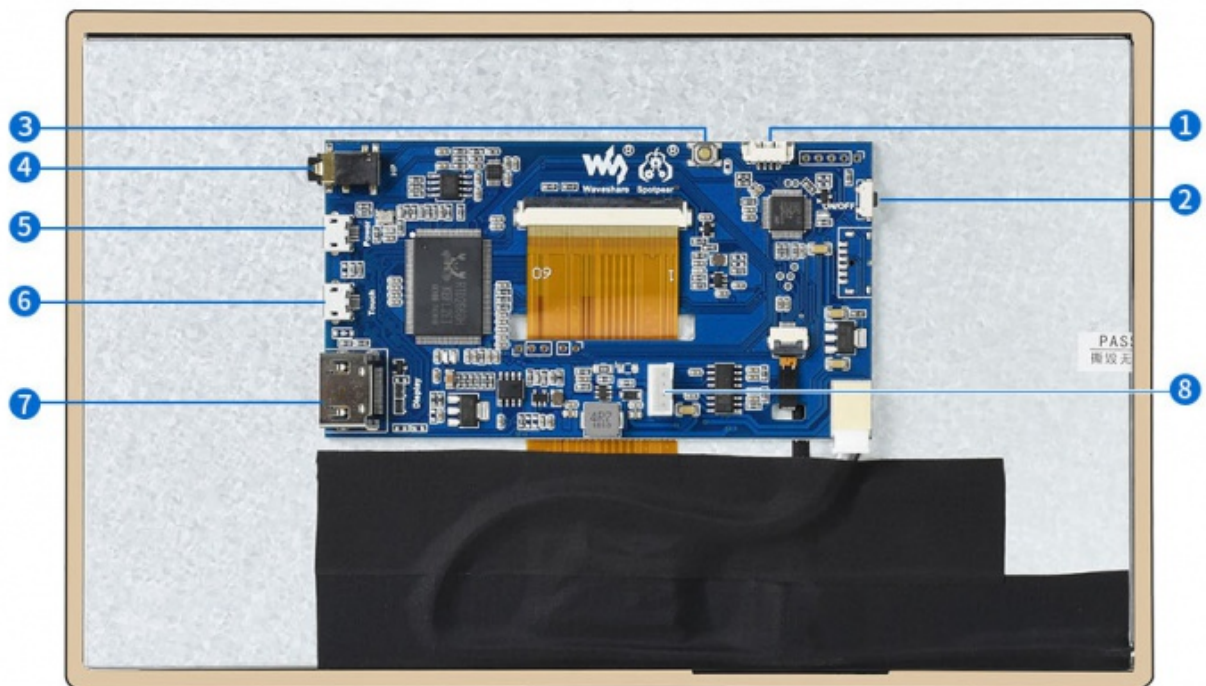
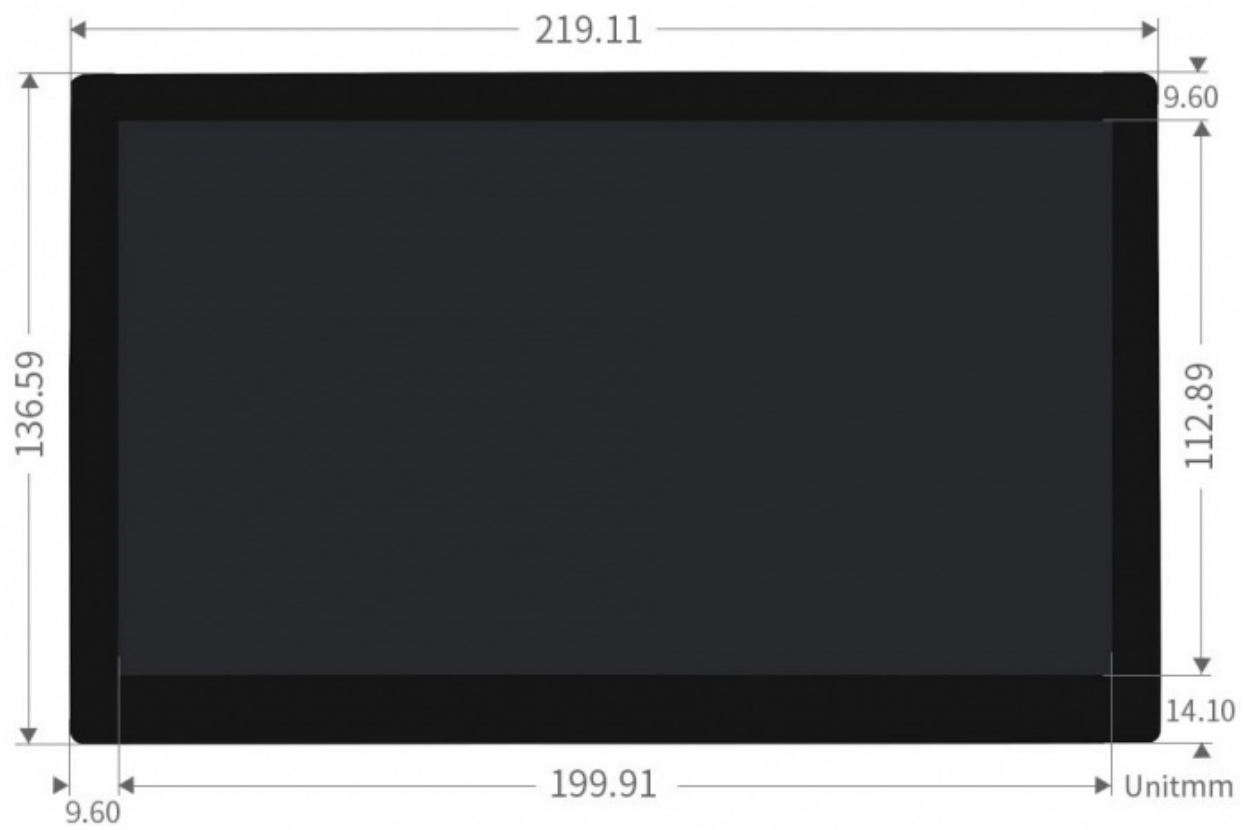
Introduction

9inch QLED Quantum Dot Display, Capacitive Touch, 1280×720, G+G Toughened Glass Panel, Various Devices & Systems Support

Features

- 9inch QLED quantum dot display, wider color gamut, more pure chroma, and longer lifetime.
- 1280x720 hardware resolution, support software resolution (up to 1920x1080)
- Toughened glass capacitive touch panel, 6H hardness. (case version only)
- Support Jetson Nano Developer Kit, driver free
- Used with Raspberry Pi, supports Raspbian, Ubuntu, WIN 10 IoT, driver free.
- Support popular Game Consoles like Xbox360, PS4, and SWITCH.
- Multi-languages OSD menu, for power management, brightness/contrast adjustment, etc.
- It has a 3.5mm audio jack and supports HDMI audio output

What's ON Board



- 1 Button Board Header
- 2 Power Button
- 3 Firmware Update Button
- 4 Audio Jack
- 5 Power Supply
- 6 Touch Port
- 7 HDMI Port
- 8 Speaker Header

Working with PC

This product supports Windows 10/8.1/8/7 OS. :

1. Connect the TOUCH interface of LCD to the USB interface of PC. Wait for a while, the windows will automatically recognize the touch function.
2. Connect the HDMI interface of LCD to the HDMI port of the PC. About 5s later, you can see the LCD display properly. If you need the audio, you can insert 3.5mm earphones into HP ports.

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 setting 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.

Working with Raspberry Pi

Supports Raspbian/Ubuntu mate/Windows 10 IoT Core

When working with Raspberry Pi, you should set the resolution of the LCD by yourself, otherwise, the LCD screen will not work. For more detailed 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, and comment out dtoverlay=vc4-fkms-V3D.
- 5) 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=1280 0 160 32 48 720 0 10 10 12 0 0 0 60 0 77000000 3
```

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

- 6) Save and connect the TF card to your Pi then power up.
- 7) Connect the Touch interface of LCD to the USB port of Raspberry Pi.
- 8) Connect the HDMI interface of LCD to the HDMI port of Raspberry Pi.

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.

Rotation(Working with Raspberry Pi)

Display Rotating

Add this statement in the config.txt file (the config file is located in the root directory of the TF card, which is named /boot):

```
display_rotate=1 #1: 90 ; 2: 180 ; 3: 270
```

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

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

And then restart the Raspberry Pi after saving.

```
sudo reboot
```

Touch Rotating

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.

1.Install libinput.

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

If the system you installed is Ubuntu or Jetson Nano. The installation code is:

```
sudo apt install xserver-xorg-input-synaptics
```

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   ^C Cur Pos
^X Exit      ^R Read File  ^\ Replace   ^U Uncut Text ^T To Spell  ^_ Go To Line
```

5. save and reboot your Pi

```
sudo reboot
```

After completing these steps. The LCD could rotate 90 degrees both display and touch function.

Note:

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

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

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

Working with Jetson Nano

To use with Jetson Nano, it doesn't require to configure.

- 1) Connect the TOUCH interface of the display to the USB port of Jetson Nano
- 2) Connect the HDMI interface of the display to the HDMI port of Jetson Nano.

3) Wait for seconds and the display will work normally. If you need to get the audio, you need to connect 3.5mm earphones to the HP port of the display.

Resources

Software

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

External guides

- [Woring with Volumio](#)