## 7-inch QLED Quantum Dot Display

7inch QLED Quantum Dot Display, Capacitive Touch, 1024 × 600, G+G Toughened Glass Panel, Various Devices & Systems Support.

Features

- 7inch QLED quantum dot display， wider color gamut, more pure chroma, and longer lifetime.

- 1024 x 600 hardware resolution, support software resolution (up to 1920 x 1080).

- Toughened glass capacitive touch panel, 6H hardness.

- Use with Jetson Nano Developer Kit, Support Ubuntu system.

- Use with Raspberry Pi, supports Raspberry Pi OS, Ubuntu, Kali, and Retropie systems.

- Use with Windows PC, support Windows 11, 10, 8.1, 8, 7, five-points touch.

- 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

Unit:mm
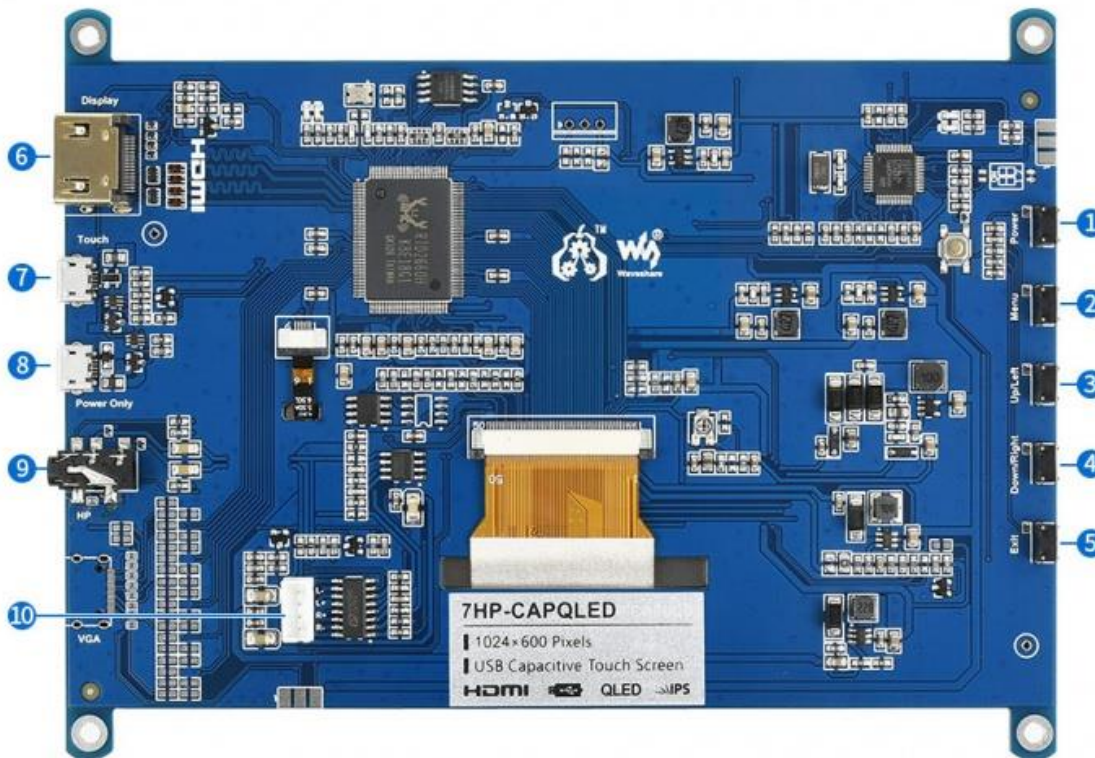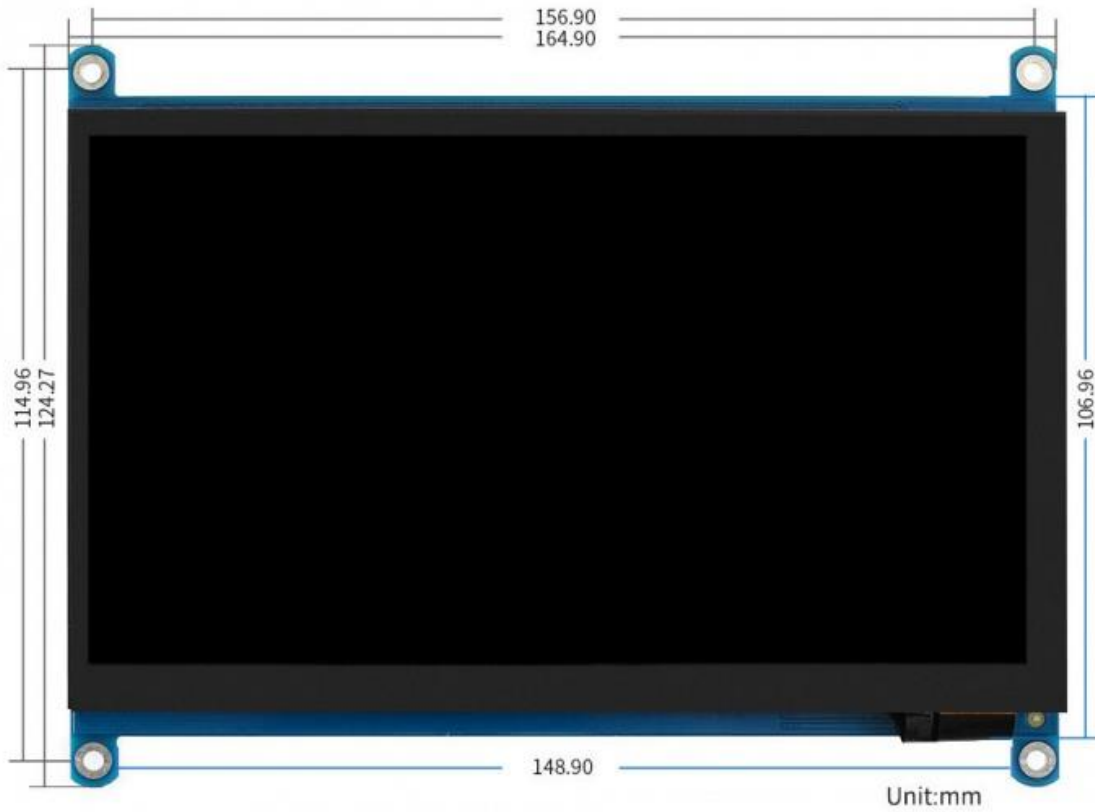
1 Power Button　2 Menu Button　3 Up/Left　4 Down/Right　5 Return/Exit
6 HDMI Port　7 Touch Port　8 Power Supply　9 Audio Jack　10 Speaker Header

Working with PC

This product supports Windows 11/10/8.1/8/7 OS.:

1. Connect the TOUCH interface of LCD to the USB interface of the 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 the HDMI screen Hot Plug. In this case, restarting 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 the DC port.

Working with Raspberry Pi

Supports Raspberry Pi OS/Ubuntu/Kali/Retropie Systems.

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 from the Raspberry Pi official website.

1. Download the compressed file to the PC, and extract the img file.

2. Connect the TF card to the PC and use SDFormatter to format the TF card.

3. Open the Win32DiskImager software, select the system image prepared in step 1, and click write to burn the system image.

4. After the programming is completed, open the config.txt file in the root directory of the TF card, add the following code at the end of config.txt and save it

```
hdmi_force_hotplug=1

config_hdmi_boost=10

hdmi_group=2

hdmi_mode=87
```

```
hdmi_cvt 1024 600 60 6 0 0 0
```

5. Insert the TF card into the Raspberry Pi, connect the Touch port of the LCD to the USB port of the Raspberry Pi, and connect the HDMI port of the LCD to the HDMI port of the Raspberry Pi.

6. Power on the Raspberry Pi, and it will display normally after a few seconds.

Note:

- On December 2, 2021, the Raspberry Pi OS was divided into two branches, the Buster branch and the Bullseye branch. The Buster branch is a continuation of the old system and is more stable. The Bullseye branch added some new features, using open source libraries and new interfaces. Since the current Bullseye branch has just been released shortly, it is not stable yet. If you are an industrial user, it is strongly recommended to use the Buster branch.

- If you use the Buster branch system, you can use it according to the above configuration. But if you are using the Bullseye branch system, you need to modify the default KMS driver to FKMS driver to display the system desktop normally

Modification method: Open the config.txt file in the root directory of the TF card, find the following line:

```
dtoverlay=vc4-kms-v3d
```

change into

```
dtoverlay=vc4-fkms-v3d
```

- If you need to use the CSI camera under the Bullseye branch system. Since this branch uses the libcamera camera library by default, the library doesn't support FKMS drivers.

So in addition to the above modification, you also need to install the Raspicam camera library.

The installation method is as follows:

```
cd ~
sudo apt install cmake
```

```
git clone https://github.com/raspberrypi/userland

cd userland

./buildme

sudo cp build/bin/* /bin/
```

Then execute the following command to shut down the system:

```
poweroff
```

Connect the Raspberry Pi camera to the CSI interface of the Raspberry Pi, power on the Raspberry Pi again, and after the system boots, execute the following command:

Take a picture:

```
raspistill -o image.jpg
```

Take a video:

```
raspivid -o video.h264 -t 10000
```

Backlight adjustment on Raspberry Pi OS

```
#Step 1: Download and enter the RPi-USB-Brightness folder
git clone https://github.com/waveshare/RPi-USB-Brightness
cd RPi-USB-Brightness


#Step 2: Enter uname -a in the terminal to view the number of system bits, v7+ is
32 bits, v8 is 64 bits
cd 32
#cd 64


#Step 3: Enter the corresponding system directory
#Desktop version Enter the desktop directory:
cd desktop
sudo ./install.sh
#After the installation is complete, you can open the program in the start menu -
"Accessories - "Brightness for backlight adjustment, as shown below:
```
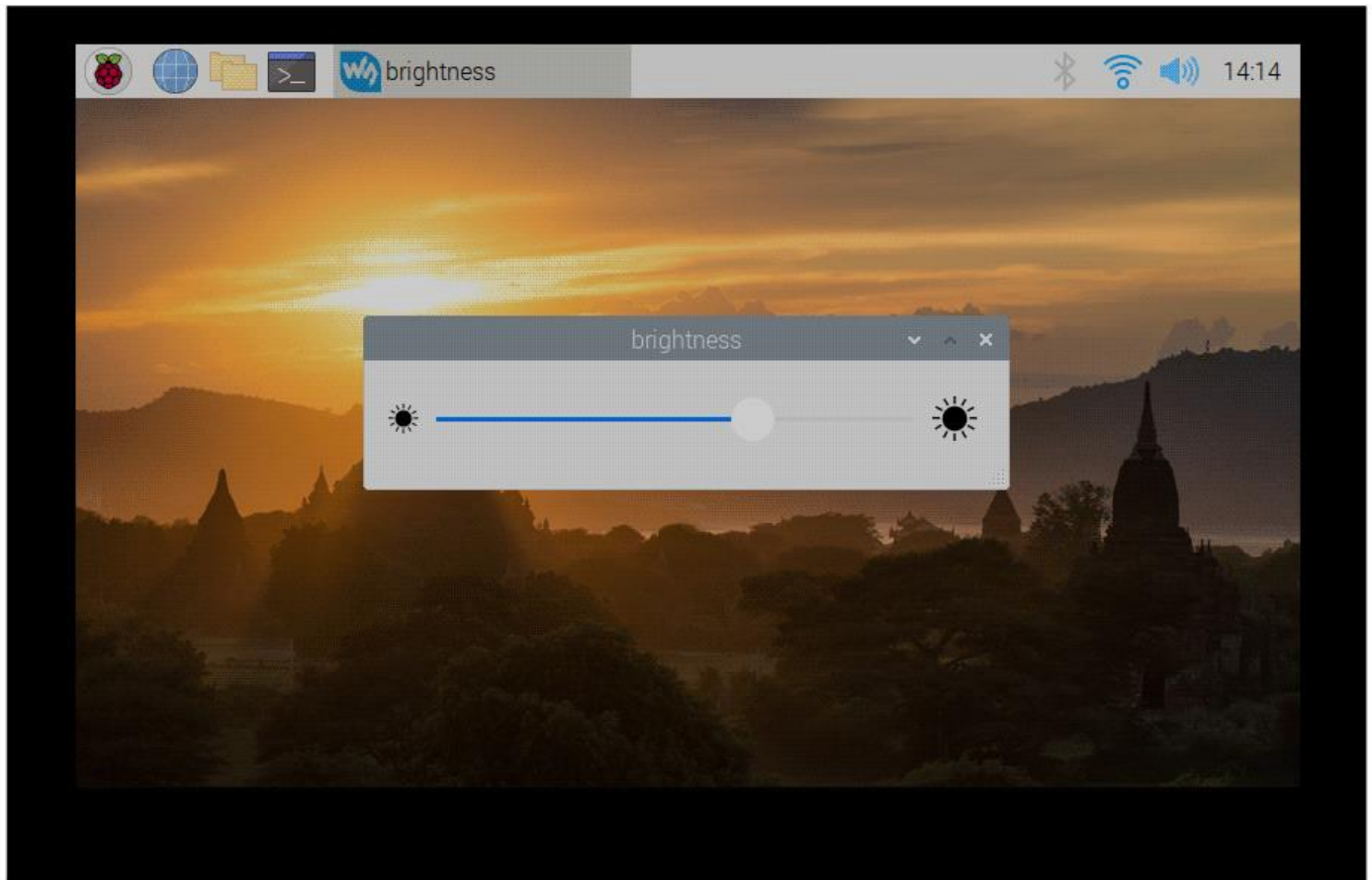
```
#lite version Enter the lite directory:
#cd lite
#./Raspi_USB_Backlight_nogui -b X
# X range is 0~10, 0 is the darkest, 10 is the brightest.
#For example: ./Raspi_USB_Backlight_nogui -b 3
```

Note: Only the Rev4.1 version supports USB dimming function.

Working with Jetson Nano

To work with Jetson Nano Developer Kit, you don't need to make software configurations.

1) Connect the TOUCH interface of the LCD to the USB interface of Jetson Nano.

2) Connect the HDMI interface of the LCD to the HDMI interface of the Jetson Nano and then power on the Jetson Nano. After about 5 seconds, you can see the LCD display normally. If you need to output sound, you can insert 3.5mm earphones into the HP audio output interface.

Note:

1) If the LCD flickers, it may be due to the insufficient power supply of the Jetson Nano's USB interface. It can be solved normally after connecting to an external 5V/2A power supply through the DC interface of the LCD.

2) When the HP audio interface is in use, it may be necessary to set the sound output settings in the system.

Resource

- ## Software
  - Panasonic SDFormatter
  - Win32DiskImager
  - PuTTY

- ## 3D Drawing
  - 7HP CAPQLED 3D Drawing

- ## External guides
  - Woring with Volumio

Question: How do remove the colored squares of the GPU self-check when the Raspberry Pi is powered on?

Answer:

Add the following command to /boot/config.txt:

```
disable_splash=1
```

Question: How to replace the Raspberry Pi startup logo image?

Answer:

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

Question: How to set long press touch on Raspberry Pi capacitive touch screen?

Answer:

Test environment: 2022-04-04-raspios-bullseye-armhf 32-bit system
Supported models: Support Waveshare DSI LCD, DPI LCD and HDMI LCD capacitive touch screen series.

1. Software Installation

```
wget https://www.waveshare.com/w/upload/1/18/Evdev-right-click-emulation.zip
unzip Evdev-right-click-emulation.zip
cd evdev-right-click-emulation
sudo apt install build-essential libevdev2 libevdev-dev
cd 'evdev-right-click-emulation'
sudo cp 'out/evdev-rce' '/usr/local/bin/'
sudo chmod +x '/usr/local/bin/evdev-rce'
```

Enter the command:

```
sudo evdev-rce
```

After running, you can touch and long press to realize the right-click function.

Set IP

```
sudo usermod -G 'input' -a pi
echo 'uinput' | sudo tee -a /etc/modules
sudo nano  /etc/udev/rules.d/99-uinput.rules
```

Add in 99-uinput.rules file.

```
KERNEL=="uinput", MODE="0660", GROUP="input"
```

save it and run it in the terminal.

```
sudo udevadm control --reload-rules
sudo udevadm trigger
```

Then reboot:

```
sudo reboot
```

Run after reboot (no sudo needed at this point)

```
evdev-rce
```

After running, you can touch and long press to realize the right-click function.

Set Startup

Enter the terminal

```
sudo mkdir ~/.config/autostart
sudo nano ~/.config/autostart/right_click.desktop
```

Add the following in right_click.desktop.

```
[Desktop Entry]
Version=1.0
Type=Application
Name=evdev-rce
GenericName=Enable long-press-to-right-click gesture
Exec=env LONG_CLICK_INTERVAL=1000 LONG_CLICK_FUZZ=200  /usr/local/bin/evdev-rce
Terminal=true
StartupNotify=false


#If you want to modify the sensitivity, you can modify the size of the two paramet
ers, LONG_CLICK_INTERVAL=1000 LONG_CLICK_FUZZ=200.
```

Question: What is the pure white brightness of this screen?

Answer:

500cd/㎡