5INCH HDMI LCD (G)

User Manual

CONTENT

FEATURES

- Size: 5inch

- Hardware Resolution: 800x480

- Software Resolution: Up to 1920x1080

- Supports popular game consoles like Microsoft XBOX360, Sony PS4, and Nintendo Switch, etc.

- Touch: USB interface (Resistive touch control)
  With Raspberry Pi: Supports Raspbian, Ubuntu, WIN 10 IOT. Single touch and driver free
  With Computer: Supports Windows 10/8.1/8/7. Five-point touch and driver free

- Display: HDMI, VGA (specific cable is required and should be purchased separately)

- Audio: 3.5mm audio jack, speaker connector, supports HDMI audio ouput

HARDWARE
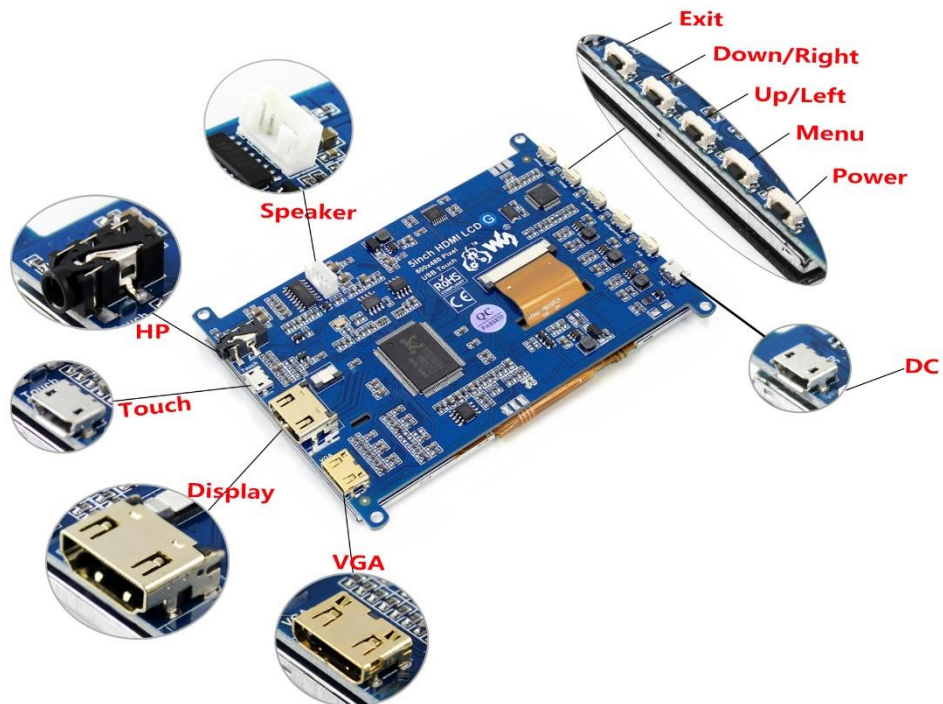
- **VGA:** Display interface for VGA input. (specific cable)

- **Display:** Display interface for HDMI input

- **Touch:** Touch interface (Touch and Power interface of LCD)

- **HP:** 3.5mm audio jack

- **Speaker:** Speaker interface, should be connected to 5W Speaker.

- **Buttons:**
  Power: Open/Close the backlight
  Menu: Open the OSD Menu, work as OK as well
  Up/Left: Direction button
  Down/Right: Direction button
  Exit: Exit and return

- **DC:** External power interface of LCD, can be connect to 5V power supply

USAGE

This LCD features HDMI and VGA interfaces for display, USB interface for touch. Could work as a touchscreen of Raspberry Pi and some mini PC. It could also work with Windows computer.

WORKING WITH RASPBERRY PI

Note: The LCD can work with Raspbian, Ubuntu, WIN10 IOT and so on. With some OS may cannot work properly. If you cannot confirm if your OS is supported, you can contact us and provide the image, we could test it for you if possible.

SETTING

Before connecting the LCD, you need to configure your OS (we take Raspbian as example), otherwise the LCD cannot work properly, sometimes it even destroy the LCD.

1. Insert the TF card (with the Raspbian installed) to your PC with card reader

2. Open the config.txt file on the boot directory of the TF card

3. Append these statements to the config file. We recommend you to copy these lines directly instead of type it to avoid typos. Especially the last line.

```
max_usb_current=1
hdmi_group=2
hdmi_mode=87
hdmi_cvt 800 480 60 6 0 0 0
hdmi_drive=1
```

4. Save then insert the TF card to Raspberry Pi

CONNECTION

1. Connect the Touch interface of LCD to one USB port of Raspberry Pi

2. Connect the Display interface of LCD to HDMI interface of Raspberry Pi

3. Sometimes the USB port of the Raspberry Pi couldn't supply enough power for LCD and will cause the Pi failed to booting. In this case, you need to connect an external power adapter (5V/1A) to the DC port of the LCD

4. Power on your Raspberry Pi, Then the display will light on and display the desktop of Raspbian.

CALIBRATOION ON RASPBIAN

This is resistive touch control LCD, so maybe you need to calibrator for accurately touch. If you find the touch is not accurate as you want, you can try to calibrate it.

1. Connect your Pi to network and install the Xserver

```
1.  sudo apt-get install xserver-xorg-input-evdev

2.  sudo cp -rf /usr/share/X11/xorg.conf.d/10-evdev.conf /usr/share/X11/xorg.conf.d/45-
    evdev.conf

3.  sudo reboot
```

2. Download the Calibration tool. Unzip it and copy the file to your Raspberry. (Copy to BOOT of TF card)
    Xinput-calibrator_0.7.5-1_armhf.zip

3. Install the calibrator. (Maybe you need to change the path **/boot**)

```
1. sudo dpkg -i -B /boot/xinput-calibrator_0.7.5-
   1_armhf.deb
```

4. Open the tool on Menu->Preferences->Calibrate Touchscreen. And finish the calibration following prompt.

5. After finish the calibration, you will get a set of calibration values. You need to save these values

6. Create a directory **xorg.conf.d** first

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

7. Create a file 99-calibration.conf to put the calibration values

```
sudo nano /etc/X11/xorg.conf.d/99-calibration.conf
```

8. Save the values as below. (You need to follow steps above to get the calibration values but not just copy this)

```
Section "InputClass"
        Identifier      "calibration"
        MatchProduct    "ADS7846 Touchscreen"
        Option  "Calibration"   "208 3905 288 3910"
        Option  "SwapAxes"      "0"
EndSection
```

ROTATION

Display rotating

To change the display orientation, you can just to modify the config.txt file. Append this statement to the file:

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

Touch rotating

The setting above just to change the orientation of display, and the touch could not change as the display, so we need to let the touch rotate as display. There are two method you can refer to.

- touch-rotating-for-waveshare-lcd-modify

- re-compile-raspbian-kernel-for-touch

WORKING WITH PC

Here the PC we mention is common PC. (With some mini PC the LCD may work improperly.) Generally, PC could recognize the resolution of LCD automatically, so we don't need to set it as we do for Raspberry Pi.

CONNECTION

1. Connect the Touch interface of LCD to USB port of PC

2. **HDMI:** Connect the HDMI interface of LCD to HDMI port of PC
   VGA: Connect the VGA-HDMI (specific cable) cable, and use a VGA cable to connect it to VGA interface of PC

3. Sometimes you may need to connect the DC interface of LCD to external power supply for enough power.

4. Power on your PC. (If you connect the LCD when the PC is working, and the display don't display as expect, please restart your PC).

Note: You must first connect the USB cable (for touch or power) before the HDMI cable.

CALIBRATION ON WINDOWS 10

If you need to calibrate the LCD when working with win 10 PC, you can follow this instruction.

1. Search **Tablet PC Settings** on **Control Panel**.

2. Open the **Tablet PC Settings** tool and choose **Calibrate…**

3. Finish the calibration following prompt

TOUCH SCREEN SETTING

When you connect a touchscreen to PC, the touch is available for main display no matter the touchscreen is set as main display or second display or other. You can configure it to control second or others screen in win 10 PC as below.

1. Search **Tablet PC Settings** on **Control Panel**

2. Open the **Tablet PC Settings** and **Choose Setup…**

3. Then all the screen which connected to PC will become white and prompt is show in the main display.
    Touch this screen 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 toll, press Esc.

4. As example, we want to let the touchscreen to control the second display. So we press Enter to skip the main display.

5. After step 4. You will find that the prompt is showed at the second display and the main display became white. Now you can touch the center of touchscreen.

6. The prompt will skip to the third display as same. Or if there are only two display the configuration will finish.

7. After the configuration you can find that the touchscreen now controls the second display now.

Note: If you connect two touchscreens to PC, you can use this method to make both touchscreen work at two different display.