

HDMI 7 Inch Display Waveshare



The 7 inch Resistive TFT Touch Screen Display, which directly pluggable Pi 4B/3B+/3A+/3B/2B/1B+/1A+ and also additional HDMI Cable required for Raspberry Pi Zero WH/Zero W/Zero. It supports future versions which is backward compatible.. Backlight adjustment solder pads for PWM signal input, so as to control the backlight brightness, increasing the lifetime of the display

FEATURES:

- 800x480 high hardware resolution
- Resistive touch control
- Compatible and Direct-connect with any revision of Raspberry Pi (except the Pi 1 model B or pi zero, which requires an HDMI cable)
- Drivers provided (works with your own Raspbian/Ubuntu/Kali/Retropie)
- Also works as a computer monitor, in this case, touch panel is unavailable and HDMI cable is required
- HDMI interface for displaying, no I/Os required(However, the touch panel still need I/Os)
- Multi-languages OSD menu, for power managements, brightness adjustments, contrast adjustment, etc
- Supports 100-level backlight adjustment

SPECIFICATIONS:

Touch Type	Resistive
Backlight	LED
Interface Type	USB
Pixel Resolution	1024x600
Power Consumption	TBD
Backlight Current	TBD
LCD Type	TFT
Working Temperature	0°C - 70°C
Display Port	HDMI
Display Panel	IPS
View Angle	170°

PIN DESCRIPTION:

PIN NO.	SYMBOL	DESCRIPTION
1,17	3.3V	Power positive(3.3V power input)
2,4	5V	Power positive(5V power input)
3,5,7,8,10,11,12,13,15,16,18,24	NC	NC
6,9,14,20,25	GND	Ground
19	TP_SI	SPI data input of Touch panel
21	TP_SO	SPI data output of Touch panel
22	TP_IRQ	Touch panel interrupt, low level while the Touch panel detects touching
23	TP_SCK	SPI clock of Touch panel
26	TP_CS	Touch panel chip selection, low active

HOW TO USE:

The touch of the LCD can be driven in two ways:

Method 1: Install driver manually

Method 2: Using ready-to-use Image

HARDWARE CONNECTION

- Insert LCD directly to 40PIN header of Raspberry Pi.
- Using the HDMI adapter or HDMI cable to connect HDMI interface of LCD to Raspberry Pi's

Method 1: Install Driver

- Download latest OS' image from Raspberry Pi website
- Extract image from ZIP archive and write it to SD card
- After writing, modify the config.txt file which is located at root directory (BOOT) of SD card. Append these statements to the end of config.txt file
- This instruction is based on Raspberry OS

```
Max_usb_current=1
```

```
Hdmi_group=2
```

```
Hdmi_mode=87
```

```
Hdmi_cvt 800 480 60 6 0 0 0
```

```
Hdmi_drive=2
```

- Insert SD card to Raspberry Pi and power it on

- Connect to network, open terminal to download and install driver.

```
git clone https://github.com/waveshare/LCD-show.git  
cd LCD-show/  
sudo ./LCD7-1024x600-show
```

- waiting for rebooting

Method 2: Using Ready-To-Use Image

- Download image -Raspbian for 7 inch HDMI LCD
- Extract the image file and write to SD Card
- Insert the SD Card to Raspberry Pi and power on

SETTING RESOLUTION

After installing driver, you can set the orientation as below

```
cd LCD-show/  
#Choose one command to execute  
sudo ./LCD7-1024x600-show X
```

(Note) X can be 0, 90, 180 or 270

CALIBRATION

If the touch of RPi LCD is not calibrated, you can calibrate the touch screen.

- Copy and install calibrator tool

```
Cp LCD-show/xinput-calibrator_0.7.5-1_armhf.deb~/
```

```
Sudo dpkg -i-B xinput -calibrator_0.7.5-1_armhf.deb
```

- Install X service

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

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

```
sudo reboot
```

- Running calibrator and finish calibration

```
DISPLAY=:0.0 xinput_calibrator
```

- Saving the calibration data to 99-clibration.conf file

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

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

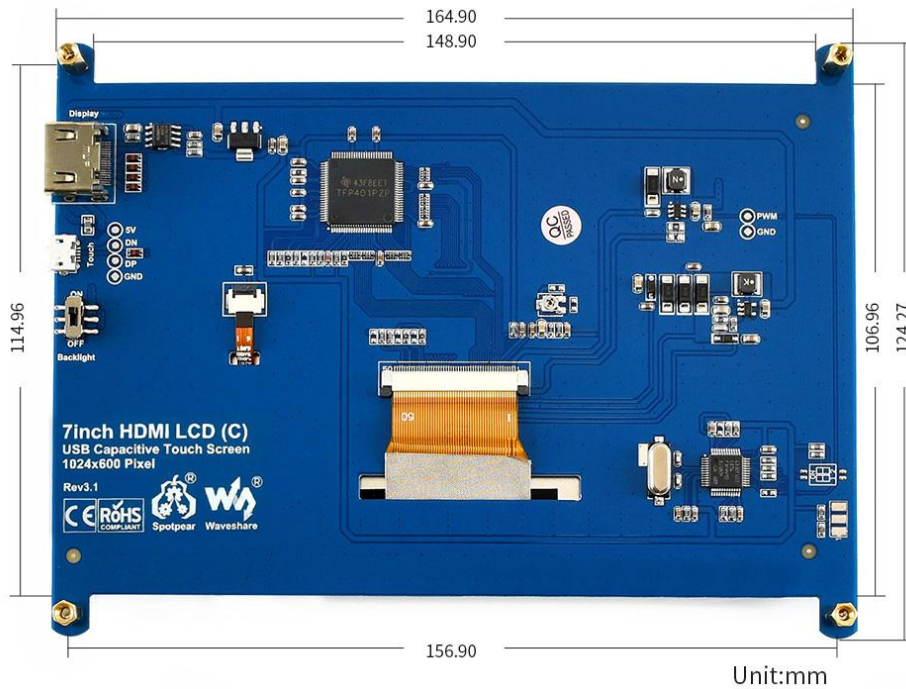
The calibration data looks like;

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

PACKAGE INCLUDES:

- 7 inch HDMI LCD x 1
- HDMI connector x 1
- HDMI to micro HDMI connector x 1
- Touch pen x 1
- RPi screws pack (4pcs) x 1
- Quick start sheet x 1

OUTER DIMENSION:



APPLICATIONS:

- Blu-ray Disc and HD DVD players
- Digital cameras and camcorders
- Gaming consoles
- Tablet computers
- Mobile phones