

10.1inch HDMI LCD User Manual



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INTRODUCTION

10.1inch Resistive Touch Screen LCD, HDMI interface, Designed for Raspberry Pi

FEATURES

- 1024×600 high 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 a HDMI cable)
- Drivers provided (only works with Raspbian/Ubuntu Mate directly)
- 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 needs I/Os)
- Backlight can be turned off to lower power consumption

HOW TO USE

HARDWARE CONNECTION

1. Plug the LCD to your Raspberry Pi:
 - here are 40 pins header on Raspberry Pi Mode A+/B+/2 B/ 3 B/3 B+, but only 26 pins on the LCD, so you should pay attention to connecting the pins to your Pi accordingly.
2. Connect the HDMI connector to both of the HDMI interfaces on the LCD and the Pi.
 - You should connect the LCD to Raspberry Pi Model B or Raspberry Pi Zero with an HDMI cable rather than an HDMI connector.
3. Press the "Power" button on the back of LCD.

DISPLAY SETTING

For properly display, you need to first modify the resolution of Raspbian.

1. Download the Raspbian/Ubuntu Mate image from Raspberry Pi website and extract it on your PC.
2. Inset your micro SD card to PC by card reader and write the .img file to the card using Win32DiskImager.
3. Copy the LCD driver to the micro SD card (Driver can be downloaded on Wiki), note that you needn' t to extract it, just copy the zip.

4. Append the following lines to the config.txt file which locate in the root of the card

```
1) max_usb_current=1
2) hdmi_group=2
3) hdmi_mode=87
4) hdmi_cvt 1024 600 60 6 0 0 0
5) display_rotate=2
```

5. Save and exit, inset the card to your Raspberry Pi and power on. Desktop will be displayed on LCD after starting.

TOUCH SETTING

Driver is required for touch, and the driver we provided only support Raspbian and Ubuntu Mate on Raspberry Pi.

To enable the touch, there are two ways: Method 1: Install driver to your Raspbian/Ubuntu Mate OS manually; Method 2: User Ready-to-Use image file which has configured resolution and pre-installed driver.

METHOD 1 DRIVER INSTALL

The [newest driver](#) provided on Wiki is used for Raspbian after 18073 version. Network connection is required when installing. If you require older version for your old Raspbian, you can contact Waveshare Team.

As we have copied driver to Raspbian above. Here we just need to install it.

Connect your Raspberry Pi to network.

After Raspberry Pi booting, open a terminal to install driver with commands as below

```
1) tar xzvf /boot/LCD-show-*.tar.gz
2) cd LCD-show/
3) chmod +x LCD101-1024x600-show
4) ./LCD101-1024x600-show
```

【Note】 You need to type the whole name of driver file, for example: tar xzvf

/boot/LCD-show-18331.tar.gz

Raspberry Pi will reboot automatically after installing.

METHOD 2

The [image file with pre-installed driver](#) can be downloaded from #Image. Extract the .7z file and you will get an .img file. Write the image to your micro SD card Then insert the card to your Pi, power up and enjoy it.

SCREEN ORIENTATIN SETTINGS

After touch driver installed, the screen orientation can be set by these commands:

1. 0° rotation

```
1) cd LCD-show/
2) ./LCD101-1024x600-show 0
```

2. 90° rotation

```
1) cd LCD-show/
2) ./LCD101-1024x600-show 90
```

3. 180° rotation

```
1) cd LCD-show/  
2) ./LCD101-1024x600-show 180
```

4. 270° rotation

```
1) cd LCD-show/  
2) ./LCD101-1024x600-show 270
```

TOUCH SCREEN CALIBRATION

1. Install xserver-xorg-input-evdev. If you use Ubuntu, you need to install xserver-xorg-input-synaptics

```
1) sudo apt-get install xserver-xorg-input-evdev  
2) sudo cp -rf /usr/share/X11/xorg.conf.d/1-evdev.conf  
   /usr/share/X11/xorg.conf.d/45-evdev.conf
```

2. This LCD can be calibrated using a program called xinput_calibrator which can be downloaded from [Xinput-calibrator 0.7.5-1 armhf](#). If you have installed driver, it is already included in driver folder.
3. Extract and copy the software Xinput-calibrator_0.7.5-1_armhf.deb to the Raspbian of your Pi.
4. Install it with the commands:

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

5. Click the "Menu" button on the task bar, choose "Preference" -> "Calibrate Touchscreen".
6. Finish the touch calibration following the prompts. Maybe rebooting is required to make calibration active.
7. You can create a 99-calibration.conf file to save the touch parameters (not necessary if file exists).

```
1) sudo mkdir /etc/X11/xorg.conf.d
2) sudo nano /ect/X11/xorg.conf.d/99-calibration.conf
```

8. Save the touch parameters (different depending on LCD to 99-calibration. Conf, for example:

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

9. Reboot.

INTERFACES

PIN	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

KEYS

- **Power:** turn on/off the back light. If you needn't use the LCD for a long time, you can turn off the back light with this button to reduce the consumption
- **Menu:** Menu button. Press this button to open the OSD menu and could be used as "OK" button as well.
- **Up/Left:** Direction button
- **Down/Right:** Direction button
- **Return:** Return button. Press to return.