waveshare 4.3inch HDMI LCD (B)

Waveshare 4.3-inch Capacitive Touch Screen LCD User Manual

Model: 4.3inch HDMI LCD (B)

1. Introduction

This user manual provides comprehensive instructions for the Waveshare 4.3-inch Capacitive Touch Screen LCD. This display is designed for versatility, offering compatibility with various devices including Raspberry Pi, Jetson Nano, and Windows PCs. It features an 800x480 resolution IPS panel with capacitive touch functionality, making it suitable for a wide range of applications from embedded systems to desktop extensions.

Image: The Waveshare 4.3-inch Capacitive Touch Screen LCD, showcasing its compact size and touch interface.

2. Package Content

Verify that all items listed below are included in your package. If any items are missing or damaged, please contact Waveshare support.

Image: Contents of the Waveshare 4.3-inch LCD package, including the display, HDMI cable, USB cable, and adapters.

- 4.3inch HDMI LCD (B)
- HDMI Cable
- USB Type A to Micro B Cable
- HDMI to Micro HDMI Adapter
- HDMI to HDMI Adapter
- Screws pack (for mounting)

3. Specifications and Features

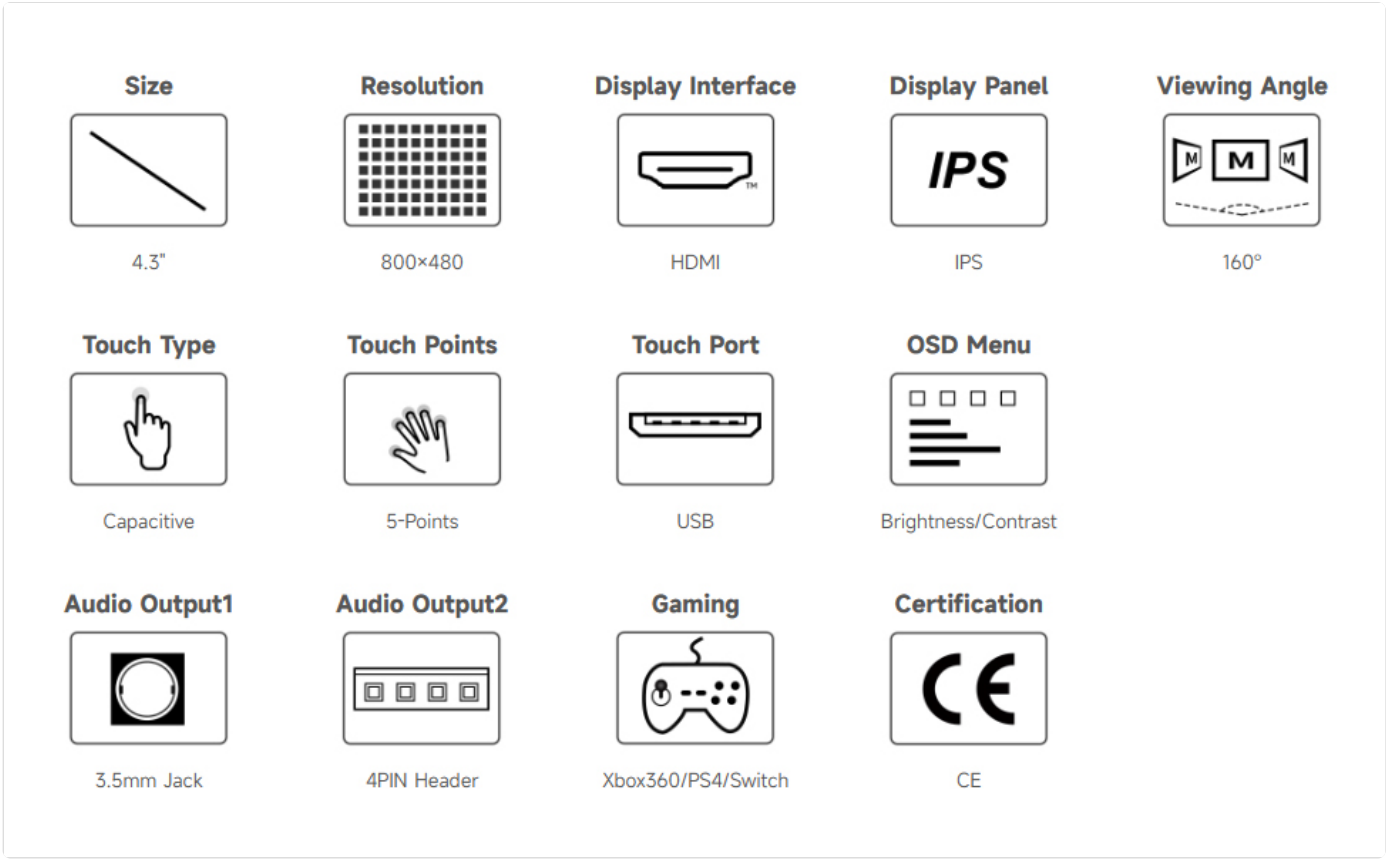


Image: Detailed specifications and features of the 4.3-inch HDMI Touch Display.

Display Specifications

Feature	Description
Screen Size	4.3 inches
Resolution	800 × 480 hardware resolution
Display Panel	IPS
Viewing Angle	160°
Touch Type	Capacitive, 5-points touch (depending on OS)
Touch Port	USB
Display Interface	HDMI
Audio Output	3.5mm Jack, 4PIN Header (for speaker connection)
OSD Menu	Multi-language, for power management, brightness/contrast adjustment, etc.
Power Input	5V DC

4. Device and System Support

The display offers broad compatibility with various computing platforms:

Image: Overview of compatible devices and operating systems, including Raspberry Pi, Jetson Nano, and Windows PCs.

- **Raspberry Pi:** Supports all versions of Raspberry Pi.
  - Supports Raspberry Pi OS, 5-points touch, driver free.
  - Supports Ubuntu / Kali / WIN10 IoT, single point touch, driver free.
  - Supports Retropie, driver free.
- **Jetson Nano:** Supports Ubuntu, single point touch, driver free.
- **PC:** Supports Windows 11 / 10 / 8.1 / 8 / 7, 5-points touch, driver free.
- **Game Console:** Supports Xbox360, PS4, Switch (Display and Sound Only).

5. Setup and Connection

Follow these steps to connect your Waveshare 4.3-inch LCD to your device. Connection methods may vary slightly depending on your host device.

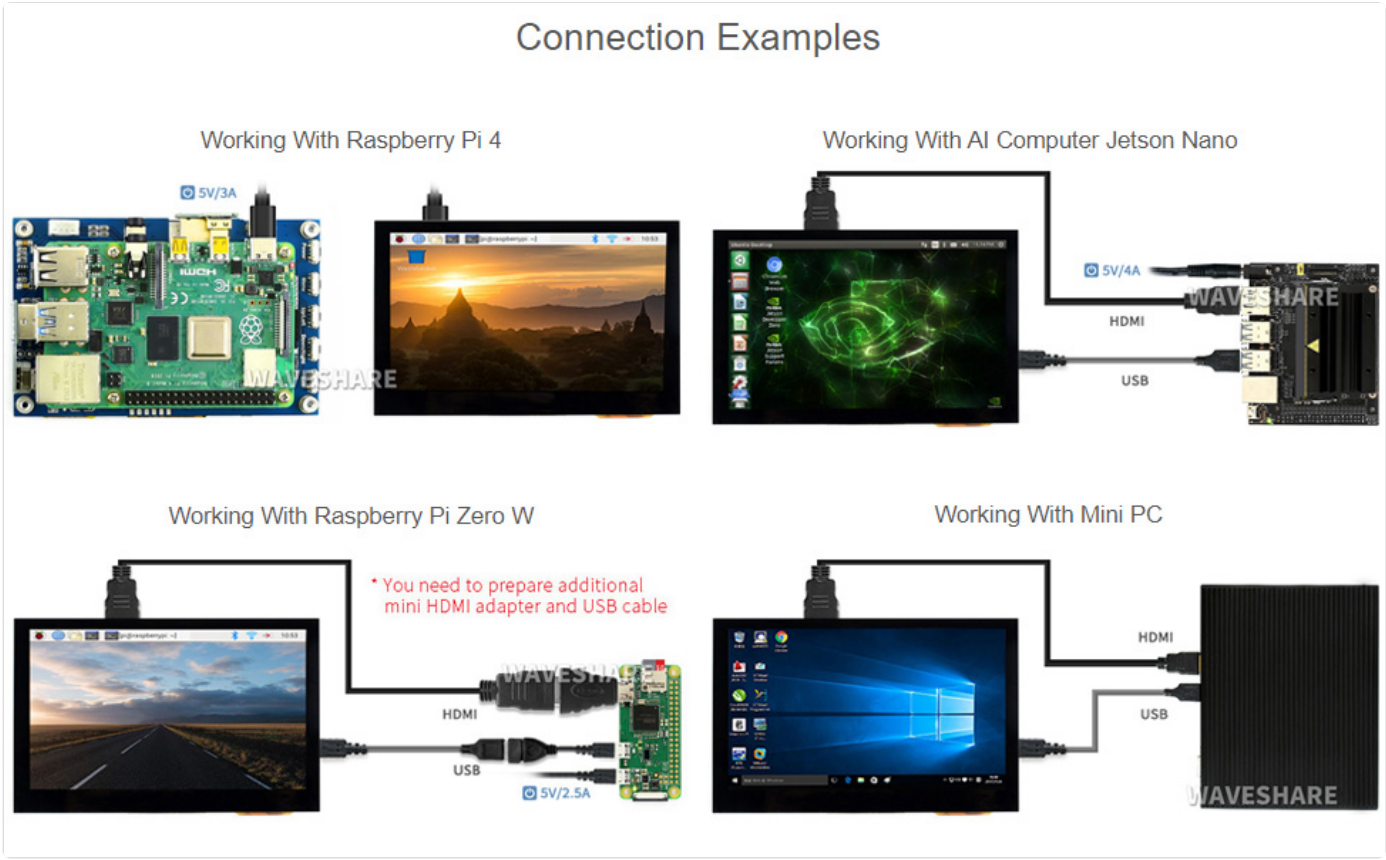


Image: Visual examples of connecting the display to Raspberry Pi 4, Raspberry Pi Zero W, Jetson Nano, and a Mini PC.

5.1. General Connection Steps

1. Connect the HDMI port of the display to the HDMI output of your host device using the provided HDMI cable or adapter.
2. Connect the USB touch port of the display to a USB port on your host device using the provided USB cable. This provides power to the display and enables touch functionality.
3. Ensure your host device is powered on. The display should automatically detect the video signal and power on.

5.2. Specific Connection Notes

- **For Raspberry Pi 4:** Use the provided HDMI to HDMI cable and USB cable. The display can be powered directly from the Raspberry Pi's USB port.
- **For Raspberry Pi Zero W:** An additional Mini HDMI to HDMI adapter and USB cable may be required (not included in standard package).
- **For Jetson Nano / Mini PC:** Connect via HDMI for video and USB for touch and power. Ensure adequate power supply for the Jetson Nano (e.g., 5V/4A).

6. Operating Instructions

6.1. Touch Control

The display features a capacitive touch screen supporting up to 5-points touch, depending on the operating system. No additional drivers are typically required for touch functionality on supported systems.

Image: Demonstration of touch control on the display, showing interaction with a graphical user interface.

6.2. OSD Menu Navigation

The On-Screen Display (OSD) menu allows for various adjustments to the display settings. Use the physical buttons on the side of the display to navigate the OSD menu.

- **Menu Button:** Enters the OSD menu or confirms a selection.
- **Up/Left Button:** Navigates up or left in the menu, or increases a value.
- **Down/Right Button:** Navigates down or right in the menu, or decreases a value.
- **Return/Exit Button:** Goes back to the previous menu or exits the OSD menu.
- **Power Button:** Turns the display on/off.

Common OSD settings include brightness, contrast, color temperature, aspect ratio, and input source selection.

6.3. Gaming

The display can be used with game consoles like Xbox360, PS4, and Nintendo Switch for display and sound output. Connect the console via HDMI.

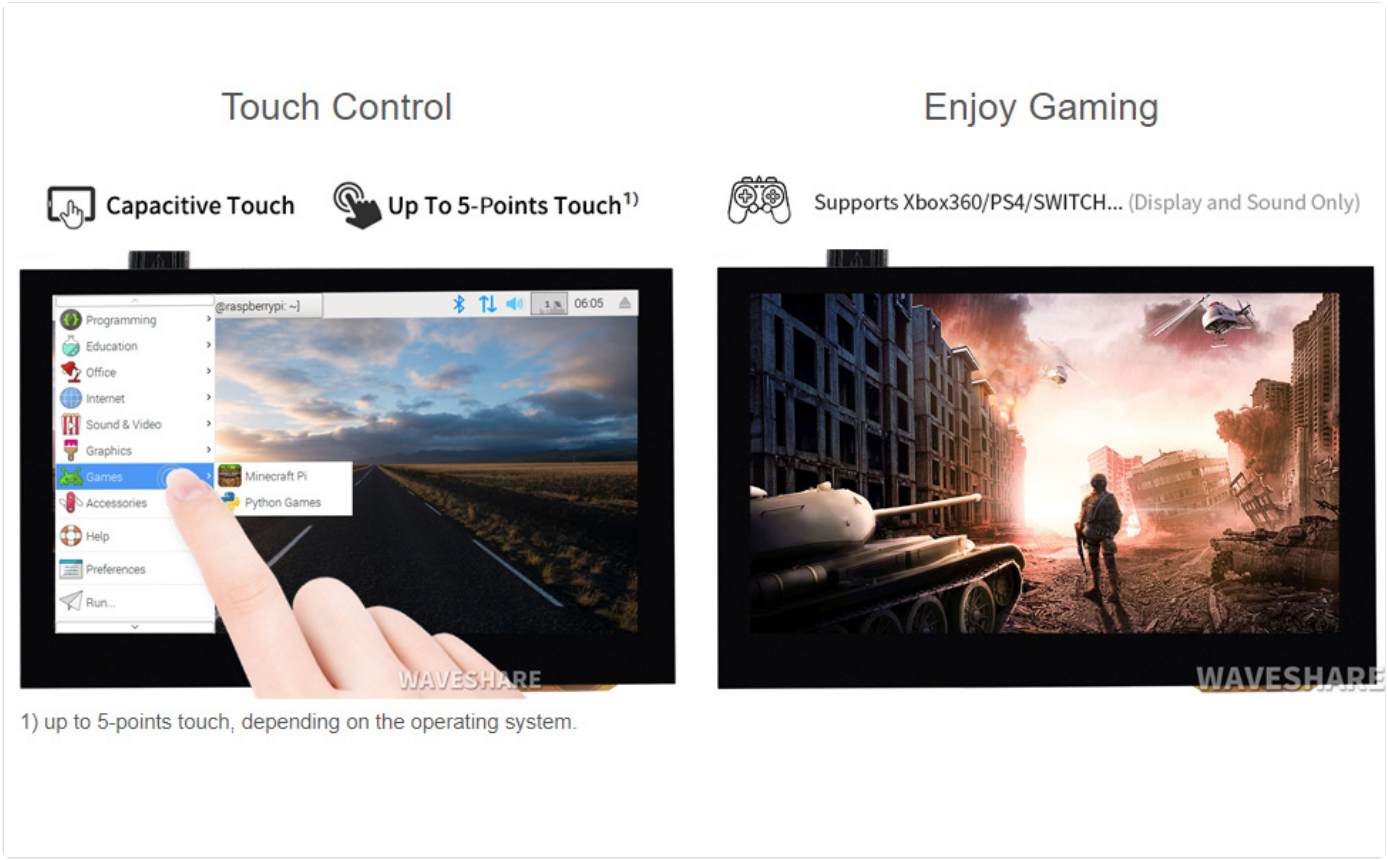


Image: The display showing a game, demonstrating its capability for gaming applications.

7. Appearance and Dimensions

Refer to the diagram below for the physical layout and dimensions of the display board, including port locations and button functions.

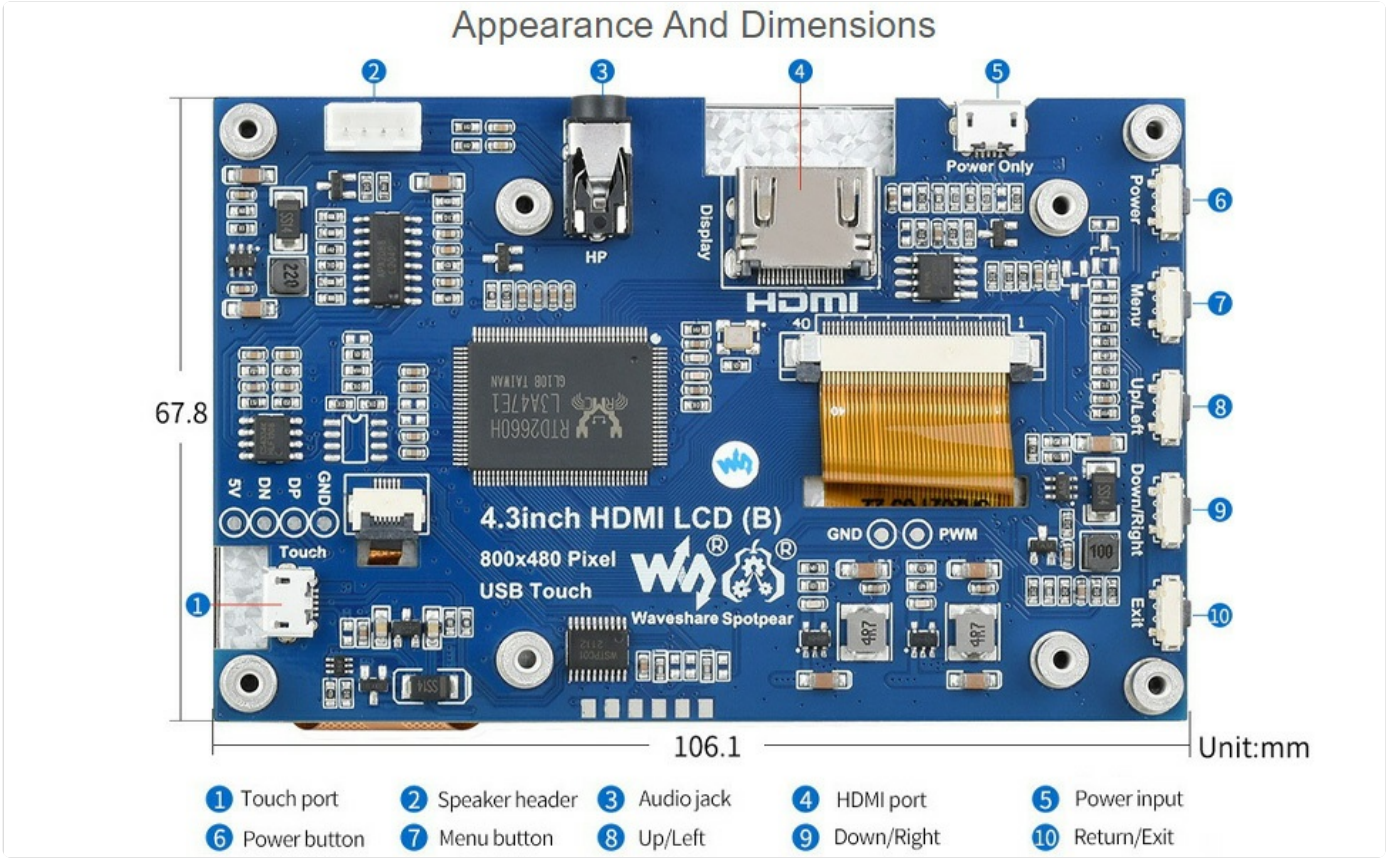


Image: Technical diagram showing the dimensions (in mm) and labeled components of the 4.3-inch HDMI LCD (B) board.

Board Components Overview

No.	Component
1	Touch port
2	Speaker header
3	Audio jack (HP)
4	HDMI port
5	Power input
6	Power button
7	Menu button
8	Up/Left button
9	Down/Right button
10	Return/Exit button

Dimensions: Approximately 106.1mm (width) x 67.8mm (height).

8. Troubleshooting

- **No Display / Black Screen:**
  - Ensure the HDMI cable is securely connected to both the display and the host device.
  - Verify the host device is powered on and outputting video.
  - Check the power connection to the display. The display requires 5V power, typically supplied via the USB connection.
  - If using Raspberry Pi, ensure the `config.txt` file is correctly configured for the display resolution (800x480). Refer to Waveshare's online user manual for specific `config.txt` settings.
- **Touch Not Working:**
  - Ensure the USB cable is connected from the display's touch port to a USB port on your host device.
  - For some Linux distributions (e.g., older versions of Ubuntu/Kali), specific drivers or calibration might be needed, though it's generally driver-free. Refer to Waveshare's online resources.
  - On Windows, ensure touch screen drivers are correctly installed (usually automatic).
- **Flickering / Unstable Display:**
  - Ensure the power supply to the host device and the display is stable and sufficient.
  - Try a different HDMI cable.
- **No Audio:**
  - Ensure the 3.5mm audio jack or speaker header is correctly connected.
  - Verify that the audio output is selected correctly on your host device (e.g., HDMI audio output).
  - Note that the display's built-in audio output quality may be basic; external speakers are recommended for better sound.

For more detailed troubleshooting and specific software configurations, please refer to the official Waveshare online user manual: User Guide (PDF).

9. Warranty and Support

Waveshare products are designed for reliability and performance. For warranty information and technical support, please visit the official Waveshare website or contact their customer service directly.

- **Official Waveshare Store:** Visit Waveshare Store on Amazon
- **Online User Manual:** Download PDF User Guide
- **Contact:** Refer to the Waveshare website for contact details for technical support and customer service.

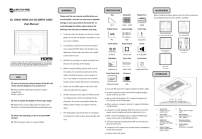
10. Product Certification

This product is HDMI Certified, ensuring compliance with HDMI standards for high-definition multimedia interfacing.

Image: Certificate indicating HDMI certification for the adapter, issued to Shenzhen Weixue Electronics Co. Ltd.

For verification of the HDMI certification, please visit the official HDMI Licensing Administrator website and use the provided QR code or link: HDMI Certification Verification.

Related Documents - 4.3inch HDMI LCD (B)

	[Waveshare 10.1-inch HDMI LCD (G) User Manual: Setup, Specs, and Connections] Explore the Waveshare 10.1-inch HDMI LCD (G) with Case. This user manual covers essential specifications, safety warnings, connection guides for Raspberry Pi, Jetson Nano, and PCs, and answers common questions.
	[Waveshare 4.3inch DSI LCD: Capacitive Touch Display for Raspberry Pi] Explore the Waveshare 4.3inch DSI LCD, an 800x480 IPS capacitive touch display designed for Raspberry Pi. Features MIPI DSI interface, driver-free setup, and software-controlled backlight.


4inch DSI LCD

Introduction

Features

Working with Raspberry Pi

Hardware connection

Software settings

Method 1: Install Manually

Method 2: Program Pre-Install Image

Rotation

Method 1: Graphical Interface Rotation

Method 2: Rotation Display In Lite Version

Touch To Rotate

Backlight Control

Method 1: Graphical Interface Dimming

Method 2: Lite Version Dimming Command

Note

Resources

Software

Pre-installed images

FAQ

Anti-Piracy

Beware of knock-offs

Support

If you require technical support, please go to the page and open a ticket.

[Waveshare 4inch DSI LCD Display for Raspberry Pi: Setup and Guide]

Detailed guide for the Waveshare 4inch DSI LCD display, covering features, hardware connection, software installation, screen rotation, backlight control, and troubleshooting for Raspberry Pi.

[Waveshare 5-inch 1080x1080 Round IPS LCD Display - User Guide]

Explore the Waveshare 5-inch 1080x1080 round IPS LCD display. This guide details its features, specifications, and setup for Raspberry Pi and Windows PCs, including touch calibration and connectivity.

	[Waveshare 5-inch HDMI LCD (H) User Manual: Setup and Connection Guide] Comprehensive user manual for the Waveshare 5-inch HDMI LCD (H) display. Learn how to connect, configure, and use this 800x480 capacitive touchscreen with Raspberry Pi, Jetson Nano, and PCs. Includes specifications, accessories, and troubleshooting tips.
	[Waveshare 10.4HP-CAPQLED: 10.4-inch QLED Touchscreen Display (1600x720)] Discover the Waveshare 10.4HP-CAPQLED, a versatile 10.4-inch QLED capacitive touchscreen with 1600x720 resolution. This display is compatible with Raspberry Pi, Jetson Nano, and PCs, offering excellent visual performance and multi-touch capabilities via HDMI and USB.

10.4HP-CAPQLED

Overview

10.4HP-CAPQLED

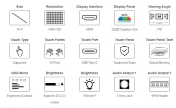
1600x720
Raspberry Pi, Jetson Nano, PC
HDMI, USB

Introduction

The 10.4HP-CAPQLED is a small, high-resolution universal capacitive touch screen compatible with most standard HDMI devices.
Featuring a small, thin body, toughened glass panel, excellent display performance, and smooth multi-touch effect.
The baseboard comes with its own fixing nuts for integrated projects.

Features

- 10.4-inch QLED screen with 1600x720 hardware resolution.
- 10-point capacitive touch with up to 6H hardness toughened glass panel
- Optical bonding technique for better display.
- Supports Raspberry Pi OS / Ubuntu / Kali and Retropie when used with Raspberry Pi.
- Supports Windows 11 / 10 / 8.1 / 8 / 7 when used as a computer monitor.
- Multi-language OSD menu support (can be used for power control, adjusting brightness/contrast, etc.)
- Supports HDMI audio output, onboard 3.5mm headphone jack, and 4PIN header.



Specification

Item	Description	Unit
Model	10.4HP-CAPQLED	/
Dimensions	10.4	Inch
Viewing angle	178	Deg
Resolution	1600×720	Pixels
Touch screen dimensions	260.00(H)×120.00(V)×1.45(D)	mm
Display screen dimensions	237.6(H)×106.92(V)×4.53(D)	mm
Display area	106.92(W)×237.6(H)	mm
Pixel pitch	0.0528(H)×0.1536(V)	mm
Color gamut	94%	NTSC
Brightness (Max)	600	cd/m²
Contrast	1000	/
Backlight	OSD menu dimming	/
Refresh rate	60	Hz
Display interface	Standard HDMI port	/
Power port	5V Type-C interface	/
Power consumption	4.2	Watt
Weight	337	g

Electrical Parameters

Parameter	Min. Value	Standard Value	Max. Value	Unit	Note
Input Voltage	4.75	5.00	5.25	V	Note 1
Input Current	800	850	TBD	mA	Note 2
Operating Temperature	0	25	60	℃	Note 3
Storage Temperature	-10	25	70	℃	Note 3

•**Note 1:** Input voltage exceeding the maximum value or improper operation may cause permanent damage to the device.
•**Note 2:** The input current should be ≥800mA, otherwise it will lead to start-up failure or abnormal display, and a long time in an abnormal state may cause permanent damage to the device.
•**Note 3:** Please do not put the display in a high temperature and high humidity storage environment for a long time, the display needs to work within the limit value, otherwise it will be possible to damage the display.

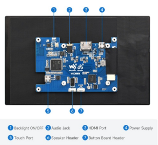
EDID Sequence Parameters

If the system of the main control board can automatically identify the EDID for display, there is no need to set the relevant timing parameters additionally.

Otherwise, you can refer to the following EDID settings:

Pixel Clock	H Addressable	H Blanking	V Addressable	V Blanking	H Front Porch	H Sync Width	V Front Porch	V Sync Width	H Image Size	V Image Size	H Border	V Border
89.00	1600	320	720	65	180	32	10	10	172	103	0	0

Onboard Interface



User Manual

Working with Raspberry Pi

Hardware Connection

1. Connect the Touch port to the USB interface of the Raspberry Pi.
2. Connect the HDMI interface to the HDMI interface of the Raspberry Pi.

Software Setting

```
Raspberry Pi OS / Ubuntu / Kali and Retropie systems are supported for Raspberry Pi.
When the LCD works on these systems of Raspberry Pi, the resolution must be set manually, ot
herwise, it will result in incorrect display resolution and affect the experience.
```

1. Please download the newest image from the Official Raspberry Pi website.
2. Download the compressed file on the PC and unzip it to get the .img file.
3. Connect the TF card to the PC and use SDFormatter to format the TF card.
4. Open Win32DiskImager, choose the image prepared in the first step, and click "Write" to program the system image.
5. After programming, open the config.txt file in the root directory of the TF card and enter the following codes at the end of config.txt. Then, save and safely eject the TF card.

```
hdmi_group=2
hdmi_mode=87
hdmi_timings=1600 0 80 32 112 720 0 30 3 33 0 0 0 60 0 87000000 0
```

6. Insert the TF card into the Raspberry Pi, power up the Raspberry Pi, wait for a few seconds normally and then it will display normally.

Linux Software Brightness Adjustment

Using the DDC/CI program, here is an example of the ddcutil tool.

```
#Install ddcutil tool:
sudo apt-get install ddcutil -y
#Detect DDC/CI monitor support:
sudo ddcutil detect
#Adjust monitor brightness, <value> should be modified to 0-100
sudo ddcutil setvcp 10 <value>
```

For more information about ddcutil function commands, please click here.

Working with PC

Support Windows 11/10/8.1/8/7

How to use:

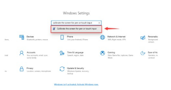
1. Connect the Touch port of the LCD to the USB interface of the PC, and Windows will automatically recognize the touch function.
2. Connect the HDMI interface of the LCD to the HDMI interface of the PC, and Windows will automatically recognize the display function.

- Note:
- Some PCs do not support HDMI devices plug-and-play, usually after rebooting the system can be used normally.
- If the power supply of the USB interface is insufficient, the LCD will flicker, after connecting the external 5V 1A power adapter to the LCD's Power interface, it can be restored to normal use.

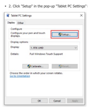
Windows Touch Calibration

Take Windows 10 as an example:

- 1. Enter the Windows setting of the system, type in the search bar, and click "Calibrate the screen for pen or touch input" (as shown in the picture below):



- 2. Click "Setup" in the pop-up "Tablet PC Settings" interface:

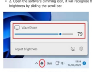


- 3. The following text prompt will appear on the screen. Please tap the touch screen with your finger, and the computer will recognize it as a touch screen.

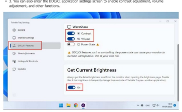
【Note】If the touch screen is blank, press the "Enter" key, and the text prompt will switch to the touch screen. (The screen which displays the text prompt will be used as a touch screen!)

Windows Software Brightness Adjustment

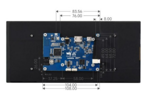
- 1. Download and install DDC/CI applications, such as the open-source Twinkle Tray.
- 2. Open the software dimming icon, it will recognize the Waveshare monitor and adjust the monitor backlight brightness by sliding the scroll bar.



- 3. You can also enter the DDC/CI application settings screen to enable contrast adjustment, volume adjustment, and other functions.



Dimensions



Unit: mm

Support

If you require technical support, please go to the page and open a ticket.