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waveshare PI4B-4GB Display Kit

waveshare 7-inch Capacitive Touch LCD Display Kit for Raspberry Pi 4 Model B User Manual

Model: PI4B-4GB Display Kit

Introduction

This manual provides comprehensive instructions for the setup, operation, and maintenance of your waveshare 7-inch Capacitive Touch LCD Display Kit for Raspberry Pi 4 Model B. Please read this manual thoroughly before use to ensure proper functionality and to maximize your product experience.

PACKAGE CONTENTS

Verify that all items listed below are included in your package:

- 7-inch Capacitive Touch LCD Display
- Raspberry Pi 4 Model B (4GB RAM version)
- MicroSD Card (pre-loaded with system, typically 16GB)
- USB Power Adapter
- USB-A to USB-C Cable (for power)
- · HDMI Cable (Micro HDMI to Standard HDMI)
- USB-A to Micro USB Cable (for touch functionality)
- · Acrylic Case components (top, bottom, side panels, stand)
- Mounting hardware (screws, standoffs)
- MicroSD Card Reader



Image: All components included in the waveshare 7-inch Display Kit, including the LCD, Raspberry Pi 4, cables, power adapter, acrylic case parts, and a microSD card with reader.

SETUP INSTRUCTIONS

Follow these steps to assemble and set up your display kit:

- Prepare the Raspberry Pi: Insert the provided MicroSD card into the Raspberry Pi 4 Model B.
- 2. **Mount the Raspberry Pi:** Secure the Raspberry Pi 4 to the back of the 7-inch LCD display using the provided standoffs and screws. Ensure proper alignment with the display's connectors.
- 3. Connect Display Cables:
 - Connect one end of the Micro HDMI cable to the Raspberry Pi's Micro HDMI port and the other end to the display's HDMI input.
 - Connect the USB-A to Micro USB cable from a USB 2.0 port on the Raspberry Pi to the Micro USB port on the display. This provides power for the display's backlight and enables touch functionality.
- Assemble the Acrylic Case: Carefully attach the acrylic case components around the assembled display and Raspberry Pi. Refer to the case assembly diagram for correct orientation.
- 5. **Connect Power:** Plug the USB power adapter into a wall outlet and connect the USB-A to USB-C cable to the Raspberry Pi's USB-C power input.
- 6. **Initial Boot:** The system should power on automatically. The display will show the boot sequence.



Image: The fully assembled waveshare 7-inch Display Kit, showing the Raspberry Pi 4 mounted behind the screen, connected with cables, and powered by an adapter.

OPERATION

Once the display kit is powered on, the pre-installed operating system (typically Raspbian) will boot. You can interact with the system using the capacitive touch screen.

- **Touch Functionality:** The 7-inch display supports up to five-point capacitive touch when running Raspbian. For other supported operating systems like Ubuntu, Kali, or WIN10 loT, it typically supports single-point touch.
- **Connecting Peripherals:** Use the USB ports on the Raspberry Pi to connect a keyboard, mouse, or other USB devices as needed.
- **Network Connectivity:** The Raspberry Pi 4 supports Gigabit Ethernet and 2.4/5GHz Wi-Fi for internet access.
- Audio Output: Audio can be output via the 3.5mm audio jack or HDMI.

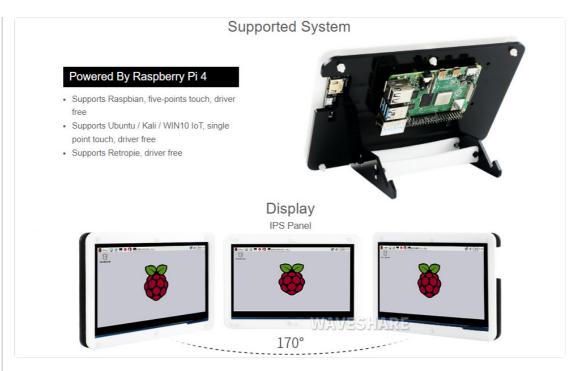


Image: A hand interacting with the capacitive touch screen, demonstrating its functionality with a graphical user interface.

SUPPORTED OPERATING SYSTEMS

The waveshare 7-inch Display Kit is compatible with various operating systems for the Raspberry Pi 4 Model B:

- Raspbian: Supports five-point touch, driver-free.
- Ubuntu / Kali / WIN10 IoT: Supports single-point touch, driver-free.
- Retropie: Driver-free support.

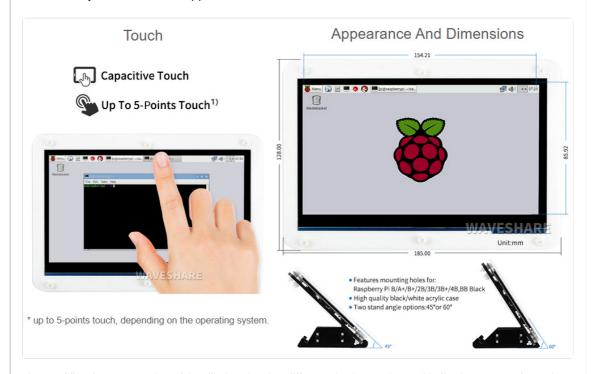


Image: Visual representation of the display showing different viewing angles and indicating support for various operating systems like Raspbian, Ubuntu, Kali, and Windows 10 IoT.

KEY FEATURES

- 7-inch IPS Display: Wide viewing angle with 1024x600 resolution.
- Capacitive Touch: Supports 5-point touch (with Raspbian) for intuitive interaction.
- Integrated Raspberry Pi 4: Powered by Broadcom BCM2711B0 Quad-core 64-bit SoC.
- Memory: 4GB LPDDR4 RAM.
- Connectivity: Dual-band 2.4/5GHz Wi-Fi, Bluetooth 5.0, Gigabit Ethernet.
- Ports: 2x USB 3.0, 2x USB 2.0, 2x Micro HDMI (up to 4Kp60), 4-pole stereo audio, 2-lane MIPI DSI display port, 2-lane MIPI CSI camera port, 40-pin GPIO header.
- Power Input: USB-C 5V/3A.Storage: Micro SD card slot.

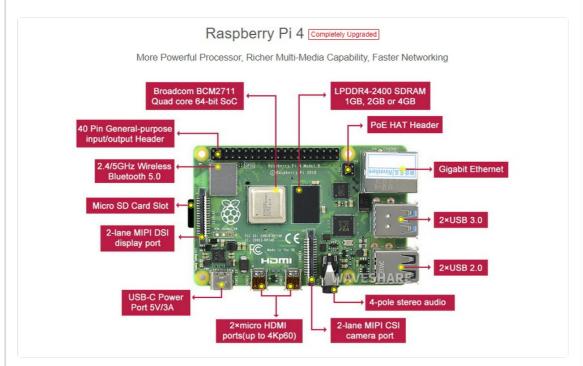


Image: Detailed diagram of the Raspberry Pi 4 Model B board, highlighting its processor, RAM, various ports (USB, HDMI, Ethernet, GPIO), and wireless capabilities.

MAINTENANCE

- Cleaning: Use a soft, dry cloth to clean the display and case. For stubborn smudges on the screen, a slightly damp, lint-free cloth can be used. Avoid abrasive cleaners or solvents.
- **Software Updates:** Regularly update the operating system and installed software on your Raspberry Pi to ensure optimal performance and security.
- Environmental Conditions: Operate the device in a clean, dry environment. Avoid extreme temperatures, direct sunlight, and high humidity.
- **Power Management:** Always shut down the Raspberry Pi gracefully through the operating system before disconnecting power to prevent data corruption.

Troubleshooting

No display output:

- Ensure the Micro HDMI cable is securely connected to both the Raspberry Pi and the display.
- Verify the Raspberry Pi is receiving power (check the power LED on the Pi).
- Confirm the MicroSD card is properly inserted and contains a valid operating system image.

Touch screen not responding:

- Check that the USB-A to Micro USB cable is connected from the Raspberry Pi to the display.
- Ensure the operating system supports touch functionality and that necessary drivers (if any, though typically driver-free for supported OS) are loaded.
- Restart the Raspberry Pi.

System not booting:

- Confirm the power supply is adequate (5V/3A recommended for Raspberry Pi 4).
- Re-flash the operating system image onto the MicroSD card.
- Check for any loose connections or damaged components.

TECHNICAL SPECIFICATIONS

Display Size	7 Inches	
Resolution	1024 x 600	
Panel Type	IPS	
Touch Type	Capacitive (5-point with Raspbian, 1-point with others)	
Processor	Broadcom BCM2711B0, Quad-core 64-bit SoC	
RAM	4 GB LPDDR4	
Storage	16 GB MicroSD Card (included)	
Wireless Connectivity	2.4/5GHz Wi-Fi, Bluetooth 5.0	
Wired Connectivity	Gigabit Ethernet	
Video Output	2x Micro HDMI (up to 4Kp60)	
Audio Output	4-pole stereo audio jack	
USB Ports	2x USB 3.0, 2x USB 2.0	
Power Input	USB-C 5V/3A	
Dimensions (Package)	9.06 x 6.69 x 2.76 inches	

BCM2711B0	Choice Of RAM	4K Dual HDMI
64-bit 1.5GHz Quad-core Processor	2GB / 4GB / 8GB	4K High Resolution Dual Displays
Faster Networking	New USB3.0	USB-C Power
Gigabit ETH, Bluetooth 5.0, Dual-band WiFi	2xUSB3.0 + 2xUSB2.0	Upgraded Power Supply, More Powerful

1.43 pounds

Image: Technical drawing showing the dimensions of the 7-inch display in millimeters and illustrating the two available stand angles (45° and 60°) for the acrylic case.

WARRANTY AND SUPPORT

Item Weight

For warranty information and technical support, please refer to the official waveshare website or contact their customer service directly. Keep your purchase receipt as proof of purchase for any warranty claims.

Online Resources: For additional documentation, tutorials, and community support, visit the waveshare official website.

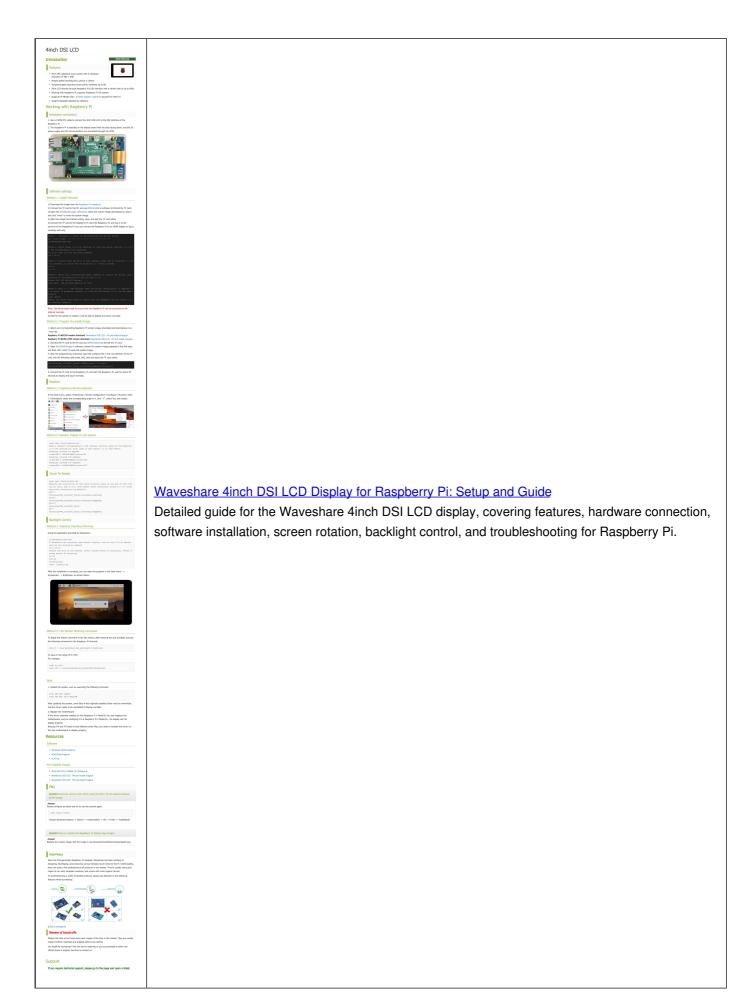
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Related Documents - PI4B-4GB Display Kit



Waveshare 7-inch HDMI LCD (C) User Manual: Setup and Usage Guide

This user manual guides users through the setup and operation of the Waveshare 7-inch HDMI LCD (C) display, detailing its specifications, connection methods for Raspberry Pi and PCs, and essential usage tips for optimal performance.





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 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 3.5-inch RPi LCD (A) User Manual: Setup and Specifications

Comprehensive user manual for the Waveshare 3.5-inch RPi LCD (A) display module. Covers specifications, installation, connection to Raspberry Pi, and troubleshooting.



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.