RDK-V LCD 7-inch Display Support - User Manual - 2019 M6

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Introduction

- Raspberry Pi Official 7" Icd screen display will be working. The 7" touch screen monitor for Raspberry Pi gives users the ability to create all-in-one, integrated projects such as tablets, infotainment systems and embedded projects.
- The 800x480 display connects via an adapter board which handles power and signal conversion.
- We can plug keyboard and mouse to the raspberrypi for the userinteraction.
- Screen resolution 800 x 480 pixels Connects to the Raspberry Pi board using a ribbon cable connected to the DSI port.
- · Adapter board is used to power the display and convert the parallel signals from the display to the serial (DSI) port on the Raspberry Pi.
- The display works with all existing Raspberry Pi models with RDK images.

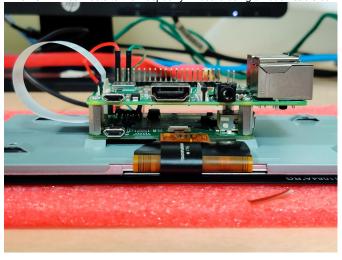
Hardware requirement

- Raspberry Pi 3 Model B+
- Raspberry Pi Touchscreen LCD Display (7-inch)
- MicroSDHC Class 10 98 MB/s (Sandisk ultra)
- Power adapter for raspberrypi
- Normal headset for connecting to raspberrypi 3.5mm jack

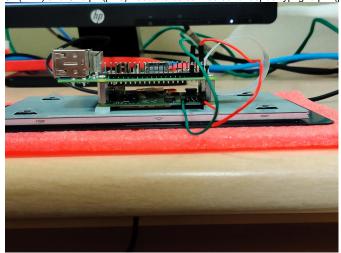
Note: Raspberry Pi Touchscreen LCD Display (7-inch) can be ordered from https://www.amazon.in/Raspberry-Pi-Touchscreen-Display-7-inch/dp/B0153R2A9

Hardware setup

This LCD will connects to the Raspberry Pi board using a ribbon cable connected to the DSI port as shown below.



LCD display will be powered using connected wires as shown below. From 7-inch lcd power 5v pin (pin1) needs to be connected to raspberrypi 5v (Pin2) and Gnd pin(pin5) needs to be connected to raspberrypi gnd pin (pin6).



• Connections to GPIO pins and DSI port.



Headset connection to RPI 3.5mm jack for audio



Building procedure

- repo init -u https://code.rdkcentral.com/r/manifests -b rdk-next -m rdkv-nosrc.xml
- repo sync --no-tags
- source meta-cmf-raspberrypi/setup-environment select meta-cmf-raspberrypi/conf/machine/raspberrypirdkhybrefapp-seven-inch-lcd.conf bitbake rdk-generic-hybrid-refapp-image

Verification

After boot-up we can verify that application(Ex:appmanager) will be fitted into 7-inch display resolution as shown below:



• We can verify inside refapp image also.



DEBUG Logs

• For confirming resolution user can see the logs by watching journalctl on particular service.

Example:

journalctl -x -u appmanager

 Also user can launch runAppmanager directly for observing console logs. systemctl stop appmanager sh /lib/rdk/runAppmanager

Test cases

- On 7-inch display we can verify all features like
- 1. westeros_test(compositor test application)
- 2. Browser applications like rdkbrowser2
- 3. playback through gstreamer plugins
- rmfApp playback
- 5. aamp playback
- 6. spark applications, appmanager and refapp etc.
- Attached system test plan will covers all these test cases.

Reference

- https://thepihut.com/blogs/raspberry-pi-tutorials/45295044-raspberry-pi-7-touch-screen-assembly-guide
 https://www.raspberrypi.org/documentation/hardware/display/
 https://learn.pimoroni.com/tutorial/pi-lcd/getting-started-with-raspberry-pi-7-touchscreen-lcd