7.0 HDMI IPS(1024*600) Touch Screen for the Raspberry Pi BeagleBone Black,Banana pi/pro

User Guide

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1. Overreview

The 7.0 inch HDMI input capacitive touch screen with USB touch specifically designed for Raspberry pi,Beaglebone Black,Banana pi/pro.it provides much better touch response, larger viewing angle, faster response time, and steady performance and low power consumption.

2.Guide Overview

This guide was designed to assist you with setting up the Eleduino 7 inch capacitive touch screen HDMI Touchscreen Display and configure the hardware.

3. Features

●7.0-inch TFT screen display, 1024x600 Resolution

●capacitive touch screen, IPS full view

●USB touch and power supply

●HDMI input

●Powered by USB，5V@1A

●Supports Raspberry Pi, BB Black, Banana Pi / Banana Pro

●Not only for mini-PCs, it can work as a computer monitor just like any other general HDMI screen (win7、win8、win 10 is available)

4.Support Operating System

The Eleduino 7 Inch HDMI Touchscreen was designed to work with the following distributions. Each of these distributions will require the installation of some special software packages and the modification of system files. We do maintain a number of pre-built operating system images for the Raspberry Pi which are included in a later section of this guide.
For Raspberry pi : Raspbian/Ubuntu/Win 10 Iot
For banana pi/pro: Raspbian/Ubuntu
Beaglebone Black: Angstrom

5. Package Contents:

Your Eleduino 7 Inch HDMI Touchscreen was shipped with the following accessories:

● Eleduino 7 Inch HDMI Touchscreen

● Display Stand Kit

● Micro USB Cable

● Acrylic shell （need to assembly by yourself）

The Display Stand was designed to accommodate the Eleduino “Acrylic Black Case” “Rainbow Case” /“Multi-color Case”which is available for purchase on our Eleduino online website.

6. Copyright Notification:

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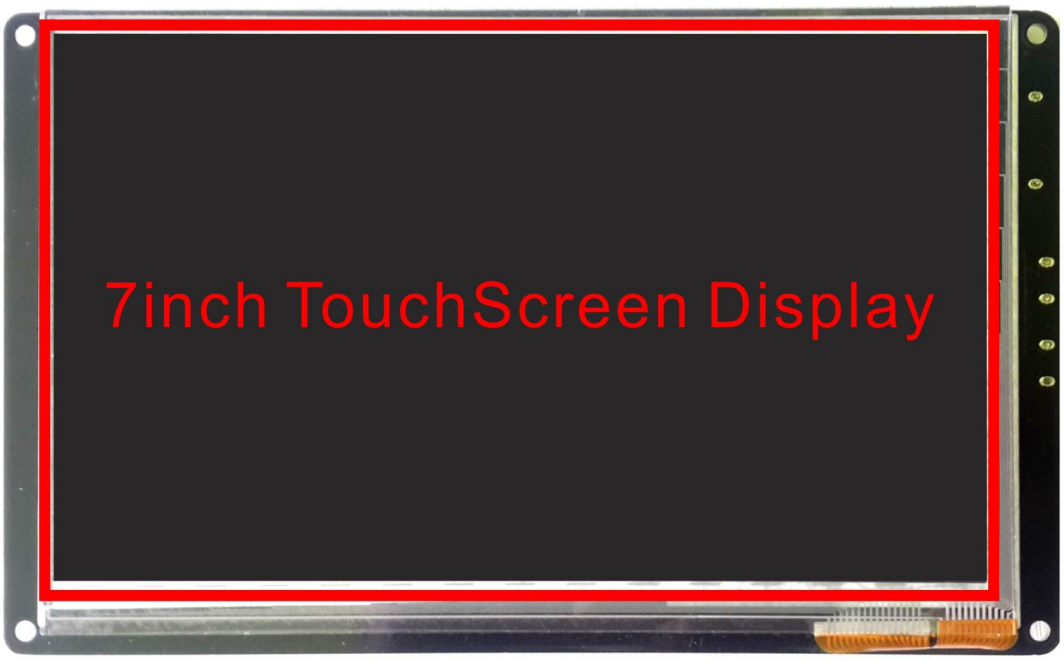
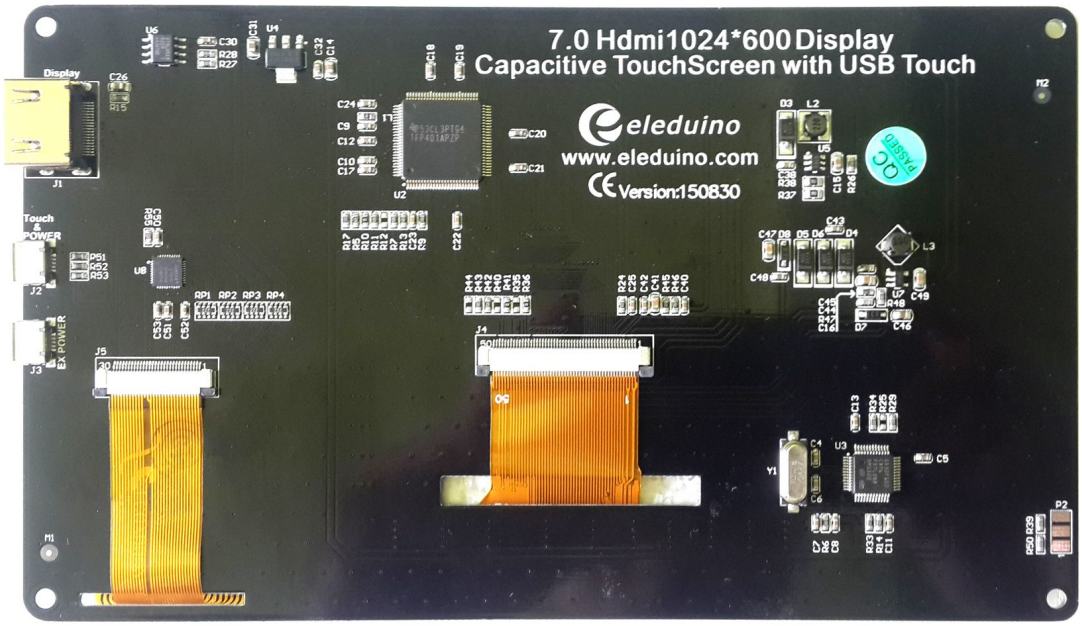
7. Lcd Module Main Parameter

7"Inch Lcd Module parameter			
Driver element ：	a-si TFT active matrix	Resolution definition：	1024x600
Display Color：	16.7M	Interface	Digital，parallel 8bit RGB
Visual area (mm)：	154.08（W）X85.92(H)mm	Dot pitch (mm)：	0.0642（W）x0.1790（H）
Visual angle (U/D/L/R)：	50/70/70/70	Brightness (cd/m2)：	400
Contrast：	500:1	Response time (ms)：	White→ Black：10，Black→ White：15
Operating temperature：	-20~70	Pannel power consumption：	0.226W

8. The Product Picture





9. Configuring your Raspberry Pi :

9.1 PRE-COMPILED LINUX DISTRIBUTIONNS

Eleduino provides several Linux Distributions that are pre-configured to use the Eleduino 7 Inch HDMI Touch Screen with a Raspberry Pi 2. Please refer to the instructions on the Raspberry Pi website for instructions on flashing the images to a MicroSD card.

All the images you can download there :

https://www.dropbox.com/sh/uobpihd402b10li/AABE1YUEtzmqA1smG5qhAL5ea?dl=0

If you use on of the distributions above, please move onto the next chapter for instructions on connecting your Eleduino Touchscreen to your Raspberry Pi

9.2 EXISTING DISTRIBUTIONS

If you choose to use a distribution(Raspbian/win 10 Iot) from the Raspberry Pi Website in place of our pre-compiled distributions, you will need to make several changes to your Raspberry Pi in order to allow the display to work and configure the touch screen.

1)Power down your Raspberry Pi and Remove the MicroSD card

2)Mount the MicroSD card on your computer using a card reader

3) Locate the “config.txt” file we provided in the dropbox, then replace the original “config.txt” file and save it.(**For Raspbian and Ubuntu**)

4)If you use the win 10 Iot ,only update the total config file as following content

```
gpu_mem=32                    # set ARM to 480Mb DRAM, VC to 32Mb DRAM

framebuffer_ignore_alpha=1    # Ignore the alpha channel for Windows.

framebuffer_swap=1            # Set the frame buffer to be Windows BGR compatible.

disable_overscan=1            # Disable overscan

init_uart_clock=16000000      # Set UART clock to 16Mhz

hdmi_group=2                  # Use VESA Display Mode Timing over CEA



max_usb_current=1

hdmi_mode=1

hdmi_mode=87
```

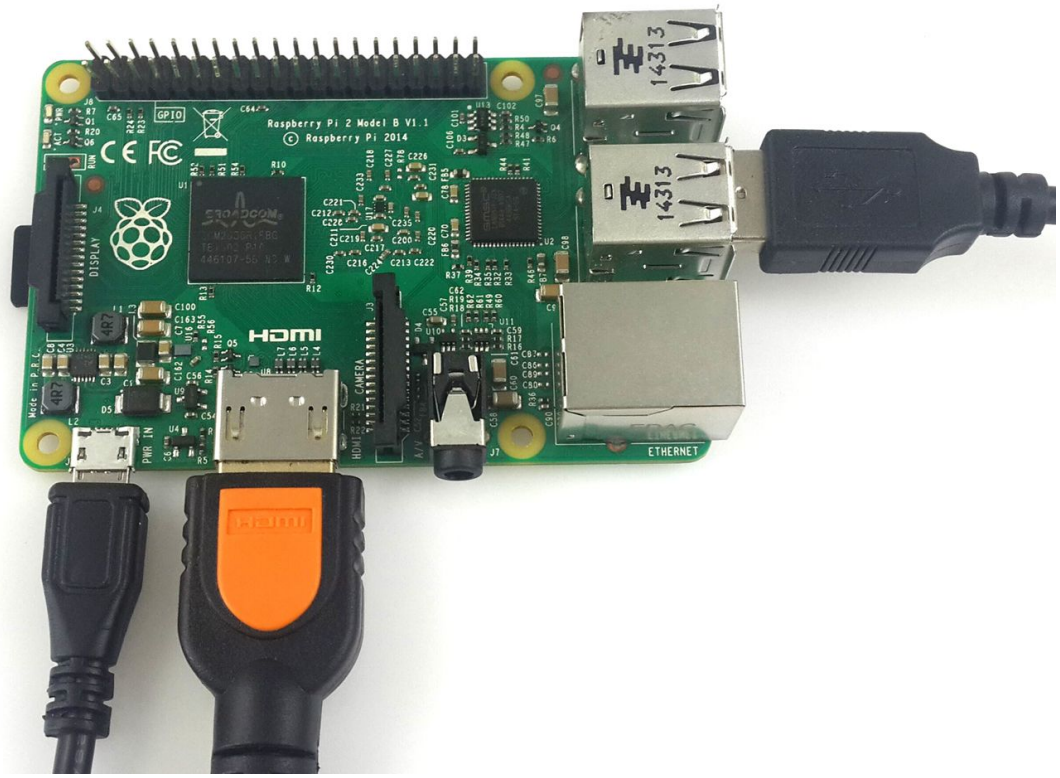
```
hdmi_cvt 1024 600 60 6 0 0 0
```

5） Save the file and unmount the MicroSD card.
6） Insert the MicroSD card back into your Raspberry Pi

Connecting Your Eleduino 7 Inch HDMI Touchcreen to Your Raspberry Pi

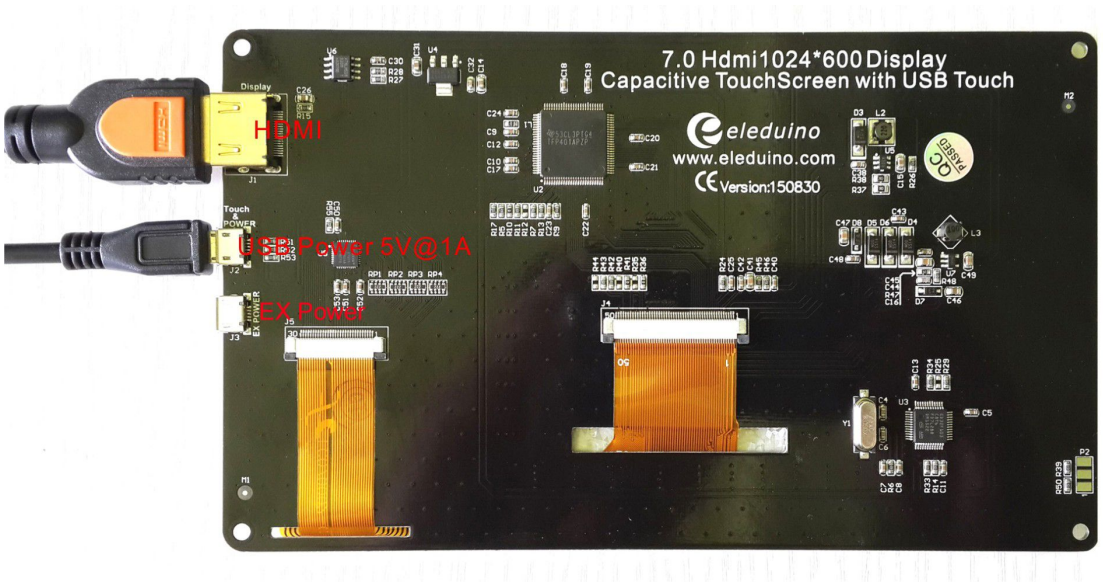
RASPBERRY PI CONNECTION The following steps will guide you through the process of connecting your Raspberry Pi to the Eleduino 7 Inch HDMI screen.

1) Connect the power cable to the Raspberry Pi
2) Connect an HDMI cable to the HDMI port on the Raspberry Pi
3) Connect the included USB cable into an open USB port on the Raspberry Pi, Please refer to the picture below.



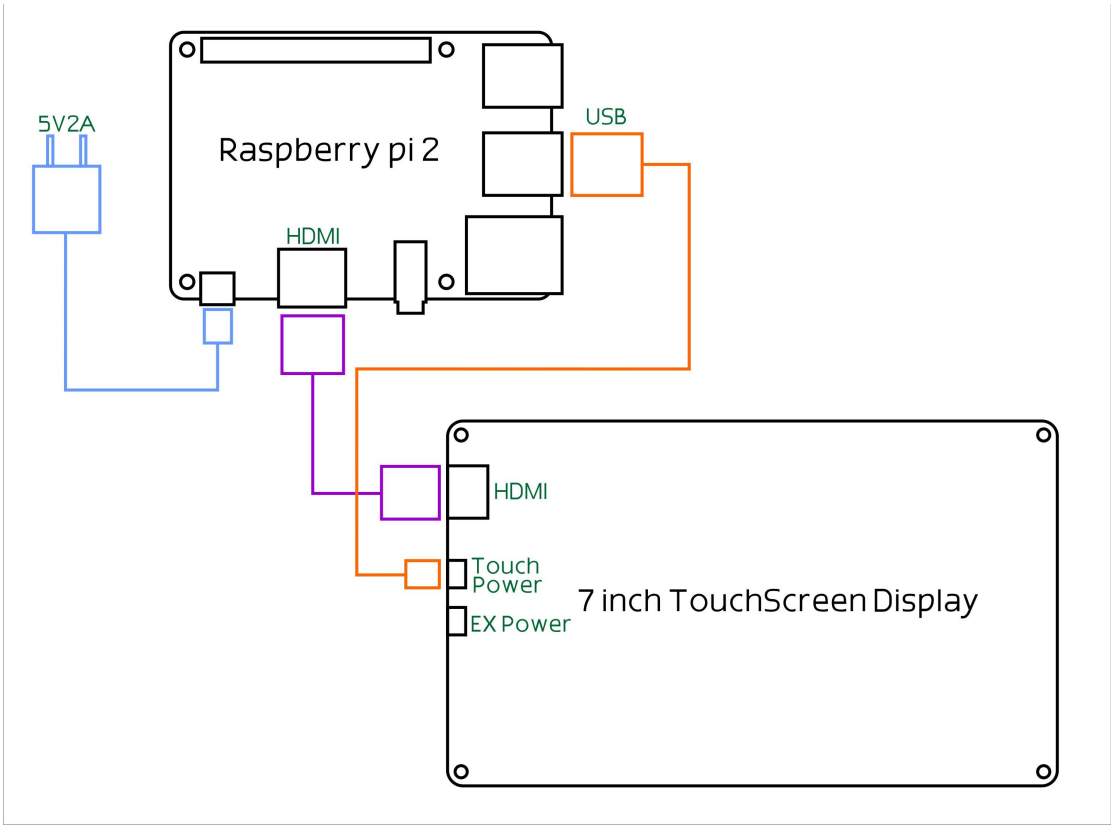
ELEDUINO 7 INCH HDMI CONNECTION Now that your Raspberry Pi is setup, this next section will guide you through connecting it to your Eleduino Display.
1) Connect the Micro USB cable into the top Micro USB port on the display screen.
2） Connect the HDMI cable to the Display

Please refer to the picture below.



Remarks: the EX Power USB Port of the LCD is only used when the LCD is under power shortage

The connection picture for Raspberry pi 2 and 7.0LCD is as below:



POWERING ON YOUR RASPBERRY PI

Now that you have setup your Raspberry Pi and successfully connected the Raspberry Pi to the Eleduino 7 Inch HDMI Display, you may power on the unit.

9.3 use with the Lubuntu system

Pre-built corresponding image provided for raspberry pi 2 in the dropbox link:

https://www.dropbox.com/s/huo79draxsprlid/ubuntu-mate-15.10-desktop-armhf-raspberry-pi2-usb-touch-7.0-windows-1024x600-cap-20151219.img.zip?dl=0
This image file supports the modules raspberry pi 2

User name: pi

Password: raspberry

10. Configuring your banana pi/banana pro:

Before powering up the Banana Pi, you should connect it to a LCD displayer properly, since the Banana Pi may read the resolution parameters of the LCD displayer on startup. And the connection should be remained till the Banana Pi enters the desktop. In this case, even if you disconnect the LCD displayer and reconnect it again to the Banana Pi, the LCD can still work properly.
10.1program Raspbian_For_BananaPi image file
10.1.1 Pre-built corresponding image provided for banana pi/pro in the dropbox link:
https://www.dropbox.com/s/zq96u6yr87sq2yp/Raspbian_For_BananaPi_Pro_v1412_7.0_1024x600_windows_res_usb_touch_20151217.img.zip?dl=0

This image file supports the modules Banana Pro and Banana Pi.
10.1.2Copy the file with the expansion name .img to your PC;
10.1.3Connect a TF card to your PC, and format your TF card with the SDFormatter.exe
Notices: The capability of TF card in used here should be more than 4GB. In this operation, a TF card reader is also required, which has to be purchased separately.
10.1.4Start the Win32DiskImager.exe, and select the system image file copied into your PC, then, click the button Write to program the system image file.

10.2 Connecting Your Eleduino 7 Inch HDMI Touchcreen to Your banana pi/pro

10.2.1Connect the USB cable into the Micro USB port on the display screen.
10.2.2Connect the HDMI cable to the Display
Please refer to the raspberry pi connect picture..
Power on and start the mainscreen

10.3 load WiFi driver of BananaPi Pro

Comparing with the Banana Pi, the BananaPi Pro has added an on-board WiFi module. When using the BananaPi Pro, you can use SSH to connect to the Pi and execute the following command to load the WiFi driver:

```
sudo modprobe ap6210
```

10.4 use with the Lubuntu system

10.4.1 Pre-built corresponding image provided for banana pi/pro in the dropbox link:

https://www.dropbox.com/s/vcird9gjia1o4sd/Lubuntu_For_BananaPi_v1412_7.0_1024x600_windows_res_usb_touch_20151217.img.zip?dl=0

This image file supports the modules Banana Pro and Banana Pi

User name: banana pi

Password: banana pi

11. Configuring your beaglebone black:

11.1 use Angstrom image file

If this LCD module is used for display only, you can program the latest Angstrom image file to the board directly without any change. The BeagleBone Black will read the display parameters of the 7 inch HDMI displayer and set the resolution to 1024*600 automatically.

11.1.1 Pre-built corresponding image provided for bb black in the dropbox link:
https://www.dropbox.com/s/69prpq77051dzqt/BeagleBone_Black-Angstrom-usb-touch-7.0-windows-1024x600-cap-20151217.img.zip?dl=0

11.1.2 Copy the file with the expansion name .img to your PC;

11.1.3 Connect a TF card to your PC, and format your TF card with the SDFormatter.exe Notices: The capability of TF card in used here should be more than 4GB. In this operation, a TF card reader is also required, which has to be purchased separately.

11.1.4 Start the Win32DiskImager.exe, and select the system image file copied into your PC, then, click the button Write to program the system image file.

11.1.5 After programming the image file, please insert the TF card to your board, press the key uBOOT and hold it till power up. Then, you will enter the system located at the TF card. And BeagleBone will take about 40 minutes to copy the system in the TF card into the on-board eMMC. When finished, the 4 LED indicators on the board will light up at a same time. After the system rebooted, you can enter the graphical desktop directly.

11.2 Connecting Your Eleduino 7 Inch HDMI Touchcreen to Your beaglebone black

11.2.1 Connect the LCD to the HDMI on the BeagleBone board with a HDMI to micro HDMI cable

11.2.2 Connect the USB Touch interface on the LCD to the USB interface on the BeagleBone board with USB type-A male to micro-B cable. (BeagleBone has two USB interfaces, one for host and the other for client. In here, you should connect the LCD module to the USB host interface).
Please refer to the raspberry pi connect picture..
Power on and start the mainscreen

12. Contact Information

For Technical Support: service@eleduino.com

For Sales Support: sales@eleduino.com

Website: www.eleduino.com