

# UCTRONICS 3.5 Inches HDMI TFT LCD Touch Screen Display

Model : B0106

## 1. Introduction

UCTRONICS 3.5" HDMI TFT LCD display module is designed for Raspberry Pi 2 /Pi 3 Model B / B+ and can also be used on other hardware platforms which have HDMI display interface. The 3.5" screen is the same size as the standard Raspberry Pi model B/B+, and well mates with these Raspberry Pi boards. With its touch screen and split audio from the HDMI input, it is ideal for portable devices and multimedia projects, and it is a replacement for a heavy and bulky HDMI monitor, keyboard and mice. The highlight of this display module, it supports high frame rate videos playback compared to its SPI LCD counterpart. LCD screen backlight can be turned off by the tiny onboard button if needed.

## 2. Specification

LCD Resolution: 480 x 320 pixels	Support plug and play
Interface: HDMI & SPI	Support touch screen
HDMI Input Resolution support: 480x320 ~ 1920x1280	Support game and video
Support audio split from HDMI	Automatic driver installation script
Dimension: 55.98 x 85.60 mm	Well mate with Pi B+, Pi2 and Pi3

## 3. Hardware installation

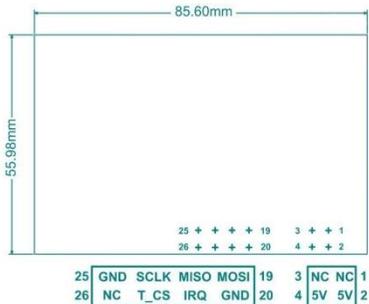


Figure 1



Figure 2

The Figure 1 shows the display module pin out and dimension.

Connect the 3.5 inch HDMI LCD to the Raspberry Pi board like the Figure 2 shows,

**Step1** Align the pin 1 of the edge connector between the LCD display and Raspberry pi board,

**Step2** Connect the HDMI interface with the HDMI adapter board.

**Step3** Power on the Raspberry Pi board and make sure the internet is connected properly.

## 4. Download and install driver

The driver includes the settings of the Raspbian OS resolution and touch screen support. The LCD driver has been already installed in the Micro SD card shipped with the bundle kit that includes a Micro SD card. Otherwise users have to install the driver manually with the following steps for a clean system.

**Step1** Expand the Micro SD card

`sudo raspi-config` then choose Advanced Operations -> **Expand Filesystem** and hit **Yes**. Then go to **Finish** and you need to run `sudo reboot` to reboot your Raspberry Pi.

**Step2** Update your Raspberry Pi system

`sudo apt-get update`

**Step3** Download the driver package

`sudo git clone https://github.com/UCTRONICS/UCTRONICS_LCD35_HDMI_RPI.git`

**Step4** Come in the UCTRONICS\_LCD35\_HDMI\_RPI

`cd UCTRONICS_LCD35_HDMI_RPI`

**Step5** Get run permissions

`sudo chmod +x UCTRONICS_hdmi_backup`

`sudo chmod +x UCTRONICS_hdmi_install`

`sudo chmod +x UCTRONICS_hdmi_restore`

**Step6** Backup data

`sudo ./UCTRONICS_hdmi_backup`

**Step7** install the UCTRONICS LCD35 HDMI driver

`sudo ./UCTRONICS_hdmi_install`

Wait for 2~3 minutes, the system will be installed and restarted automatically.

If you want to reuse the pre-installation system, you can use the below command

`sudo ./UCTRONICS_hdmi_restore`

If you don't want to run those commands to install the LCD driver, we also provide ready to use system image file "UCTRONICS\_LCD35\_HDMI.img". Please click the following link to download the system image file:

[http://uctronics.oss-us-west-1.aliyuncs.com/LCD35/image/UCTRONICS\\_LCD35\\_HDMI.img](http://uctronics.oss-us-west-1.aliyuncs.com/LCD35/image/UCTRONICS_LCD35_HDMI.img)

Check the following link to install the win32diskimager tool in your computer. Then write the image file into the Micro SD card.

<https://sourceforge.net/projects/win32diskimager/>

## 5. Add more functions to the LCD

### 5.1. Install calibration software for calibration

`cd UCTRONICS_LCD35_HDMI_RPI`

```
sudo unzip Xinput-calibrator_0.7.5-1_armhf.zip
```

```
cd xinput-calibrator_0.7.5-1_armhf/
```

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

## 5.2. Install virtual keyboard

**Step1** Execute the following commands to install the corresponding software

```
sudo apt-get update
```

```
sudo apt-get install matchbox-keyboard
```

```
sudo nano /usr/bin/toggle-matchbox-keyboard.sh
```

**Step2** Copy the following contents to toggle box - keyboard. sh, save the exit

```
#!/bin/bash
```

```
#This script toggle the virtual keyboard
```

```
PID=$(pidof matchbox-keyboard
```

```
if [ ! -e $PID ]; then
```

```
killall matchbox-keyboard
```

```
else
```

```
matchbox-keyboard -s 50 extended&
```

```
fi
```

**Step3** Execute the following command

```
sudo chmod +x /usr/bin/toggle-matchbox-keyboard.sh
```

```
sudo mkdir /usr/local/share/applications
```

```
sudo nano /usr/local/share/applications/toggle-matchbox-keyboard.desktop
```

**Step4** Copy the following contents to toggle - matchbox - keyboard. Desktop, save exit

```
[Desktop Entry]
```

```
Name=Toggle Matchbox Keyboard
```

```
Comment=Toggle Matchbox Keyboard`
```

```
Exec=toggle-matchbox-keyboard.sh
```

```
Type=Application
```

```
Icon=matchbox-keyboard.png
```

```
Categories=Panel;Utility;MB
```

```
X-MB-INPUT-MECHANSIM=True
```

**Step5** To perform the following command, note that this step must use the "PI" user permission, and if the administrator privileges are used, the file will not be found

```
nano ~/.config/lxpanel/LXDE-pi/panels/panel
```

**Step6** Find similar commands (different versions of ICONS may differ)

```
Plugin {
```

```
type = launchbar
```

```
Config {
```

```
Button {
```

```
id=lxde-screenlock.desktop
```

```
}
```

```
Button {
```

```
id=lxde-logout.desktop
```

```
}
```

```
}
```

**Step7** Add the following code to add a Button item

```
Button {
```

```
id=/usr/local/share/applications/toggle-matchbox-keyboard.desktop
```

```
}
```

**Step8** To restart the system with the following command, you can see a virtual keyboard icon in the top left corner

```
sudo reboot
```

## 5.3. How to add new ICON to desktop?

If it's just a folder, add it directly to the desktop.

If it is an executable, follow these steps:

**Step1:** choose the Directory Tree -> / -> usr -> share -> applications folder

**Step2:** choose a icon you want to link

**Step3:** choose edit -> create link... ->Desktop ->OK

## 6. Contact us

If need any further support, feel free to contact us.

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