Proculus Technologie Limited

HDMI Display Operating Instruction V1.0

HDMI Display LCD Driver Installation Guide

This manual is applicable to all series of Raspberry Pi LCD, Raspberry Pi board should be connected to Internet during the installation

Step 1, Install Raspbian official image

1) Download the latest Raspbian Image from the official website: https://www.raspberrypi.org/downloads/

2) Format TF card by SDFormatter

3) Burn the official image into TF card by using Win32DiskImager

Step 2, obtain the LCD driver

Log onto the Raspberry Pi users system to command line (The initial user name: pi Password: raspberry)

Get the newest driver from GitHub(Raspberry Pi LCD should be connected to internet)

```
sudo rm -rf LCD-show
git clone https://github.com/goodtft/LCD-show.git
chmod -R 755 LCD-show
cd LCD-show/
```

Step 3, install LCD driver

#In case of 3.5inch RPi Display:

```
sudo ./LCD35-show
```

In case of 7inch HDMI Display-800X480:

```
sudo ./LCD7B-show
```

In case of 7inch HDMI Display-1024X600:

```
sudo ./LCD7C-show
```

the corresponding execution to switch back to Traditional HDMI display.

```
sudo ./LCD-hdmi
```

Wait for a moment after executing the above command, then you can use the corresponding raspberry LCD.

HDMI Display with Raspberry Pi User Guide

This installation tutorial uses "2016-05-27-raspbian-jessie" version for testing. If use wheezy or earlier image, then the step5 and step6 have different file paths, pls refer to the virtual-keyboard official installation tutorial for specification. Official reference address：http://ozzmaker.com/virtual-keyboard-for-the-raspberry-pi/

Step 1, install the necessary files

```
sudo apt-get update
sudo apt-get install libfakekey-devlibpng-devautoconflibxft-devlibtoolautomake -y
```

Step 2, install the matchbox-keyboard

```
git clone https://github.com/mwilliams03/matchbox-keyboard.git
cd matchbox-keyboard
./autogen.sh
```

(Note: "./ autogen.sh" execution takes a few minutes, and would show as follows after running correctly; if it doesn't show as follows, then need to check to see if there are error Popup Window prompt)

Continue:

```
sudo make
sudo make install
```

Step 3, install the shared data library for matchbox-keyboard

```
sudo apt-get install libmatchbox1 –y
```

Step 4, Create a virtual keyboard startup script

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

Paste the following, press ctrl + x and y, to save then 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
```

Add executable permission for the script above

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

Step 5, Add script above to Start menu

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

Paste the following content, press ctrl + x and y, to save then 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
```

Step 6, create an icon on the taskbar (Note that in this step, must be "pi" user privileges, if you use administrator privileges, will not find the file)

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

Step 7, find the resembles similar to the following command (default content may be different in different Raspberry Pi versions)

```
Plugin {
type=launchbar
Config {
Button {
    id=/usr/share/applications/lxde-x-www-browser.desktop
    }
Button {
    id=/usr/share/raspi-ui-overrides/applications/pcmanfm.desktop
    }
Button {
    id=/usr/share/raspi-ui-overrides/applications/lxterminal.desktop
    }
Button {
    id=/usr/share/applications/wolfram-mathematica.desktop
    }
Button {
    id=/usr/share/applications/wolfram-language.desktop
    }
}
}
```

Add the following code to add a icon item

```
Button { id=toggle-matchbox-keyboard.desktop }
```

After modifying, would show as below:

```
Plugin {
  type=space
  Config {
    Size=8
  }
}
Plugin {
  type=launchbar
  Config {
    Button {
      id=toggle-matchbox-keyboard.desktop
    }
    Button {
      id=/usr/share/applications/lxde-x-www-browser.desktop
    }
    Button {
      id=/usr/share/raspi-ui-overrides/applications/pcmanfm.desktop
    }
    Button {
      id=/usr/share/raspi-ui-overrides/applications/lxterminal.desktop
    }
    Button {
      id=/usr/share/applications/wolfram-mathematica.desktop
    }
    Button {
      id=/usr/share/applications/wolfram-language.desktop
    }
  }
}
Plugin {
  type=space
  Config {
    Size=8
  }
}
```

Step 8, after modifying, run the following command and re-start the system; you will see a virtual keyboard icon in taskbar on the screen normally.

```
sudo reboot
```

P.S. Log into via SSH to see how to change the size of the virtual keyboard

```
DISPLAY=:0.0 matchbox-keyboard -s 50 extended
DISPLAY=:0.0 matchbox-keyboard -s 100 extended
```

Working with Raspberry Pi

Step 1, Download the Official image

  1) Download **Raspbian** Official Image

  Download URL: **https://www.raspberrypi.org/downloads/raspbian/**
  Username: **pi** Password: **raspberry**

  2) Download **Ubuntu Mate** Official Image

  Download URL: **https://ubuntu-mate.org/download/**
  The user name and password can be set by yourself after startup

  3) Download **Kail** Official Image

  Download URL: **https://www.offensive-security.com/kali-linux-arm-images/**
  Username: **kali** (The old version is **root**) Password: **kali**(The old version is **toor**)

  4) Download **Retropie** Official Image

  Download URL: **https://retropie.org.uk/download/**
  Username: **pi** Password: **raspberry**

Step 2, Brun Official Image

  1) Download and install tool software（If they are already installed,this step can be ignored）

  SD card format software **SDCard Formatter** download URL:
  https://www.sdcard.org/downloads/formatter_4/
  Image burning software **win32diskimager** download URL:
  https://sourceforge.net/projects/win32diskimager/

  2) Format SD card

  Insert the SD card into the card reader -> Insert the card reader into the computer -> Open the SDFormatter software -> Select SD card ->
  Select quick format (generally select quick format, other options can be selected according to your own needs) -> Click the Format button ->
  Select "Yes" -> Click OK after formatting.

  3) Brun Image

  Open the win32diskimager software -> Select the image file to be burned (xxx.img) -> Select SD card -> Click the "write" button ->
  Select "Yes" -> Wait for the burning to complete (the whole process lasts about 10 minutes)

Step 3, Modify the "config.txt" configuration file

Open the "config.txt" file in the root directory of the SD card on the computer and find the following content:

```
hdmi_force_edid_audio=1
max_usb_current=1
hdmi_force_hotplug=1
config_hdmi_boost=7
```

hdmi_group=2

hdmi_mode=87

hdmi_drive=2

display_rotate=0

hdmi_cvt 1024 600 60 6 0 0 0

Insert Micro SD card, connect the 7inch HDMI Display (S) to Raspberry Pi , connect the power to boot.