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Application Note

HDMI 5B TFT Screen

General Calibration on HDMI 5B TFT Screen

AN010103 V1.0 Date: 2017/05/18 **Application Note**

Reversion History

Version	Date	Reason
V1.0	2016/5/18	Create documentation

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1. Introduction

This HDMI 5B TFT Screen is available for those development board as following chart：

Raspberry Pi A
Raspberry Pi A+
Raspberry Pi B
Raspberry Pi B +
Raspberry Pi 2, Model B, 1GB RAM
Raspberry Pi 3, Model B, 1GB RAM
Raspberry Pi Zero

2. Principle

According to different people has different habits for using this screen, and different people has different pressure when they are pressing the Touchscreen, so you have to calibrate it before you using it。

3. Development Environment

Hardware Environment：

Raspberry Pi 3, Model B, 1GB RAM

Pi-HDMI-5B 5” Resister Touchscreen

HDMI convertor

Wire cable

Software Environment：

OS Type： Raspbian

OS Version： 2016-03-18-raspbian-jessie

4. Calibration

You need to modify this configuration file in /boot/config.txt and make sure it contains those two parameters in your pi config.txt as following picture:

```
# Uncomment this to enable the lirc-rpi module
#dtoverlay=lirc-rpi
device_tree=bcm2710-rpi-3-b.dtb
dtoverlay=ads7846,penirq=22
```

device_tree=bcm2710-rpi-3-b.dtb #This must be fit for your Pi model.

dtoverlay=ads7846,penirq=22

save and reboot your Pi.

Create a configuration file /etc/X11/xorg.conf.d/99-calibration.conf and add those parameters as following:

```
Section "InputClass"
        Identifier "calibration"
        MatchProduct "ADS7846 Touchscreen"
        Option "Calibration" "0 4095 0 4095"
        Option "SwapAxes" "1"
EndSection
```

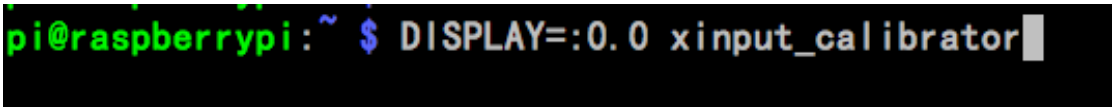
Save and reboot your Pi.

Open a terminal after login and type this command to install several packages ：

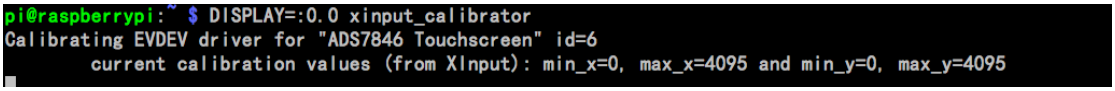
```
$sudo apt-get -y install xinput libx11-dev libxext-dev x11proto-input-dev evtest libts-bin
```

Use this command to start HDMI 5B TFT Screen calibration.

```
$DISPLAY=:0.0 xinput_calibrator
```

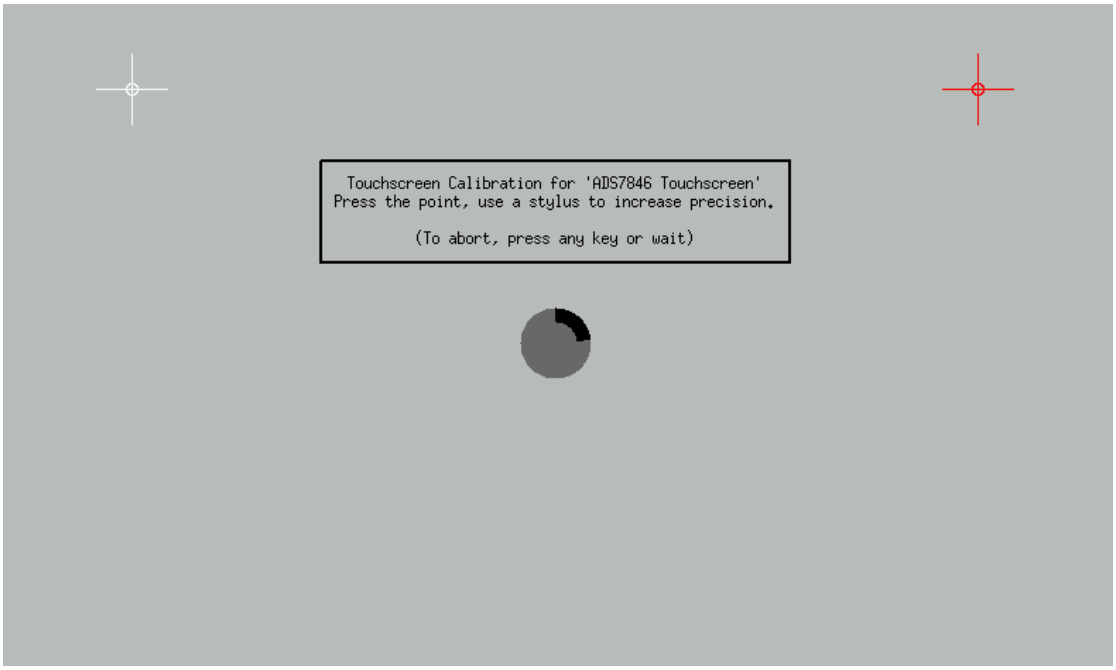


It will appear a feedback as you press enter and you can find that the Touchscreen start calibrating.



Note： 0，4095，0，4095 those numbers are the baseline for calibrating.

You can press the point in the center of Red Cross to calibrate your Touchscreen when it appears in the four cornor of the screen. You may try several times to calibrate as well.



during the calibration, it will count down 60s before your press the point, if you pass the count down, it will exit automatically.

It will exit If calibration is done too.

It will show you some parameters that looks like configuration file in /etc/X11/xorg.conf.d/99-calibration.conf

```
Section "InputClass"
        Identifier "calibration"
        MatchProduct "ADS7846 Touchscreen"
        Option "Calibration" "277 2981 123 3901"
        Option "SwapAxes"       "1"
EndSection
```

you can replace the parameters with this feedback to it in /etc/X11/xorg.conf.d/99-calibration.conf.

Reboot your Pi after calibrating and have fun.

Reference

Download images from：
https://www.raspberrypi.org/downloads

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