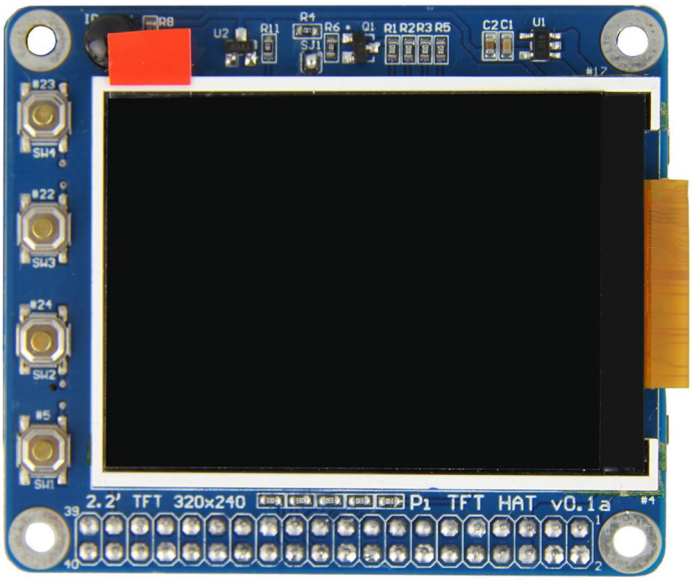
U-geek Workshop
http://www.aliexpress.com/store/1954241

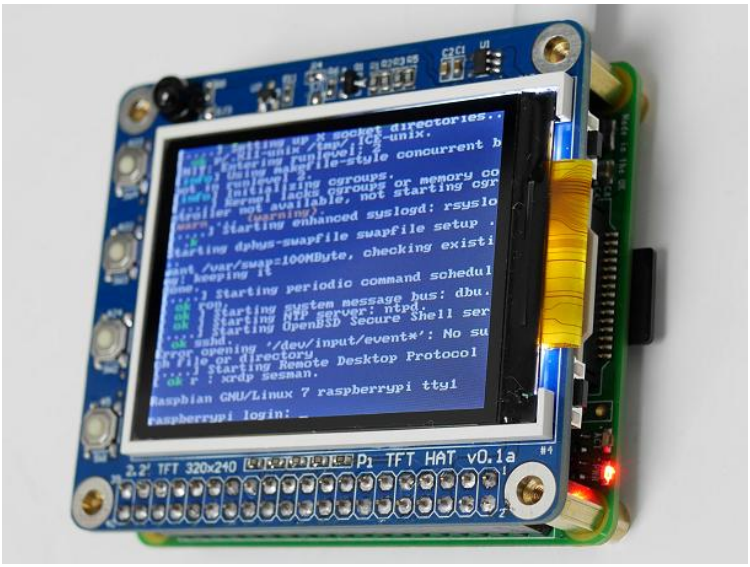
High PPI 2.2 inch TFT Display shield for Raspberry pi 2B/B+ With 6 Keyboards and Remote IR



Features:

- **Demensions：65mm×56.5mm, it's a standard raspberry pi HAT expansion size;**
- **Resolution: 320 x 240, 2.2 inch, High PPI display screen;**
- **With 6 keyboards;**
- **With IR function;**

U-Geek Workshop:
http://www.aliexpress.com/store/1954241
https://www.youtube.com/channel/UCJs08zU2NKF4Kj8WIXCURVw



How to use this screen:

1. Easy method;

Use the full firmware with driver from:

https://sourceforge.net/projects/u-geek/files/2.2TFT/

(Easy method, and this is the advised use method;)

2. DIY method;

you can use this module by the following step

step 1.
Download the official firmware, then upgrade to the latest kernel
sudo rpi-update

step 2.
Installation gpio libraries and drivers
sudo apt-get install gcc python-pygame python-dev
sudo wget https://pypi.python.org/packages/source/R/RPi.GPIO/RPi.GPIO-0.5.11.tar.gz
sudo tar zxvf RPi.GPIO-0.5.11.tar.gz
cd RPi.GPIO-0.5.11

sudo python setup.py install

step 3.
Config file to enable I2C and SPI Interface
sudo nano /boot/config.txt

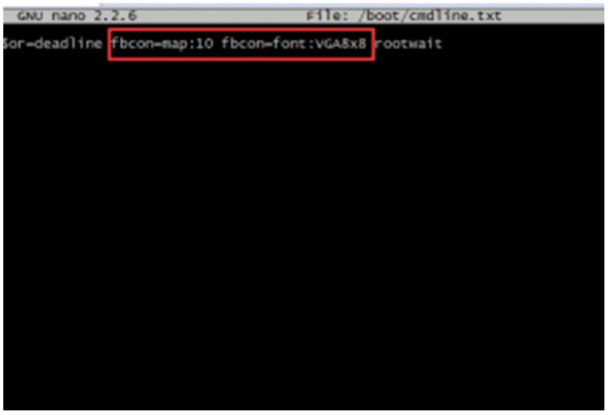
Add the following line:
dtparam=i2c_arm=on, spi=on

step 4.
Config modules to startup screen.
sudo nano /etc/modules

Add the following line:
fbtft_device name=pitft rotate=270 speed=48000000 fps=30

step 5.
Config cmdline file to display the console;
sudo nano /boot/cmdline.txt

Add the following line before “rootwait”
fbcon=map:10 fbcon=font:VGA8x8



step 6.
Save then restart;

How to use the IR function:

Description:

1. IR receiver function:

- Operating frequency: 38K HZ
- Receiving distance: 18-20m
- Reception angle: +/- 45 degrees

2. The infrared transmitter function

- Wavelength: 940nm
- Transmitting distance: 7-8m

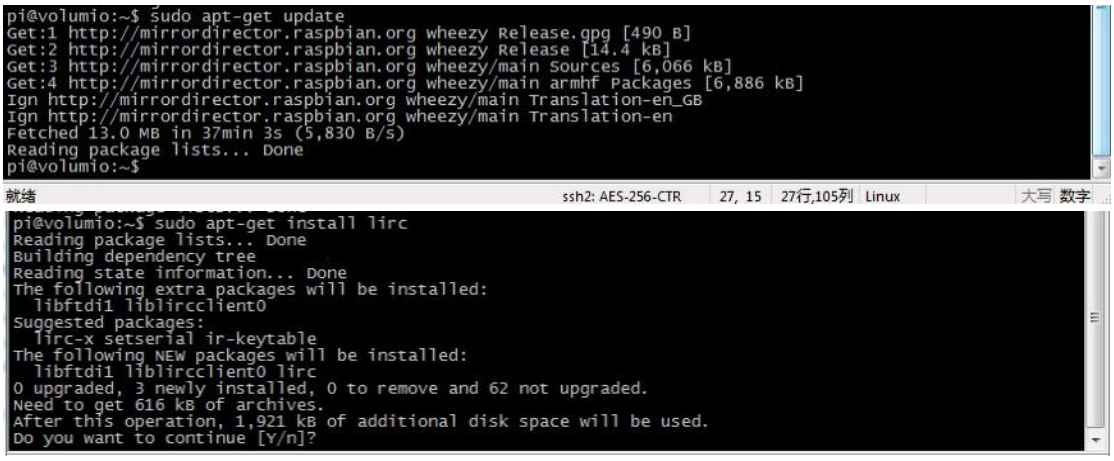
Preparation: Burn into raspbian system;

1. Start the Raspberry Pi, login Raspberry Pi through SSH, the user name: pi, default password: raspberry

2. Update and install lirc software, run the following command:

sudo apt-get update

sudo apt-get install lirc

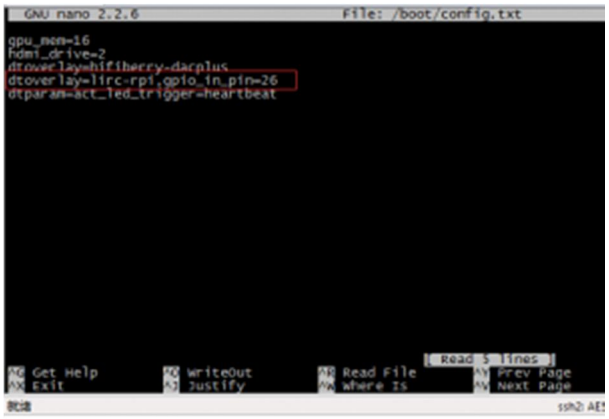


2. Edit the config.txt, and add configuration. use GPIO PIN 26;

sudo nano /boot/config.txt

Add the following line into the config.txt file:

dtoverlay=lirc-rpi, gpio_in_pin=26



3. Edit LRIC config file to enable infrared function;

sudo nano /etc/lirc/hardware.conf

Modify the following lines:

LIRCD_ARGS=”--uinput”

DRIVER=”default”

DEVICE=”/dev/lirc0″

MODULES=”lirc_rpi”

4. Run "sudo reboot" to restart the Raspberry Pi, then run "ls / dev / l *" to view the infrared device is enabled

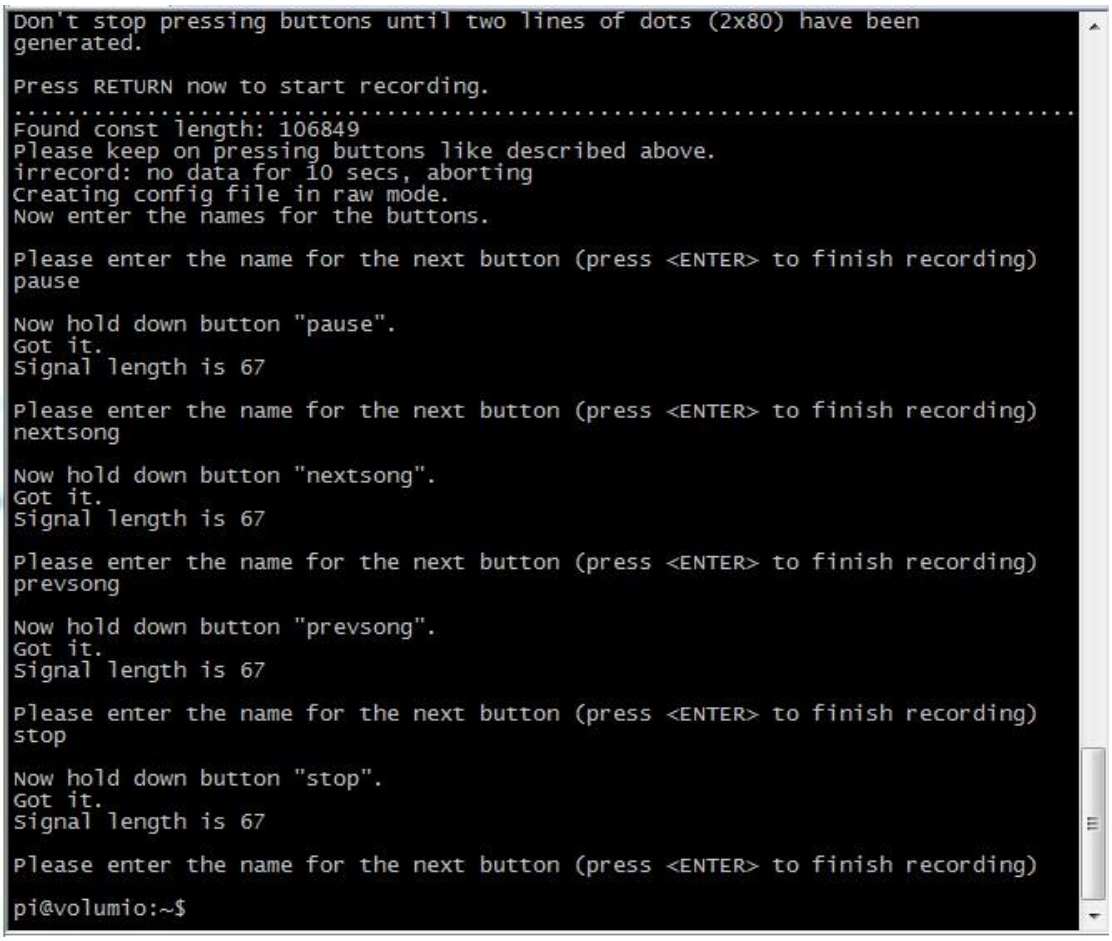
It's enabled if you can view the above red mark;

5.Record Button

sudo /etc/init.d/lirc stop

sudo irrecord -n -d /dev/lirc0 ~/lircd.conf

Record your IR remote control Follow the prompts, such as “*pause*”，“*nextsong*”，“*prevsong*”，“*stop*”，“*volumeup*”，“volumedown” etc.

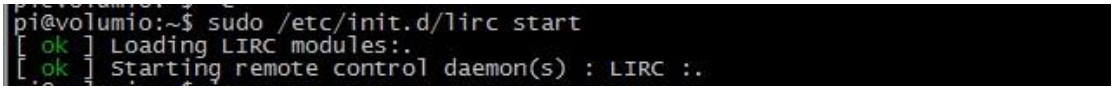


then you can get a lircd.conf file; override the old lircd.conf file;

sudo cp ~/lircd.conf /etc/lirc/lircd.conf

6. Startup lirc software;

sudo /etc/init.d/lirc start



7. Run the following command to view & check record result

sudo **irw**

Then press those record button;

8. You can view those button name to run irsend command;

irsend LIST /home/pi/lircd.conf “”

maybe it's following content:

irsend: 000000000000c837 pause

irsend: 00000000000048b7 nextsong

9. Now you can use the infrared transmitter, recorded before launching the remote control key coding, use that will extend the board as a rotary tool.Launch the command reference command:

irsend SEND_ONCE /home/pi/lircd.confpause

irsend SEND_ONCE /home/pi/lircd.confnextsong

irsend SEND_ONCE /home/pi/lircd.conf KEY_VOLUMEDOWN

irsend SEND_ONCE /home/pi/lircd.conf KEY_VOLUMEUP

Appendix:

1.LIRC http://www.lirc.org/

2. APP http://www.datscharf.dk/amote/