

**Features:**

Resolution: 240x320px (0.18mm of dot size)

Size: 2.8" (44.8x59.2mm)

Contrast: 500:1 (Brightness 240cd/m²)

Viewing angles (degs): Up=70°, Down=57°, Left=70° and Right=70°

Gross Weight: 43g

Controller: ILI9341 (works with Notro's images)

No external power supply is needed

Used Raspberry's GPIO: SPI (CE0, CE1, SCK, MISO, MOSI), BCM-GPIO #17 and BCM-GPIO #18 and BCM-GPIO #25

Available GPIO (BCM GPIO): SDA, SCL, #4, #14 (TXD), #15 (RXD), #27 (in Rv1 is #21), #22, #23, #24, 5V, 3.3V and GND.

[Rv1=Revision 1 are Raspberrys sold before 2013]

Description:

The Screen Pi is a LCD touch screen module for Raspberry Pi (A, B and B+). It consists in a 2.8" TFT display with 240x320 pixel and resistive touch panel. It is connected to Raspberry using SPI and works with Notro's software in Raspbian.

Package Included:

- * Diablero **ScreenPi**
- * Microfiber glass cleaner
- * 3xPIN connector (for 5V, GND and 3.3V)
- * 9xPIN connector (for extra GPIO)
- * Quick Install Guide

Note for Raspberry B+ users: ScreenPi overhangs the USB ports but they are still usable.

The extra PINs are allways provided with ScreenPi, but if you want them soldered you must ask for it. If PINs are soldered in the bottom the ScreenPi can't be used in B+ models (if they are soldered on the top can be used in all models).

Use with Rasbian

Download from official web: <http://www.raspberrypi.org/downloads/> (download Raspbian)

Install in a SD or micro SD, if you need help in the same web are the instruction: <http://www.raspberrypi.org/documentation/installation/installing-images/README.md>

Connect your RaspberryPi with HDMI, a keyboard and a connexion to internet (Ethernet cable is recommended). If the initial assistant doesn't start (a menu with blue background),write:

```
sudo raspi-config
```

You only need expand the filesystem, but we recommend to configure language settings, your keyboard, update system...

Next instructions are an adaptation of Notro's Wiki on GitHub, if you want follow the official instructions go to: <https://github.com/notro/fbft/wiki>

When you finish the assistant, you wil see the Linux console, now we can start. Fist, comment SPI line in this file. We write the command:

```
sudo nano /etc/modprobe.d/raspi-blacklist.conf
```

To comment a line put the '#' symbol on the beginning of the line (remember: Control+X to exit).

Now we configure FBTFT drivers as loadable modules:

```
sudo REPO_URI=https://github.com/notro/rpi-firmware BRANCH=latest rpi-update
```

Few minutes later we must reboot the system:

```
sudo reboot
```

Now you can plug the ScreenPi module.

If we want to **load the driver on start-up**, we will edit:

```
sudo nano /etc/modules
```

And place at the end (if we want portrait mode we use: rotate=90):

```
fbtft_device name=mi0283qt-9a gpios=reset:25,led:18 rotate=0 speed=16000000  
ads7846_device gpio_pendown=17 y_min=200 y_max=3700 x_min=250 x_max=3700  
pressure_max=65000
```

(Note: they are 2 lines of text "fbtft..." and "ads786..." are the beginning of each line)

Now reboot to apply changes:

```
sudo reboot
```

Test by activating console:

```
con2fbmap 1 1
```

It works!!

If we want **use the screen from start-up** we need to add in file:

```
sudo nano /etc/rc.local
```

Scroll down and add the following text before "exit 0" (in other words, "exit 0" will be last line of file):

```
su -l pi -c "env FRAMEBUFFER=/dev/fb1 startx &"
```

Now if we reboot Raspbian still asking user and password, to skip (and login automaticaly):

```
sudo nano /etc/inittab
```

Search and put a '#' symbol on beginning of: "" 1:2345:respawn:/sbin/getty --noclear 38400 tty1 ""

Then add this new line:

```
1:2345:respawn:/bin/login -f pi tty1 </dev/tty1 >/dev/tty1 2>&1
```

If you use a Raspbian from 2014 and above you must edit:

```
sudo nano /usr/share/X11/xorg.conf.d/99-fbturbo.conf
```

And change the 0 to a 1 in this line:

```
Option          "fbdev"  "/dev/fb1"
```

To finish we will reboot and all work perfect:

```
sudo reboot
```

Remember, you are using the driver: <https://github.com/notro/fbtft> (visit it to see the source code)