

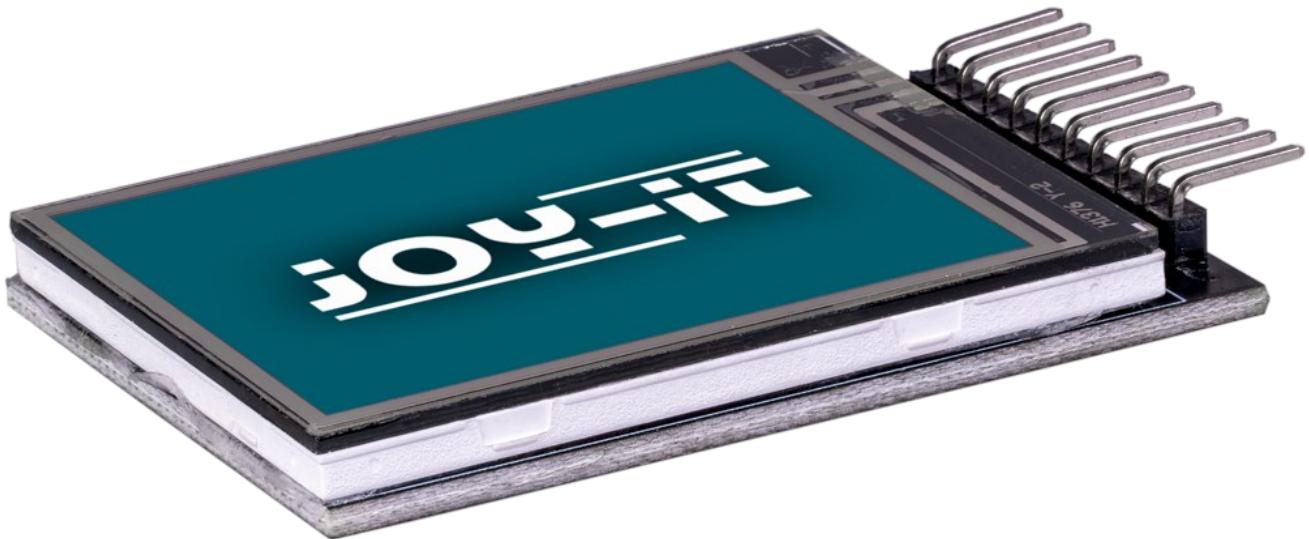


1,8“-TFT TOUCH DISPLAY

RB-TFT1.8-T

TFT TOUCH-DISPLAY

RB-TFT1.8-T



1. GENERAL INFORMATION

Dear customer,

thank you for choosing our product. In the following, we will show you what you need to bear in mind during commissioning and use.

Should you encounter any unexpected problems during use, please do not hesitate to contact us.

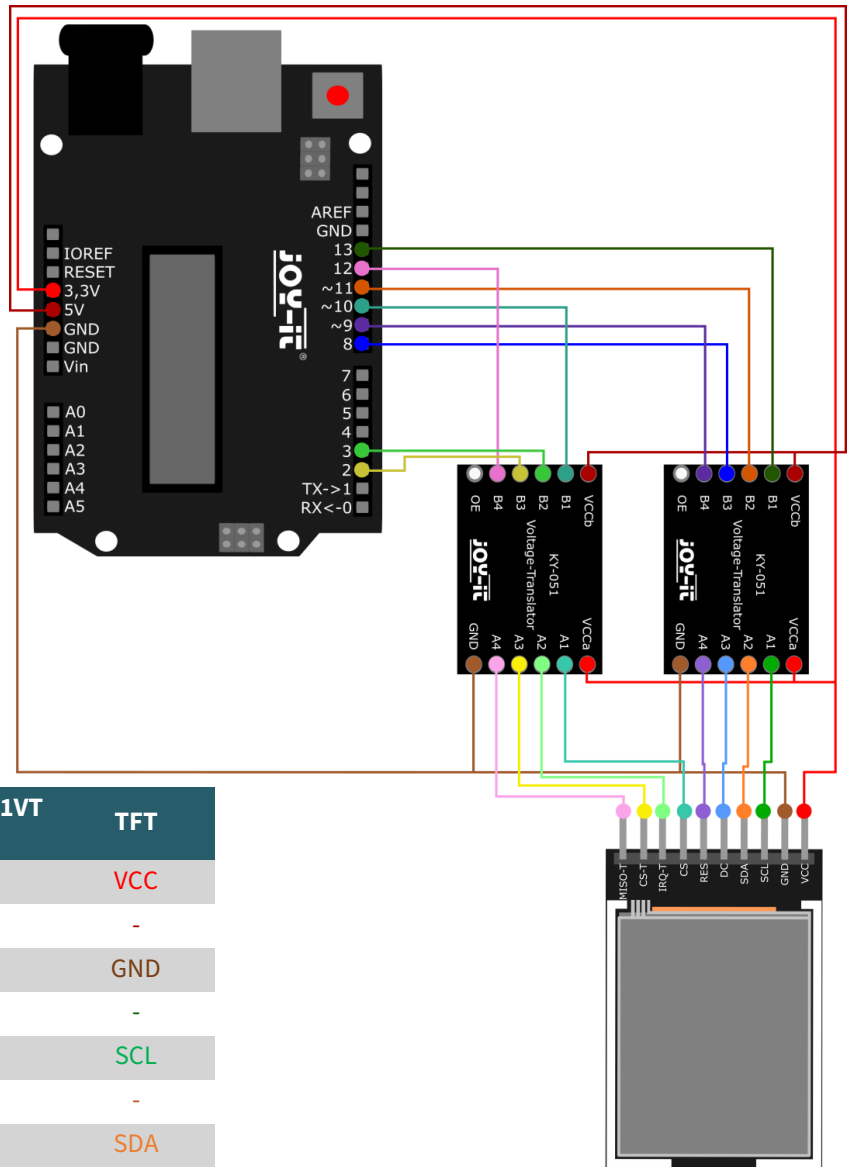
2. USAGE WITH ARDUINO

2.1 Connection:

Since the display operates at a logic level of 3.3 V and the Arduino operates at 5 V, we need a logic level converter to prevent permanent damage to the display.

In this example, we are using two [COM-KY051VT](#) converters from Joy-IT.

Connect your display as shown in the diagram and table:



Arduino	COM-KY051VT 1	COM-KY051VT 2	TFT
3,3 V	VCCa	VCCa	VCC
5 V	VCCb	VCCb	-
GND	GND	GND	GND
Pin 13	B1	-	-
-	A1	-	SCL
Pin 11	B2	-	-
-	A2	-	SDA
Pin 8	B3	-	-
-	A3	-	DC
Pin 9	B4	-	-
-	A4	-	RES
Pin 10	-	B1	-
-	-	A1	CS
PIN 3	-	B2	-
-	-	A2	IRQ-T
PIN 2	-	B3	-
-	-	A3	CS-T
Pin 12	-	B2	-
-	-	A2	MISO-T

2.2 Installation of the required libraries

Search for and install the following library in your Arduino IDE in the library manager:

XPT2046_Touchscreen by Paul Stoffregen

Adafruit BusIO by Adafruit

Adafruit GFX Library by Adafruit

Adafruit ST7735 and ST7789 Library by Adafruit

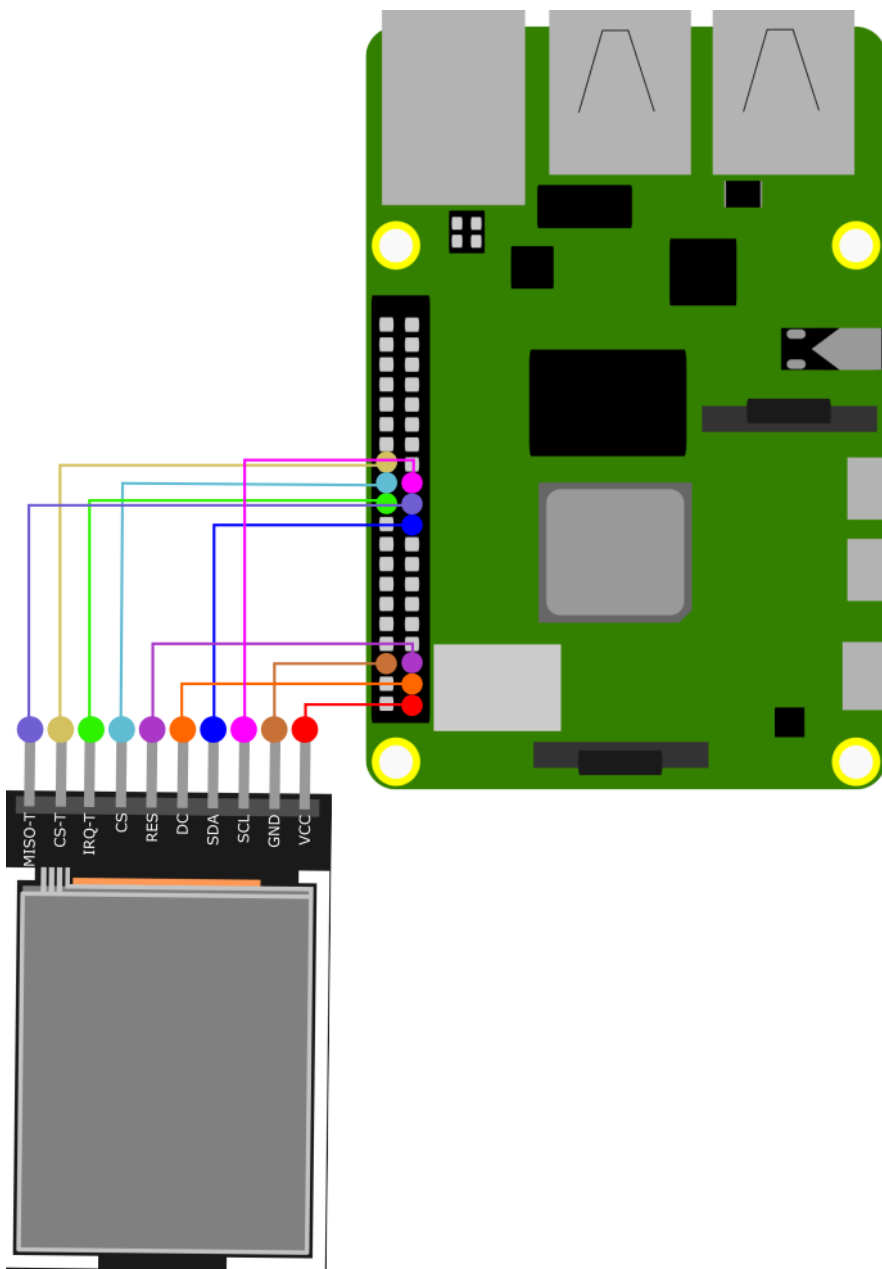
2.3 Sample code

You can download the sample code [here](#).

In the sample code, the display is first filled with the colors black, red, blue, green, and white in sequence. Then, the coordinates of the recognized touch input are output via the serial monitor and the color on the display is changed.

3. USAGE WITH RASPBERRY PI

3.1 Connection



TFT	Raspberry Pi
VCC	3,3 V
GND	GND
SCL	GPIO 11 (SCLK)
SDA	GPIO 10 (MOSI)
RS/DC	GPIO 02
RES	GPIO 03
CS	GPIO 8 (CE0)
IRQ-T	GPIO 25
CS-T	GPIO 07 (CE1)
MISO-T	GPIO 09 (MISO)

3.2 Installation

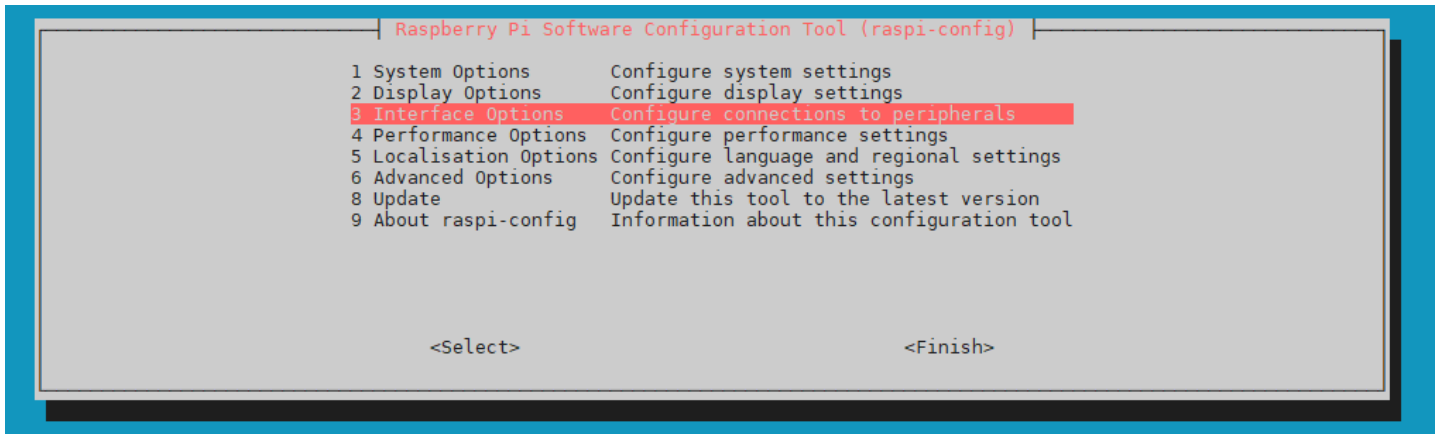
We use the [Adafruit_CircuitPython_RGB_Display](#) library from [Adafruit](#) with the Raspberry Pi, which has been published under the [MIT license](#).

First, install **pip** so that you can perform all installations without any problems. To do this, execute the following commands in your console.

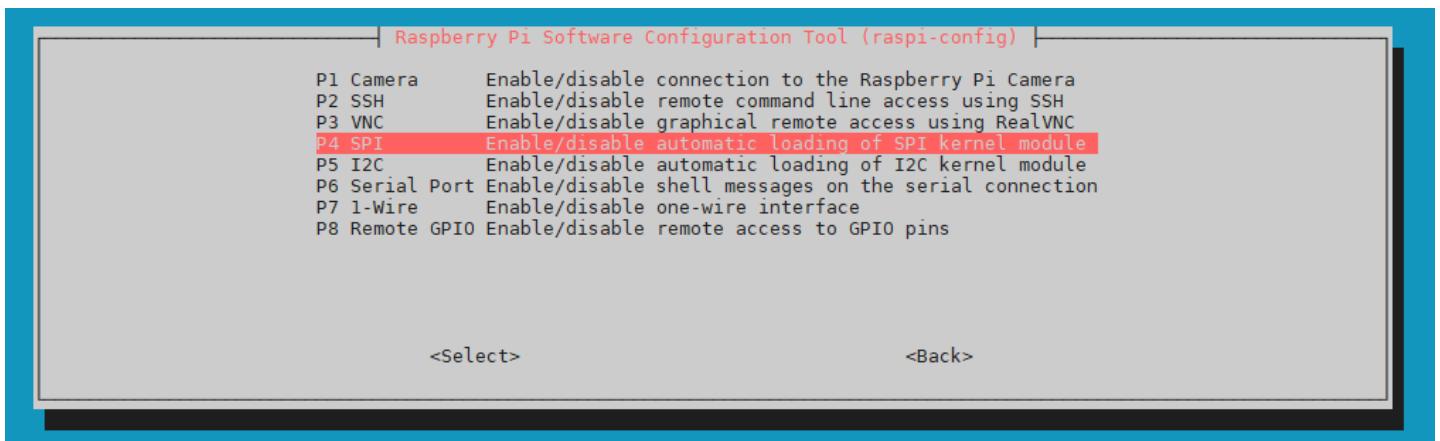
```
sudo apt-get install python3-pip
```

Now activate SPI on your Raspberry Pi. To do this, execute the following command.

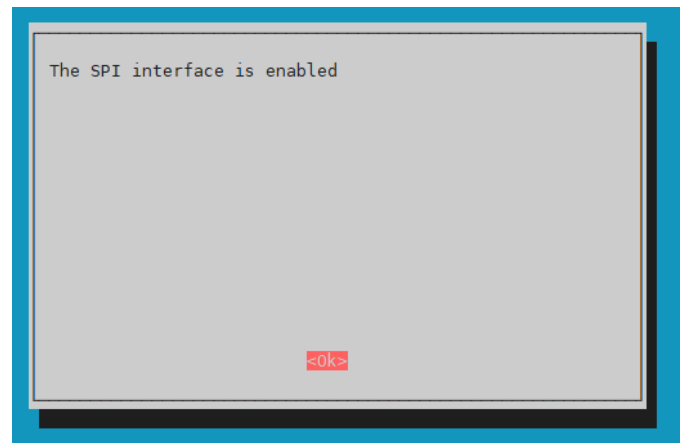
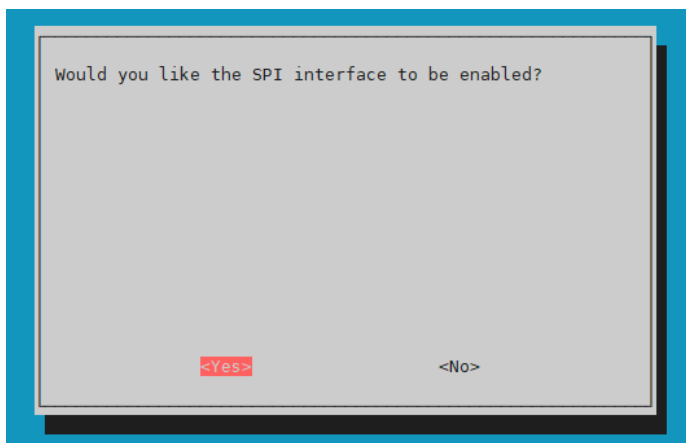
```
sudo raspi-config
```



Now go to **3 Interface Options** → **P4 SPI**.



Answer the question **Would you like the SPI interface to be enabled?** with **<Yes>** to activate SPI.



Now change the configuration file of the Raspberry Pi OS with the following command.

```
sudo nano /boot/firmware/config.txt
```

Add the following line at the end of the file:

```
dtoverlay=spi0-0cs
```

Save with **CTRL+S** and close the window with **CTRL+X**.

Then restart your Raspberry Pi with the following command:

```
sudo reboot
```

3.3 Code example

We provide you with sample code that allows you to display an image on the screen. First, download the following file.

```
wget https://www.joy-it.net/public/RB-TFT1.8-T_Codeexample_RaspberryPi.zip
```

You can unzip them using the following command. Make sure you are in the correct file path.

```
unzip RB-TFT1.8-T_Codeexample_RaspberryPi.zip
```

Now go to the code example folder.

```
cd RB-TFT1.8-T_Codeexample_RaspberryPi
```

Install the following dependency there.

```
sudo apt-get install fonts-dejavu
```

Now activate a virtual environment with the following commands.

```
python -m venv --system-site-packages env
```

```
source env/bin/activate
```

Now install the remaining libraries in the virtual environment.

```
pip3 install adafruit-circuitpython-rgb-display
```

```
pip3 install Pillow
```

You can now execute this code using the following commands.

```
python3 RB-TFT1.8-T.py
```

Your display should now show an image and output the coordinates of the recognized touch input via the console.

If the image displayed on the screen is shifted (a pixel border is visible), you can use `x_offset` and `y_offset` in **line 43** to adjust the software so that the image is displayed correctly.

3. OTHER INFORMATION

Our information and take-back obligations according to the Electrical and Electronic Equipment Act (ElektroG)



Symbol on electrical and electronic equipment:

This crossed-out dustbin means that electrical and electronic appliances do **not** belong in the household waste. You must return the old appliances to a collection point.

Before handing over waste batteries and accumulators that are not enclosed by waste equipment must be separated from it.

Return options:

As an end user, you can return your old device (which essentially fulfils the same function as the new device purchased from us) free of charge for disposal when you purchase a new device.

Small appliances with no external dimensions greater than 25 cm can be disposed of in normal household quantities independently of the purchase of a new appliance.

Possibility of return at our company location during opening hours:

SIMAC Electronics GmbH, Pascalstr. 8, D-47506 Neukirchen-Vluyn, Germany

Possibility of return in your area:

We will send you a parcel stamp with which you can return the device to us free of charge. Please contact us by e-mail at Service@joy-it.net or by telephone.

Information on packaging:

If you do not have suitable packaging material or do not wish to use your own, please contact us and we will send you suitable packaging.

4. SUPPORT

If any questions remained open or problems may arise after your purchase, we are available by e-mail, telephone and ticket support system to answer these.

E-Mail: service@joy-it.net

Ticket-System: <http://support.joy-it.net>

Telephone: +49 (0)2845 9360 – 50

For further information visit our website:

www.joy-it.net