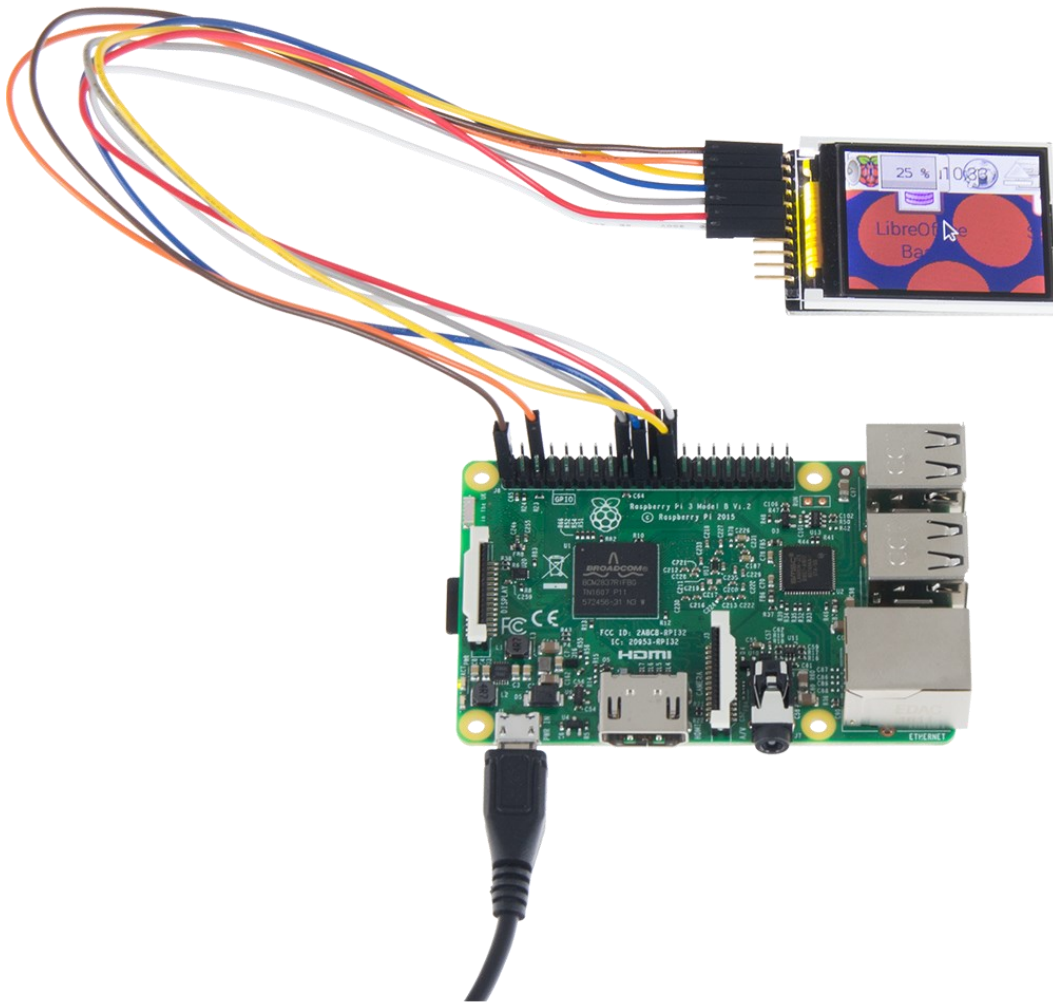


# 1,8 " TFT-DISPLAY

RB-TFT1.8



## 1. GENERAL INFORMATION

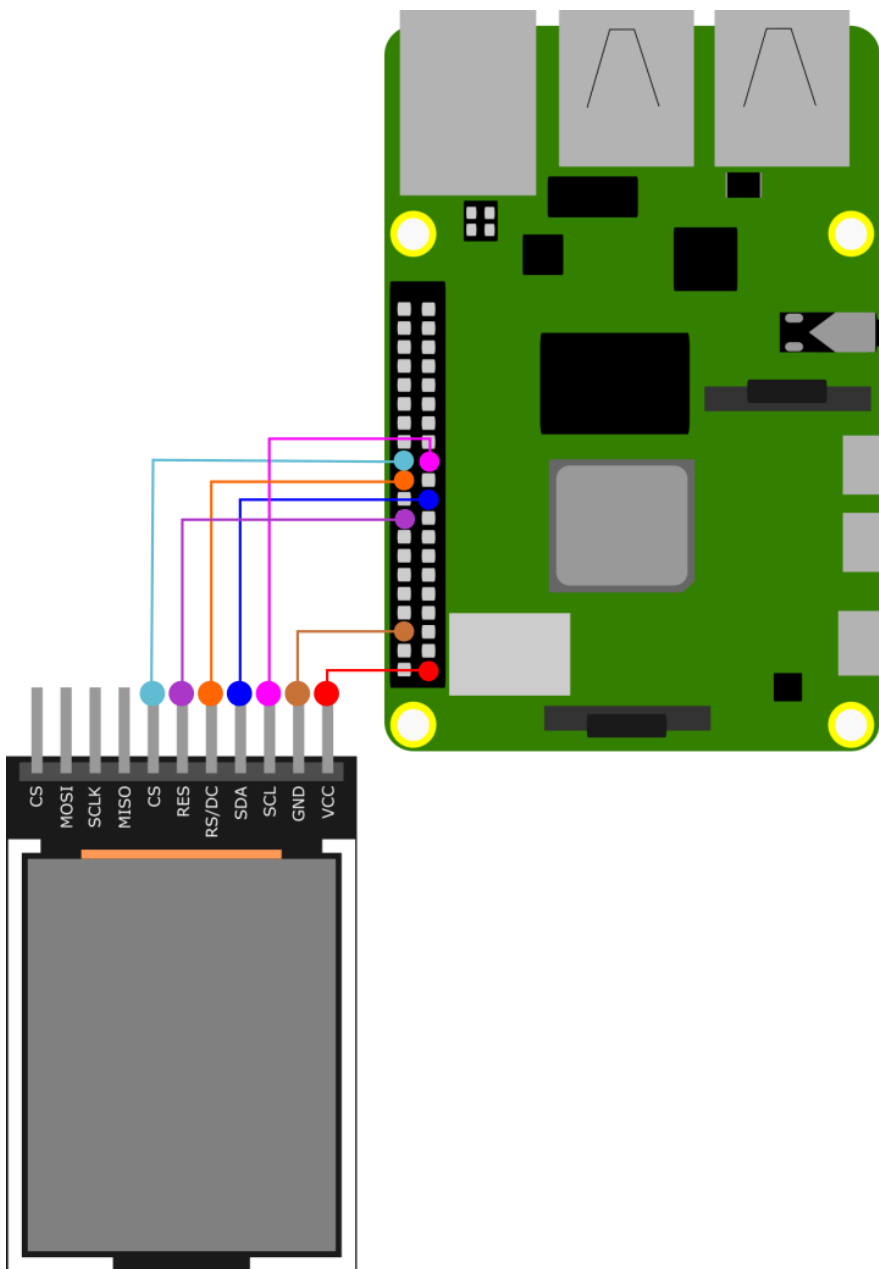
Dear customer,

thank you for choosing our product. In the following, we will show you how to use this device.

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

## 2. USAGE WITH RASPBERRY PI

### 2.1 Connection



TFT	Raspberry Pi
VCC	3,3 V
GND	GND
SCL	GPIO 11 (SCLK)
SDA	GPIO 10 (MOSI)
RS/DC	GPIO 25
RES	GPIO 24
CS	GPIO 8 (CE0)

On the back of the display is an SD card slot, which can be accessed with the other pins.

### 2.2 Installation

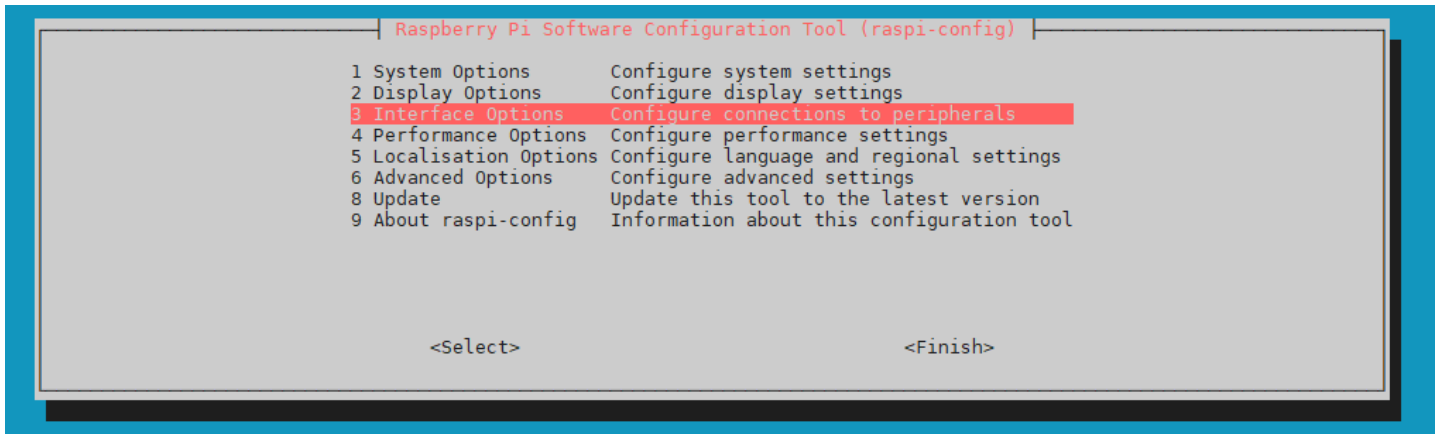
We use with the Raspberry Pi the library [Adafruit CircuitPython RGB Display](#) from [Adafruit](#), which was published under the [MIT-License](#).

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

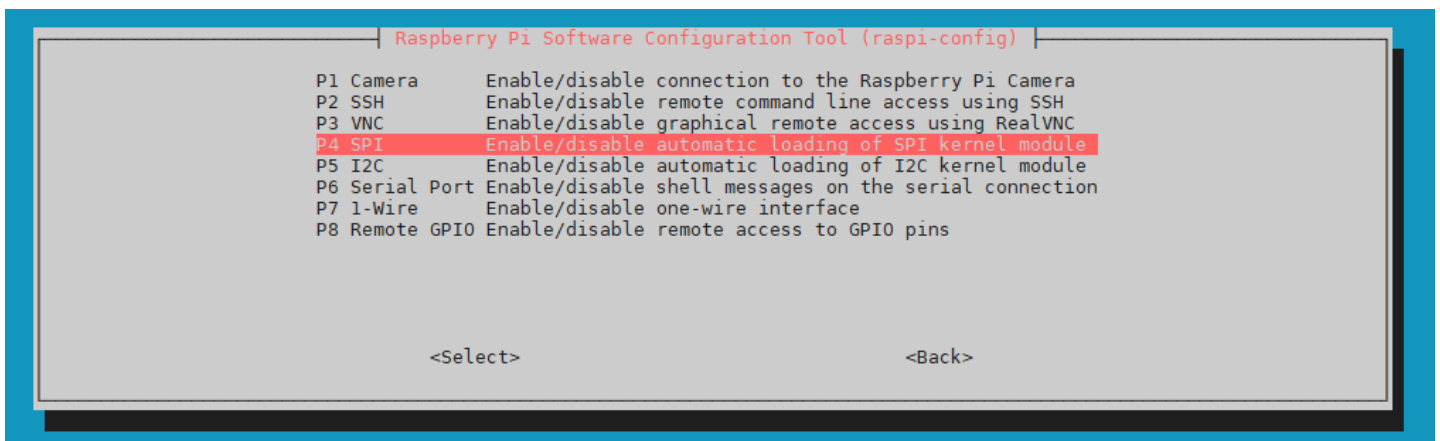
```
sudo apt-get install python3-pip
```

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

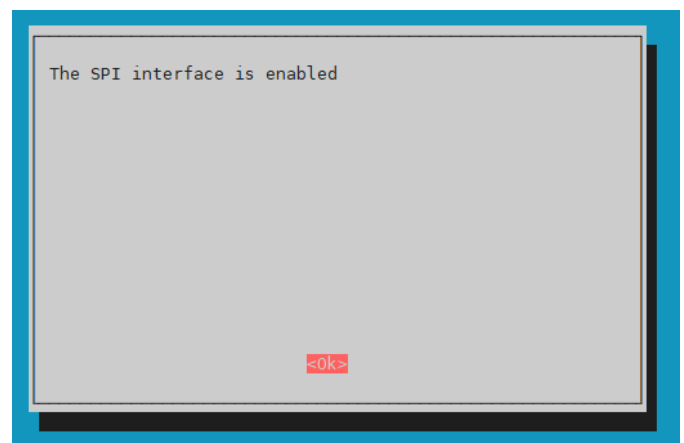
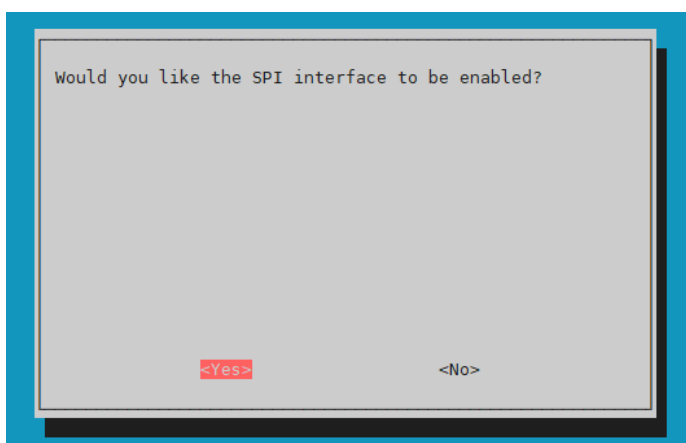
```
sudo raspi-config
```



Now go to **1 Interface Options** → **P4 SPI**.



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



Now install the library using the following commands.

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

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

```
sudo apt-get install python3-pil
```

## 2.3 Code example

We provide you with a sample code which allows you to show an image on the display. To do this, first download the following file.

```
wget https://www.joy-it.net/files/files/Produkte/RB-TFT1.8/RB-TFT1.8_Codeexample_RaspberryPi.zip
```

You unpack them with the following command. Make sure that you are in the correct file path.

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

You can now use the following commands to execute this code.

```
cd RB-TFT1.8_Codeexample_RaspberryPi
```

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

Your display should now show you an image.

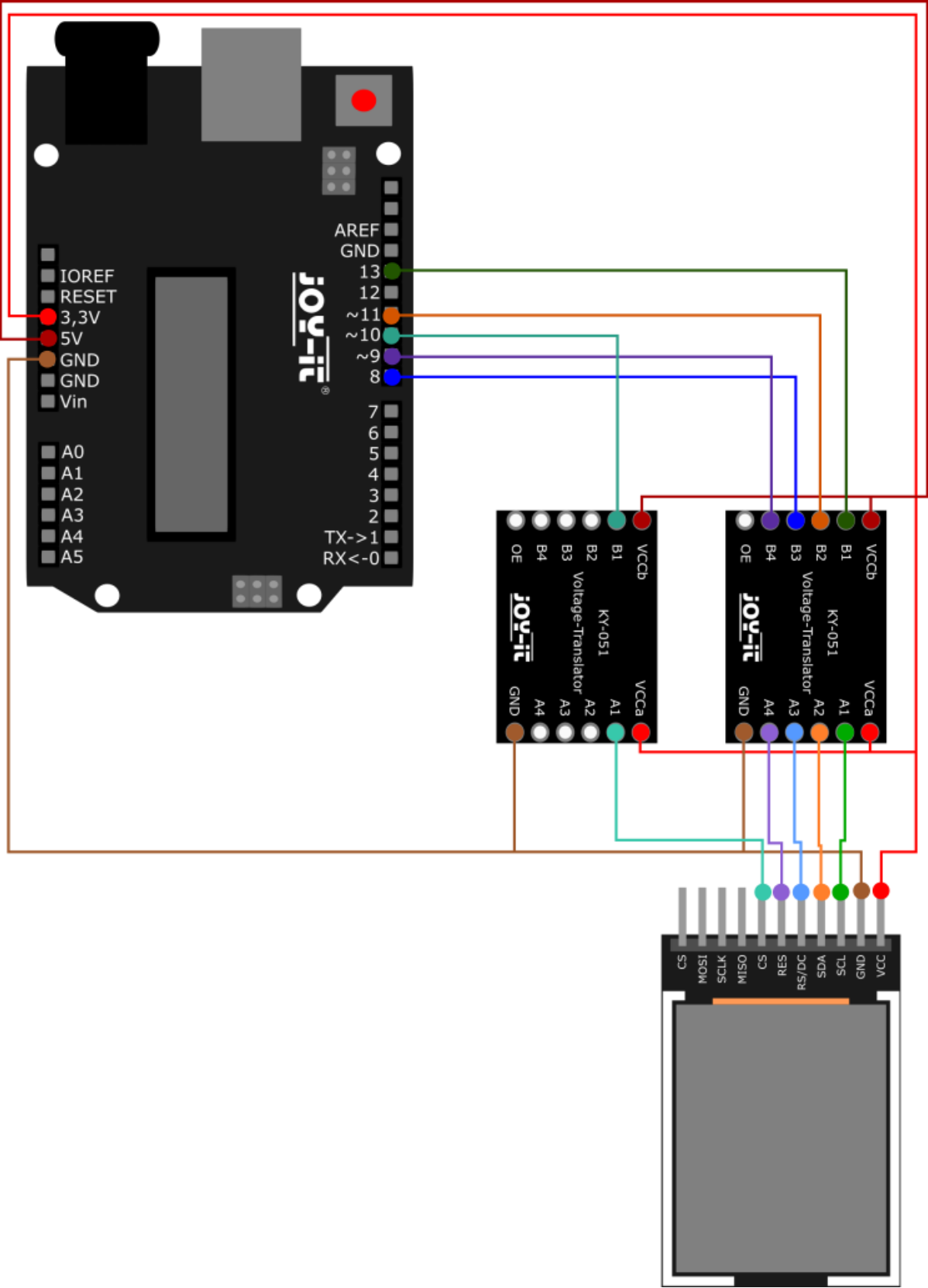
If your displayed image is shifted in the display (a pixel line can be seen), you can adjust the software in **line 41** by means of the `x_offset` and `y_offset`, so that the image is correctly displayed to you.

### 3. USAGE WITH ARDUINO

The screen has a logic level of 3.3 V, which means that a voltage converter is required for the use with the Arduino. Using it without a voltage converter can cause damage to the TFT. In our example codes we use two COM-KY051VT.

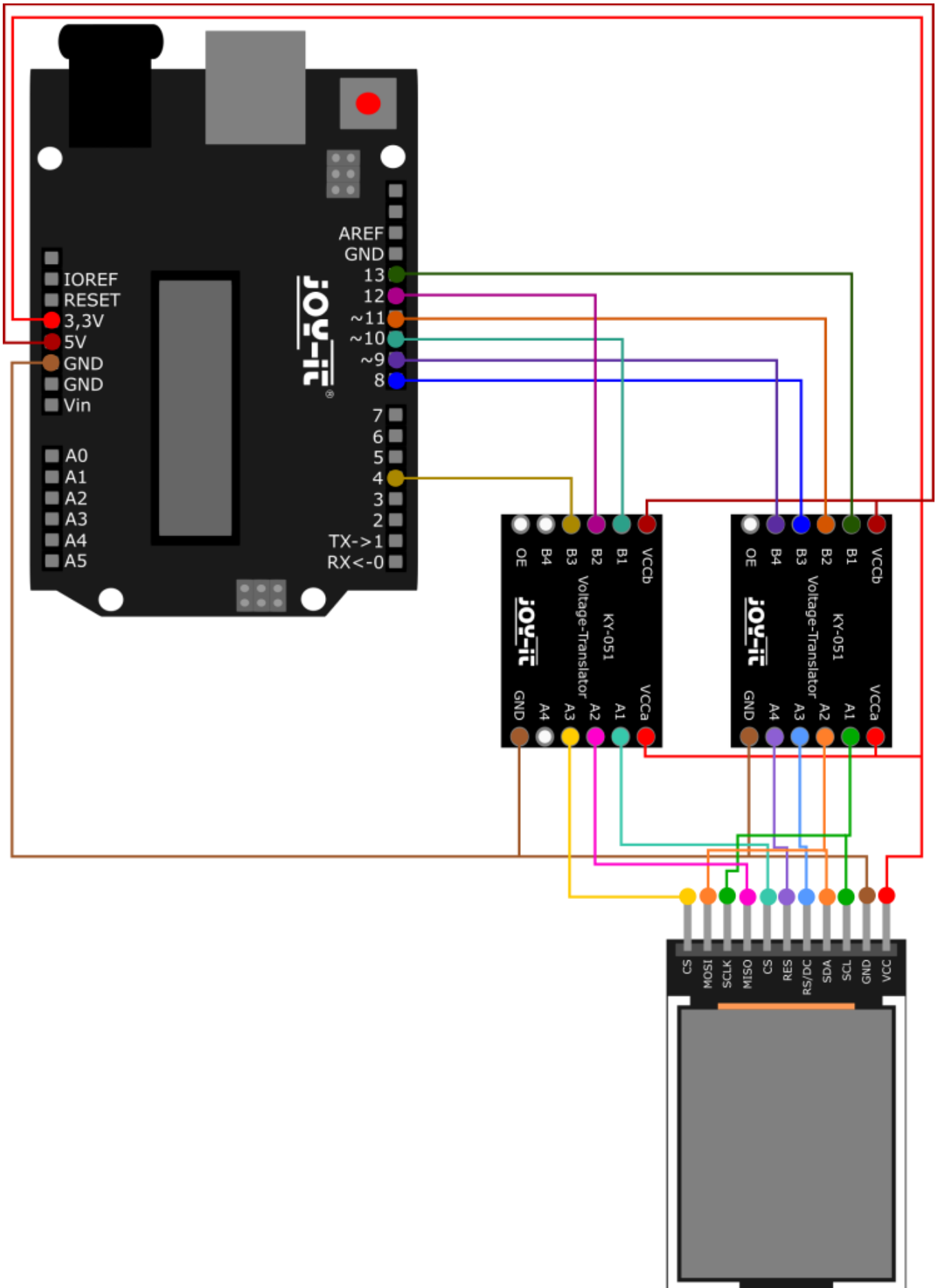
#### 3.1 Connection

##### 3.1.1 Usage without SD card slot



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	-	RS/DC
Pin 9	B4	-	-
-	A4	-	RES
Pin 10	-	B1	-
-	-	A1	CS
-	-	-	MISO
-	-	-	SCLK
-	-	-	MOSI
-	-	-	CS

### 3.1.2 Usage with SD card slot



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	-	RS/DC
Pin 9	B4	-	-
-	A4	-	RES
Pin 10	-	B1	-
-	-	A1	CS
Pin 12	-	B2	-
-	-	A2	MISO
-	A1	-	SCLK
-	A2	-	MOSI
Pin 4	-	B3	-
-	-	A3	CS

Pins for the SD card



## 3.2 Code example

### 3.2.1 Code example without SD card

For the code example we use the library [Adafruit-ST7735-Library](#) from [Adafruit](#), which is published under the [MIT-Lizenz](#). You can find and install it in your Arduino IDE under **Sketch** → **Include Library** → **Manage Libraries**.

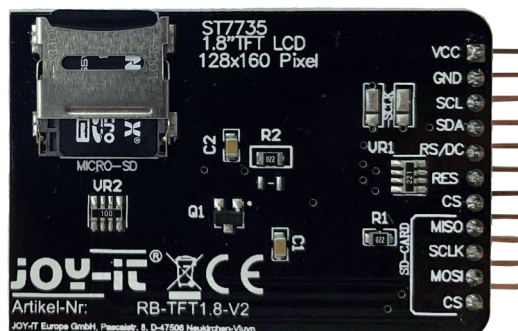
Now, select a sample code from **File** → **Examples** → **Adafruit ST7735 and ST7789 Library**. In our case **graphicstest**.

There, comment **line 89** with `//` and uncomment **line 90** by removing `//` at the beginning of the line.

However, before you press the **Upload** button, make sure that you have set the **Board** and **Port** correctly under **Tools**.

### 3.2.2 Code example with SD card

For this code example, an SD card is used, which can be inserted on the back of the display.



For the code example we use the library [Adafruit ImageReader](#) from [Adafruit](#), which is published under the [BSD-Lizenz](#). You can find and install it in your Arduino IDE under **Sketch** → **Include Library** → **Manage Libraries**. Make sure that you also install all dependencies.

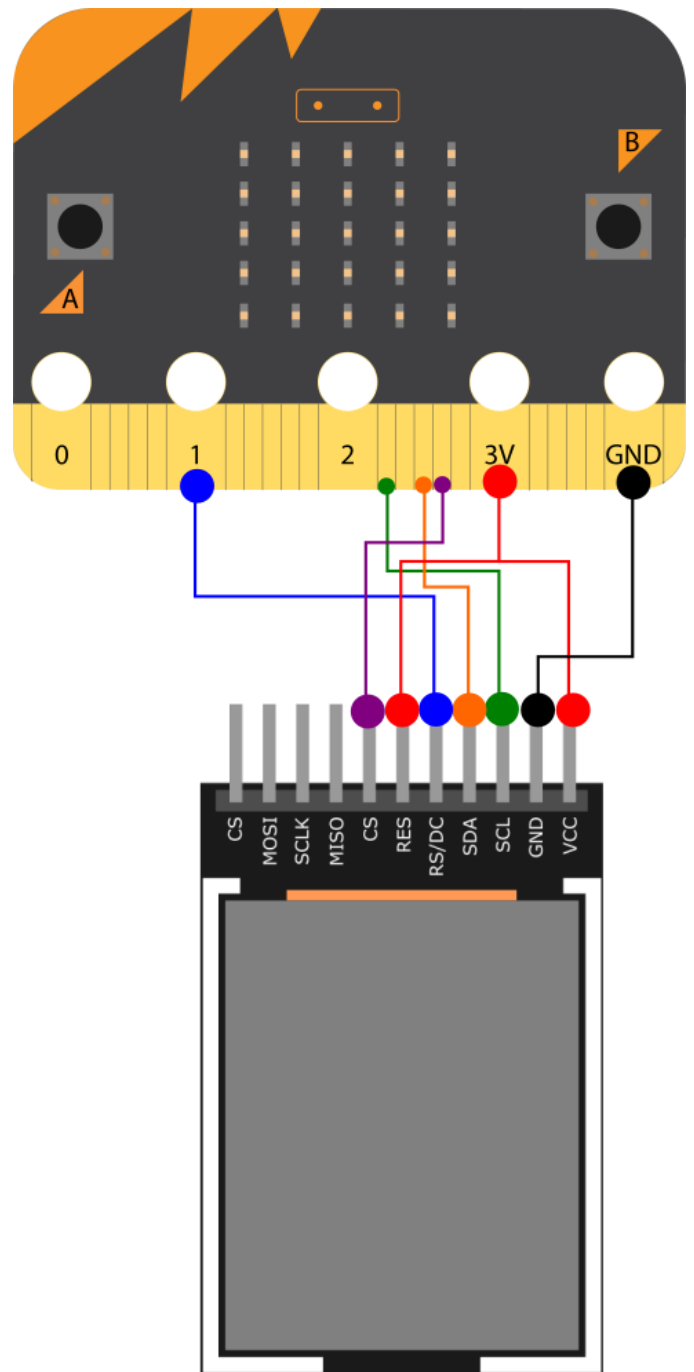
Now download an image [here](#), which you have to save on the SD card for the display. Now insert the SD card into the SD card slot. Now download our provided sketch [here](#).

However, before you press the **Upload** button, make sure that you have set the **Board** and **Port** correctly under **Tools**.

## 4. USAGE WITH MICRO:BIT

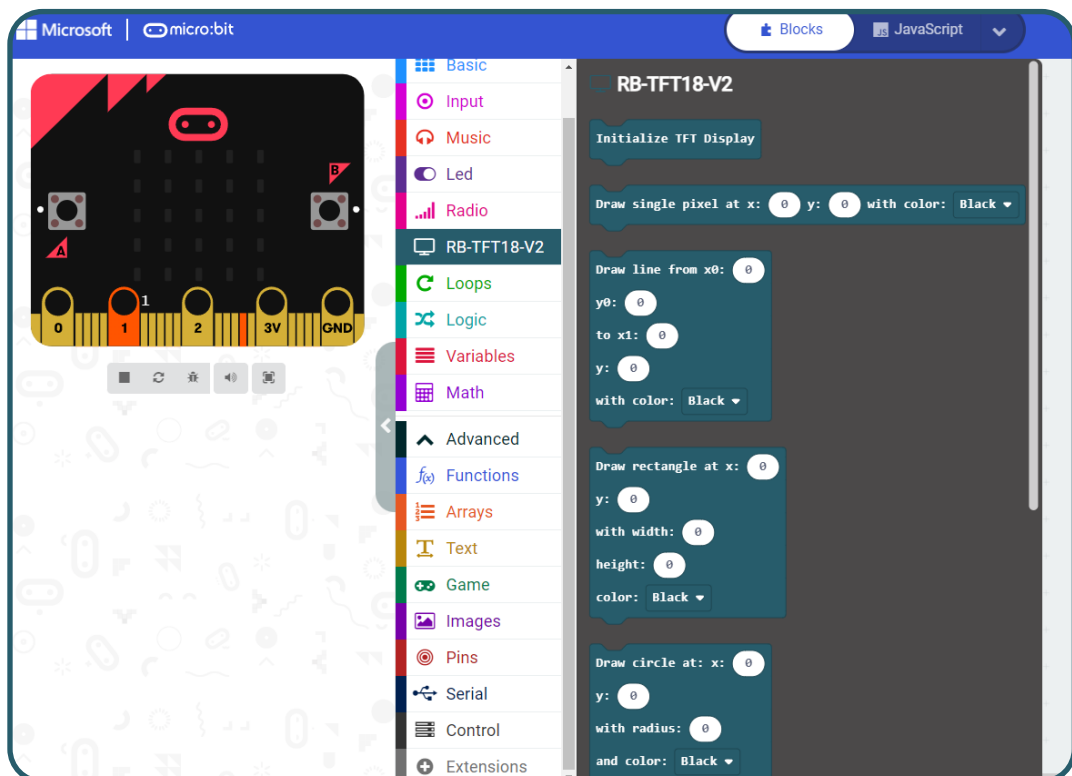
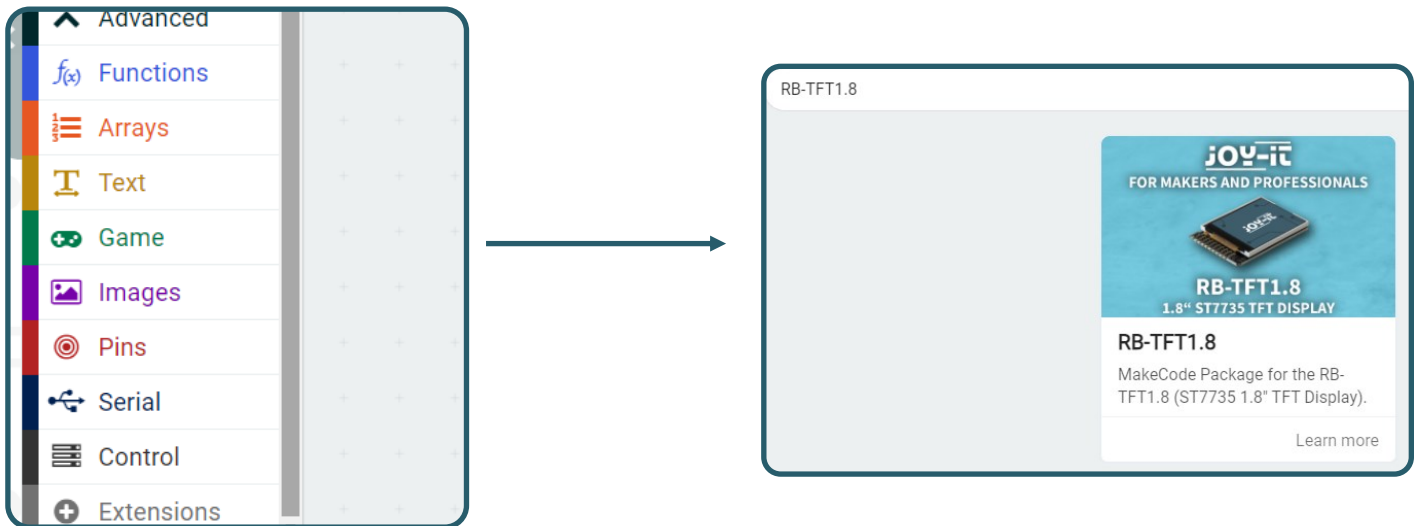
### 4.1 Connection

TFT	micro:bit
VCC	3V
GND	GND
SCL	P13
SDA	P15
RS/DC	P1
RES	3V
CS	P16



## 4.2 Code example

For the micro:bit we use MakeCode, which you can open in your browser [here](#). For the micro:bit we provide the library **RB-TFT1.8**, which is published under the [MIT-License](#). In MakeCode you can load the blocks into your project under **Advanced** → **Extensions**. There you can search for RB-TFT1.8 and select it.



We provide you with a sample code, which you can download [here](#). You load the code on the micro:bit by saving the file on the micro:bit.

## 5. 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 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](mailto: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.

## 6. SUPPORT

If there are still any issues pending or problems arising after your purchase, we will support you by e-mail, telephone and with our ticket support system.

E-Mail: [service@joy-it.net](mailto:service@joy-it.net)

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

Telephone: +49 (0)2845 98469-66 (10-17 o'clock)

For further information please visit our website:

[www.joy-it.net](http://www.joy-it.net)