3.2" / 3.5" TOUCH-DISPLAY
For plugging onto the Raspberry Pi

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.

> **i** These instructions were developed and tested for the Raspberry Pi 5 and the Bookworm OS operating system. It has not been tested with newer operating systems or hardware.

2. OVERVIEW

	3.2" Display	3.5" Display
Controller	XPT2046	
Resolution	320 x 240	480 x 320
Colors	65.536	

3. CONNECTION

Plug the 3.2" / 3.5" TFT display onto the Raspberry Pi so that it is plugged onto the first 26 pins of the GPIO connector strip. The backlight of the display should then light up.

4. INSTALLATION OF THE SOFTWARE

Install the TFT image on your SD card using the **Raspberry Pi Imagers**, which you can download from the following links:

For the 3.2" display you can find the images with Raspberry Pi OS Bookworm **here**.
For the 3.5" display you can find the images with Raspberry Pi OS Bookworm **here**.

i With the **Raspberry Pi Imager,** you can select a downloaded image under **Operating system (OS)** → **Use custom**. Now select the appropriate image and you can write it directly to your SD card. With the Raspberry Pi Imager you can already create a user during writing or e.g. activate SSH, set up WLAN etc..

Manual installation

If you are already using a different Raspberry Pi OS image and would like to expand it with the 3.2" / 3.5" touchscreen TFT, you can also install the modules on your system at a subsequent stage. For installation we use the **LCD-show** repository, which is licensed under the **GNU General Public Licence Version 2**.

To do this, you must first execute the following commands in a terminal:

```
sudo rm –rf LCD-show
```

```
git clone https://github.com/goodtft/LCD-show.git
```

```
chmod -R 755 LCD-show
```

```
cd LCD-show/
```

To install the driver, execute the following command. Here you must differentiate whether you are using the 3.2" TFT or the 3.5" TFT.
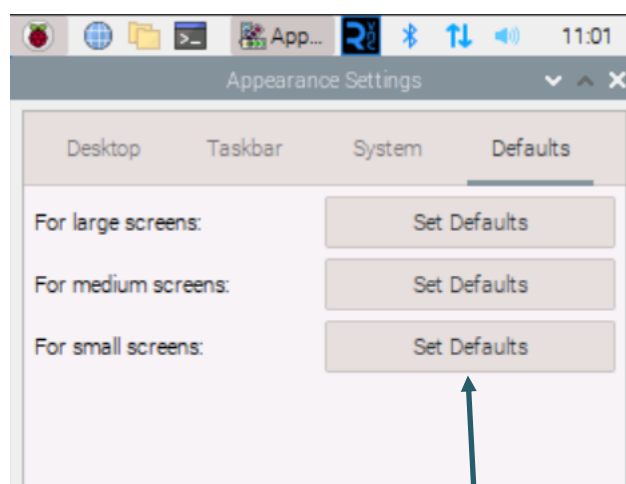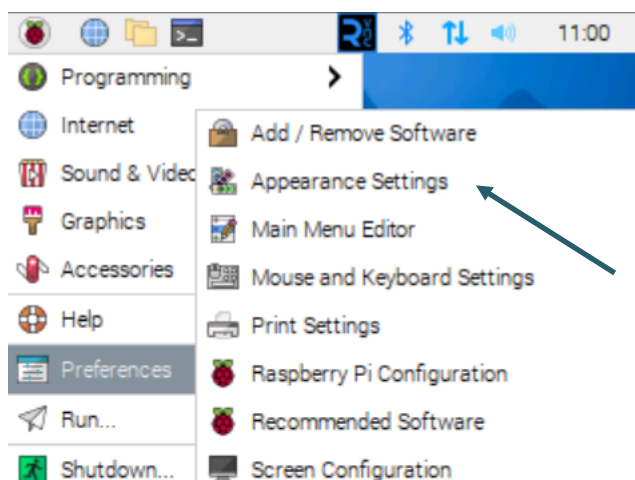
3.2" TFT:

```
sudo ./LCD32-show
```

3.5" TFT:

```
sudo ./LCD35-show
```

Your Raspberry Pi will now restart.
You have now successfully set up your TFT. You can now set a small screen as default under **Preferences** → **Appearance Settings** → **Defaults**. This setting makes the image on the TFT more legible.

5. USING THE BUTTONS ON THE 3.2"

There are three additional buttons on the edge of the 3.2" display. These can be controlled and used via the GPIO. When a button is pressed, the applied signal is pulled to ground (*Active_LOW*).

The pin assignment for displays **V1** and **V2** is as follows:

TFT	Raspberry Pi
Key 1	GPIO 12
Key 2	GPIO 16
Key 3	GPIO 18

On the V3 display, the backlight can be controlled separately using a GPIO pin.
The pin assignment for the **V3** is therefore as follows:

| TFT	Raspberry Pi
Key 1	GPIO 23
Key 2	GPIO 24
Key 3	GPIO 25
Backlight	GPIO 18

6. CALIBRATION OF THE TOUCHSCREEN

If it is necessary to calibrate the touchscreen, this can be carried out using the following steps.
First of all, the calibration tool must be downloaded. To do this, open a terminal window and enter the following command:

```
sudo apt install xinput-calibrator
```

You can now start the calibration under **Preferences → Calibrate Touchscreen**.
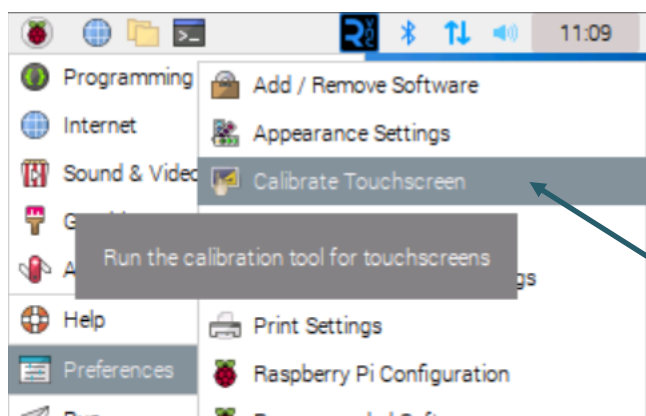
Four points now light up one after the other, which must be pressed to calibrate the display.
Four calibration values are then displayed in the terminal, which must be entered in the **99-calibration.conf** file.

To do this, open the file:

```
sudo nano /etc/X11/xorg.conf.d/99-calibration.conf
```

Enter the values (which will be displayed after calibration) in the following line:

```
Option   "Calibration"     "215 3947 3901 244"
```

MinX corresponds to the first value, **MaxX** to the second value, **MinY** to the third value and **MaxY** to the fourth value. After saving the file and restarting, the new calibration data is applied.

7. ROTATION OF THE DISPLAY

It is possible to rotate the display using the software already installed. To do this, you must navigate to the software folder again.

```
cd LCD-show/
```

You can now use the following command to rotate the display. The rotation can be set using the values **0**, **90**, **180** and **270**.

```
sudo rotate.sh 90
```

7. 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.

8. 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   (Mo. - Th.: 09:00 - 17:00 o'clock
                                       Fr.: 09:00—14:30 o'clock)

For further information visit our website:
www.joy-it.net

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