

# joy-it



10.1" HDMI LCD

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## 1. Introduction

Dear customer,  
thank you for choosing our product.

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

## 2. Bracket Mounting

Simply follow the illustrated step-by-step instructions below for quick and easy mounting of the bracket.

<http://anleitung.joy-it.net/wp-content/uploads/2016/12/10.1inch-LCD-Aufbau.jpg>



### 3. Usage with a PC

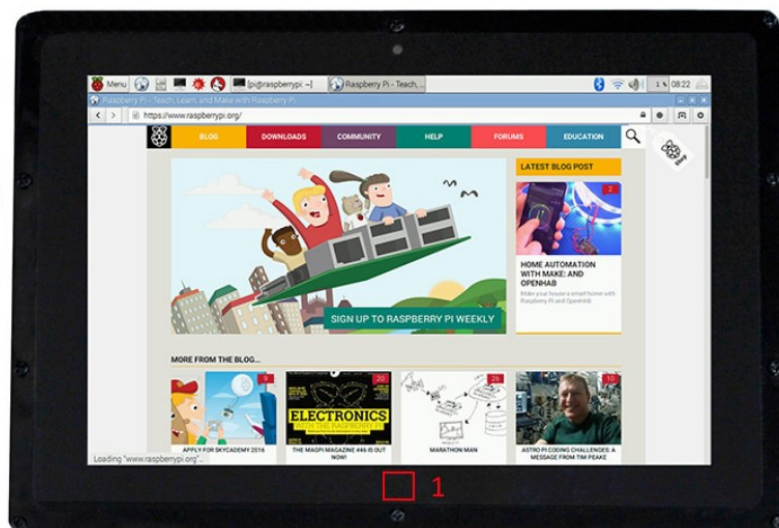
This product supports Windows 7/8/8.1/10 operating systems.

Multi-touch gestures with up to 10 points are supported for Windows operating systems 8 and above. Some Windows 7 operating systems only support single-touch gestures.

#### 3.1 Device Connection

Please make sure that the connections are made in the correct order, or the LCD may not work properly.

1. Connect the 5V 2.5A Power Only Port of the LCD to a Type A to Micro USB adapter.
2. Connect the touch port of the LCD to one of the USB ports of your computer. Connect the HDMI port of the LCD to the HDMI port of your computer using an HDMI cable. When multiple screens are registered from your PC, the LCD can only control the cursor of the main screen. It is recommended to use the LCD as main screen. Generally, the screen will show the interface from the image below. In this interface, tap to perform the left mouse action and hold to perform the right mouse action. (You can also adjust the backlighting of the screen with the "backlight adjustment button", please note the 1 in the following picture.)



## 4. Usage with a Raspberry Pi

### 4.1 Installation

#### 4.1.1 Basic installation

For the Windows operating systems on the PC, the resolution of the LCD is automatically identified. Therefore, no further settings of this type need to be made. When working with the Raspberry Pi you should set the resolution manually or the LCD screen will not work. For more detailed information, please read the following section.

First you should download the latest image file, RASPBIAN or UBUNTU MATE, from the website <http://www.raspberrypi.org/downloads/>

1. Download the image file (.zip format) to your PC, after unpacking the file you will receive a file with the extension .img.
2. Connect a micro SD card to your PC and format it with the [SD Formatter](#) program.
3. Start the [Win32DiskImager](#) program and select the downloaded image file in the first step, then click the "Write" button to write the file to the card.
4. When the process is finished, open the config.txt file in the root directory of the micro SD card and add the following lines to the end of the file. Then save the modifications and remove the micro SD card.

```
max_usb_current=1
hdmi_group=2
hdmi_mode=1
hdmi_mode=87
hdmi_cvt 1280 800 60 6 0 0 0
```

**Note:** The memory size of your micro SD card should be more than 4GB. In this operation you will also need a micro SD card reader which must be purchased separately.

## 4.1.2 Rotierung des Displays mit Touchfunktion

### Display rotation:

To rotate the image you have to edit the "config.txt".

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

At the end of the file the following command has to be entered:

```
display_rotate=1
```

### Note:

Depending on how you want to rotate the display, you must enter the following value:

*display\_rotate=1* for 90 °

*display\_rotate=2* for 180 °

*display\_rotate=3* for 270 °

If you want to have the initial state, you simply have to remove this command from the "config.txt".

### Touch rotation:

When rotating the display, the touch function is not automatically rotated, it must be specially adapted.

First you have to install a new package, if it does not already exist:

```
sudo apt-get install xserver-xorg-input-libinput
```

Then we have to create a new folder:

```
sudo mkdir /etc/X11/xorg.conf.d
```

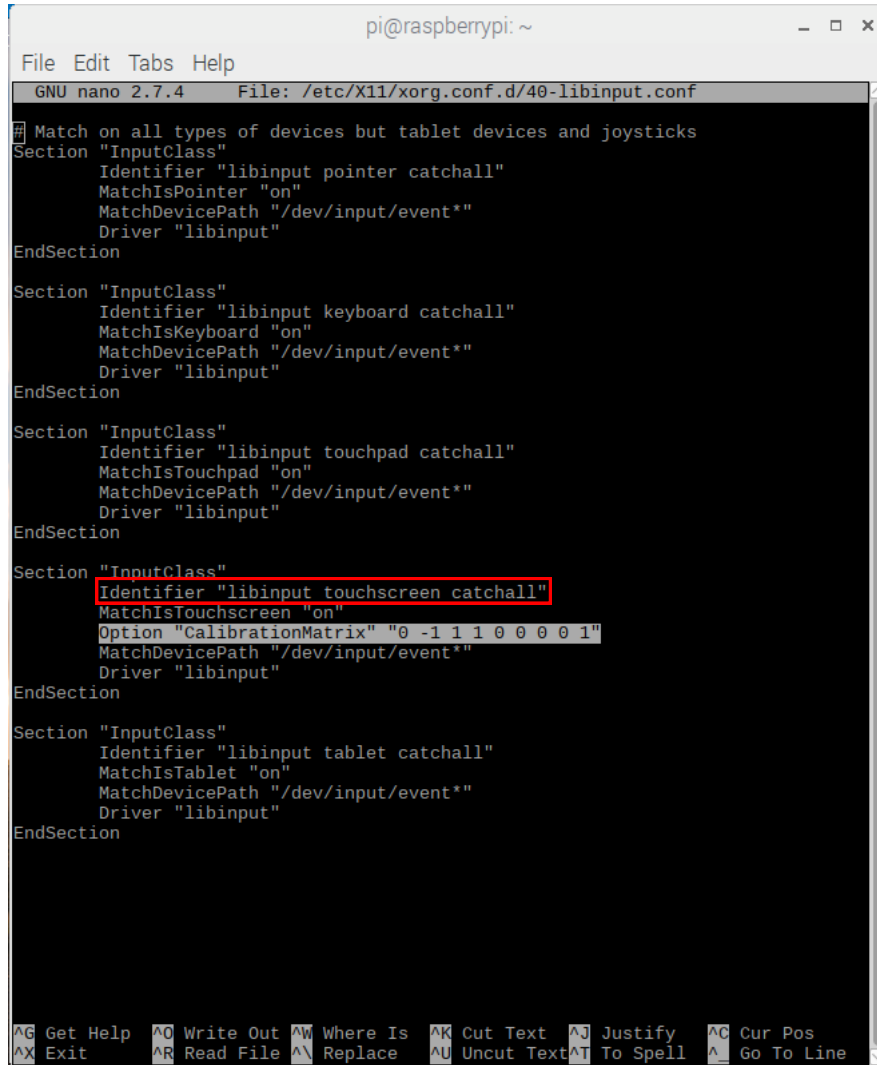
Now you have to copy a file in this folder:

```
sudo cp /usr/share/X11/xorg.conf.d/40-libinput.conf /etc/X11/xorg.conf.d
```

When the file has been copied, you must now edit the file for the touch function:

```
sudo nano /etc/X11/xorg.conf.d/40-libinput.conf
```

You will now have a preconfigured file open. You have to enter a new command under the item Identifier "libinput touchscreen catchall", which is marked in red in the picture.



```

pi@raspberrypi: ~
File Edit Tabs Help
GNU nano 2.7.4 File: /etc/X11/xorg.conf.d/40-libinput.conf
# Match on all types of devices but tablet devices and joysticks
Section "InputClass"
    Identifier "libinput pointer catchall"
    MatchIsPointer "on"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

Section "InputClass"
    Identifier "libinput keyboard catchall"
    MatchIsKeyboard "on"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

Section "InputClass"
    Identifier "libinput touchpad catchall"
    MatchIsTouchpad "on"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

Section "InputClass"
    Identifier "libinput touchscreen catchall"
    MatchIsTouchscreen "on"
    Option "CalibrationMatrix" "0 -1 1 1 0 0 0 1"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

Section "InputClass"
    Identifier "libinput tablet catchall"
    MatchIsTablet "on"
    MatchDevicePath "/dev/input/event*"
    Driver "libinput"
EndSection

^G Get Help ^O Write Out ^M Where Is ^K Cut Text ^J Justify ^C Cur Pos
^X Exit ^R Read File ^\ Replace ^U Uncut Text ^T To Spell ^_ Go To Line
  
```

Note:

Depending on how you rotated the display, you must enter the following value:

At 90 °: *Option "CalibrationMatrix" "0 1 0 -1 0 1 0 0 1"*

At 180 °: *Option "CalibrationMatrix" "-1 0 1 0 -1 1 0 0 1"*

At 270 °: *Option "CalibrationMatrix" "0 -1 1 1 0 0 0 1"*

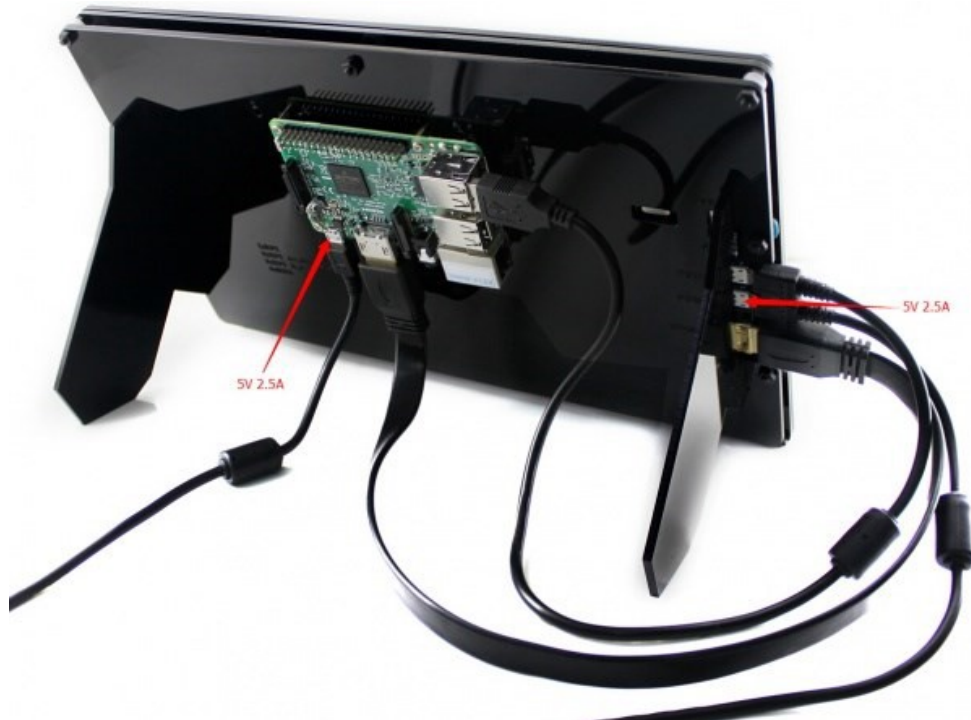
If you want to have the initial state, you must remove this command again.

If you finished that configuration, the Raspberry Pi needs to be restarted, then the Raspberry Pi should be started with the settings you have set.

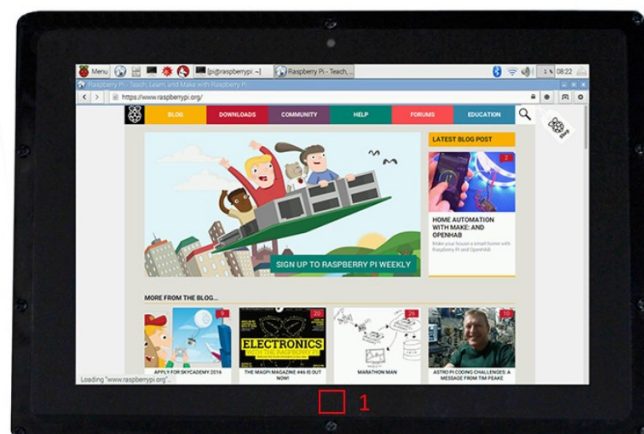
```
sudo reboot
```



### 4.1 Device Connection



1. Connect the "Power Only interface" of the LCD with a 5V 2.4A adapter. This should be equipped with a Type A to micro USB cable. (Normally the LCD will reset the output on the screen and perform a self-test.)
2. Connect the HDMI interface of the LCD to the HDMI interface of your Raspberry Pi with an HDMI cable.
3. Connect the touch interface of the LCD to one of the USB ports of your pi.
4. Insert a micro SD card into the card socket of the Raspberry Pi and then turn on the Pi. After a waiting time you should see the following interface. (Now you can adjust the backlight of the LCD with the "backlight adjustment button". See marker 1 in the following figure.)



## 5. Usage with a BeagleBone Black

### 5.1 Device Connection

1. Connect the LCD to the HDMI interface of the BeagleBone using an HDMI-microHDMI cable (sold separately).
2. Connect the touch interface of the LCD to the "Host" USB interface of the BeagleBone with a type A-microUSB cable. (The BeagleBone has a "Host" and a "Slave" USB interface. This LCD should be connected to the "host" interface).
3. Connect the "Power Only interface" of the LCD with a 5V 2.5A adapter. This should be equipped with a type A-microUSB cable.

### 5.2 Installation

If the LCD is used as a normal screen, you only need to load the last Angstrom image file onto the BeagleBone Black without making any further settings.

The BeagleBone will then read in the parameters of the 10.1 inch HDMI LCD and automatically set the resolution to 1280x800.

If the LCD is used as a touch monitor, you must install [this Image-File](#):

1. Download the compressed image file to your PC, after extraction you will receive a file with the extension .img.
2. Connect a micro SD card to your PC and format it with the [SD Formatter](#) program.
3. Start the [Win32DiskImager](#) program and select the downloaded image file in the first step, then click the "Write" button to write file to the card.
4. When the image file is written to the micro SD card, you can insert the card into the BeagleBone Black. It will automatically use the operating system on the card. After a short time you will see the graphical interface.

Note: If the eMMC of the BeagleBone Black has an operating system installed, you should start the BeagleBone Black from the micro SD card. Do not release the start button until the "User LEDs" start flashing.

## 6. Usage with a Banana Pi

### 6.1 Raspbian OS

Install the Image-File [Raspbian for Banana Pi](#). This image file supports BananaPi Pro and BananaPi.

1. Download the packed image file to your PC.  
After extraction, you receive a file with the extension .img.
2. Connect a microSD card to your PC and format the card with the [SD Formatter](#) program.  
Note: The memory size of your micro SD card should be more than 4GB.
3. Start the [Win32DiskImager](#) program and select the image file in the first step.  
Then click on "Write" to write the image file to the card.

### 6.2 Device Connection

1. Connect the LCD to the HDMI interface of the Banana Pi.
2. Connect the touch interface of the LCD to one of the USB interfaces on the Banana Pi.
3. Connect the "Power Only interface of the LCD with a 5V 2.5A adapter.  
This should have a Type A to micro USB cable.

### 6.3 Loading the WiFi-Driver

Compared to the Banana Pi, the BananaPi Pro has an additional WiFi model built in. If you have a BananaPi Pro, you can use SSH as a method to connect it.

The following command can be used to load the WiFi drivers:

```
sudo modprobe ap6210
```

## 7. Support

We also support you after your purchase.

If there are any question left or if you encounter any problems please feel free to contact us by mail, phone or by our ticket-support-system on our website.

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

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

Phone: +49 (0)2845 98469 – 66 (11- 18 Uhr)

Please visit our website for more informations:

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

## 8. EU-Declaration-of-Conformity

Manufacturer: JOY-IT Europe GmbH  
 Pascalstr. 8  
 47506 Neukirchen-Vluyn  
 Article Name: RB-LCD10  
 Description: Display für Raspberry Pi und andere SBC  
 Purpose of use: Einsatz für Prototyping / Versuchsaufbauten

Declares that the product is in compliance with the essential requirements of the following directives when used as intended:

2014/30/EU (EMC) & 2011/65/EU (Rohs)


The following standards have been applied to assess the device:

EN 55022:2010+ AC:2011

EN 55024:2010

EN 61000-3-2:2014

EN 61000-3-3:2013

Date	Name of the person responsible	Signature	Position in the company
24.08.2016	Yue Yang		executive manager