

# JoyPi

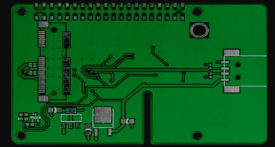
## Experiment and Education Suitcase



With the Joy-Pi, Joy-iT has developed a comprehensive education solution and applied its many years of experience in the production of open source electronics. The Joy-Pi is an experimental case based on the Raspberry Pi and is ideal for the entry into electrical engineering and programming.

The sophisticated case system offers a perfect all-in-one environment and puts an end to many fiddly small parts solutions and cable chaos on the worktable.

The Joy-Pi is also very well suited for school projects, as you can simply switch it off and close it at the end of the lesson and then continue working on the project in the next hour. Another advantage of the case is its great mobility and compactness. This allows you to take it with you wherever you go and explore the Raspberry Pi universe with friends.

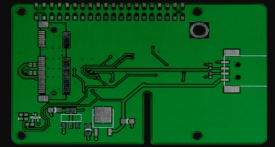


## INCLUDED LESSONS

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### The following lessons are covered in the manual:

- Using the Buzzer for Warning Sounds or Notifications
- Controlling the buzzer by entering the keys
- How a relay works and how to control it
- Send a vibration signal with the vibration module
- Detecting noises with the sound sensor
- Measuring brightness with the light sensor
- Measuring room temperature and humidity
- Detecting movements with the motion sensor
- Measuring distances with the ultrasonic sensor
- Controlling the LCD Display
- Reading and writing RFID cards with the RFID module
- Use stepper motor and perform step movements
- Control of servo motors via servo interfaces
- Controlling the 8x8 LED Matrix
- Controlling the 7-Segment Display
- Detect contact with the touch sensor
- Detecting inclinations with the inclination sensor
- Using and Controlling the Button Matrix
- Controlling and Using the IR Sensor
- Create your own custom circuit with the Breadboard
- Photographing with the Raspberry Pi Camera



## INCLUDED MODULES

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### **Sensors:**

Light Sensor, Sound Sensor, Motion Sensor, Ultrasonic Sensor, Tilt Sensor, Infrared Sensor, Touch Sensor, DH11 Temperature & Humidity Sensor, RFID Module, Tilt Sensor

### **Displays:**

7" Touchscreen LCD Display, 8x8 LED Matrix, 16x2 LED-Module, 4-Digit Segment-Display

### **Buttons:**

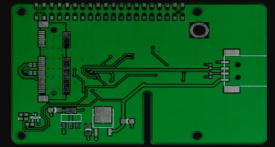
Programmable 4x4 Button Matrix, 4 independent Buttons, 16 Switches

### **Motors:**

Servo-Control, Servomotor, Stepper-Motor

### **Other Modules:**

GPIO LED Indicator, Breadboard, Vibration Unit, Buzzer, Relais, 2MP Camera

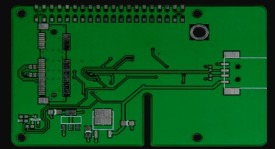


## INCLUDED ACCESSORIES



### The following accessories are included in the set:

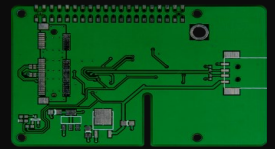
- Mini Keyboard & USB Receiver
- power supply
- GPIO Cable
- infrared sensor
- microSD card (32GB)
- servomotor
- Stepper Motor & Accessories
- RFID chip
- RFID card
- USB cable
- remote control



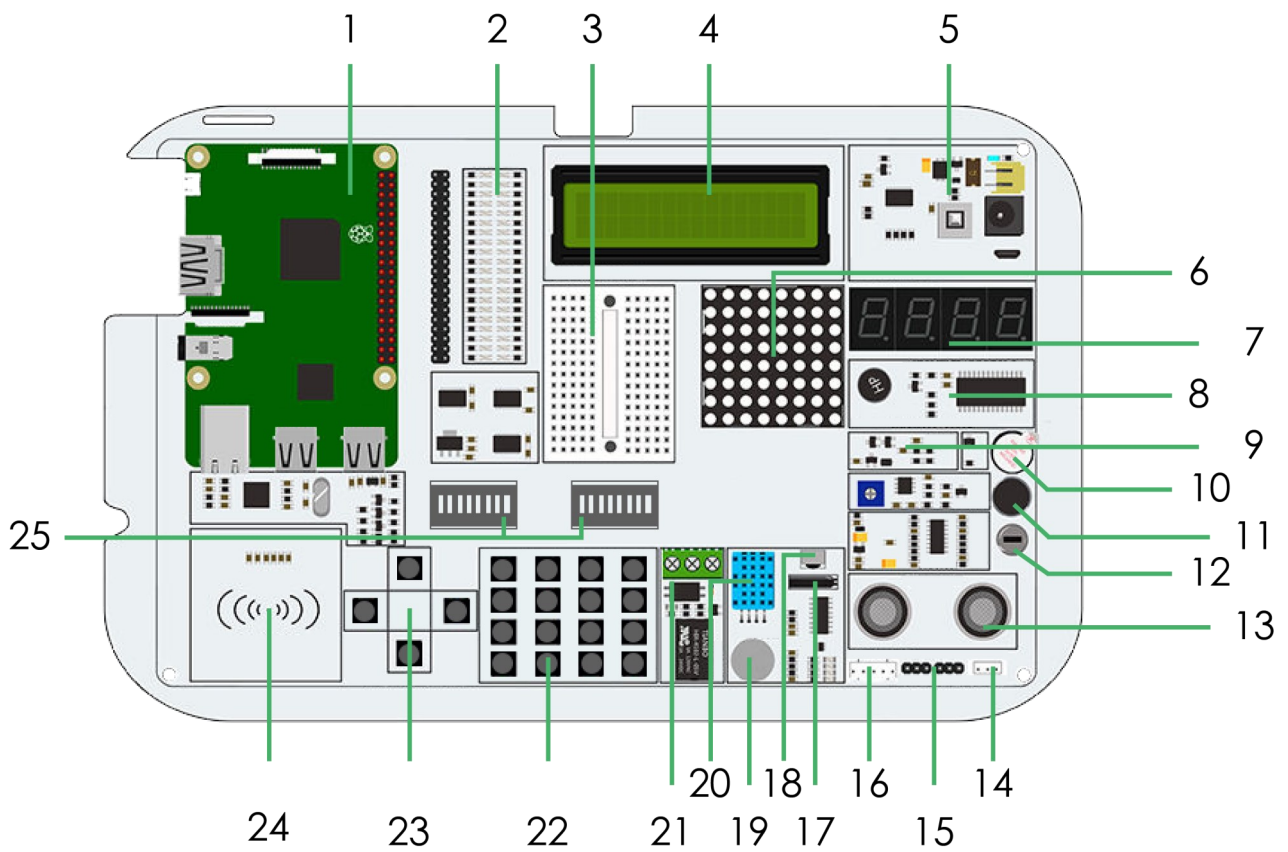
## TECHNICAL SPECIFICATIONS

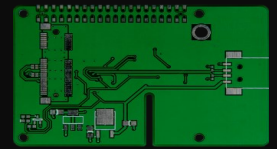
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<b>Model</b>	JoyPi
<b>Article No.</b>	RB-JoyPi
<b>Functions</b>	<p>Completely equipped set</p> <p>Already integrated in a case</p> <p>21 lessons, suitable for beginners and advanced</p> <p>Integrated camera for photos and video recordings</p>
<b>Display</b>	<p>7" Touchscreen Display</p> <p>Resolution: 1024x600</p>
<b>Camera</b>	2MP Camera
<b>Compatible to</b>	Raspberry Pi 2B, 3B, 3B+
<b>Dimensions (JoyPi Case)</b>	27 x 19 x 7cm
<b>Scope of delivery</b>	JoyPi Case, BT Keyboard, microSD Card (32GB), Power Supply, Card Reader, RFID Card & Clip, Stepper Motor, Servo Motor, IR Remote, GPIO Cable
<b>EAN</b>	4250236817330



## SCHEMATIC DIAGRAM





1	Raspberry Pi
2	GPIO LED Display
3	Breadboard - for creating custom circuits with external modules
4	16x2 LCD Module (MCP23008)
5	Power Supply
6	8x8 LED Matrix (MAX7219)
7	7 Segment LED Display (HT16K33)
8	Vibration Module
9	Light sensor - to measure the light intensity (BH1750)
10	Buzzer - to generate alarm tones
11	sound sensor
12	Motion sensor (LH1778)
13	Ultrasonic Sensor - Used for distance measurement
14 / 15	Servo interfaces - For connecting servo motors
16	Stepper motor interface
17	Tilt sensor (SW-200D)
18	infrared sensor
19	touch sensor
20	DH11 Sensor - For measuring humidity and temperature
21	Relay - For opening and closing electronic circuits
22	button matrix
23	Independent buttons
24	RFID Module - For reading and writing data via RFID/NFC (MFRC522)
25	Switch - For switching between sensors and modules