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# Arduino Spectrum Analyzer

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Quelle 1

[Referenzprojekt](#)<sup>1</sup>

Quelle 2

[Arduino sound level meter and spectrum analyzer](#)<sup>2</sup>

## 1. LED-Matrix



Der Download Link zu den Schematics bei Joy-It funktioniert nicht!

### 1.1. Technische Daten

Table 1. Technische Daten

Modell	LED Matrix Modul
Artikelnummer	RB-LEDMatrix
LEDs	128 LEDs (8x16)
LED Farbe	Rot
LED Größe	3mm
Kompatibel mit	Raspberry Pi Raspberry Pi B+, 2B, 3B Arduino
Abmessungen	64,3 x 21,8 x 35mm
Lieferumfang	LED Modul
EAN	4250236813325

Quelle

<http://anleitung.joy-it.net/wp-content/uploads/2016/12/RB-LEDMatrix-Datenblatt.pdf>

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<sup>1</sup> <https://create.arduino.cc/projecthub/Shajeeb/32-band-audio-spectrum-visualizer-analyzer-902f51>

<sup>2</sup> <https://blog.yavilevich.com/2016/08/arduino-sound-level-meter-and-spectrum-analyzer/>

## 1.2. Anleitung

### Introduction

LED Matrix Designed for Raspberry Pi

### Features

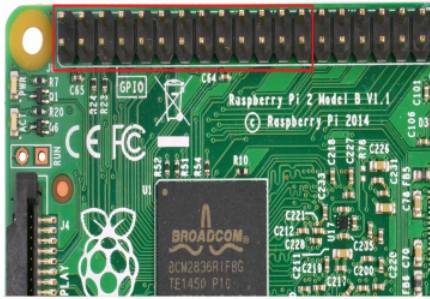
- Supports any revision of Raspberry Pi (directly-plugable)
- Driver : MAX7219
- Matrix type : 8 × 8 common cathode LEDs
- Color : red
- Dimension : 64.3 × 35.0 × 26.5mm

### Interface

Pin No	Symbol	Description
1, 17	3.3V	Power positive (3.3V input)
2, 4	5V	Power positive (5V input)
3, 5, 7, 8, 10, 11, 12, 13, 15, 16, 18, 21, 22, 26	NC	NC
6,9,14,20,25	GND	ground
19	MOSI	data input
23	SCK	clock
24	CE0	chip selection

### Assemblage

Connect both devices ( Raspberry Pi and LED Matrix ) from the first pin pair of the left side (1 & 2) to the 13th pin pair (25 & 26). You see how it should look like below:



## Code example

- To download the code example click here: [Download](#)<sup>3</sup>
- To start the example , please make sure that you have installed the c-libraries on the Raspberry Pi.
- If it's not installed yet, please download it from here: [Download](#)<sup>4</sup> version 1.50
- Copy the compressed install package to your Raspberry Pi.
- Now step into that folder via terminal and use the following command:

```
tar zxvf bcm2835-1.50.tar.gz
```

- Now step into the folder bcm2835 via command:

```
cd bcm2835-1.50
```

- The last step to finally install the c-libraries is:

```
./configure  
make  
sudo make check  
sudo make install
```

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<sup>3</sup> [https://joyiteurope-my.sharepoint.com/:u:/g/personal/onedrive\\_joyiteurope\\_onmicrosoft\\_com/EVFo9Zc\\_MIBCq5JXSu1HZt4BZ9swdJ7Q1SNdfulz1D6cng?e=2aUw3H](https://joyiteurope-my.sharepoint.com/:u:/g/personal/onedrive_joyiteurope_onmicrosoft_com/EVFo9Zc_MIBCq5JXSu1HZt4BZ9swdJ7Q1SNdfulz1D6cng?e=2aUw3H)

<sup>4</sup> [https://joyiteurope-my.sharepoint.com/:u:/g/personal/onedrive\\_joyiteurope\\_onmicrosoft\\_com/Efjdq1cMqCZFgOW8hWCBKV8BhniMDIbE6V1QTIQEtS7fow?e=DV7DWt](https://joyiteurope-my.sharepoint.com/:u:/g/personal/onedrive_joyiteurope_onmicrosoft_com/Efjdq1cMqCZFgOW8hWCBKV8BhniMDIbE6V1QTIQEtS7fow?e=DV7DWt)

- If the libraries are installed you can switch to the folder „Dot\_Test“ and compile the program „Dot\_Test“:

```
make Dot_Test  
sudo ./Dot_Test
```

## **Resources**

[Datasheets](#)<sup>5</sup>

[Schematic](#)<sup>6</sup>

## **Support**

If you have any questions , or problems please contact us via e-mail, phone or support system.

### **E-Mail**

[service@joy-it.net](mailto:service@joy-it.net)<sup>7</sup>

### **Support-Sys\_t\_e\_m**

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

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+49 (0)2845 98469 – 66 (11 AM —6 PM)

Please visit our website for more information: [www.joy-it.net](http://www.joy-it.net)<sup>8</sup>

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<sup>5</sup> <http://anleitung.joy-it.net/wp-content/uploads/2016/12/RB-LEDMatrix-Datenblatt.pdf>

<sup>6</sup> <http://cloud.joy-it.net/index.php/s/lotmvmYWyq0ctE>

<sup>7</sup> <mailto:service@joy-it.net>

<sup>8</sup> <http://www.joy-it.net>



