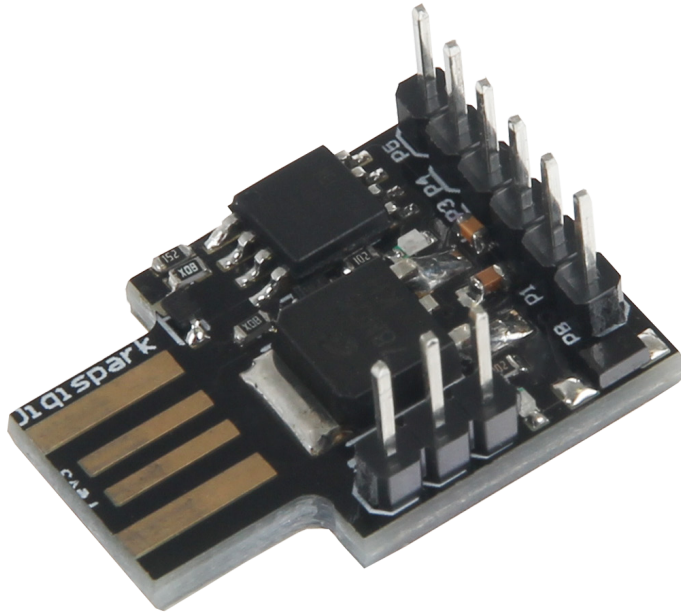


# JOY-IT® DIGISPARK MICROCONTROLLER

26 x 12 mm sized microcontroller



## 1. GENERAL INFORMATION

Dear customer,

Thank you for purchasing our product. In the following are information which you should note before commissioning. Whenever you have unforeseeable problems do not hesitate to contact us.

## 2. PREPARING THE INSTALLATION

If the Arduino-Software is not installed on your systems, please download the software with the following link and install it.

<https://www.arduino.cc/en/Main/Software>

As the next step, please download the Digispark drivers [here](#).

### For computers with Windows 7 or older:

During the boot process, repeatedly press the key that leads to the BIOS (e.g. F2, F8, F10 or Del). In the next menu, please choose the option **Disable driver signature enforcement**.

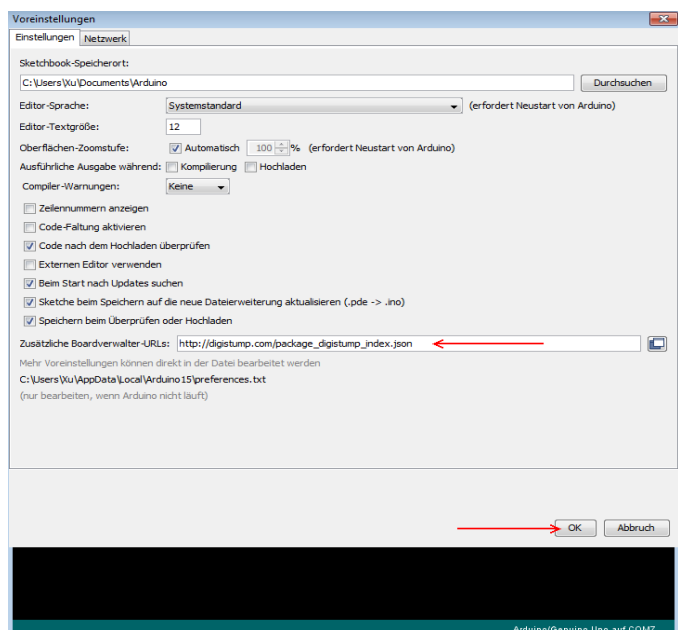
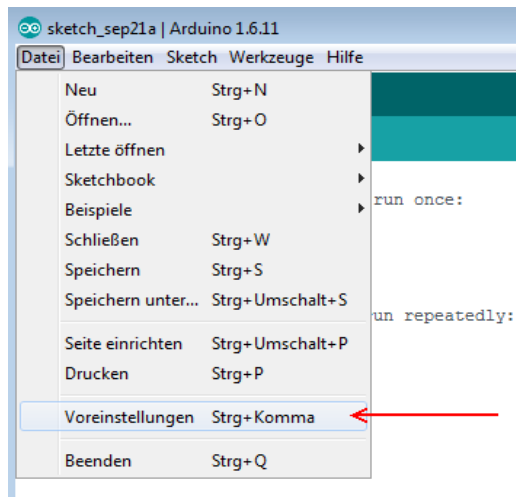
### For computers with Windows 8 or newer:

Click the **On/Off** button. Keep holding the **Shift** key and click on **restart**. In the next menu, choose **Troubleshoot → Advanced Options → Startup Settings → Restart**

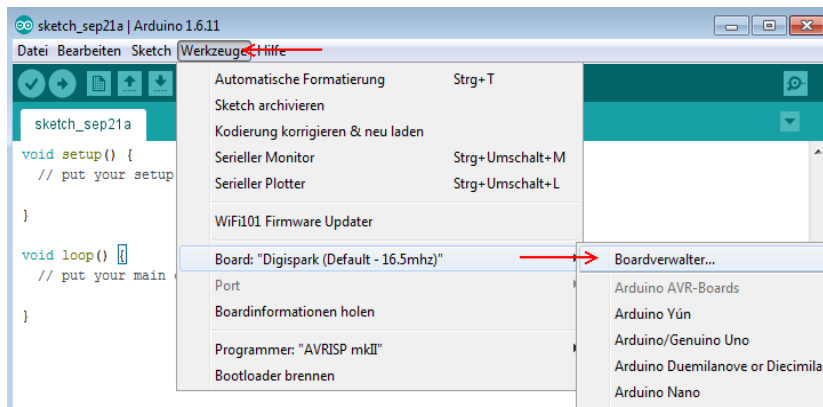
After restarting, please install the previously downloaded driver.

Next, as seen in the next images, open up the Arduino configuration and insert the following URL to the Additional Boards Manager URL:

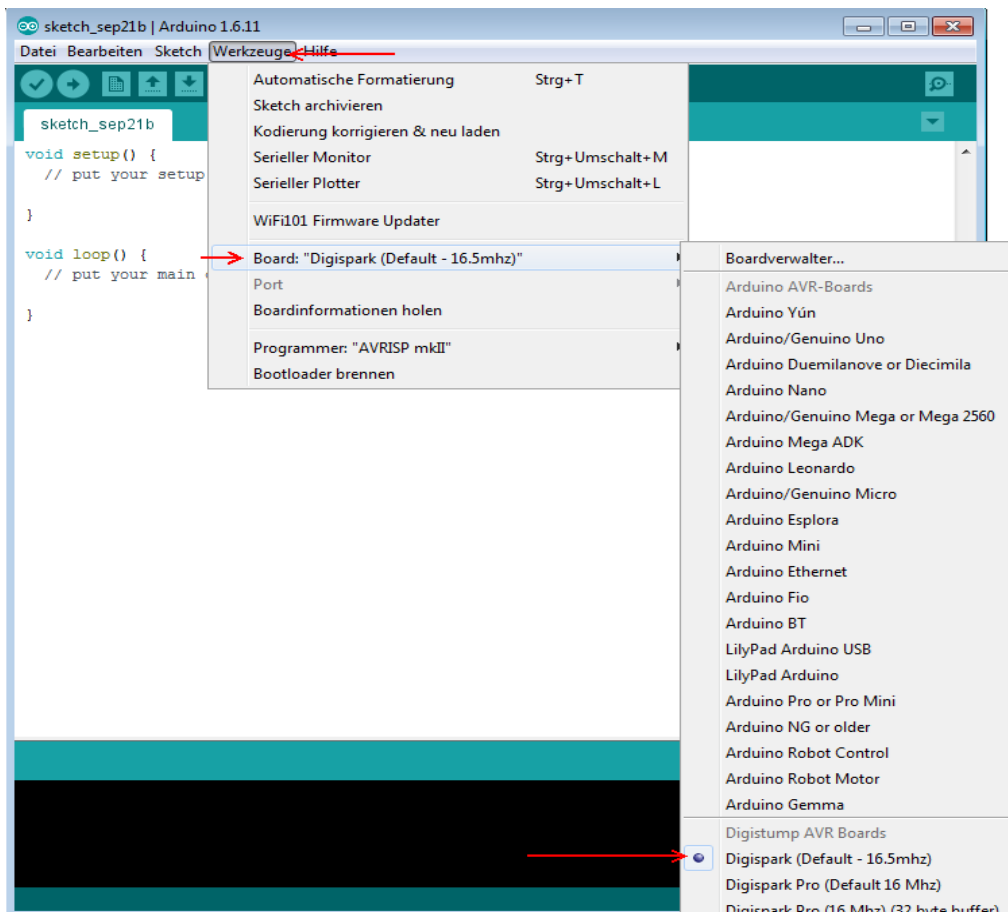
[http://digistump.com/package\\_digistump\\_index.json](http://digistump.com/package_digistump_index.json)



If you haven't already installed, please install the **Digistump AVR Board** library from the Boardmanager.



Now you need to change your Arduino configuration to the **Digispark (Default—16.5 MHz)** board

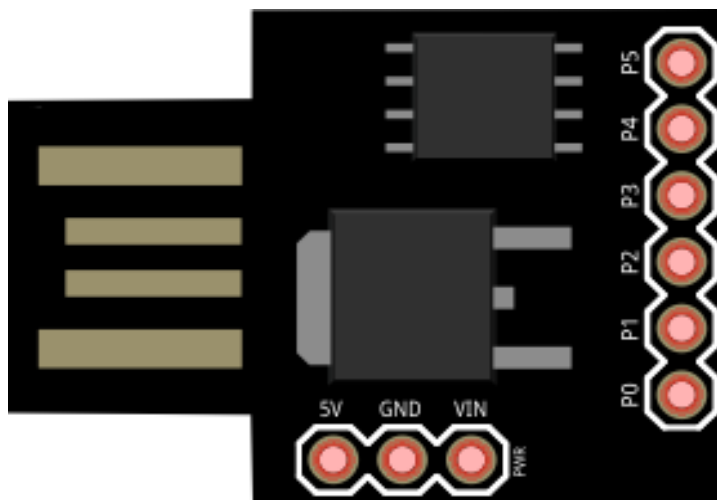


The Arduino IDE is now ready to use with your Digispark. Please do not connect your Digispark to your computer until the program is asking you to connect it. This prompt does not appear until code transmission has been initiated.

### 3. CONNECTING THE DEVICE

The Digispark can be easily connected to your computer via USB. For the casual usage, if you don't want to power your Digispark by USB, you can connect a power supply of 5V to the +5V connection or a power supply of 7-35V to the VIN connection. Further devices or components can be connected to the integrated PINs.

You can see a detailed overview of the pin assignment in the picture below:



### 4. PROGRAMMING PIN P5

The Pin P5 of our Digispark is predefined as Reset-Pin because it is needed to initialise the bootloader. Without additional configuration, the Pin P5 is not useable like the other Pins.

The bootloader is already installed when you receive your Digispark. From this time, the Reset-Pin is no longer needed and can be overwritten. You can skip this step if you don't need the Pin P5. Otherwise you can enable the functions of the Pin with the following steps.

## Warning! An Arduino Uno is needed to configure the Pin P5.

Open up your Arduino IDE and open the preinstalled ArduinoISP example (Files → Examples → ArduinoISP) and transfer it to your Arduino Uno.

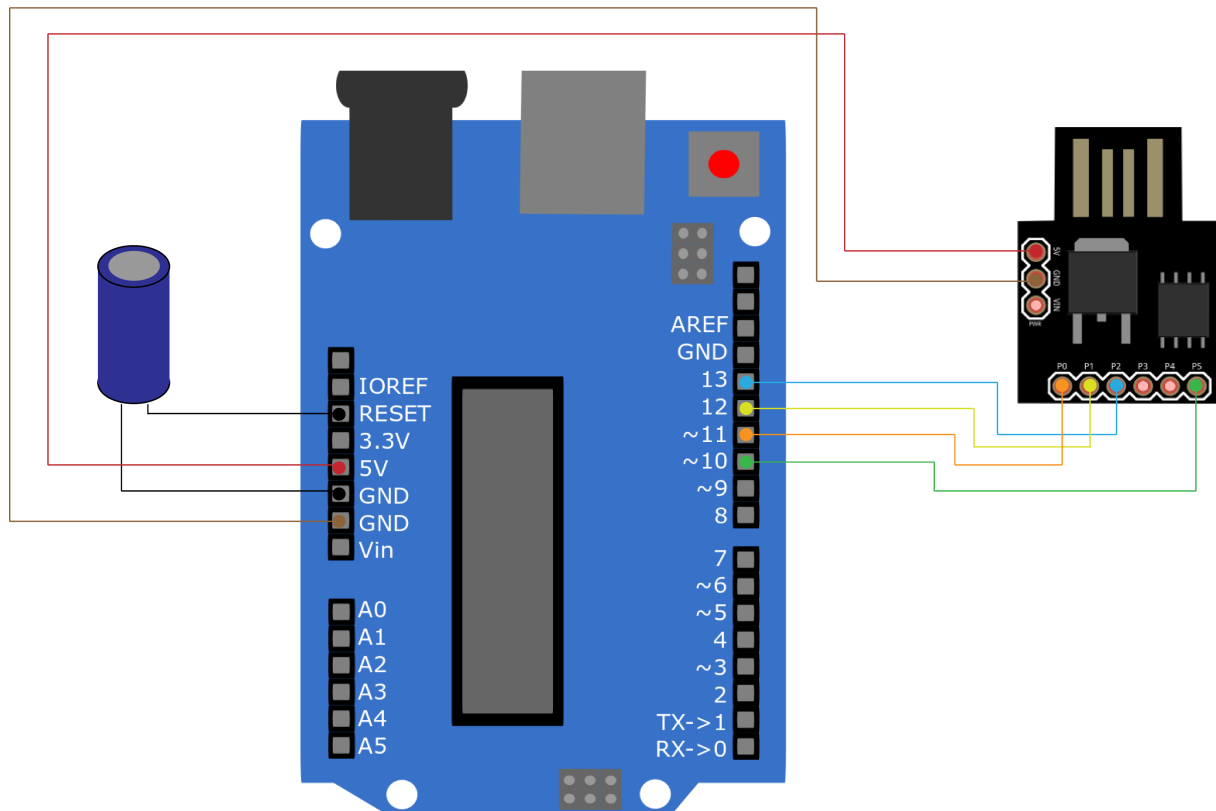
Watch out that you, if you have already transfered something to your Digispark, to choose the right board-configuration.

After you transfered the code, note the port where your Arduino is connected to.

You can see the used port under Tools → Port.

Next, connect an 10uF capacitor to the RESET and the GROUND Pin of your Arduino Uno. **Warning! The capacitor is necessary! Do not skip this step!**

Now connect your Digispark to your Arduino Uno as seen in the next image or in the table.



Arduino Uno	Arduino Digispark
5 V	5 V
GND	GND
10	P5
11	P0
12	P1
13	P2

To edit your Arduino Digispark by command-line, you need the AVRdude programm. Therefore, please download the WinAV Tool from this website.

[https://sourceforge.net/projects/winavr/?source=typ\\_redirect](https://sourceforge.net/projects/winavr/?source=typ_redirect)

After you have installed the programm, open up the command prompt and enter the following commands:

In our case, our Arduino Uno was connected to the port COM3. If your Arduino Uno is connected to another port, please replace the specific port in the commands.

```
avrdude -P COM3 -b 19200 -c avrisp -p attiny85 -n
```

```
avrdude -P COM3 -b 19200 -p attiny85 -c avrisp -U hfuse:w:0x5F:m
```

This is how the output should look like:

```
avrdude: please define PAGEL and BS2 signals in the configuration file for part ATtiny85
avrdude: AVR device initialized and ready to accept instructions

Reading | ##### | 100% 0.02s

avrdude: Device signature = 0x1e930b
avrdude: reading input file „0x5F“
avrdude: writing hfuse (1 bytes):

Writing | ##### | 100% 0.02s

avrdude: 1 bytes of hfuse written
avrdude: verifying hfuse memory against 0x5F:
avrdude: load data hfuse data from input file 0x5F:
avrdude: input file 0x5F contains 1 bytes
avrdude: reading on-chip hfuse data:

Reading | ##### | 100% 0.01s

avrdude: verifying ...
avrdude: 1 bytes of hfuse verified

avrdude: safemode: Fuses OK

avrdude done.      Thank you.
```

The Pin P5 of your Digispark should now be ready to use.

## 5. TRANSFER OF EXAMPLE CODE

The following example code is for your first setup and to test the basic functionality of the Digispark. The integrated LED will keep switching on and off.

Please transfer the code to your Digispark. Do not connect your Digispark to your computer until you are asked to.

```
void setup() {  
    //Initialisation of digital PIN  
    pinMode(0, OUTPUT);           //LED on Model B  
    pinMode(1, OUTPUT);           //LED on Model A or Pro  
}  
void loop() {  
    digitalWrite(0, HIGH);        //turns on LED  
    digitalWrite(1, HIGH);  
    delay(1000);                  //waits a second  
    digitalWrite(0, LOW);         //turns off LED  
    digitalWrite(1, LOW);  
    delay(1000);                  //waits a second  
}
```

## 6. FURTHER INFORMATION

Our information and redemption obligation according to the electro-law (ElektroG)

### Symbol on electrical and electronic products :

This crossed-out bin means that electrical and electronic products do not belong into the household waste. You must hand over your old appliance to a registration office. Before you can hand over the old appliance, you must remove used batteries and accumulators which are not enclosed by the device.



### Return options :

As the end user, you can hand over with the purchase of a new device your old appliance (which has essentially the same functions as the new one) free of charge for disposal. Small devices which do not have outer dimensions greater than 25 cm can be submitted independently of the purchase of a new product in normal household quantities.

### Possibility of restitution at our company location during our opening hours :

Simac GmbH, Pascalstr. 8, D-47506 Neukirchen-Vluyn

### Possibility of restitution nearby :

We send you a parcel stamp with which you can send us your old appliance free of charge. For this possibility, you must contact us via e-mail at [service@joy-it.net](mailto:service@joy-it.net) or via telephone.

**Information about packaging:**

Please package your old appliance safe during transport. Should you not have a suitable packaging material or you do not want to use your own material, you can contact us and we will send you an appropriate package.

## 7. SUPPORT

We also support you after your purchase. If you have any questions left or encounter any problems, feel free to contact us by E-Mail, phone or with our ticket-supportsystem 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- 17 o'clock)

For further informations, please visit our website:

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