

Arcus USB Driver and the Raspberry Pi

Addendum Revision 1.00

Introduction

This addendum will detail the steps that need to be taken to establish communication between an Arcus USB device and a Raspberry Pi. In this example, the Arcus product DMX-J-SA and the Raspberry Pi B+ are used.

Formatting the MicroSD Card

1. Acquire a miniSD card of at least 4GB.
2. Format the microSD card. You can download formatting software here: https://www.sdcard.org/downloads/formatter_4/

formatting may appear. In this case, do not format the SDXC memory card. It may erase the data on the SDXC memory card and format the card for a different file system, making it incompatible with SDXC devices.

SD Interface Devices

The following interface devices can be used to access SD/SDHC/SDXC memory cards:

- SD slot on computer
- USB SD reader
- PC Card, CardBus or ExpressCard SD adapter

Always confirm that the device is compatible with the SD, SDHC or SDXC memory card before formatting.

SD Formatter 4.0 for Windows and Mac

[Download SD Formatter for Windows](#)

Released on January 30, 2013

[Download SD Formatter for Mac](#)

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SD Formatter 4.0 for Windows User's Manual

Download the SD Formatter 4.0 for Windows User's Manual from the buttons below:

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Figure 1

3. Open SDFormatter.

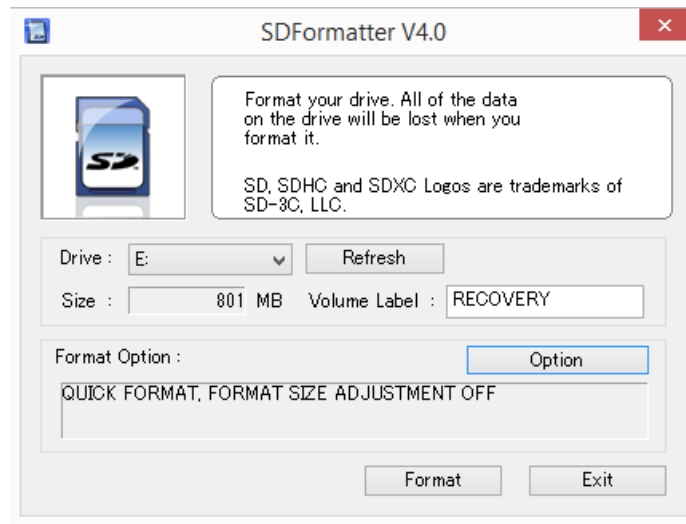


Figure 2

4. Find out which drive is the microSD card. This can be done from the “My Computer” window.

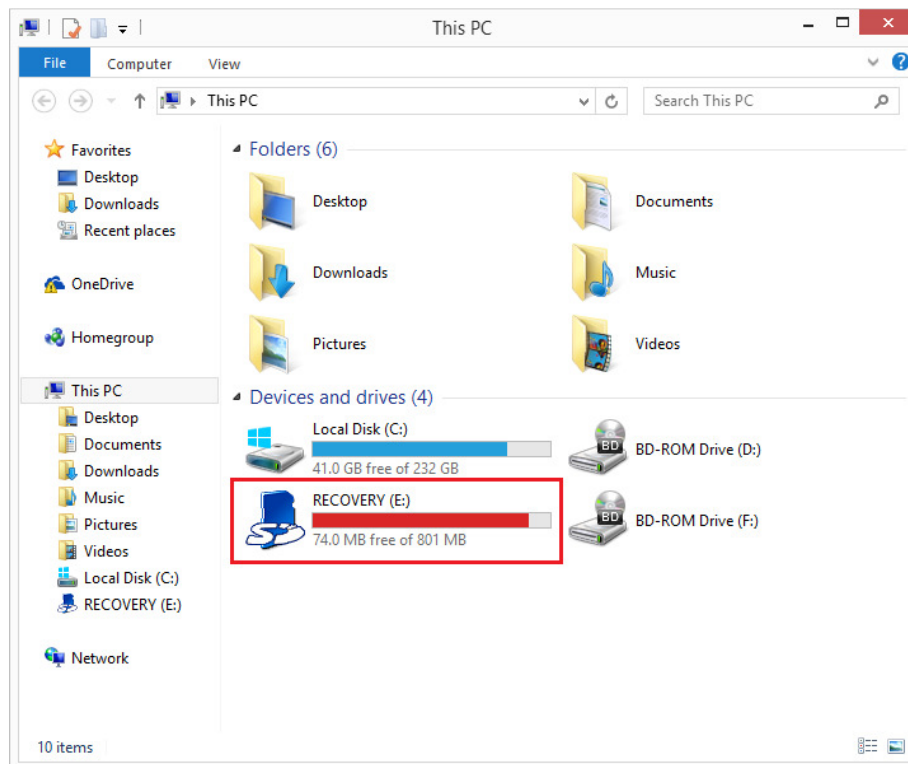


Figure 3

5. Click the option button and change the FORMAT TYPE from QUICK to FULL (ERASE).

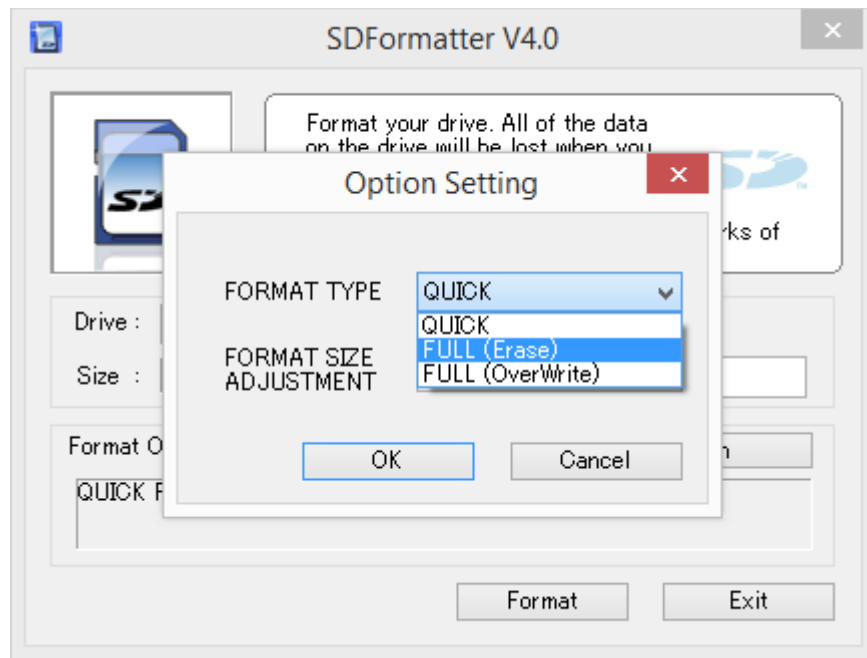


Figure 4

6. Choose the correct drive and press format.

Installing NOOBS on the Raspberry Pi B+

1. Downloads the NOOBS zip file here: <http://www.raspberrypi.org/downloads/>

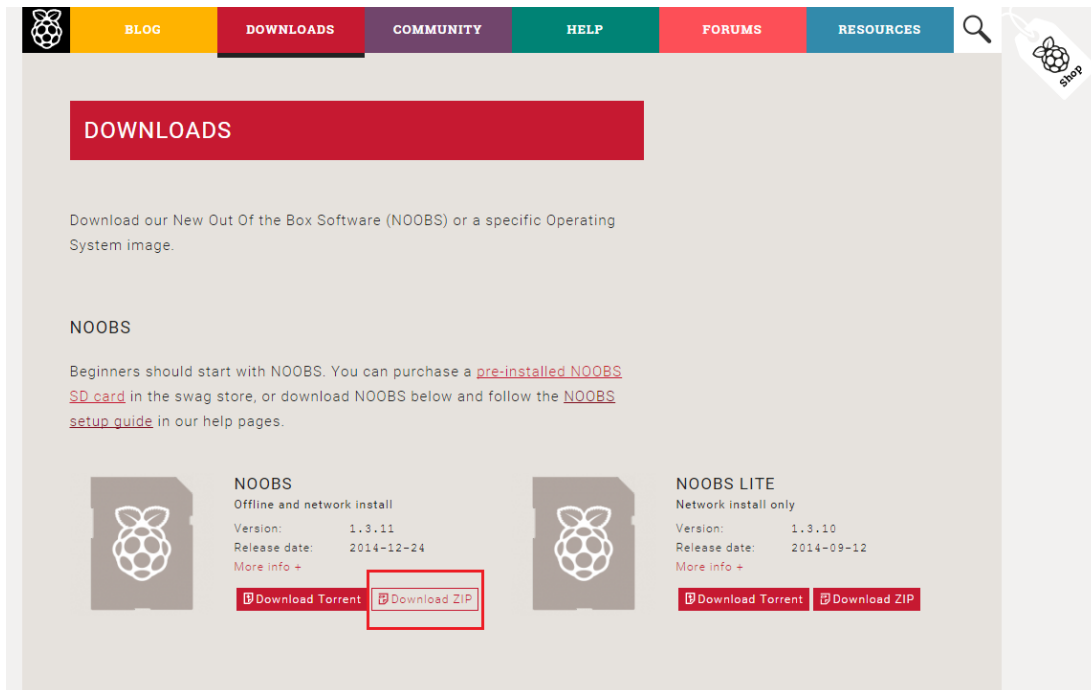


Figure 5

2. Extract the NOOBS.zip file.
3. Copy the extracted files onto the formatted microSD card.

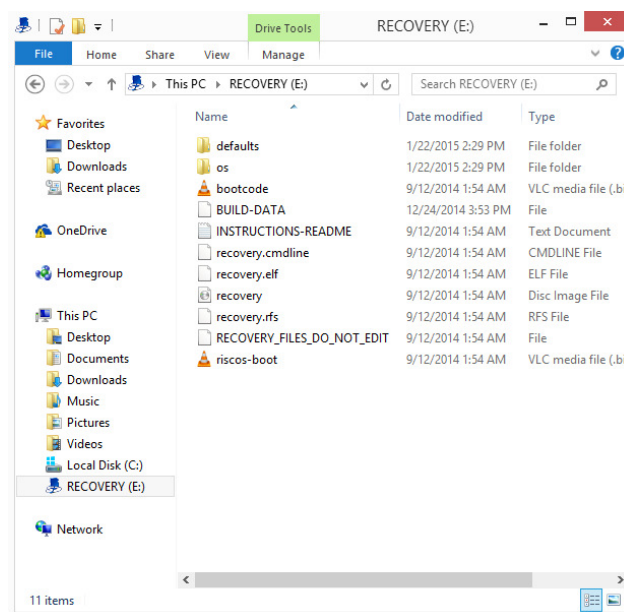


Figure 6

Setting Up the Raspberry PI

1. Attach monitor, mouse, keyboard, Ethernet cable or Wi-Fi dongle, and microSD card.
2. Power on the Raspberry PI.
3. Select the Raspbian [RECOMMENDED] option and click Install.
4. Confirm your selection.
5. Once Raspbian has been successfully installed, you will be directed to a configuration screen.
6. Select Finish.
7. When allowed, type: startx
8. If needed, the default username: pi, with password: raspberry

Getting The DMX-J-SA Running

1. Open the web browser.

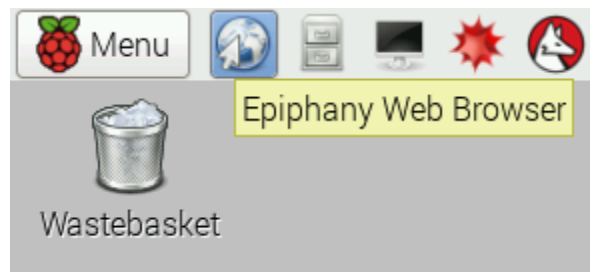


Figure 7

2. Download the Performax_Linux_Driver_104 file here:
<http://www.arcus-technology.com/support/downloads/download-info/linux-usb-source>

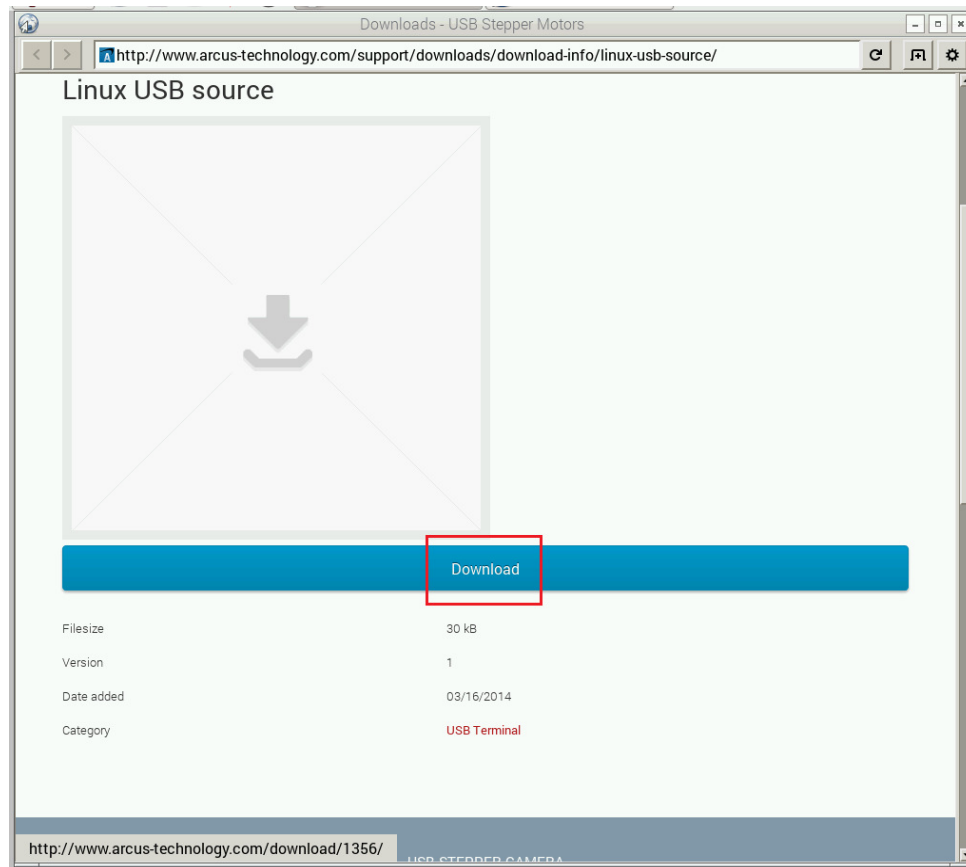


Figure 8

3. Extract Performax_Linux_Driver_104 to its own folder.
4. Open the terminal.



Figure 9

5. Open up the terminal and type: `sudo apt-get install libusb-1.0-0-dev`

```
pi@raspberrypi ~/Desktop $ sudo apt-get install libusb-1.0-0-dev
Reading package lists... Done
Building dependency tree
Reading state information... Done
libusb-1.0-0-dev is already the newest version.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
pi@raspberrypi ~/Desktop $
```

Figure 10

- When finished, type: `sudo apt-get install build-essential`

```
pi@raspberrypi ~/Desktop $ sudo apt-get install build-essential
Reading package lists... Done
Building dependency tree
Reading state information... Done
build-essential is already the newest version.
0 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
pi@raspberrypi ~/Desktop $
```

Figure 11

- In the terminal window, navigate to the folder that contains the extracted contents of `Performax_Linux_Driver_104`

```
pi@raspberrypi ~/Desktop $ cd Performax_Linux_Driver_104/
pi@raspberrypi ~/Desktop/Performax_Linux_Driver_104 $
```

Figure 12

- In the terminal window type `:gcc -o test test.c ArcusPerformaxDriver.c -lusb-1.0`

```
pi@raspberrypi ~/Desktop/Performax_Linux_Driver_104 $ gcc -o test test.c ArcusPerformaxDriver.c -lusb-1.0
pi@raspberrypi ~/Desktop/Performax_Linux_Driver_104 $
```

Figure 13

- When finished, type: `sudo ./test`

```
pi@raspberrypi ~/Desktop/Performax_Linux_Driver_104 $ sudo ./test
Arcus Product: DMX-J-SA-USB
Device Number: JSA03
Motor is moving. Please wait.
Motor connection has been closed
pi@raspberrypi ~/Desktop/Performax_Linux_Driver_104 $
```

Figure 14