



**Unofficial  
sd2iec guide**

**by**

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## Introduction

The sd2iec, is a nice piece of equipment that requires a little knowledge. This document is made to help you with this. I've been pretty confused myself how to work with this, and found several resources with lacking help for the new user.

## First Steps

### *Preparing the hardware*

The first step is to plug your sd2iec into your computer. Since the sd2iec is open source, and there might be a few people who've made them out there, the state of the device can be different from time to time. If you got the device with DIN and Edge connector you might be good to go.

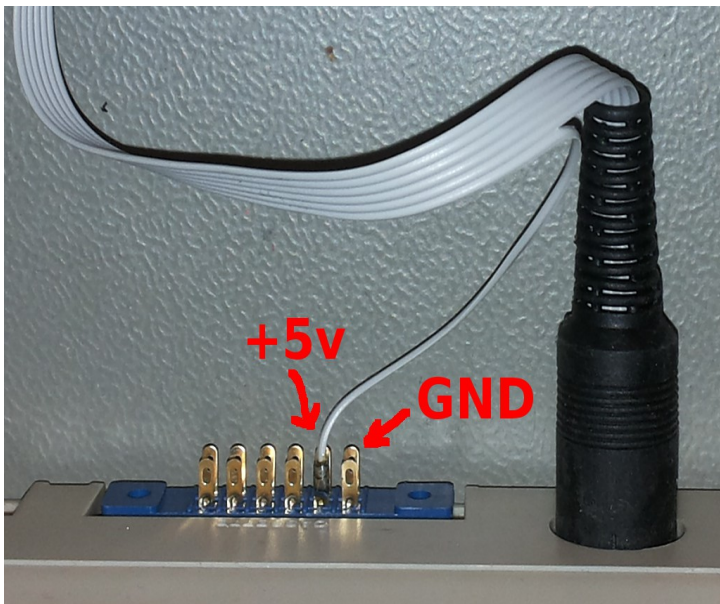


*Edge/Tape Connector*



*DIN Connector  
(serial port)*

The tape connector supplies power to the device, it can have either 1 or 2 wires attached.

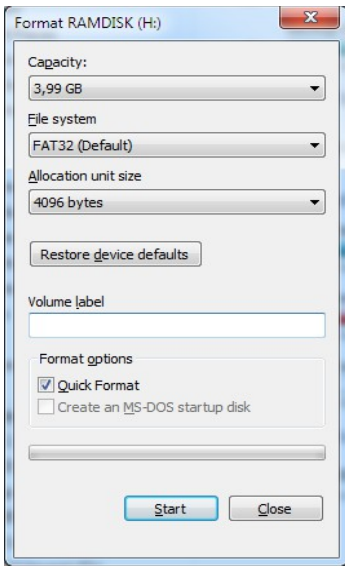


Make sure the wire(s) are upmost and closest to the serial port.

If your device doesn't come with an edge connector, you can solder the wire inside the computer, or you can get an edge connector cheap on ebay, and solder it as shown.

Note: on the pic the GND is soldered in the DIN connector

The SD card needs to be FAT16/32 formatted which most are as default. If it isn't you should do so now.

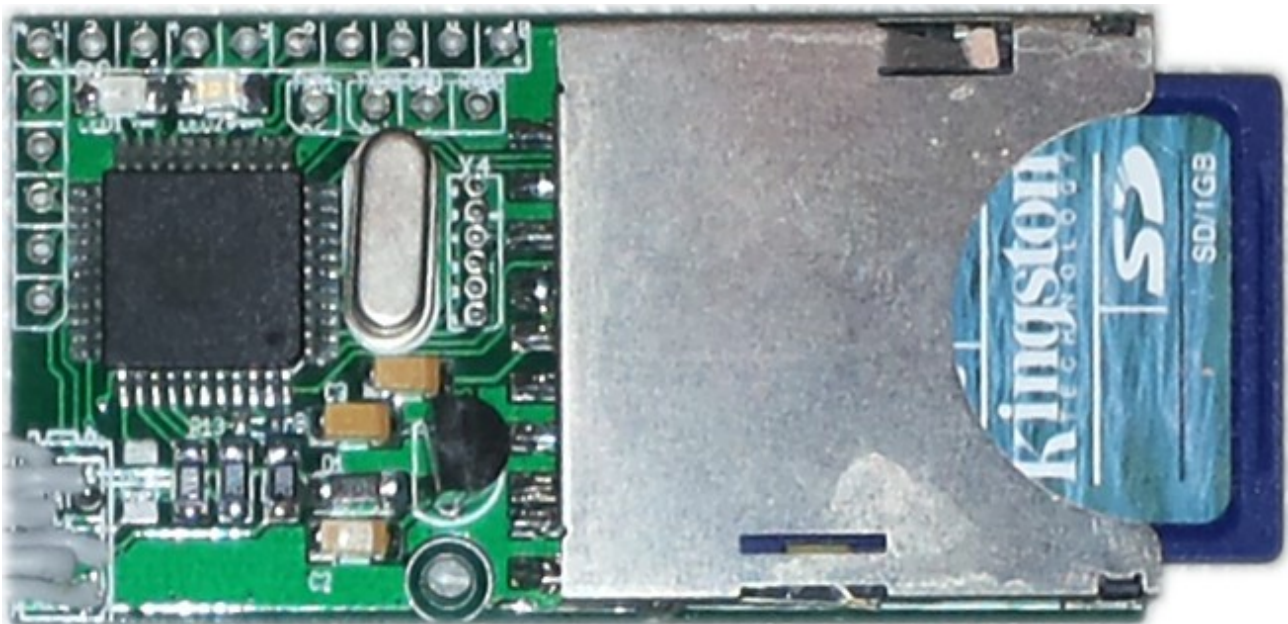


For Windows insert the SD card into a cardreader (you have one of these right?) rightclick in the explorer and select "Format" make sure the file system is selected as FAT32.

Also make sure you've selected quick format.

(The image is to display FAT32 setting only, capacity and volumename can differ)

Now you are ready to transfer d64 files to the SD card, and after that. insert it into the slot of the sd2iec. But before that please read on.



## ***Preparing the software***

You could start copying your d64 and prg files to the device now, but I have a tip for you. The Commodore computers display the first file on top of the directory listing, the next file as second and so on.

For accessing the d64 files, or some of the other formats of course, I'll explain two ways this can be done, the quick and easy way, or the manual way.

### **Quick and easy**

I can recommend the CBM Filebrowser which you can download from here:

<http://www.vic20.it/cbmfilebrowser/>

It's a filebrowser for navigating the sd2iec and some of the other similar devices.

There are a few other pieces of software as well, but this one is great, and is still being supported.

If you are going to use the device with the different Commodore computers, you might want to copy the first file named "fb" -which you downloaded in a zipfile from the above website(\*)- into the root of the SD card, and afterwards the fb64, fb128 or what Commodore computers you have, they need to be in the same dir as "fb".

The CBM filebrowser is made for a number of old Commodore computers like C64, C128, Vic20, C16 and C64dtv, copy the names you need accordingly, or copy them all.

The "fb" file detects the Commodore computer and loads the correct file. If you only use it on i.e. a C64 you only need the "fb64" file, and can ignore the "fb" and all the other files.

By adding the fb, or whichever you chose, as the very first file you can start the program by entering "load":\*", 8, 1".

(\*) You should choose the files from the "programs" directory of the zip file.

You navigate the menu using the cursor keys/enter or joystick/button.

### **Manual**

If you don't have or want to use the filebrowser, or some of the other programs for that matter. You can always use drive commands.

A diskimage needs to be mounted before it can be used.

To mount the 1942.d64 diskimage in the root dir of the SD card, enter the following.

```
OPEN1,8,15,"CD:1942.D64":CLOSE1
```

If you've saved the 1942.d64 file in a directory, lets call the directory c64.

```
OPEN1,8,15,"CD//C64/:1942.D64":CLOSE1
```

or even deeper directories c64/arcade/1942.d64

```
OPEN1,8,15,"CD//C64/ARCADE/:1942.D64":CLOSE1
```

Now you can load programs off this image like it's a regular diskette drive.

```
LOAD"$",8
```

Load your file and run it as usual.

## **Changing disks**

For diskchange, an ASCII (normal text from i.e. Notepad in Windows) file needs to be created.

The list file is a text file where you just add the full filenames, followed by an enter, of the disks in each a new line, i.e.

```
Zak1.d64
```

```
Zak2.d64
```

```
Zak3.d64
```

Corresponding to the naming of the disk image files.

If you name the file `AUTOSWAP.LST` and store it with the files, you can simply change directory to this dir using either FileBrowser or `OPEN1,8,15,"CD//MYDIR/:" :CLOSE1` and press the diskchange/nextdisk(\*) button.

The list file doesn't need to be stored with the files though, putting the `AUTOSWAP.LST` in the root is also possible. You'll just need to make sure the files have the right paths in the file. For example:

```
//MYDIR/:Zak1.d64
```

```
//MYDIR/:Zak2.d64
```

```
//MYDIR/:Zak3.d64
```

Now, it's not a requirement that a diskchange file is named `AUTOSWAP.LST`, but it is if you want to load it using the diskchange button. If you name a diskchange file as `mytools.txt`, you can manually open it using the command

```
OPEN1,8,15,"XS:MYTOOLS.TXT":CLOSE1
```

Which automatically mounts the first disk image on the list.

(\*) if you don't have a diskchange button read Appendix B

Button 1 – Diskchange is also used as next disk

Button 2 – Reserved is used as previous disk.

## Firmware update

From time to time a new firmware is released, which can be downloaded here:

<http://sd2iec.de/>

If you just need to update the firmware all you need is the sd2iec-X.XX.X-binaries.zip file.

From this file you need the sd2iec-X.XX.X-sw2-m644p.bin file, if the chip on your device is a Atmel 1284 instead, use the sd2iec-X.XX.X-sw2-m1284p.bin file instead.

All you need to do is copy this file to the root of the SD card, insert it into the device and power on the device (plug it into the Commodore computer and turn the computer on).

A word of caution, not all SD cards work for updating the firmware, and there are known issues with using FAT32 formatted SD cards (it simply won't update), if you run into these issues, try formatting in FAT16 instead and/or try an other SD card.

When updating the firmware the red diode will be on constantly while the green flashes very fast. When the firmware update is finished, both diodes will turn off.

After the firmware update, you must delete the file from the SD card, and turn off/on the computer.

## Status messages

You might have gotten your device with LED lamps, these show a number of things.

Power on with no SD card: both lamps are lit for 2-3 seconds, green turns off and red is lit, then red turns off and green is lit for 1 second.

Power on with SD card: both lamps are lit for a very short time (200ms?), red is lit for 1 second and turns off while green is then lit for 1 second.

<todo: more messages>

## **Important notice**

The sd2iec doesn't work with all bootloaders. So many multiloader demos, games and programs won't work. The sd2iec is very good for single file programs, and programs that use the default CBM loader. While it's been reported that Final Cartridge III and Action Replay works with this device, it doesn't work for me. Of course that doesn't mean that it might not work for you as well. Just try it out and see for your self.

## **Disclaimer**

While this is supposed to a be a guide for new users something can go wrong, if you break your equipment or get hurt using this document, don't blame me.



## Appendix A – resources on the net

### *sd2iec*

<http://www.sd2iec.de/gitweb/?p=sd2iec.git;a=blob;f=README;hb=HEAD> – README file is also in firmware package

<http://sd2iec.de/> - Firmware

[http://www.c64-wiki.com/index.php/sd2iec\\_\(firmware\)](http://www.c64-wiki.com/index.php/sd2iec_(firmware))

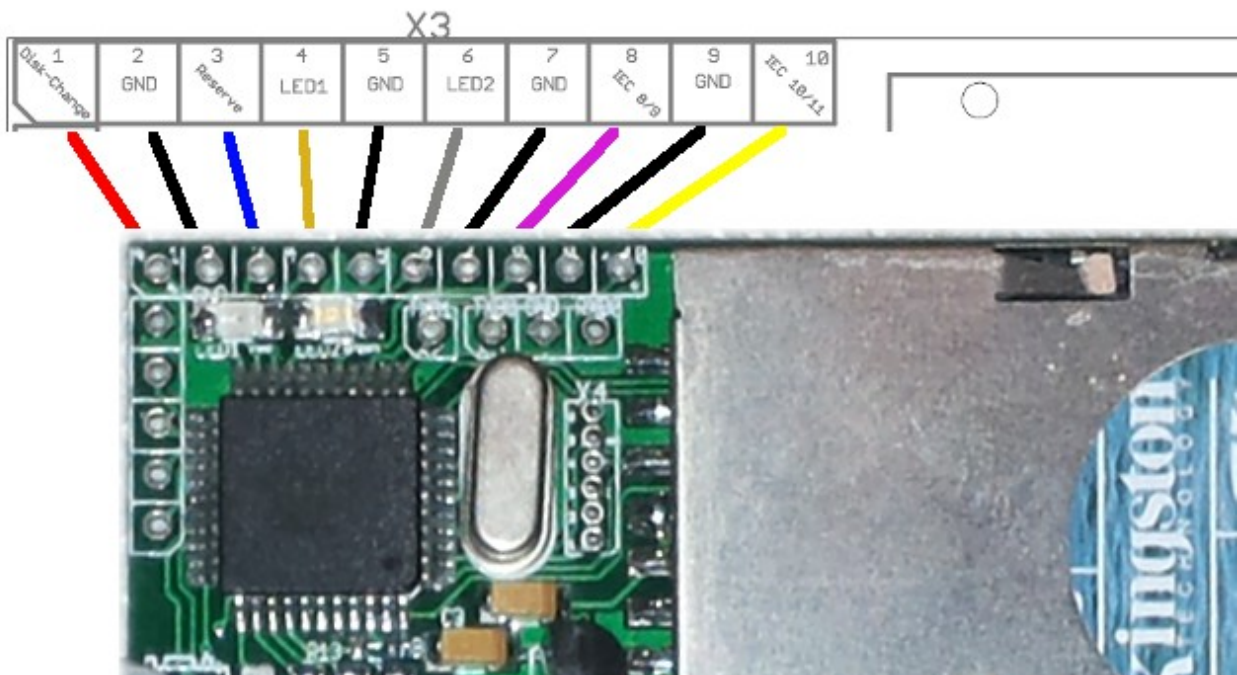
<http://www.c64-wiki.com/index.php/SD2IEC>

### *File browser*

<http://www.vic20.it/cbmfilebrowser/>

## Appendix B – Push buttons

Your device probably doesn't come with pushbuttons. So if you want to use diskchange you might want to get some momentary push buttons, a simple short of pin 1-2 or 2-3 is enough and can be done with a small wire. Risking shorting something else it's not recommended.





While the device cycles through all the disks in the diskchange list and starts from top again after the last in the list, it's nice to be able to go one or more disks back.

So I can recommend getting two Momentary Push Buttons. Connect the two buttons accordingly to pin 1-3.

## Appendix C – Tested turbo cartridges

With latest firmware (1.0.0alpha0-84) the following cartridges has been testet on:

sd2iec (Atmega 644p chip)

Cartridge	Working	Not Working
Action Replay 6		
Action Replay 7.5	X	
BMP Turbo	X	
Final Cartridge 2 (Blue)		X
Final Cartridge 3	X	
Freeze Machine		X

Multiload games, demos and programs might not work with turbo cartridges and the sd2iec.

The tests reflect single load programs, meaning a single program has been loaded successfully or not.

The tests has been performed by me on real hardware.