Copying Floppy Disks to IDE64

Dumping the content of your floppy disk collection to an IDEDOS hard drive

by **Paweł Król**

If you are a lucky owner of the IDE64 device, there might come a point in time when transferring the content of all your floppy disks over to an IDEDOS compatible device (whether it is a hard disk drive or a flash memory mass storage) becomes your next goal. If you are unsure, how would you go about it, keep on reading.

Reasons why doing it makes sense are likely to differ for everyone. For me personally it was a wish to free up some space occupied otherwise by ten large boxes of 5,25" disks. Of course a backup copy of your old floppies does not seem like a bad reason either.

This step by step tutorial will carefully guide you through the process of copying a complete disk archive (well, technically it describes the process of transferring a single disk, but you get the idea) to a centralized storage provided by the IDE64 hardware. Does having your entire disk collection available on a single miniature CF card sound compelling to you? Read on.

So let us begin!

The first thing you have got to get equipped with is the right tool. Every piece of hardware is worth as much as the available software that makes using it worthwhile. There are plenty of programs dedicated for an exclusive use with the IDE64 device, but the one we will be looking for right now is called **D64 Disk Dumper**, and it is available for download from the CSDb:

http://csdb.dk/release/?id=139419

The first thing you are going to see upon program startup depends on how did you execute it, or (to be more precise) from which exact device was it loaded from. You might be asked to specify source and/or target device numbers (do not worry about making the wrong choices at this point, you will be able to modify these settings later on). The number of possible configurations are large, as normally you might connect up to 4 serial devices (numbered from 8 to 11) plus 4 IDEDOS devices (numbered from 10 to 13) directly to your C-64. Add a USB connection to the picture (numbered as 13 or 14), since the program might have as well been loaded directly from your PC's hard drive, and you get the idea, why too much guessing could have ended up quite badly.

So let us shortly discuss a few most probable scenarios. If you loaded the program from the only 1541 disk drive connected to your C-64, it will be implicitly assumed that device number 8 is your source device, however you will still be asked to specify target device number, which will later become an ultimate destination for writing created disk images.

```
SELECT TARGET DEVICE NUMBER:
   10      11     ▌12▐     13

INSTRUCTIONS:
CRSR LEFT/RIGHT - NAVIGATE
RETURN - CONFIRM SELECTION
```

If you started the program directly from an IDEDOS device identified by device number 12, you will only be asked to specify source device number, which is expected to be the number identifying a 1541 disk drive connected to your C-64.


```
SELECT SOURCE DEVICE NUMBER:
 ▌08▐     09      10      11

INSTRUCTIONS:
CRSR LEFT/RIGHT - NAVIGATE
RETURN - CONFIRM SELECTION
```

In any other case both source and target devices need to be manually specified, therefore you will see both screens as illustrated above upon startup.

Upon confirmation of your choice with a RETURN key and a successful detection of a selected device, you will be taken straight to the main menu. This is the place where you setup configuration of a disk copy process as well as eventually commence the operation.

```
D64 DISK DUMPER V0.1

SELECT SOURCE DEVICE      [08]
SELECT TARGET DEVICE      [12]
SELECT TARGET LOCATION    [--]
SET TARGET FILE NAME      [--]
DISPLAY DISK DIRECTORY
ADJUST PREFERENCES
COMMENCE DISK COPY

(C) 2015 BY PAWEL KROL
```

Navigation through the menu is pretty straight-forward. Cursor keys move current selection up and down, RETURN key triggers a specific action associated with a currently highlighted item.

So, let us go through all of these options and see what the program has to offer.

I promised that you will be able to change preselected source and target device numbers at any later time. This is what **Select Source Device** and **Select Target Device** options are meant for. If you enter one of these options you will see the same device number selection screens you are already familiar with. Currently selected device numbers are also displayed to the right on the main menu screen just for your convenience.

Select Target Location option lets you specify a target directory for storing created disk image files. Unlike setting a target file name, it is not mandatory to define it in order to be able to commence disk copy process. Unless specified the program will dump created disk image files into the current working directory of your IDEDOS disk, whatever it might be. This may however not necessarily be a desired outcome, so it is highly recommended to specify a destination directory explicitly.

Upon entering target location selection you will see a directory navigator window, which provides you with a basic functionality to navigate down the directory structure, create new, rename existing and delete empty directories, and eventually select a destination for your copied disks.

Navigation comes as very intuitive. Cursor up and down move current selection up and down. Pressing RETURN key on a "dir" entry lets you change current directory and list the new content in a navigator window. Cursor left and right serve the purpose of page down and page up keys from a PC keyboard, and might become handy for long listings with a lot of items, where moving over to the last item in the list would otherwise have been annoyingly slow.

This is however not everything you can do in a navigator window. There are some additional keys enabling you to manipulate directory content to a certain degree. If you want to create a new directory, you may simply press F7 key, enter chosen name, and press RETURN.

Pressing F6 brings up the same input prompt prefilled with a name of currently highlighted directory name. Upon pressing RETURN key the name change will become effective.
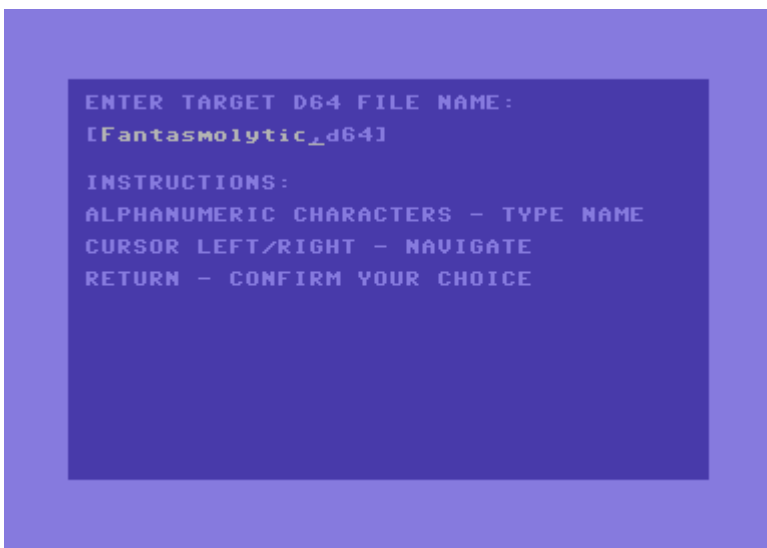
Pressing F8 lets you remove empty directories after an additional confirmation.

```
SELECT DESTINATION DIRECTORY:

    0        ".."              dir
    0        "Demos"           dir
    0        "Devel"           dir
    0        "Games"           dir
    0                          ir
    0    ┌─────────────────────┐ ir
    0    │ Are you sure (Y/N)? ■│ ir
    49   └─────────────────────┘ prg
    4        "d64-disk-dumper"  prg
             "man"             usr

INSTRUCTIONS:
Y - CONFIRM DIRECTORY REMOVAL
N - CANCEL DIRECTORY DELETION
← - RETURN BACK TO DIR NAVIGATOR
```

Each one of these operations may be canceled at any time by simply pressing an ESC key.
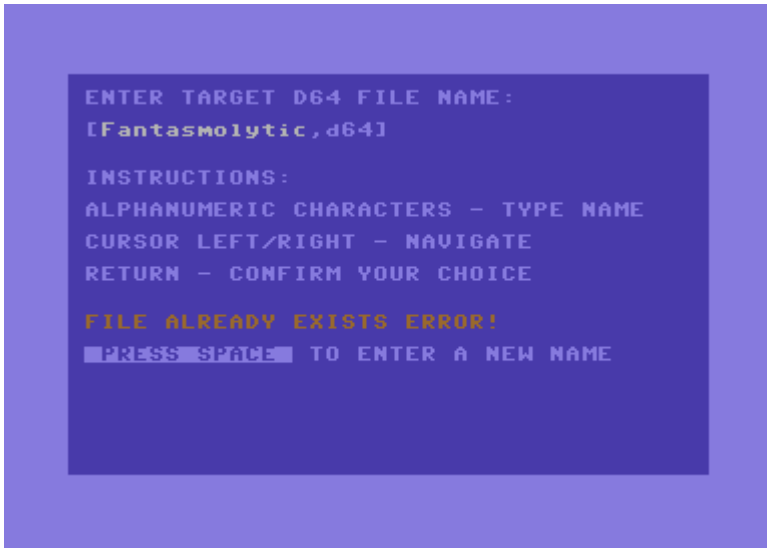
The most important action that eventually needs to be undertaken is a selection of an actual destination directory. It is achievable in two ways. Either by pressing a SPACE or an ESC key. Pressing SPACE will select currently highlighted directory item. An important side-effect of this action is a directory change: program will actually change current working directory to a selected item. Another important point to note is that this kind of selection is effective only for "dir" items (which means pressing SPACE on any other item type will be silently ignored). Directory selection by pressing ESC is basically an equivalent of saying that currently browsed directory is the one, where target disk images should be written to.

Once the target directory is selected, we will define a D64 file name. In the main menu select **Set Target File Name** option. You should be familiar with an input prompt by now. Enter a name you wish the target file to be written to and confirm your choice by pressing a RETURN key.


```
ENTER TARGET D64 FILE NAME:
[Fantasmolytic.d64]

INSTRUCTIONS:
ALPHANUMERIC CHARACTERS - TYPE NAME
CURSOR LEFT/RIGHT - NAVIGATE
RETURN - CONFIRM YOUR CHOICE
```

Program will check the name you entered against all files existing in the current working

directory, and if it finds another file with the same name, it will report an error, asking you to choose a different name.

You may display disk directory of a currently selected source device at any time by selecting **Display Disk Directory** option from the main menu. The following two keys are active during directory printout enabling a minimal user interaction: SPACE temporarily pauses and resumes the process should you want to inspect disk content more closely, RUN/STOP aborts the printout and returns to the main menu immediately.

By entering **Adjust Preferences** menu option you are presented a list of settings, where individual user preferences may be adjusted according to everyone's personal taste. Currently there is only one option possible to modify, which is turning key repeat on and off. Enabling key repeat option was the most pressing improvement reported during the test phase, and that is how it was introduced in the initial release of the disk dumper tool.

Finally, we are ready to select **Commence Disk Copy** option from the main menu. It will begin the copy process, and in a few moments a D64 disk image file will appear in a selected target directory under a name you chose mirroring the content of a floppy disk in your 1541 disk drive. Let us shortly have a look what can be seen on a screen during the copy process.

We can see an overview of all configured options, i.e. source and target device numbers as well as a target file name. Current progress is visualized using an advancing progress bar. Once it reaches its right end, the copy process will be done. An entire operation is performed by reading successive tracks from a floppy disk and then writing them to a target image file (current status and currently loaded track and sector numbers are displayed as well). Should any read data errors occur during copying, their number will be reported as CRC errors (this might happen if your 5,25" disk is for example damaged).

As soon as all 35 tracks of data are copied, a success message will be displayed. Pressing SPACE key will bring you back to the main menu, which virtually concludes this tutorial.

You are now ready to continue disk shuffling, and probably needing to do it for the very last time in your life. The only thing to keep in mind is to change target file name every time before dumping the next disk. Remember that you cannot overwrite an existing file, that is why you will always have to set a new target image name. No need to worries if you forget it though, the tool will not let you begin the copy process in that case.

All disks copied, so what next? We did not yet answer the question, how to work with D64 files on IDE64. Stay tuned, the answer is coming soon, however it is a topic for a completely separate chapter. You will read about it in more details in the upcoming issue #16 of **Attitude** disk magazine.

Till then!

Paweł Król