



HANDLING VINTAGE MEDIA

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This is an ongoing report how to handle old software media, as tapes and floppy disks. Most chapters will be dedicated to the media concerning a certain model or brand of computer (e.g. Atari ST), but there will be also more general considerations. This report is meant to be as practical as possible, allowing the reader to obtain real results by following the detailed instructions.

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1. Handling ATARI ST diskettes on a Windows PC

0. Introduction

Atari ST machines (as 520ST, 1440STFM...) use 3.5" hard-shell diskettes in two different formats:

Atari 520ST with its external SDF354 floppy disk drive uses SSDD (Single Sided Double Density) diskettes, usually having 80 tracks, 9 sectors per track and 1 side, which gives a capacity close to 368 kB as there are 512 bytes per sector.

Later Atari's as the ST1440 use DSDD (Dual Sided Double Density) diskettes with 80 tracks, 9 sectors per track and 2 sides. This gives a 720 kB capacity. One often finds the notation Atari400 for the first and Atari800 for the second.

DSDD drives can read/write both type of diskettes (there really are no diskettes with only one physically magnetic active side!), but SDDD drives with one single head clearly are unable to read dual sided diskettes. As a consequences, the physically undistinguishable diskettes should be labeled with 400 or 800 (for example) to clearly indicate their capacity.

1. Imaging Atari diskettes on a Windows PC (no real ATARI computer needed).

The usual procedure to handle Atari diskettes on a PC is by making an image out of a floppy, and by writing such an image to a (new) disk. These floppy images come in two not compatible flavors known by their extensions **.ST** and **.MSA**. Atari emulators running on a PC usually can read at least one of these formats. As a general rule, all microcomputer emulators load/save floppy or tape image files, as these PC might even have no floppy (and almost certainly no tape) drives anymore.

Making the images must be done on a Windows PC having a physical inbuilt floppy drive, which normally is a HD type (an external USB floppy drive will not do!). A vintage laptop from the early 2000 running Win2000 is very handy. At the Computarium old MAXDATA laptops are used with success!

Three free software packages are needed:

1. a general floppy controller driver called **fdrawcmd.sys**
([link: http://simonowen.com/fdrawcmd/](http://simonowen.com/fdrawcmd/))

The link holds a zipped installation file. If this driver can not be installed properly, success will be doubtful!

2. The program Floppy Image (**floimg**)
([link: http://atari.8bitchip.info/floimgd.php](http://atari.8bitchip.info/floimgd.php))

This is the program to make an image file from an Atari diskette or to write an existing image file on an Atari compatible diskette. The floppy disk image contains the information of the tracks/sectors/sides of the physical diskette! This means that a DSDD image can not be written onto a SDDD formatted diskette!

Making a copy of an Atari diskette on the PC is a two step procedure:

- make an image from the original diskette
- write the image to a new diskette (usually formatting the diskette on the fly)

This program also should allow to selectively extract files from an image, but I was unable to use this feature.

3. The **MSA Converter** program
([link: http://msaconverter.free.fr/index.html](http://msaconverter.free.fr/index.html))

This program can convert .ST images into .MSA, but it can also create blank floppy images in arbitrary format, and copy files from an existing image into a blank image.

So this is the program to use to extract only some files from a diskette and put them onto another (which may be of a different capacity).; see next chapter.

Conclusion:

To make an image of an Atari diskette use floimg

To write an image onto a new diskette use floimg. Formatting is an option.

To make a copy of a diskette, create the image and then write it to a new diskette.

2. Copying (extracting) files from one diskette to another

As an example let us assume that a DSDD diskette holds 3 files that we want to transfer to an SSDD diskette. Here are the steps to do:

1. create an image of the DSDD diskette using **floimg**.
2. open **msa converter**
3. create a blank SSDD image using msa converter
4. open the existing DSDD image (which was created with floimg)
5. copy (by drag and drop, for instance) the three files to be extracted
6. save the blank image (eventually under a new name)
7. exit msa converter
8. using **floimg** write the new image to a physical diskette (of the DSDD = 720kB type) with formatting configured at 80/9/1 (these parameters will be introduced by hand into the relevant boxes)

3. Comments.

There exist other programs to create and write the images:

ST Recover ([link:https://strecover.codeplex.com/](https://strecover.codeplex.com/)),

MAKEDISK v.1.5 ([link: http://emulatari.free.fr/zip/makedisk_v15.zip](http://emulatari.free.fr/zip/makedisk_v15.zip)),

Windows Floppy Disk Copy ([link: http://emulatari.free.fr/zip/wfdcopy-1.03.zip](http://emulatari.free.fr/zip/wfdcopy-1.03.zip))

The French site Emulation ATARI ST (<http://emulatari.free.fr/>) has a lot of other useful software items.

I found the combination **floimg & msa** the easiest to use. The feature to create blank floppy images is very important and is most easily done using **msa** (but the DOS based Makedisk also can do this).

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