by Zorg
Manual translated by Gryzor

HOMEPAGE

GENERAL PRESENTATION

MSA Converter is a utility designed to manipulate disk image files used by Atari emulators. It has been programmed in Delphi and works under Win32.

Its principal functions include:

- Exploring disk images and adding/deleting/viewing of files
- Conversion of disk images (ST, MSA, DIM, STT)
- Conversion of ZIP files to disk images (ST or MSA)
- Checking the state of a disk image's clusters
- Searching for duplicate files
- Creating dblank disk images.

** Thanks to Russell Hayward for the information on the STT format*
** Thanks to Darren Birks for the information on the DIM format*
** Information on the ST and MSA formats has been taken from "MSA-to-ST" v.1.3 by Damien Burke*
** Zip compression provided by Zip Forge for Delphi by Aidaim (www.aidaim.com)*

MAIN WINDOW INTERFACE

FILE OPERATIONS

 Creation of blank disk image
 Open and explore a disk image
 Save current disk image
 Close the active disk image window

TOOLS

 Go to the the format conversion screen
 Check the state of the clusters of a disk image
 Compress multiple unique files to ZIP
 Duplicate Files List

EXPLORER

 Open a new Explorer window

EDIT

 Create a new directory in the disk image
 Delete the files of the selected directory

OPTIONS

 Access the Options panel

ORGANIZING WINDOWS

 Cascade windows
 Tile windows horizontally
 Tile Windows Vertically

THE VARIOUS DISK IMAGE FORMATS

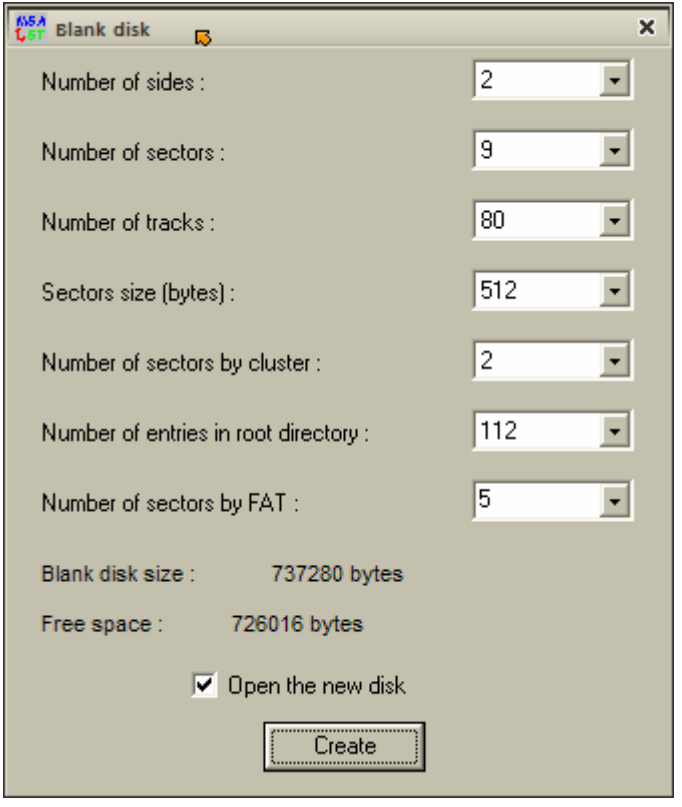
There are four major formats in the Atari disk image world:

- **ST** : Supported by all emulators, it is the most simple format since it's a straight copy of the readable data of a disk. Created for the PacifiST emulator, it does not support copying copy-protected disks.
- **MSA** : An acronym for *Magic Shadow Archiver*, it is a format created on Arati for the compression program of the same name. This format, too, is supported by almost all emulators. It contains the same data as the ST format, only difference being that the data is ZIP-compressed. A variation of the program on Atari allows saving the data without any compression. The result is an ST file with an MSA header. An advantage of this is that we can split an archive into multiple files, thus facilitating the transfer of images of large disks.
- **DIM** : A format used by the famous Atari program, *FastCopy.* The non-compressed version of this format contains the same information as the ST and MSA formats, but with a proprietary header which makes it read-only with *MSA* Converter. The compressed version is not supported by the program, however, nor by any emulator.
- **STT** : Recently created and developed by the creators of *STeem Engine* emulator, it is supposed to allow the copy of all the data used by the Atari to read an original disk, including certain copy-protected games. It supports disks of various numbers of tracks that can be of different size as well as other details. At the moment it is only supported by *STeem*. *MSA Converter* allows read-only exploration of standard images only (standard being disks with the same number of sectors and of the same size).

CREATING A BLANK DISK IMAGE

In order to create a blank disk image, simply click on the  icon on the main window.

The following screen allows you to set the properties of the new disk image:



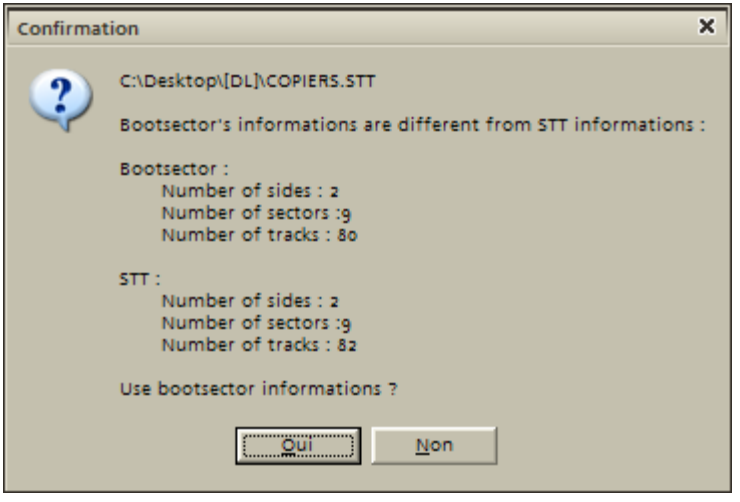
The size of the created file and the available free space are shown to assist in the creation of a disk image tailored to the user's needs.

Check the "Open the new disk" tick box in order to explore the newly created image file once it is created.

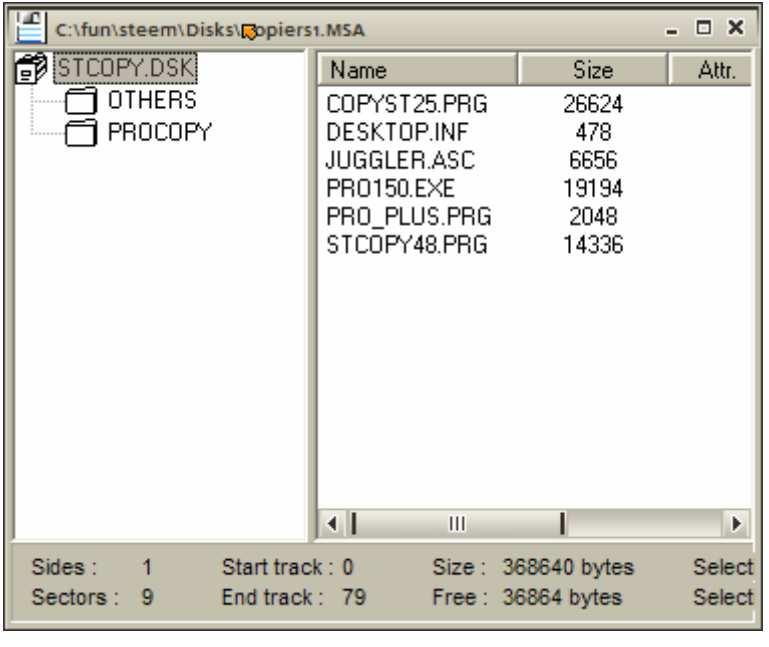
EXPLORING A DISK IMAGE

The Icon  allows you to open a disk image to see or modify its contents.

If the disk image is of the STT format, the following window pops up:



This is because the STT format does not necessarily store the same data described in the disk's boot sector. On the current version, you must answer "Yes" to this question.



Finally we enter the main disk image exploration window.

The left pane presents the folder tree of the disk and the right pane shows the files contained within the chosen folder, as well as their properties.

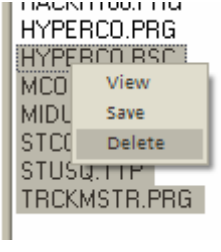
ACTIONS IN THE FOLDERS LIST

- Delete a folder and all its files:
  - Select the folder you want to delete and press "Del" on your keyboard.
  - Select the folder you want to delete and click on  .
  - Right-click on the folder you want to delete and click on "Delete" on the pop-up menu:

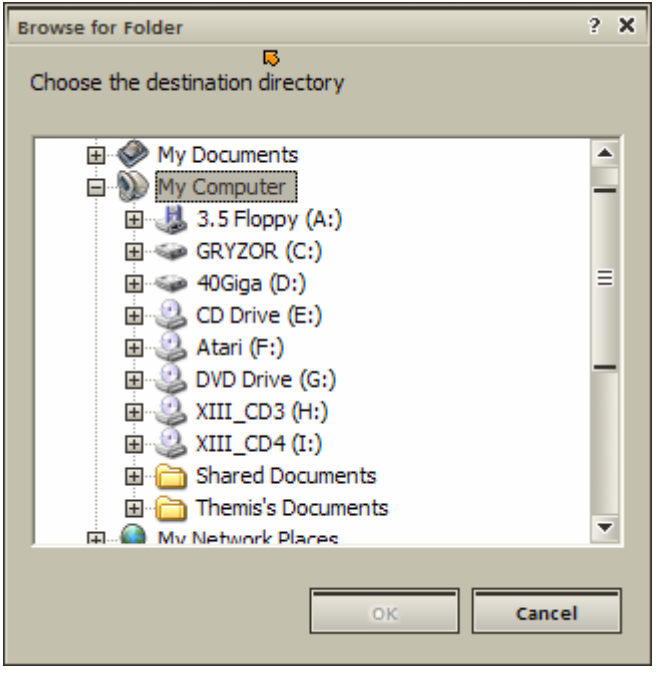
- Create a new directory within the currently selected one by clicking on the  button.

ACTIONS ON THE FILES LIST

- Delete the selected items by pressing the "Del" key or by clicking on the  icon, or even by selecting "Delete" in the context menu:



- Write to a PC disk by clicking on 'Save' in the context menu of a selection of files. A standard 'Browse for Folder' dialog will open:

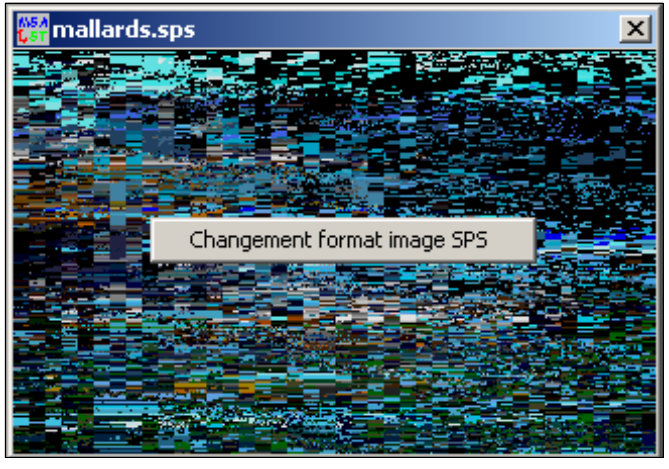


- View a file's contents by clicking on 'View' in a file's context menu. The file will open in Notepad, but only if its has not one of the following extensions:

EXTENSION	DESCRIPTION
*.NEO	Neochrome & Neochrome Master - 320 x 200 x 16 colours
*.PI1	Degas & Degas Elite - 320 x 200 x 16 colours
*.PI2	Degas & Degas Elite - 640 x 200 x 4 colours
*.PI3	Degas & Degas Elite - 640 x 400 x 2 colours
*.PC1	Degas & Degas Elite compressed - 320 x 200 x 16 colours
*.PC2	Degas & Degas Elite compressed - 640 x 200 x 4 colours
*.PC3	Degas & Degas Elite compressed - 640 x 400 x 2 colours
*.SPU	Spectrum 512 - 320 x 199 x 512 colours
*.SPC	Spectrum 512 compressed - 320 x 199 x 512 colours
*.SPS	Spectrum 512 smooshed - 320 x 199 x 512 colours
*.ART	Art Director - 320 x 200 x 16 colours
*.TNY	Tiny
*.TN1	Tiny - 320 x 200 x 16 colours
*.TN2	Tiny - 640 x 200 x 4 colours
*.TN3	Tiny - 640 x 400 x 2 colours
*.DOO	Doodle - 640 x 400 x 2 colours
*.MUR	C.O.L.R. Object Editor Mural - 320 x 200 x 16 colours

If the name of the file to be viewed has one of these extensions, it is considered to be an image file and is shown as such. It must be noted that a file having one of these extensions may not be an actual image, and thus results will be less than satisfactory.

In the case of *Spectrum 512 Smooshed* format images, there are two varieties, *ANISPEC* and *SPSLIDEX*. If an *.SPS image is not correctly shown, it is possible to switch into the other mode by clicking 'change SPS image format' in the viewer's context menu:



Scrambled image shown in wrong format

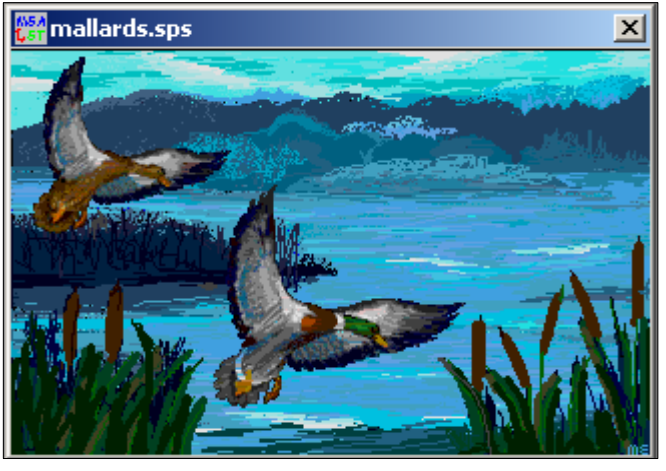
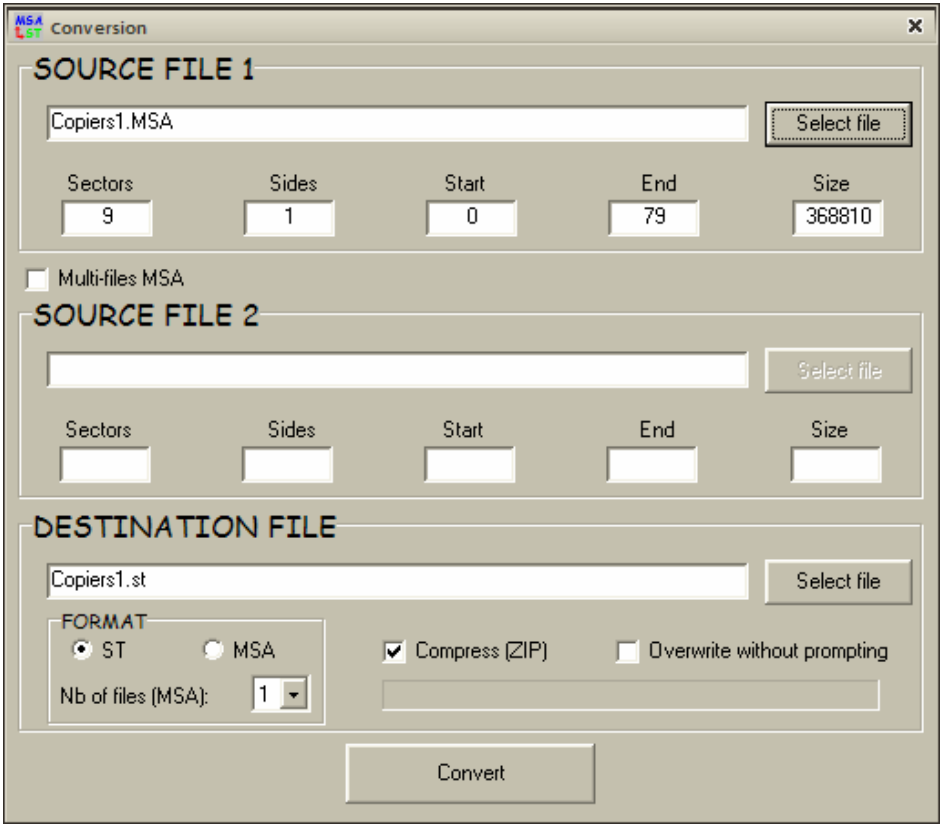


Image shown in correct format, unscrambled

- Copy files by using drag'n'drop. This function, at the moment, is only available to transfer files from a disk image or the explorer to another disk image. This allows copying one or more selected files to the folder tree or the files pane of a disk image window.

CONVERTING BETWEEN DISK IMAGE FORMATS AND ZIP

Click on the  icon on the main window to see the following dialog:



The conversion between formats is possible with ST, MSA (one or two files), non-compressed DIM and STT source images (see instructions above). Also ZIP archives containing files can be converted to a disk image right away.

The destination images can be of ST or MSA (one or two files) formats with the ability to ZIP-compress the output files.

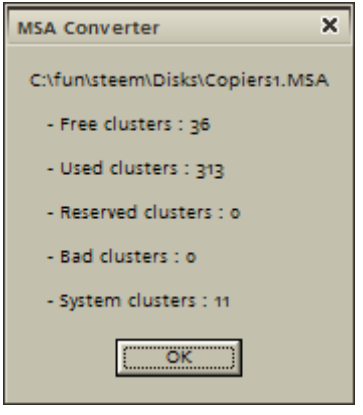
The procedure to convert disk images is the following:

- Select the file(s) to be converted by clicking on '*Select Files*' in the '*SOURCE FILE 1*' section; after you have selected an image its details will be displayed in the corresponding fields.
- If the '*SOURCE FILE 1*' is the first part of a split MSA archive, tick the checkbox '*Multi-files MSA*; abd choose the second part of the image in the '*SOURCE FILE 2*' section.If multiple files have been selected in the first section, this option will be unavailable.
- If necessary, change the name of the destination file. By default it is automatically generated according to the filename of the selected image. If multiple files have been selected, this option is unavailable.
- Choose the destination format and, for the MSA format, the number of files you want to get.

- Activate ZIP compression for the destination files, if necessary, as well as overwriting existing files, if desired.
- Click on 'Convert' and off it goes! The progress bar indicates how far in the conversion progress we are.

Checking the State of a Disk Image's Clusters

In order to check the state of the clusters within a disk image, click on the  button in the main window to select the image to analyse. The results are shown in a new window:



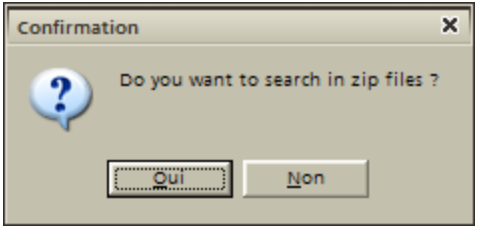
ZIP Compression Of Multiple Unique Files

This function is accessible through the  icon and it allows you to compress several files into ZIP archives with one file per archive. This is handy to convert a big batch of disk images in one go to the same number of ZIP archives which are easier to handle with an emulator.

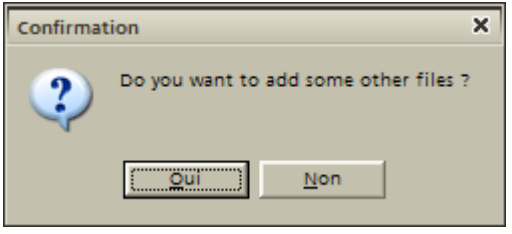
Search for Duplicate Files in a List of Files

With this function (accessed through the  icon) it is possible to know if you have duplicate files. It is really useful if you have a huge number of disk images downloaded from the Internet. The comparison made is based on the size of the image and a 32-bit CRC sum of each file.

Once started, you are asked if you want to search within ZIP archives as well:



The search can work with several directories as every time you add a list the following question appears:

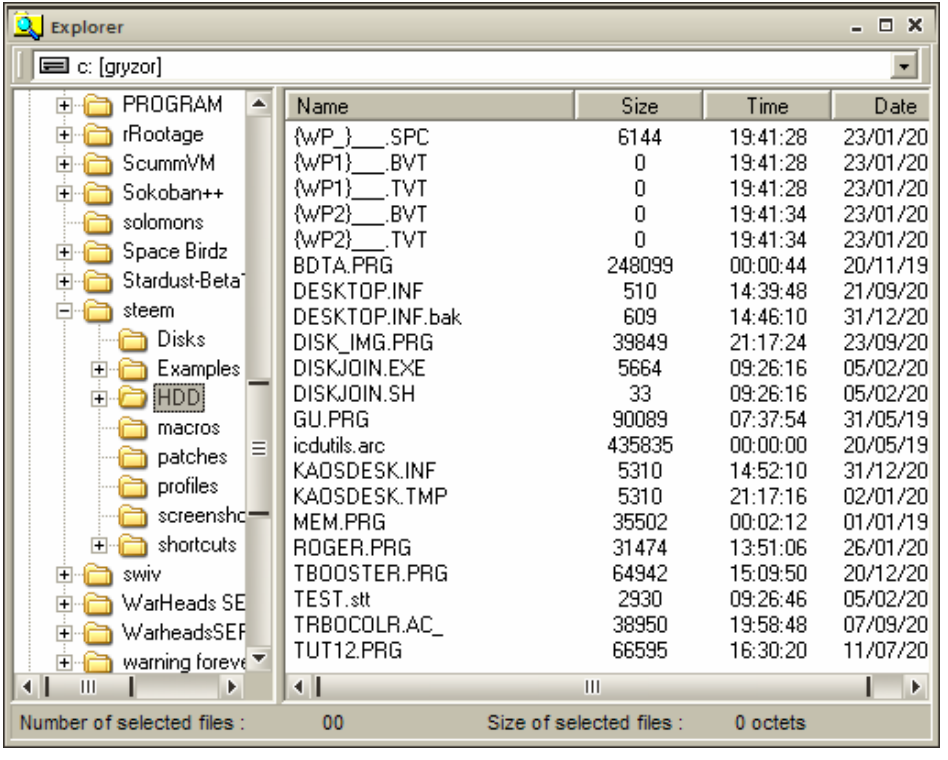


Once the search has started the search take place real-time and the results are shown in the '*rapport.txt*' which is automatically opened with Notepad. This text file contains all the filenames of the files that have been found to have duplicates, followed by the filenames of their duplicates themselves, and their location.

EXPLORER

The  icon opens an explorer window showing the contents of your disk, just like the Windows Explorer:

The top part allows you to select the disk to be explored, the left pane shows the folder tree and the right pane shows the files in the selected folder.



OPTIONS

The interface language and the work directory can be modified through the options screen, available by clicking on the  icon on the main window:

The language change will take place the next time the program is started.

REORGANISING WINDOWS

The three last icons of the main window control how the MDI windows are organised within the program's interface:

-  Cascade windows
-  Horizontally tile windows
-  Vertically tile windows.