SuperDrive™

by Starship Enterprises

THE VIRTUAL DISK OPERATING SYSTEM

FOR

ATARI 400/800 HOME COMPUTERS

WITH

MOSAIC 64K RAM SELECT

SUPERDRIVE

CONGRATULATIONS!! You are about to increase your productivity and enjoyment while using your new (it will seem like new) Atari home computer with the Mosaic 64K RAM SELECT.

The Mosaic 64K RAM SELECT, coupled with the extension to Atari's DOS II Version 2.0S, which make up the Virtual Disk Operating System (SuperDrive), gives you the equivalent of another disk drive which can be used any way you see fit.

Probably the most effective use of the virtual disk (virtual because it isn't really there) is as residence for the DUP.SYS and MEM.SAV files. This has three significant advantages for you:

1. Switching between application programs and DOS does NOT require physical disk access and is performed in .2 to .8 seconds, depending on whether MEM.SAV is used.
2. Since no disk accesses are required, you don't need to use up valuable diskette space for DOS (normally 81 sectors, unless you got smart and only replicate DUP.SYS, in which case it is 45 sectors). In other words, you can increase your effective disk capacity by 10%.
3. You don't need to worry about swapping diskettes when going between BASIC (or any other program) and DOS. It really behaves like another disk drive. This is a real boon if you only have one disk drive. If you have more than one drive you can use drive #1 as a data drive rather than reserving it for DOS, and have the advantage of using the default drive specification.

INSTALLATION

SuperDrive installation has been made as simple as possible. First you will need to determine which of your diskettes containing DOS.SYS and DUP.SYS you feel comfortable about changing since the installation process extensively modified DOS.SYS and DUP.SYS. If you have a modified DOS, then the SuperDrive modifications may conflict with your DOS version and render your DOS inoperable.

!!!WARNING WARNING WARNING!!!

UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT TO INSTALL SuperDrive ON YOUR ONLY COPY OF DOS 2.0S!

Installation Steps

A. Boot the DOS disk you want to install SuperDrive onto. Note: This disk must not contain an AUTORUN.SYS file on it. If you have an AUTORUN.SYS file, you should rename it using DOS option "E" and note step (K) below.
B. Place the SuperDrive installation diskette into drive **#1.**
C. Request DOS Menu option "L" (load a program).
D. When DOS asks you for the file spec, type "GENVDOS". This starts the installation program.
E. After the SuperDrive installation program finishes loading you will see a menu which is used to configure SuperDrive. Your choices are as follows:
    1. Specify the drive number in which DOS 2.0S will be installed (default to #1).
    2. Specify the drive number to be used as the virtual disk (defaults to #2).
    3. Specify whether or not you want DUP.SYS on the virtual disk (defaults to YES).
    4. Specify whether or not you want MEM.SAV on the virtual disk (defaults to YES). One point to remember; if you say "NO" to the MEM.SAV option, DOS will still look at your real drive #1 to see if MEM.SAV is present, requiring that you have a formatted disk in drive #1 when you return to DOS. It is suggested that you respond with "YES", then delete the virtual MEM.SAV right after the boot process if you don't want MEM.SAV.
    5. Specify the total memory size of your computer.
    6. Finally, when you have made your choices, tell the installation program to generate SuperDrive.
F. After you tell the installation program to generate SuperDrive, it will prompt you to insert your DOS 2.0S System diskette into drive "n" (where "n" is the drive number you specified in the first menu choice), then press START to begin installation.

G. The installation program will now clank and whir a lot. When it is finished, it will prompt you to follow the instructions in step (I) below. You should then press RETURN to return to DOS.

H. When you return to DOS, check to see if the first menu line says something about SuperDrive with your memory size. If it does, you are still cooking, so to speak.

I. Request DOS MENU option "H" (WRITE DOS FILES). This step makes the SuperDrive changes permanent. FAILURE TO PERFORM THIS STEP MAY RESULT IN AN UNUSABLE DOS!

J. Now for the BiG test. Turn the Atari power switch off then back on to boot SuperDrive. You should note a somewhat longer boot process if you specified that DUP.SYS should be loaded onto the virtual disk.

K. Step K is required only if you have your own or Atari's AUTORUN.SYS file. Do a copy with append ("/A" option) of your file to the new AUTORUN.SYS file generated in the installation process. If you are not familiar with the "Append" option of the copy function you should refer to Chapter 4, page 32, example #7 of the Atari Disk Operating System Reference Manual. In general, if your system already has an AUTORUN.SYS file you should append it to the SuperDrive AUTORUN.SYS.

You now have SuperDrive installed. Hurry up and try it out .....we think you'll really like it. Good luck and better computing!

CAUTIONS

One cautionary note is ABSOLUTELY NECESSARY! If you want to replicate SuperDrive onto another diskette, you MUST, repeat MUST also copy the AUTORUN.SYS file. SuperDrive will not boot properly without it.

POSSIBLE USES OF SUPERDRIVE

1. The most obvious use for the virtual disk drive is for DUP.SYS and MEM.SAV. You save and better utilize disk space, and speed up operation significantly.
2. You can copy several of your most frequently used programs onto the virtual drive at the beginning of a session, reducing the need to swap diskettes.
3. It makes a great place to store temporary files.
4. You can use it as intermediate storage when copying several files from one diskette to another. It is particularly effective when used with the DOS COPY command using wildcards. When using this feature, normally only one diskette swap is required instead of one for each file.
5. You can use SuperDrive for logging data from a modem even though you can not log to a real disk when your modem is running full duplex. The 850 handler siezes the I/O port while running in "concurrent I/O" mode which is used any time you read data from the 850. This is no problem for the virtual drive since it doesn't use the I/O port
6. In BASIC, or any other language, you can use the extended memory for faster storage by using the disk I/O commands (INPUT,PRINT,GET,PUT, NOTE,POINT) and your program will run on non-SuperDrive systems (only much slower).

SUPERDRIVE NOTES

SuperDrive is functionally identical to DOS II in all respects. The only difference is that it will use the additional RAM as a disk using the drive number you specify in the installation process (the size of the virtual disk will vary according to total memory size).

All normal DOS disk operations are supported for the virtual drive except FORMAT and WRITE DOS FILES. SuperDrive formats the virtual drive during the boot process. SuperDrive will ignore requests for menu options "I" and "H" which are directed to the virtual drive.

SuperDrive will return a 144 ($90) error status if you try to format the virtual drive or access any sector that is not supported by SuperDrive.

SuperDrive does not take any additional memory from you. All of its code resides in the DOS space except for the handler which runs in the extended memory space.

The only real limitations to the virtual disk are:

a) All data stored on the virtual disk goes away when you turn the Atari power switch off.

b) The virtual drive number must be 2 thru 4. Atari boots from drive #1 and DOS only supports 4 drives.

c) Total memory sizes less than 144K will have fewer than 718 sectors and memory sizes less than 96K will have reduced VTOC space, therefore limiting the number of files. The following table shows the relationship between memory size and the virtual disk size.

VIRTUAL DISK SIZE vs. TOTAL MEMORY SIZE

Memory Size	No. of Sectors	No. of Files
64K	126*	8
80K	254**	32
96K	371	64
112K	503	64
128K	631	64
144K(160K)	711	64
192K	711	64

Notes:

* - Sectors 1-124, 360-361 (VTOC)

** - Sectors 1-249, 360-364 (VTOC)

*** - Use 144K for systems with 160K installed

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