

DISK PACK 1000

DISK UTILITIES FOR THE ATARI*
400 & 800 COMPUTERS



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ALPHA SYSTEMS PRESENTS

DISK-PACK - 1000

**by George Morrison
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**ALPHA SYSTEMS
4435 MAPLE PARK
STOW, OHIO 44224**

ALPHA SYSTEMS - DISK PACK 1000
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Disk Pack 1000 contains five separate programs. They are:

1. Ultimenu
2. Disktime
3. Color-Fix
4. Screendumper
5. Back-a-Disk

PLEASE READ INSTRUCTIONS BEFORE USING

GENERAL LOADING INSTRUCTIONS

To load DISK-PACK 1000, just turn on your disk drive and insert the disk. Then turn on your computer (with BASIC cartridge in). The DISK-PACK 1000 menu will automatically run.

ULTIMENU INSTRUCTIONS

Ultimenu is the most user friendly disk menu ever written for the Atari computer. It enables even the most novice user to use the computer with minimal assistance. Ultimenu can be loaded automatically by just selecting that option on the main menu. It also can be run by typing RUN "D:ULTIMENU".

After loading, a screen will be displayed showing all the files on the disk (up to 44 total), and the number of free sectors. To select a program you can either use the console buttons (OPTION, SELECT and START) or the joystick. The current selection is always shown in inverse video, and to change the selection, you can push OPTION to move it up, or SELECT to move it down. Also, if you wish, you can just push the joystick up or down. Once the selection you want is shown, just push the START key or your joystick trigger to run it.

This program also has several other nice features. They are:

1. GOTO BASIC
2. GOTO DOS
3. DO A BINARY LOAD

On this menu the DOS.SYS has been changed to a GOTO BASIC, and the DUP.SYS has been changed to GOTO DOS. If DOS is on the disk, these functions automatically

appear and can be used to do their respective functions.

Also, this menu will load a binary load (or object) program. This feature is for the more advanced users, but once set-up, can be used by anyone. To make it work, just place the prefix ".OBJ" on any load and go binary load file (This is a binary load file set up with a "run at address" in it). Then when this selection is picked, it will automatically be loaded and run.

To make ULTIMENU automatically load on your disks, just copy ULTIMENU and ULTIMENU.RUN onto your disk (be sure you have DOS on the disk too). Now just rename ULTIMENU.RUN to AUTORUN.SYS (use DOS option E), and you're all set. Just turn the computer off and then on and watch it go. (Be sure you have BASIC in though.)

DISK-TIME INSTRUCTIONS

Disk-Time will time your disk drive for you to be sure it is in the acceptable range (285 RPMs to 290 RPMs). If it is not in this range, you may have problems reading other peoples disks, or they may have problems reading yours. If it is very far out of this range some of your data may be lost.

To use, just select DISKTIME from the menu. The question "WHICH DISK DRIVE?" will appear. Just type the drive number you wish to test (If you only have one drive, type 1). The program will then start

the test and display your results on the graph. If you hear a strange noise coming from your TV, you probably tried to test a non-existent drive. If this occurs, press SYSTEM RESET and rerun the program. If your drive is not between 285 and 290 RPMs (for an ATARI 810 disk drive, PERCOM's should be approximately 301), you should probably adjust it. To adjust your drive speed, SEE BACK-A-DISK instructions for speed adjustment.

COLOR-FIX INSTRUCTIONS

This program is used to help you adjust the color on your TV. Used properly it will make your graphics look the way they were intended to. To run COLOR-FIX, just select it on the main menu. Once the colors appear on the screen (in about 15 seconds), adjust your set so the colors match the names that appear under them. Once all the colors match, your set is adjusted for your computer use.

SCREENDUMPER

Screendumper is a utility program that will allow you to take any graphics image you generate on the screen and save it to your disk. You can then recall the picture any time in just seconds. This is especially useful for long running demos. The demo supplied on the disk took over an hour to generate, but can be recreated in about 10

seconds.

Screendumper is actually two programs, one to save your pictures to disk, and the other to load them back. These programs can be used as subroutines in your own programs, or run by themselves.

I have put a demo on the disk to let you try these programs out. Just select SCREENDUMPER from the main menu or type RUN "D:SCRENDMP.DMO" from BASIC.

First you will see a menu saying:

1. Screenloader
2. Screendumper
3. Return to menu

Just type 1, then return. The next menu will say:

1. Load screen with demo
2. Load picture you saved with screendumper

For now type 1 (we'll explain 2 later) and a picture will be displayed. This helps to show the power of the screendumper utility. When done viewing the picture, hit any key. Now you're ready to try screenloader. To do this you will need a spare disk with at least 66 sectors free. Typing 2 will take you to screendumper. As the instructions on the screen will tell you, place your other disk in the drive and press the START key. A picture will slowly form on the screen, then be saved to your disk using screendumper. Want to be sure it worked? O.K., type 1 again to get yourself back to the menu, and this time try option 2 (load picture you saved with screendumper). In a few seconds you will see the picture you just saved.

There are two ways to use these utilities. The first is to call a subroutine to do the functions from your BASIC program. To understand this, just hit break from the demo and list the program: There are many comments in it to help you understand. There is also a much simpler way. Besides the screendumper demo program, there are two other screendumper programs on the disk. (To see them, go to ULTIMENU).

The first is SCRENDMP.UTL (stands for screendump.utility) and using it is the simplest way to save your graphics image to disk.

This program on your DISK-PACK 1000 disk will take whatever is on the screen at the time it is run and save it to disk. First copy this program to a spare disk so you can work with it without harm to the original. It is set up to save the picture as a file called PICTURE.DAT, however, you can change it to whatever you like by changing line 8000 in the program. To use it, you must insert the line Run "D:SCRENDMP.UTL" in your demo program after it draws the picture to the screen. To find the proper place, you can use this method. Run the program that generates the picture you wish to save (like a demo, GRAPHIT, etc.) when the picture is drawn, hit the break key and write down the line the program stopped on. This line is probably a timing loop or in a loop waiting for your input. In either case, remove the loop and put in the line RUN "D:SCRENDMP.UTL" in its place. Now insert

the disk that you saved screendumper on and run your demo program. When the picture is done, the program will run the line you entered, and save the screen to disk.

To show the picture you saved, you would use SCREENLOADER. This is called SCRENLOD.UTL on the disk. Load it in and type LIST. As you can see, it is quite simple to load your pictures back to the screen. Just set up the graphics mode and colors (the ones you used to create the picture) in line 8000, and put the name of the file you saved the picture to in line 8010 (replacing PICTURE.DAT). Next run the program and enjoy the view. When you are done looking, press any key to return to BASIC.

BACK-A-DISK INSTRUCTIONS

BACK-A-DISK is a disk back-up utility that will make a working back-up of most currently available ATARI disk software. BACK-A-DISK is intended to help you back-up programs for safekeeping and is not to be used for making illegal copies for others.

Before I explain how to use BACK-A--DISK, I will give a brief explanation of what it does. Some software that you get is copy-protected. This means that you cannot easily make a copy (using DOS dup-disk function for example) BACK-A-DISK however will copy many disks just by using option 1 on the menu COPY WHOLE DISK. This part of the programs copies all sectors on the disk,

even if the directory is hidden or the files are scrambled.

Some software, however, is more protected, and uses a technique called "bad sectoring". Bad sectors are sectors that cannot be read by your drive. They are used to protect software from being copied. The program confirms that these sectors are bad, and runs the program. If these sectors are not bad, the program will bomb (because it knows this is a copy). You hear the program looking for bad sectors when it makes a grinding sound. In order to back up a disk with bad sectors, you must recreate them on your back-up disk. This is a difficult process, but is made easier by the BACK-A-DISK program. Using these two techniques, BACK-A-DISK will allow you to back up about 95% of all ATARI disk software available today.

There is also a small amount of software using a new technique called "sector misassignment" or "custom formatting". This is a complicated technique which even BACK-A-DISK cannot back up. For a full explanation of this technique, see the book, ATARI SOFTWARE PROTECTION TECHNIQUES, from Alpha Systems.

There are several things to know before using BACK-A-DISK. Anytime you press the wrong key and end up on the wrong screen, just press return to get back to the menu. The term "source disk" refers to the original disk that you wish to copy, and "destination disk" refers to the disk you will put the back-up on. Since this program can be used with more than one disk drive,

it is necessary to specify which drive or drives you wish to use. If you have only one drive, always answer 1 when asked for source or destination drives.

Now on to using the program. Selecting BACK-A-DISK from the DISKPACK 1000 main menu will give you a menu like this:

1. copy whole disk
2. return to menu
3. write bad sectors
4. adjust disk speed
5. disk directory
6. format disk

To back up a disk, follow these steps. Write protect your source disk (if it has a notch in the side, cover it). Prepare a blank formatted disk to use as a destination disk. Type option 1, COPY WHOLE DISK and follow the instructions on the screen.

As the disk is copying, you may encounter bad sectors. When your disk drive attempts to read these sectors, you will hear a loud grinding sound and see a message. This is the sound of your drive trying to realign itself. This is a normal function and does no harm to the drive. Each bad sector will be shown on the screen. Write them down because you will need them later. Complete the copy by inserting the source and destination disks as instructed. The more memory you have, the fewer times you will have to swap the disks.

If there were no bad sectors encountered during the copy, your disk is ready to run. However, if bad sectors were encountered, follow the write bad sectors procedure.

NOTE: If you wish to try the disk before putting the bad sectors on it, be sure to write protect it (some programs attempt to format copies!)

Writing Bad Sectors

There are several ways to put bad sectors on a disk. None of them are very easy, and all have their drawbacks, but bad sectors are necessary to make some back-ups. Out of all the methods, there is only one which I recommend using, and it will be presented last. First I will present some alternatives you may or may not like.

One very good method is to use other small computers to write bad sectors and tracks. Some computers like the Apple and IBM allow you to format single sectors and tracks. Since their formats are not compatible with ATARI, they result in bad sectors. However, this is not effective when precise control of the bad sectors is needed, and you must have access to and knowledge of the other computers to use this method.

Another method is to physically damage the disk. I have seen this technique used successfully, but it has major drawbacks. Basically, you map out the disk, and using a pin or other sharp object, physically damage the sectors that should be bad. Needless to say, hitting the right sector is very difficult, and permanent damage to the disk must be done.

Another method is shaking the disk jacket or disk drive while sectors are being written. This technique takes a long time to work and can damage your equipment.

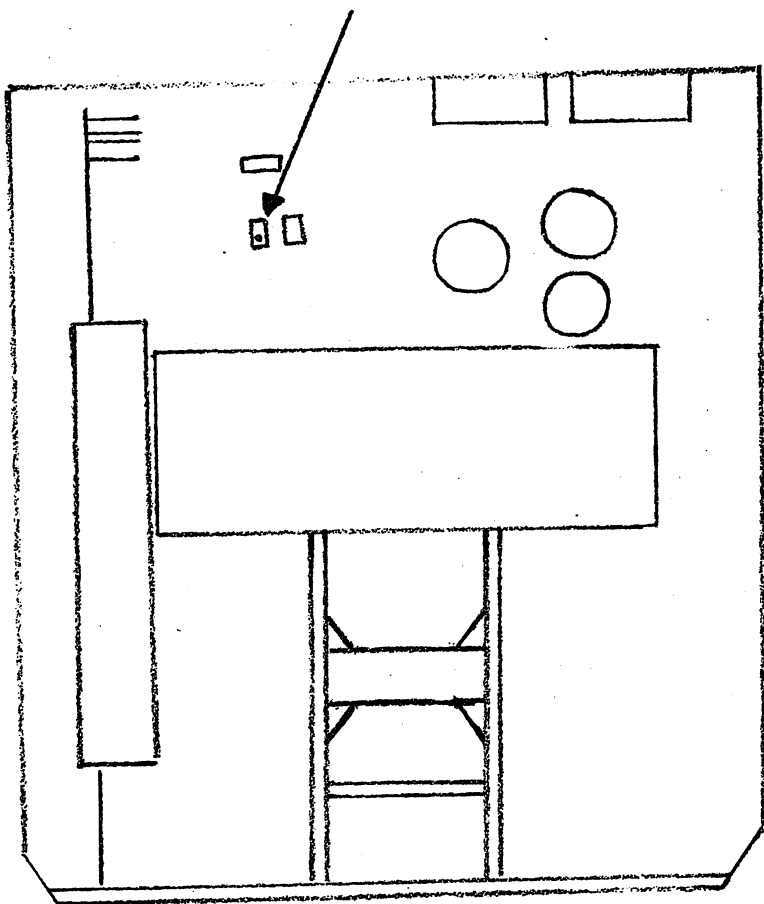
There are many others, but I will now present the recommended technique. To use

this technique, you must adjust the speed of your disk drive. This method is fast and very precise. It enables you to write as many bad sectors as you wish without doing any permanent damage to the disk.

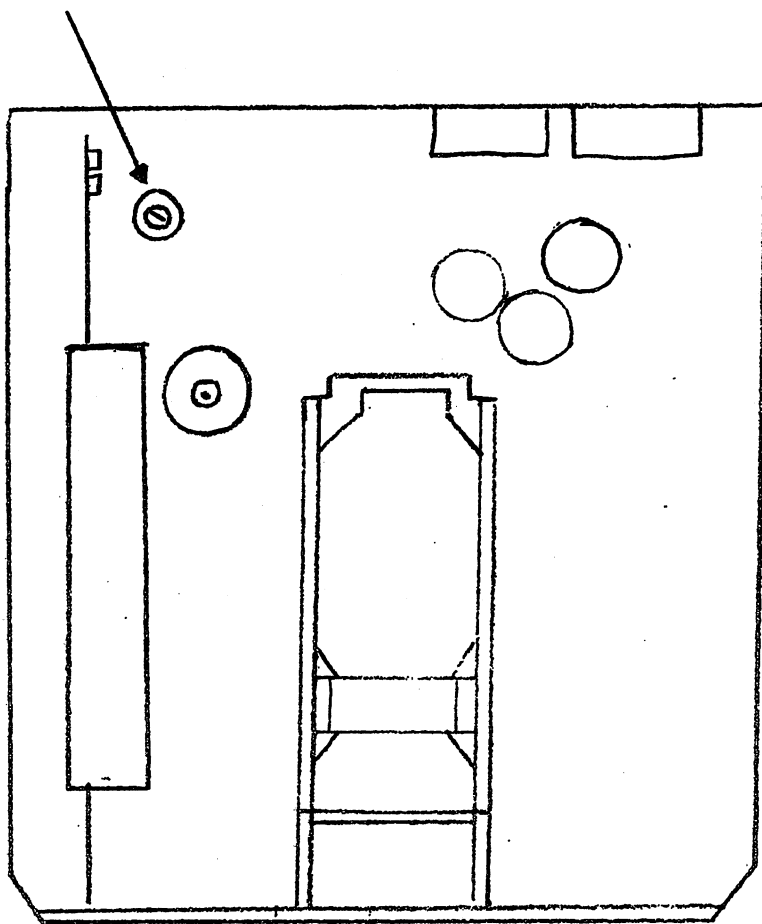
Adjusting Disk Speed

To adjust your disk speed, it is necessary to remove the top cover and adjust one screw. To remove the cover, just pry off the four little tabs on the top of the disk using any small sharp instrument. Then, with a standard phillips head screwdriver, loosen the four screws (under the tabs) that hold the cover on, and gently lift off the cover. There are two types of ATARI 810 disk drives around, the newer drives have a circuit board across the top (see diagram "A"). The older drives have no circuit board across the top and have a large white plastic screw in the back left corner of the drive (see diagram "B"). This large white screw can be turned by hand to adjust your speed. It is very sensitive, so a quarter turn may be all you need.

The newer drives are a bit trickier to adjust. To find the speed adjustment, look for a small green box with a tiny gold or silver screw on it. It is located toward the rear and a little to the left of center of your drive. It is very small but can be adjusted with a micro-screwdriver. The speed adjustment on the newer drive is not very precise. It may take as many as 8 complete revolutions to properly adjust your speed.



A



B

Before changing your speed, go to option 4, ADJUST DISK SPEED. This will graphically help you to get your disk adjusted. To write bad sectors adjust to approximately 220 +/- 10 RPMs. Try to write the bad sectors at the slowest possible speed without getting I/O errors. To get good "bad sectors" your disk should be just barely able to write.

After adjusting your speed, go to option 3, WRITE BAD SECTORS. Just enter the sector range you wrote down while doing the copy and insert your destination (back-up) disk in the drive. When this is completed, return to option 4, ADJUST DISK SPEED, and adjust your drive back to 288 +/- 5 RPMs.

Your back-up is now complete, just write protect it and test it out. If your back-up doesn't work, repeat the writing of bad sectors and try again.

Hints for Bad Sectoring

The sector copier supplied on BACK-A--DISK is relatively slow and can take many swaps because it records all bad sectors. I suggest that if you already know where the bad sectors are, or if there are no bad sectors, that you use any quicker sector copier you may have. There are several very fast ones available that don't check bad sectors, if you have one, you can use it to make your initial copy, then use BACK-A-DISK to write your bad sectors.

Try this clue on a disk with many bad sectors. Make about the first 10 of them

bad on your back-up and then try it out. Most of the time, the sector the program is checking is within the first few bad sectors on the disk so this will be sufficient to back it up. (Remember to write protect it before testing).

REPLACEMENT POLICY

If your copy of DISK-PACK 1000 is ever damaged or fails to properly load, back-up disks are available for \$5.00 to cover the costs (disks, postage & handling).

NOTE: THIS SOFTWARE IS REGISTERED TO THE PURCHASER WITH HIDDEN SERIAL NUMBERS. Should bootleg copies be found, the original purchaser will be held responsible and be subject to fines up to \$50,000.00 or 5 years in prison, or both.

WARRANTY

This product is guaranteed to load for 30 days after receipt. If it fails to load, be sure you have followed all instructions and that your disk speed is appropriate. If it still fails, return disk to Alpha Systems for a new copy. THIS OFFER IS VOID IF THE DISK IS DAMAGED OR ABUSED OR IF ITS PIRATE DETECTION SYSTEM IS TRIGGERED BY ATTEMPTED UNAUTHORIZED COPYING.

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