8K MEMORY

ATARI 400/800

FAST PAK™

A DISK UTILITIES PACKAGE

Program Sold By: A-Bit-Better Software
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ABBS
A-Bit-Better Software

100% MACHINE LANGUAGE

7 PROGRAMS

Warranty

For a period a one (1) year from the Date of Purchase, you are protected against any manufacture defects in your Fast Pak (tm) System Disk.

If a malfunction should occur due to a manufacturing defect, we will, at our option, either replace or repair your Fast Pak (tm) System Diskette - FREE. Simply mail your Fast Pak (tm) System Diskette directly to us along with your Fast Pak Warranty Card to us and we will promptly repair or replace it and return it directly to you. We will pay any return mailing costs also.

Also we offer a Lifetime Information Service which offers you answers to any questions that you may have about your Fast Pak (tm) System.

Here at ABBS we feel that you are very important to us, and we will try to do everything we possibly can to ensure that you are satisfied and comfortable with your product(s).

Cordially,

Troy L Hummon
President

Booting your Fast Pak System

The procedure for Booting (or Loading) your Fast Pak (tm) System into your Computer is as follows.

1. Turn your Printer Power On. (if applicable)
2. Wait 5 seconds.
3. Turn your Atari 850 Interface Power On. (if applicable)
4. Wait 5 seconds.
5. Turn your Atari 810 Disk Drive Power On. (or equivalent)
6. Wait 5 seconds.
7. Remove ALL Program Cartridges from the Program Cartridge Area.
8. Turn the Power On to your Atari 400/800 Personal Computer.
9. And Wait approximately 1 second for the Fast Pak (tm) Sytem to Load.

At this point you should have a Display of ALL the Utilities and a PINK Letter next to each one. This PINK letter indicates which button you must press to Load that desired Utility. For example: if you pressed the 'C' Key you would Load the 'Disk Drive Speed Adjustment' Utility.

If for any reason you wish to Load another Utility while in another Utility, you would simply insert the Fast Pak System Disk into Disk Drive 1 and then press the [SYSTEM RESET] button. In approximately 1 second the Fast Pak (tm) Utility Menu will re-appear and then you simply re-select the desired Utility.

Answering Prompts

The procedure for answering the Fast Pak(tm) Program Prompts are provided here for your convenience and ease of understanding. All of the Fast Pak Utility Program use the same procedure for Prompting you for Command Input, this maintains consistency and user- familiarity throughout the seven Fast Pak Utility Programs.

There are three different types of Program Prompts in these Utility Programs. They are as follows:

- Numeric Data
- Alphanumeric String Data
- Logical Data

Numeric Data consists of numbers. These numbers are designated by the digits [0-9] the '.' and 'E'. The 'E' stands for Exponentiation (or Powers of ten). For example, '3E2' would equal three hundred. Numeric Data must be specified when the Utility Program Prompt asks for a number, in the form [1-x]. This type of Data can range from 1 digit to 3 digits. Therefore, to specify a number, you must press the [RETURN] key located in the Upper Right corner of your keyboard after typing in the desired digits representing the number. Until the [RETURN] key is pressed there will not be any response from the Utility Program. Consult the examples in this section for Legal Numeric Data Inputs.

Alphanumeric String Data consists of any length of characters and numbers. This Data consists of the characters [A-Z], [a-z], [0-9], and most of the characters. This type of Data must be specified when the Utility Program Prompt asks for String Data. Likewise, this type of data must be terminated or followed with the [RETURN] key.

Literal Data is by far the simplest type of Data. This type of data is either TRUE or FALSE, and is specified by a 'Y' for yes and any other character for no. This type of Data is required when the Program Prompt asks for a '[Y/N]?'. Note that ANY character other than a 'Y' is considered a 'N'. This is referred to as the DEFAULT condition, or the Normal answer to most questions. This Default condition is displayed after the Program Prompt and if any character is pressed except [RETURN] this Default condition character will be overwritten and will indicate the NEW Prompt condition.

Examples of Valid Data:

Numeric	String	Literal
1 [RETURN]	ABC [RETURN]	[RETURN]
27 [RETURN]	A1#a [RETURN]	Y
100 [RETURN]	[RETURN]	N
3E2 [RETURN]	!"#$ [RETURN]	*
001 [RETURN]		

Examples of Invalid Data:

Numeric	
/ [RETURN]	- Invalid Character
1A [RETURN]	- Non-numeric Data
, [RETURN]	- Invalid Character
3E5 [RETURN]	- Number too big

Chapter 1 - Disk Duplicate

This Fast Pak (tm) Utility is intended to be used for Duplicating ANY Atari Readable Diskette for Backup Use.

This Utility permits Single- Drive or Double- Drive Duplicating. You may copy from any of four (4) drives to any of four (4) drives.

This Utility will handle most protection schemes, including:

- Bad Sectoring
- Deleted DOS File Links

This Utility contains the following Features:

- Source Drive Specifier
- Ignore Read Errors on Input Option
- Destination Drive Specifier
- Write with Read-Verify Option
- Read/Write with I/O Sound Option
- Starting Sector Specifier
- Ending Sector Window Specifier
- Format Output Disk Option

This Utility performs a bit-by-bit transfer of everything from the Source Diskette to the Destination Diskette without interpretation, thus maintaining the original integrity and protection of the original Source Diskette onto the Destination Diskette.

After a successful Duplication, the Destination Diskette should be identical to the Source Diskette in every way, except Bad Track Information. (It is highly recommended that you fully test the Copy before attempting any further operations following a Duplication Session).

Operating Procedure

The procedure for invoking this Disk Duplicate Utility is to enter the character 'A' from the Boot Menu. This Utility will automatically Load and Execute. Following successful Load and Execution you will observe the Disk Duplicate Utility Banner appear at the top of your monitor. This indicates that the Disk Duplicate Utility is ready and awaiting your Command Input.

The prompts are designed to be simple and easy- to-understand. For example, the prompt: 'Source Disk Drive [1-4]?' would be asking for you to specify which Disk Drive in your System that you wish to have duplicated. However, for your convenience we have included each of the Utility Prompts here with a brief description of each.

Source Disk Drive [1-4]?

This prompt sets up the Source Disk Specifier and must be specified to tell Fast Pak where to Duplicate a Diskette from. This number can range from one to four, thus ANY of four drives may be used as the SOURCE Drive.

Ignore Read Errors [Y/N]?

This prompt allows you to duplicate either highly protected disks or to duplicate a Diskette with numerous Bad Sectors without Operator intervention. If 'Y' is not specified, every Read Error will be displayed, and a Program Prompt will ask you what action to take, either: PROCEED,RETRY, or STOP.

Destination Disk Drive [1-4]?

This prompt is required to specify to Fast Pak where the Duplicated Diskette Data is to be written. This Drive Number can be the SAME as the Source Drive Number for SINGLE-DRIVE DUPLICATING. In this procedure, Fast Pak appropriately prompts you to switch Data Disks and press START.

Write with Verify [Y/N]?

This prompt is used to specify whether you wish EACH Disk Sector to be written and then Re-Read for verification, or just to be written and not verified. The Write without Verify is substantially faster than Write with Verify. This can save a lot of time, but Data Integrity is not assured. This feature is a Hardware Function which actually takes place inside your Atari 810, thus slightly decreasing the total verification time.

I/O Sound [Y/N]?

This prompt is used for specifying whether you wish to hear the Input and Output through Sounds from your Monitor or whether you wish QUIET Mode, and hear nothing. If you respond with anything other than a 'Y', you will be placed in QUIET MODE.

Starting Sector Number [1-720]?

This prompt is used for specifying the beginning Disk Sector of your Copy Window, or in other words the lowest Sector Number that you wish to Duplicate.

Ending Sector Number [1-720]?

This prompt is used for specifying the last Disk Sector of your Copy Window. In other words, it is the highest Sector Number that you wish to Duplicate. This Number must be larger than the Starting Sector Number, or it will be refused.

Format Output Disk [Y/N]?

This prompt is used for specifying whether or not you wish to Format the Destination Disk that you are copying to. If you respond with a 'Y', the Destination, or Output Disk will be Formatted before Data is written to it.

Chapter 2 - Disk Diagnostic

This Chapter discusses the functions and features of the Disk Diagnostic Test Utility. This Utility is used to help diagnose problems with your Disk Drive. This Utility can also be used to thoroughly test a Diskette for BAD SECTORS.

The procedure for invoking this Utility is to simply press 'B' from the Fast Pak Boot Menu, and this Utility will automatically Load and Execute. After this Utility is Loaded, you should remove the Fast Pak System Disk to avoid accidentally writing to it.

This Utility contains the following features:

- Disk Drive Specifier
- Reads per Sector per pass Specifier
- Writes per Sector per pass Specifier
- Write-with-Verify Option Specifier
- Passes per Diskette Specifier
- Disk Access-Delay Specifier
- I/O Sound Option
- Disk Window Start Sector Specifier
- Disk Window End Sector Specifier
- Format Diskette Option
- Print Output Option
- Sector Monitor
- Complete Error Handling

This Utility is designed to provide the Atari Owner with a Disk Diagnostic Capability that should have been included with the Atari 810 Disk Drive when purchased. This Utility can perform practically ANY Test necessary in diagnosing ANY problem. This test may also be used to prevent a problem before it occurs.

This Utility is capable of performing even MORE tests than is available at Atari Service Centers, and the best

part is - they're FREE and you never have to leave your home.

The Standard Procedure for operating this Utility is to Scan a Disk for Bad Sectors (Unreadable Disk Sectors). This is accomplished by simply answering the easy-to-understand Program Prompts, and specifing at least one Read per Sector and then specify 1-720 for the Disk Sector Window. You must be careful not to corrupt your Diskette by writing to it if you wish to maintain its current contents. You may ensure this by specifing 0 (Zero) writes per pass, or AT LEAST 1 (One) Read per pass. This procedure is discussed further in this Chapter.

This Utility is also designed to Test the operating condition of your Atari 810 Disk Drive (or equivalent). If for some reason you are having trouble loading a Diskette or Program and believe that your Drive is at fault. You may test the operating condition of your Disk Drive by Formatting a blank Diskette and Writing (with Verify), (without Reading) to each Sector (1-720). This procedure Writes a Random Byte Pattern on each Sector and "tells" the Disk Drive to Read it back and "Verify" that what it wrote was really what it intended to write. (This is a test that Atari Runs on your Drive and charges you about $20.00).

Sometimes these Drives suffer some type of malfunction that inhibits the proper operation of your Drive. This malfunction can be any of several things, the purpose of this Utility is to find what that malfunction is! A popular malfunction is the inability to handle long pauses between Reads and Writes. As you are aware your Disk Drive will automatically "Spin Down" approximately 7 seconds after a Read or Write operation. However, sometimes if you, or a Program attempts another Read or Write exactly on this "Spin Down" time, the Drive may return an Error Condition. The Access Delay Specifier gives you the capability of specifing how long to pause between Read and Writes, thus allowing you to Re-create a previous error situation. This Specifier is entered in Tics, which are simply 1/60 of a second. For example, 60 Tics equals 1 second, 30 Tics equals 1/2 second.

Operation Procedure

The procedure for invoking this Utility is to press the key labeled 'B' from the Fast Pak Boot Menu. This Utility will then automatically Load and Execute in approximately 2 seconds. Following a successful Load and Execute, you will observe a Disk Diagnostic Routine Banner displayed at the top of your Monitor, this indicates that the Utility is Ready and awaiting Command Input.

The Utility Prompts are designed to be explicit and easy- to- understand. The following sections illustrates each of the Utility Prompts and a brief explanation of each.

Which Disk Drive [1-4]?

This prompt permits you to Define any of 4 Disk Drives as the Drive that you wish to Test. The specifier must be a number between one and four. If not, the Utility will reject the Input and Re-prompt you until correct. You will usually respond 1 (one) to this prompt.

How many Reads per Sector [0-25]?

This prompt permits you to specify how many actual Read operations to perform PER PASS. This number can range from 0 (Zero) to 25, with 0 meaning NO READ operations are to be performed. You will usually respond 1 to this prompt.

How many Writes per Sector [0-25]?

This prompt permits you to specify the number of Write operations to perform PER PASS. If no reads were specified and the number of Write Operations was greater than 1, then a RANDOM BYTE pattern will be written to Every Sector specified in the Disk Sector Window. You will usually respond 0 (zero) to this prompt.

Write with Verify [Y/N]?

This Option allows you to enable a very efficient means of Verifying a previously written Sector without having to Re-Read it. If you respond with any key except a 'Y', you will Disable the Verify Option. You will usually respond 'Y' to this Option. Write with Verify is considerably slower than Write without Verify, but is faster than Write without Verify followed by a Read. Note that this prompt will NOT be displayed if the number of Writes per Sector was 0 (zero).

How many passes [1-50]?

This prompt permits your Test to be repeated up to 50 times, or fifty passes over the same Disk Window. You must specify at least 1 pass in order for this Utility to do anything. You will usually respond 1 to this prompt.

Access Delay in Tics [0-900]?

This prompt permits you to specify the amount of time (in tics) that you wish to pause between Disk operations. This number can range from 0 (zero) up to 900 (nine hundred). You will usually respond 0 (zero) to this prompt.

I/O Sound [Y/N]?

This Option simply Enables or Disables the Atari I/O Sound through your Monitor during Disk Operations. If you respond with anything except a 'Y', the I/O Sound will be disabled. You will usually respond 'N' to this prompt.

Chapter 3 - Speed Diagnostic

This Chapter discusses the functions and features of the Fast Pak Speed Diagnostic Utility. This Utility is used for obtaining and adjusting if necessary the Speed of your Disk Drive. This Utility has been designed to be highly accurate. This Utility uses a method known as an Averaging Division Factor. This method is very tolerant of Disk Drive Speed fluctuations, while the other Speed Adjustment Program do not. This feature will be further discussed later in this Chapter.

The procedure for invoking this Utility is to press the key labeled 'C' from the Fast Pak Boot Menu. The Speed Diagnostic Utility will automatically Load and Execute. Following successful Load and Execution you will observe the Speed Adjust Utility Banner on your monitor. You may keep the Fast Pak Boot Diskette in your Drive, because the Speed Diagnostic Utility does not write to a Diskette in order to perform its function.

The Averaging Division Factor as discussed previously in this Chapter is the number of sampling times that you will Average the Disk Speed before determining the Speed of your Drive. Thus, the more Samples that you specify, the more accurate the Speed Reading will be to the actual Speed. However, when many samples are specified the time between Speed Output Readings is increased proportionally to the increase in samples.

A "SAMPLE" is an I/O transfer from the computer to your Disk Drive consisting of specific information for the Fast Pak Speed Utility to calculate the speed of your Drive. This Utility will also operate on many Atari 810 compatible Disk Drives.

This Utility contains the following Features:

- Disk Drive Specifier
- User selectable Averaging Factor
- Built-in Error Handling
- Accurate to 1/100 of ONE RPM

You will find this Utility invaluable in your Care and Maintenance of your Atari 810 Disk Drive (or equivalent).

The proper or suggested speed at the present time is supposed to be 288 RPM. You may deviate from this by plus

The Disk Starting Sector [1-720]?

This prompt specifies the Start of your Disk Window as previously discussed. This number can range from 1 (one) to 720 (seven hundred-twenty). This is where your Disk Pointer will start at the beginning of each Pass. You will usually respond 1 (one) to this prompt.

The Disk Ending Sector [1-720]?

This prompt specifies the End of your Disk Window, and must be greater than or equal to the Starting Disk Window Specifier. If not, the Command Input will be rejected. This specifier is the highest sector number that will be accesses during each Pass.

Format Test Disk [Y/N]?

This Option permits you to Format a Blank, Un-formatted Diskette for testing. Reading and Writing cannot occur on an Un-formatted Diskette (on most Drives).

Print Output [Y/N]?

This Option permits you to Print on ANY compatible Printer the results of your tests. The printed Output is what appears on your Monitor during testing, including any BAD Sectors, and Error that occurred.

or minus 4 RPM, but it is not recommended. Your Atari 810 Disk Drive may be adjusted if necessary by turning a Potentiometer that is located at the Left Rear of your Disk Drive (looking Down from the Top). The action taken by turning the screw may be different on your Drive. However, on MOST Atari 810 Disk Drives, turning the Potentiometer clockwise will INCREASE the speed and counter clockwise will DECREASE the speed.

The Output from this Utility will appear in the middle of your monitor in the form of a Floating Point Number. For example, "Disk Speed (RPMs): 0286.88639". This example illustrates a Disk Drive that is spinning slightly slower than recommended, so the Operator should turn the Potentiometer clockwise slightly to INCREASE the RPMs to the appropriate speed.

Operation Procedure

The procedure for invoking this Utility is to press the key labeled 'C' from the Fast Pak Boot Menu. This Utility will automatically Load and Execute by itself and if successful will display a Speed Diagnostic Banner at the top of your monitor. This indicates that the Utility is Ready and awaiting your Command Input.

The Utility Prompts are designed to be explicit and easy- to- understand. However, the following section contains the Utility Prompts and a brief description of each prompt.

Which Disk Drive [1-4]?

This specifier permits you to Diagnose the speed of ANY of 4 (four) Disk Drives by specifying the number of the Disk Drive at this prompt. You will usually respond 1 (one) to this prompt.

How many Samples [3-500]?

This specifier permits you to specify the Division Factor or Averaging Factor that will be used in determining the Accuracy or Sampling Time in calculating the Speed. The larger this number the longer time between Speed Output Readings, however the more accurate the Reading.

Chapter 4 - Sector Edit Utility

This Utility is designed to Dump (Map) ANY Disk Sector in ANY of 3 (three) display formats: ATASCII, HEX, and DECIMAL. This Utility also has the capability of changing ANY Byte within ANY Sector easily and without altering any of the other Bytes, using ANY of the three display formats mentioned above.

This Utility permits easy access to any of 4 (four) Disk Drives, and is compatible with Atari equivalent Disk Drives. This Utility can be used to Patch a mis-written Disk Sector or to rebuild a Lost or Deleted Disk file. The procedure for Rebuilding a Lost or Deleted File is contained in a later section for your convenience.

This Utility contains the following features:

- Source Drive Specifier
- Disk Sector Window Specifier
- Display Output in Atascii
- Display Output in Hex
- Display Output in Decimal
- Print Output in Hex
- Print Output in Decimal
- Print Output in Atascii
- Output Columns Specifier
- Labeled Columns and Rows
- Modify Sector in Atascii
- Modify Sector in Hex Option
- Modify Sector in Decimal Option
- Complete Error Handling

This Utility is very simple and easy- to- understand. The Program Prompts are designed to be explicit and as simple to answer as possible. Once you become familiar with this Utility, I am confident that you will not have any trouble in performing your desired functions.

This Utility has several versatile capabilities, one of which is the Columns Specifier. This feature lets you specify the number of Columns across the Screen or Paper that you wish your Display Output to be displayed. Therefore, if you are using a Printer, you may wish to expand your Columns according to the width of your printer. Another convenient feature is the Atascii /Hex /Decimal Format Option. This Option lets you choose which of the three formats will best suit your application needs. Everyone knows that Hex Output can be clumsy to work with at times, and the same for Decimal. With this Format Option you have your choice.

This Utility has a very powerful Edit Capability which makes Editing or changing a byte within a Disk Sector as easy as typing in the correct value over top of the incorrect byte(s). This Editing is accomplished by specifying which Disk Sectors you wish to examine, and entering them in the Disk Window Descriptor Prompt. Then when the Disk Sector is displayed on your monitor in the format that you wish to Edit, you simply press the key labeled [START], and your editing begins. The Program Cursor will be placed at the first Byte within the Sector. If you wish to advance to the next line, simply press the [RETURN] key and all the unchanged bytes on that line will be entered unchanged. If you wish to alter or change a Byte on the current Cursor Line, simply [TAB] over to the incorrect Byte by pressing the key labeled [TAB] until you arrive at the desired byte and then simply overtype the Byte with the new value and press [RETURN].

Since you may not directly cursor up in the event that you inadvertently press [RETURN], you may Exit your session by typing a '/' or any other non-numeric character and then press [RETURN]. The next step is to Re-enter your Editing by pressing the key labeled [START]. You may then press the [RETURN] key repeatively until you arrive at the desired line that you wish to Re-edit.

When all lines have been Edited the Disk Sector will be Re-written to your Diskette along with any Edits that were made.

You must exercise extreme caution when Editing Disk Sectors. You could easily corrupt a Diskette File Structure and consequently lose valuable information if care is not exercised.

Operating Procedure

The procedure for invoking this Utility is to press the key marked 'D' from the Fast Pak Boot Menu. This Disk Sector Edit Utility will automatically Load and Execute. Following successful Load and Execution you will observe a Disk Sector Edit/Dump Utility Banner at the top of your monitor. This indicates that the Utility is Ready and awaiting your Command Input.

The Program Prompts are designed to be as simple and easy- to- understand as possible. However, we have included each Program Prompt here with a brief description of each for your convenience. The following section lists each Program Prompt and a brief description of each.

Which Disk Drive [1-4]?

This prompt specifier permits you to use any of 4 (four) Disk Drives to examine and modify Disk Sectors. You will usually respond 1 (one) to this prompt.

Sector Starting Number [1-720]?

This prompt permits you to specify the Starting or lowest Disk Sector that will be examined and modified. This number must be between 1 (one) and 720 (seven hundred-twenty).

Sector Ending Number [1-720]?

This prompt permits you to specify the Ending or highest Disk Sector that will be examined or modified. This number must be equal to or higher than the Sector Starting Number in order to not be rejected. This number can range between 1 (one) and 720 (seven hundred- twenty).

Print Output [Y/N]?

This Option allows you to Print on your Printer the Display Output in ANY of 3 (three) Formats.
You will usually respond 'N' to this prompt.

Output Mode [Ascii/Hex/Decimal]?

This prompt specifier permits you to Display the desired Disk Sector Bytes in ANY of 3 (three) Formats by specifying the first character of the Format Mode desired. For example, to specify Hex Mode you would simply enter an 'H', etc.
You will usually respond 'H' to this prompt, but applications may greatly differ.

Output Columns [1-70]?

This prompt specifier allows you to specify the number of Columns across the Display or Paper as you wish. This specifier is designed for users with wider printers than their screens, this improves legibility.
You will usually respond 10 (ten) to this prompt for Hex to Monitor, 8 for Decimal to Monitor, 30 for Hex to Printer and 20 for Decimal to Printer.

Chapter 5 - Sector Search

This Utility is designed to Search a Diskette for a String of characters using a Sector- by- Sector Search method. This Utility is extremely helpful when Re-building a Crashed or Damaged Diskette, which you need to locate the start of a file.

This Utility is invaluable for quickly and effortlessly locating a string of characters within a Window of Sectors that you specify, this Sector Window feature decreases the amount of time spent searching for the string if the location of the string is approximately known.

This Utility will automatically display the Disk Sector Location of each occurrence of the specified Search String within the specified Disk Sector Window, and optionally print these String Found Disk Sector Locations on your Printer, if desired.

This Utility contains the following features:

- Disk Drive Specifier
- I/O Sound Option
- Variable Length Search String
- Disk Sector Window Specifier
- Print Output to Printer Option

Operating Procedure

The procedure for invoking this Utility is to press the key labeled 'E' from the Fast Pak Boot Menu. This Utility will then automatically Load and Execute. Following successful Load and Execution, you will observe the Disk Sector Search Routine Banner displayed at the top of your Monitor. This indicates that the Utility is ready and awaiting your Command Input.

The Sector Search Utility Prompts are designed to be simple and easy- to- understand. However, for your convenience, ALL the Program Prompts are listed below with a brief description of each.

Which Disk Drive [1-4]?

This Prompt Specifier allows you to select ANY of 4 (four) Disk Drives to use for Searching. You may choose any Disk Drive within the range 1 (one) to 4 (four). Note, you Search ANY readable Disk due to the fact that the Disks are ONLY READ, and not Written to. Thus, the Data is perfectly maintained. You will usually respond 1 (one) to this Prompt.

I/O Sound [Y/N]?

This Option permits you to disable or enable the Atari I/O Noise during I/O from your Disk Drive. If you respond with any character except 'Y', the I/O Sound will be DISABLED. You will usually respond 'N' to this prompt.

The String to Search for:

This Prompt Specifier is used to specify your Search String. This Search String may range from 1 (one) character to 128 characters. This Search String MUST be terminated by a [RETURN] and the [RETURN] character will NOT be used in the String Comparison.

The Disk Starting Sector [1-720]?

This Prompt is used to specify the Starting Sector Number or the lowest Disk Sector that will be used in Searching. This number will become the low end of the Disk Sector Window. This number may range from 1 (one) to 720 (seven-hundred-twenty).

The Disk Ending Sector [1-720]?

This prompt is used to specify the Ending Sector Number or the highest Disk Sector that will be used in Searching. This number is the High end of the Disk Sector Window. This specifier may range from 1 (one) to 720, and must be greater than the Disk Starting Sector specifier.

Print Output [Y/N]?

This Option allows you to receive a Printed Output of the Disk Sector Locations that the specified Search String was found at. If you respond with any character other than a 'Y' you will NOT receive a Printer Output. You will usually respond 'N' to this prompt.

Chapter 6 - Cassette Duplicate

This Utility is designed to provide you with the capability of Duplicating ANY Boot or non-Boot Format Tape for Backup. This Utility can be used to prevent the unfortunate and likely event of the ONLY Cassette version of your favorite Video Game or Program getting destroyed by your Cassette Player or perhaps, your cat turning it into spaghetti.

This Utility is designed to be simple and easy- to-understand. The Utility Prompts are explicit and straightforward. For example, "Is Cassette in Boot Format [Y/N]?" asks you if the Cassette Tape is a Boot Tape or in Boot Format (Short IRQ gaps). For example, a cassette like Space Invaders is a Boot Tape.

The Utility Prompts for this Utility are included below with a breif description of each prompt.

Is Cassette in Boot Format [Y/N]?

This Prompt permits you to Duplicate a Cassette Tape that is either a Boot Tape or a Data Tape for Backup reasons. If you respond with any character other than a 'Y' then a Data Tape will be processed.

I/O Sound [Y/N]?

This Option allows you to enable or disable the Atari I/O Sound feature during Cassette Input or Output. If you respond with any character other than a 'Y' then the I/O Sound feature will be disabled. You will usually respond 'N' to this Option.

Insert Source Cassette, press PLAY

This prompt instructs you that it is ready to Load the Source Cassette into Memory, and that you should place the Cassette that

you wish to Duplicate into the Cassette Drive, press [PLAY] on the Drive, and then press [START] on the Console to start loading.

Insert Destination Cassette, press RECORD+PLAY.

This prompt instructs you that the Utility is ready to Create a new Cassette from the Loaded Data and that you should place a bland Cassette into your Drive then press [RECORD]+[PLAY] on your Drive, then press [START] on your Console to begin creating a new Tape.

Press Start to Proceed.

This prompt simply instructs you to press the [START] key on your Console to continue Utility processing. This feature is designed so that you will not miss any information that was displayed on your Monitor, then quickly cleared by another screen or prompt.

Chapter 7 - Boot Tape to Disk

This Utility is designed primarily for Atari 400/800 Computer Owners who bought an Atari Computer System with only a Cassette Drive, and later added a Disk Drive to their System. What do you do with all of those slow-loading, clumsy tapes? Well now you can MOVE them onto Boot Disks. The Boot Tapes that were purchased on Cassette and were Loaded by pressing the [START] key as you turned the Power on can now be MOVED to a Disk- Bootable Diskette.

The advantages of moving these Cassette Boot Tapes to a Disk are numerous. For example, Load time is about 25 times faster, Load Errors are minimized, a Diskette will outlast a Cassette Tape, and you can use the Cassette as Backup and then Boot from the Diskette, and many more.

This Utility is simple to use and easy- to- understand. We have designed this Utility to have the maximum amount of capabilities with the minimum amount of Utility Prompts. With these Utility Prompts you have the capability of transferring a Cassette Boot Program to ANY of 4 (four) available Disk Drives by simply specifying which one you wish to MOVE the Boot Program to. You also have the Option to FORMAT the Destination Diskette in case it has not been FORMATTED, or you simply wish to RE-FORMAT it.

The Utility prompts in this Program are designed to be as easy- to- understand as possible. However, for your convenience we have included each of the Utility prompts and a brief description of each.

Destination Disk Drive [1-4]?

This Prompt permits you to MOVE the Boot Program to ANY of 4 (four) Disk Drives available, by simply specifying the number of the desired Disk Drive in this prompt. You will usually respond 1 (one) to this prompt.

Format Destination Disk [Y/N]?

This Option allows you to FORMAT a Diskette BEFORE the Boot Program is transferred to it. If you respond with any character other than a 'Y' the Destination Diskette will not be FORMATTED. You will usually respond

'Y' to this Option.

Rebuilding a File

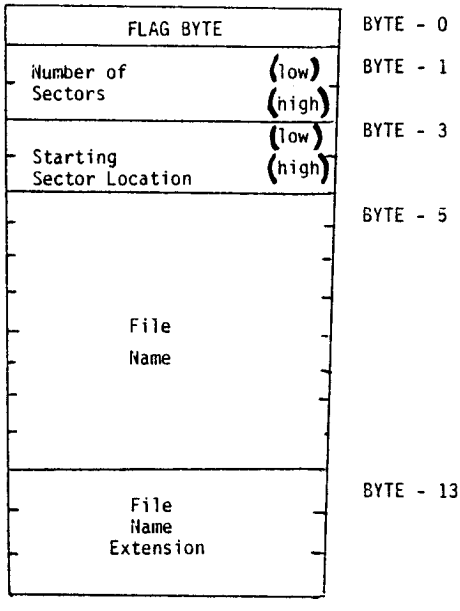
This Section is designed to step you through the steps in recovering a Lost File or a Deleted File due to a Disk Crash or unintentional deletion. A recommended supplementary manual is the Atari Technical Notes (CO16555). However, if the Atari Technical User Notes cannot be easily obtained the process of rebuilding a disk is adequately covered here without the need for these manuals.

A deleted file is a file that the Disk Operating System changed from an active normal file to a status of: "Deleted". This deleted file is not physically erased from the Disk, thus it is possible to re-cover it without much effort. This situation is by far the most common mistake. Many times a lot of work went into creating or editing a file and then you accidentally delete it when your done. This can cause grief, and fortunately all is not lost.

Using the following Sections you may recover this lost file and transfer it to another UNCORRUPTED Disk for storage until ALL desired files have been either recovered or transferred from the corrupted Disk. Then I highly advise you to Re-format the corrupted Disk and copy back all the original files using the DOS (C) or (O) Options.

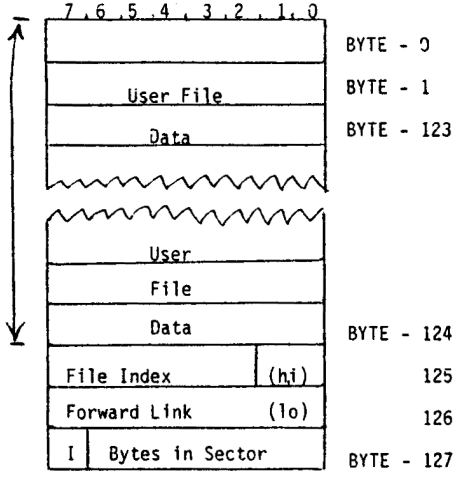
All Disk Files in this section are assumed to be in Atari DOS Format. These files are maintained in what is referred to as a Disk Directory.

The Format of this Directory is 8 (eight) sectors that are located in the exact middle of your Diskette (361-368). Each of these eight sectors contains information for eight files. (This is why you can only have 64 Files per Diskette). Each of the Information Packettes for each file consists of 16 bytes. The Format of this Directory File Packet is illustrated below:



A Data file also contains specific information about the contents of the file. For example, the location and pointers for file maintenance.

The first 125 Bytes of a User's Data File consists of File User Data. The 126'th Byte contains two different types of information. One is the file number (from the Directory), and the low two bits are the hi two bits of the forward link to the next Sector of the Users Data File (zero for the last Sector). The 127'th Byte contains the low 8 bits of the forward link to the next Sector. The Last and 128'th Byte also contains two different types of information. The low 7 (seven) bits is the Byte Count of the current Sector. The hi bit indicates whether or not the Sector is shorter than 125 bytes. The Format of a User's Data File Sector is illustrated below.



The Last and most complex element of the Dos Data File is the Volume Bit Map. This is simply a Table which occupies Sector 360 starting at Byte: 10, Bit: 6 and grows from most significant Bit to least and from Byte to Byte. Each of these Bits represents whether or not a specific Sector is in use or whether it is available. A zero indicates that that Sector is in use, while a 1 indicates that that specfic Sector is available, starting at Sector 2.

I highly advise you NOT to attempt to modify the DOS Volume Bit Map due to its complexity.

When you feel that you have Lost a file, Deleted a file, or that a Disk crashed on you, DO NOT WRITE OR DELETE ANY OTHER FILES FROM THAT DISK. If you attempt to write another file to a disk that you deleted a file from, you will probably write OVER TOP of your OLD file, and your Data File will then be irrecoverable.

When attempting to restore a file, you may alter the Volume Table of Contents to make your File accessible, but you must understand, that because of the structure of the Volume Bit Map that restored file is STILL DELETED AS FAR AS THE DOS SYSTEM IS CONCERNED. The procedure that must be followed is to copy that file to ANOTHER Diskette that has not been corrupted, and ALL other desired files must also be transferred. Then you must Re-Format the corrupted Disk and then Copy back the desired files.

This may sound like a lot of work, but if it means getting back a file that contains a lot of work it will more than pay for itself in lost time.