The FILER

- **SUPER FAST COPY PROGRAM**
- **FILE UTILITIES (Copy, Lock, Unlock)**
- **DISK SPEED CHECK**
- **DISK SYSTEM CHECK**

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CENTRAL POINT Software, Inc.

SYSTEM REQUIREMENTS

Apple II Computer, 48K Memory
One or two disk drives

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Comments? _____

_____

I learned about the FILER through:

☐ **Retail store**

☐ **Direct mail**

☐ **Another FILER owner**

☐ **Computer show**

☐ **Computer club**

☐ **Magazine** _____

☐ **Came with my computer.**
(Please specify name of computer _____.)

☐ **Came with my disk drive**
(Please specify name of disk drive _____.)

☐ **Other** _____

INTRODUCTION

The Filer disk is a collection of useful utilities for your Apple or Apple compatible computer and disk drives. It fully supports the drives manufactured by Apple Computer, Inc. (Disk II), Micro-Sci (A2, A40, A70), Fourth Dimension, and Franklin. It also works well with the QuadLink board for the IBM by QUADRAM Corporation. This disk includes:

1. The Filer program. This allows you to copy individual files, copy DOS disks, lock and unlock files, and change the DOS booting program.

2. Fast Copy. A very fast, yet reliable copy program for DOS, CP/M, Pascal and other Apple compatible diskettes. It includes full read and write error checking and supports 35, 40 and 70 track drives.

3. Disk Speed. Helps you keep your disk drives adjusted to the correct speed for maximum reliablity.

4. Disk Test. Tests the major functions of the disk drive: write protect, read-write test and bad sector scan.

In addition, this disk includes Apple DOS 3.3, and FPBASIC (Applesoft) for use with these programs.

You will want to keep your Filer Disk handy whenever you use your Apple II or Apple compatible computer. With it you can make fast, reliable back-ups of your valuable software, easily move programs and data files from disk to disk, and keep your diskettes and drives in top working condition. The following sections describe each of the individual programs included on the Filer Disk in greater detail.

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A2, A40, A70 are trademarks of Micro-Sci, a division of Standun Controls, Inc.
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FILER INSTRUCTIONS

The Filer program is a disk utility designed for an Apple with DOS 3.3 and 35, 40, or 70 track disk drives. The Filer lets you manipulate data and files on disks with greater ease. Commands include locking, unlocking, deleting, and copying files, as well as cataloging the disk, determining the number of free sectors, copying the DOS or the entire disk, and changing which program the disk will run when booted. The Filer requires an Apple II with 48K of memory, DOS 3.3, and at least one disk drive.

To run the Filer, either boot up the Filer system disk and select the Filer option (option 1), or boot any standard DOS disk, insert the Filer disk, and type:

BRUN FILER

The disk will whir, and in a few moments the main Filer menu will appear, displaying the Filer heading, the command menu, and the current slot and drive.

You will notice that the word "CATALOG" is in inverse. This is because CATALOG is the currently selected option, which is always displayed in inverse. To select another option, either type the number listed to its left, or use the arrow keys to move the inverse field. Once you've selected the option you want, simply press the <RETURN> key and it will execute.

Throughout the Filer, pressing the <RETURN> key usually selects the current or default option, and pressing <ESCAPE> always returns you immediately to the main menu. Pressing <ESCAPE> from the main menu will exit the program.

>>> SET SLOT & DRIVE

The slot and drive numbers displayed at the bottom of the main menu determine which disk drive Catalog, Lock, Unlock, Delete, and Change Booting Program will use. To change the slot and drive numbers, move the inverse field to the "SET SLOT & DRIVE" option and press <RETURN>. A flashing cursor will appear over the slot number. To change the number, type the new number. If you want to keep the same slot number, you can either retype the number, or simply press <RETURN>. The cursor will then appear over the drive number. As with the slot number, either type a new number or press <RETURN>. (If you type an invalid number, a tone will sound and the cursor will remain in place.)

>>> CATALOG

The CATALOG option gives both a standard DOS catalog and the number of free and used sectors on the disk. The catalog contains the following information for each file:

1. An asterisk if the file is locked.
2. A letter representing the filetype
   (A=Applesoft Basic, I=Integer Basic, B=Binary, T=Text).
3. The number of sectors used by the file.
4. The name of the file.

>>> COPY DISK

After selecting the COPY DISK option, you are asked for the slot and drive numbers for both the source and destination disks. As with "SET SLOT & DRIVE", you can change these numbers or press <RETURN> for no change. If a single drive is being used, you will be prompted to insert the source or destination disks at the appropriate times. Press <RETURN>, and copying will begin.

COPY DISK automatically determines how many tracks are on the source disk, and formats and copies that number of tracks. Disks can be copied from 35-track drives to 40- or 70-track drives, but only the first 35 tracks will be formatted and copied. Likewise, 40-track disks can be copied onto 70-track disks. However, the reverse is not true. Attempting to copy to a drive with fewer tracks available will cause errors. COPY DISK should only be used to copy standard DOS format diskettes. In particular, do not use it to copy Pascal or CP/M diskettes. (Use Fast Copy instead).

>>> COPY DOS

This option allows you to copy only the disk operating system (the first three tracks on the disk) from one disk to another. This is useful for making master disks, which load DOS into the appropriate place in memory, regardless of how much memory your Apple contains. (The Filer disk is a 35-track master disk. You can create your own master disks by copying the DOS from the Filer disk onto your own initialized disks.) The COPY DOS option is similar to the COPY DISK option: Simply select slot and drive numbers, insert disks, and press <RETURN>.

>>> CHANGE BOOTING PROGRAM

This option will display the program that is run whenever a disk is booted, and lets you change DOS to boot with another program. The new program can be either a Basic or binary program or an Exec file.

When selected, the disk whirs and the message

THE DISK NOW BOOTS WITH
FILE:

appears with the name of the booting program, and you are asked for a new filename. If you press <RETURN>, the program will simply return to the main menu without changing the booting program. If you enter a filename, the program will verify that the file is on the disk, determine its filetype, and modify DOS so that the disk will subsequently boot with this new program. You are then returned to the main menu.

>>> FILE OPTIONS

The four remaining options deal with individual files. When asked for a filename, pressing <RETURN> will return you directly to the main menu. To manipulate one or more files, you can enter a single filename or you can select a number of files at once using a special character called a wildcard character. The Filer uses "=" (an equals sign) as a wildcard character. This character lets you match any number of characters in the filename, as long as the rest of the name is identical.

For example, if you enter a filename of "H=I", the Filer will match it with any file on the disk that begins with an "H" and ends with an "I", including "HAWAII", "HUGE MARTINI", or simply "HI". Entering a filename of "=A=" matches any file that contains the letter "A". Entering "=" matches every file on the disk.

If you enter a filename containing the wildcard character, the Filer will ask:

DO YOU WANT PROMPTING (Y/N) ?

If you answer with a "Y" for yes, then for every matching file found, the filename will be displayed and you will be asked ("Y/N") whether or not you want to use this file. This protects you from accidentally disturbing files you didn't intend to change. If you answer no to the prompting question, then all matching files will be used. After all files have been operated on, the message "DONE" will appear; if no files match, "NO FILES SELECTED" will be displayed.

The current file being used is displayed whether or not prompting is selected, and files already operated on are shown at the bottom of the screen. When finished, you are again prompted for a filename. You can enter another filename or press <RETURN> to return to the main menu.

>>> LOCK FILES

This option allows you to lock one or more files at a time. If you enter a single filename, that file will be locked. If you enter a filename containing the wildcard character, only files that are currently unlocked will be matched and then locked. Hence if you select to lock files that are already locked, you will get a "NO FILES SELECTED" message.

>>> UNLOCK FILES

This option lets you unlock one or more files at a time. If you enter a single filename, that file will be unlocked. If you enter a filename containing the wildcard character, only files that are currently locked will be selected and unlocked. Hence, if you select to unlock files that are already unlocked, you will get a "NO FILES SELECTED" message.

>>> DELETE FILES

This option lets you delete one or more files. The files must be unlocked before they can be deleted. If you enter a single filename, that file will be deleted if it is unlocked. If you enter a filename containing the wildcard character, only files that are unlocked will be deleted. Hence, if you select to delete files that are locked, you will get a "NO FILES SELECTED" message.

>>> COPY FILES

This option lets you copy any number of files from one disk to another. You are first prompted for source and destination slot and drive numbers. If these do not need to be changed, simply press <RETURN> four times to "walk" through. If you are using only one drive, you will be prompted to insert the source and destination disks at the appropriate times. Enter the filename, and copying will begin.

If a file with the same filename already exists on the destination disk, the filename will be displayed with the message "EXISTS", or if the file is also locked, the message "IS LOCKED". You are then prompted:

<CR> TO COPY, <CTRL-C><CR> TO CANCEL, OR
COPY AS?

If you respond by entering <RETURN>, the old file will be deleted and the new file will be copied onto the disk. If you press <CTRL-C><RETURN>, the file will not be copied. If you want to copy the file with a new name, enter the new name, then press <RETURN>. The Filer will determine if this new filename is also on the destination disk. If it is, you will again be prompted to accept, cancel, or change the filename.

FAST COPY INSTRUCTIONS

FAST COPY is a program designed to copy standard 16-sector 35, 40 or 70 track disks quickly and reliably. Back-up copies can be made of DOS 3.3, Pascal, and CP/M format disks. Copying with two drives takes less than 40 seconds, and with two controller cards, as little as 27 seconds.

To use FAST COPY, either boot the Filer disk and select the Fast Copy option (option 2), or boot any standard DOS disk, insert the Filer disk, and type:

BRUN FAST COPY

In a few moments the program heading will appear on the screen. The program will ask for information on slot and drive numbers, etc. By each prompt is a default value displayed in inverse. You can either change the value by entering a new number, or accept the default value simply by pressing <RETURN>.

If you make a mistake, pressing <ESCAPE> at any time will restart the program, allowing you to reenter the values. Pressing <ESCAPE> followed by "Q" will cleanly exit the program.

ORIGINAL SLOT
Enter the slot number of the drive you want to copy FROM, or press <RETURN> to accept the slot number listed. (Range is 1 to 7).

ORIGINAL DRIVE
Enter the drive number of the disk you want to copy FROM, or press <RETURN> to accept the drive number listed. (Range is 1 or 2).

DUPLICATE SLOT
Enter the slot number of the disk drive you want to copy TO, or press <RETURN> to accept the slot number listed. Fast Copy will look to see if your computer has an additonal controller card and if so, its slot number will appear as the default. (Range is 1 to 7).

DUPLICATE DRIVE
Enter the drive number of the disk you want to copy TO, or press <RETURN> to accept the drive number listed. (Range is 1 or 2).

ENTER START TRACK
You may select a range of tracks on the disk to copy. This enables you to fix bad tracks on a disk, copy only the disk operating system, etc. Normally, you want to copy the entire disk, so press <RETURN> to accept track 0 as the starting track. Note that track start and end are specified as hexadecimal numbers.

ENTER END TRACK
As above, you may specify the last track you wish to copy. This is usually used to specify the number of tracks for larger disk drives such as the A40 (27 HEX) or the A70 (45 HEX), but can also be used to fix a defective track or range of tracks on a diskette.

ERASE DOS (Y OR N)
If you enter "N" here or take the default, the program will copy three tracks at a time. If you enter "Y", five tracks will be copied at a time, producing a faster copy, but DOS will be erased and you will need to reboot after leaving the program before you can access the disk.

You are then prompted to insert the diskettes to be copied. (Pressing <ESCAPE> will restart the program, and pressing "Q" will quit.) Insert the disks and press <RETURN> to begin copying.

At the bottom of the screen will be the "COPY STATUS" display. This display shows any errors that may occur during copying. The tracks are numbered across the screen in hexadecimal and beneath are error numbers for each track copied. An error number of 0 means there were no errors and the track copied correctly. A disk has copied correctly if copying produced a row of zeros. An error number of 1 means your disk drive is not able to seek correctly and indicates a drive problem. An error number of 2 means an error occurred while reading the original disk. An error number of 3 means an error occurred while writing to the duplicate disk. If an error occurs, try recopying the disk, as it is probably unusable as it is.

When copying is finished, pressing <RETURN> will restart the program for copying another disk. To quit the program from here, press <RETURN>, then "Q".

Unlike most copy programs, 16 SECTOR FAST COPY does not stop copying if it encounters an error. This means that disks with one or two bad sectors can still be copied, with most of the data intact.

Users of the Micro-Sci A40/A70 combination will be pleased to note that a 35 or 40 track diskette can be copied from an A70 drive to an A40. This allows two drive copies to be made using the A40/A70 combination. Simply use the A70 as the original drive and the A40 as the duplicate drive. Fast Copy (and The Filer) will make all necessary adjustments to correctly copy the disk. Note that it is not possible to copy a 35 track disk to an A70 for use in a 35 or 40 track disk drive since the width of the track written by an A70 is too narrow for other drives to read.

Since 16 SECTOR FAST COPY uses default values which are selected by simply pressing <RETURN>, most copying can be started quickly just by pressing <RETURN> a few times. If copying is done using two controller cards, the motors for both drives run simultaneously, eliminating the delays waiting for the drives to come up to speed. Copying time is as little as 27 seconds.

Note: Using two controller cards uses more power than the Apple power supply is rated for. While this should not damage the Apple, drives, or original disk, the supply may shut down momentarily, losing the program and anything else in memory. Using Fast Copy with more than one controller card is not recommended unless you have very few cards in your Apple's slots or have purchased a larger power supply.

DISK SPEED

The DISK SPEED program is used to measure the rotational speed of your disk
drive. It will work with the Apple Disk][drive, the Micro-Sci A2, A40, A70
drives, and the Fourth Dimension disk drive.

Disk speed is a very important parameter which can affect the drive's ability
to boot, read, and write. You should check your drive's speed after every 25
hours of usage, as it has a tendency to change with use.

The DISK SPEED program will ask you for the slot number and drive number of
the drive you wish to check. BEFORE entering the slot and drive number, you
should insert a SCRATCH diskette into the drive. This program WRITES on the
diskette, so don't use a diskette which contains any valuable information.

After you enter the slot and drive numbers, the program will turn on the drive
and display the speed. The speed is displayed in milliseconds (ms); 200.00 is
the nominal reading. The display may fluctuate by about 1 ms -- this is
perfectly normal. The acceptable speed range is from 198.00 ms to 202.00 ms.
If the reading is within this range, then the disk speed is correct. If the
reading is outside of this range, then the speed should be adjusted. See
"ADJUSTING THE DISK SPEED" for instructions on adjusting the speed.

A drive which has trouble writing or reading may not display a meaningful
number for the speed. It may display no numbers at all, or it may display a
series of highly fluctuating, almost random numbers. In either case, there is
something wrong with the drive beyond a speed problem.

ADJUSTING THE DISK SPEED

I. **APPLE, FOURTH DIMENSION OR MICRO-SCI A2 DISK DRIVES**

   A. WITH THE APPLE][POWER OFF, disconnect the drive from the drive
       controller card.

   B. Remove the drive cover by removing four (4) screws. On the Disk II,
       these screws are on the bottom of the drive. After removing them,
       slide the cover off towards the rear of the drive. On the A2, these
       screws are on the sides of the drive. After removing them, lift the
       cover off the drive.

   C. Reconnect the drive to the drive controller card and run the DISK
       SPEED program.

   D. The drive speed is adjusted by turning the SPEED CONTROL
       POTENTIOMETER. This is a long rectangular box with an adjustment
       screw at one end. It is located on a small printed circuit card at
       the rear of the drive (see figure 2).

   E. After the speed is adjusted to within the prescribed range, replace
       the drive cover onto the drive.

II. **MICRO-SCI A40 OR A70**

   A. WITH THE APPLE II POWER OFF, disconnect the drive from the drive
       controller card.

   B. Remove the drive cover by removing four (4) screws, two on either
       side. After removing them, lift the cover off the drive.

   C. Reconnect the drive to the drive controller card and run the DISK
       SPEED program.

   D. The drive speed is adjusted by turning the SPEED CONTROL
       POTENTIOMETER. This is a rectangular box with an adjustment screw
       coming out of the side. It is located on the left side of the printed
       circuit card which is on top of the drive (see Figure 1).

   E. After the speed is adjusted to within the prescribed range, replace
       the drive cover onto the drive.

DISK TEST

The DISK TEST is a comprehensive utility which allows the user to perform a thorough checkout of his disk drives and diskettes. Together with DISK SPEED it forms a very useful tool for determining the cause of a disk drive related problem.

DISK TEST can be used for two distinct purposes -- to test a disk drive or to test a diskette. Testing the disk drive consists of checking the write-protect circuitry, the drive's ability to read and write, and using DISK SPEED, the rotational speed of the drive. Testing a diskette involves either checking the physical structure of the diskette (certifying), or the integrity of the data on the diskette (verifying). Checking the physical diskette consists of writing data to it and then verifying for correct data upon readback. Checking the integrity of the data on the diskettes is what is done during a Bad Sector Scan. This is a read-only test, wherein every sector of every track is checked for proper readback.

The Status Display

The top three lines of the display are called the Status Display. This includes the following information:

TRACKS	The number of tracks to use in the Write/Read test and the Bad Sector Scan. This number is set by Selection 1.
SLOT	The slot number of the drive under test. Allowable slot numbers are 1 through 7.
DRIVE	The drive number of the drive under test. Allowable drive numbers are 1 and 2.
CURRENT TRACK	The track number, in hexadecimal, of the track currently being read or written.
CURRENT SECTOR	The sector number in hexadecimal, of the sector currently being read or written.
SECTORS READ	The total number, in hexadecimal, of sectors read. This is a cumulative number and can only be reset by SELECTION 6 (RESET SECTOR COUNT). It is incremented by one every time a sector is read in the Write/Read test or in the Bad Sector Scan.

The Selection Menu

SELECTION 1	SELECT NUMBER OF TRACKS

Allows the user to set the number of tracks to test in the Write/Read test and the Bad Sector Scan. The allowable numbers are 35, 40 and 70.

SELECTION 2	CHECK WRITE-PROTECT

Displays the write-protect status of the drive under test. With no diskette or an unprotected diskette in the drive, the display should read NOT PROTECTED. With a diskette half-way inserted, or with a protected diskette, the display should read PROTECTED.

SELECTION 3   PERFORM WRITE/READ TEST

```
***********************************************
*                                             *
*                  WARNING                     *
*                                             *
* THIS TEST WILL DESTROY ALL INFORMATION      *
* ON THE DISKETTE IN THE DRIVE UNDER TEST     *
***********************************************
```

The Write/Read test first formats the diskette in the drive
under test. It then writes a random pattern in each sector
of each track. Lastly, it reads each sector of each track
repeatedly. Press ESC to return on the menu.

SELECTION 4   PERFORM BAD SECTOR SCAN

The Bad Sector Scan reads every sector of every track on the
diskette, repeatedly. Press ESC to return to the menu.

 Note: The diskette being read must be a standard DOS
     format diskette.

SELECTION 5   SELECT NEW SLOT AMD DRIVE

Allows the user to specify a new slot and drive for the drive
under test. Allowable slot numbers are 1 through 7; allowable
drive numbers are 1 and 2.

SELECTION 6   RESET SECTOR COUNT

Resets the SECTORS READ count to zero.

SELECTION 7   EXITS TO BASIC

Exits DISK TEST program and returns to BASIC.

 Note: This is the proper way to exit the disk test program,
     as it "UNMODIFIES" DOS prior to exiting.

Errors

Errors can occur in the Write/Read test or in the Bad Sector Scan. There are three
types of errors:

FORMAT ERROR   Occurs in Write/Read test only. Indicates that drive is unable
        to write or read. This is a fatal error and the test cannot be
        continued.

WRITE ERROR   Occurs in Write/Read test only. Indicates that drive is unable
        to write or read a particular sector, but test can continue.

READ ERROR   Indicates that drive is unable to read a particular sector.

The WRITE and READ errors will indicate which sector of which track was in error.
For example,

      READ ERROR - TRACK 1D, SECTOR A

means that the drive was unable to READ sector A of Track 1D.

HOW TO USE DISK TEST

1. Testing a Drive

    (a) Select the number of tracks to test.

    (b) Select the slot and drive numbers of the drive to test.

    (c) Check write-protect.

    (d) Run the Write/Read test.

    (e) Run the DISK SPEED program.

2. Certifying a Diskette

    (a) Select the number of tracks to certify.

    (b) Select the slot and drive numbers of the drive which will do the
         certifying.

    (c) Run the Write/Read test.

3. Verifying a Diskette

    (a) Select the number of tracks to verify.

    (b) Select the slot and drive numbers of the drive which will do the
         verifying.

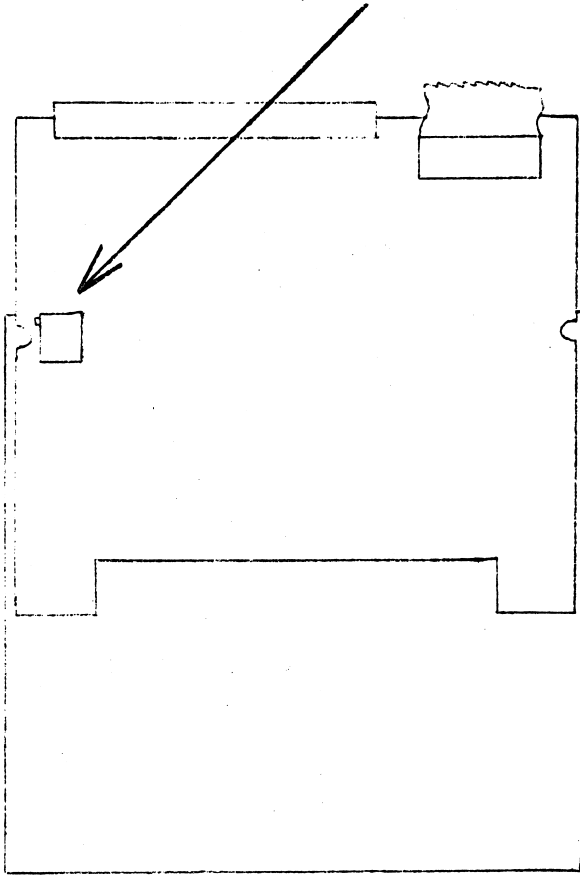   (c) Run the Bad Sector Scan.

A40/A70 SPEED CONTROL POTENTIOMETER
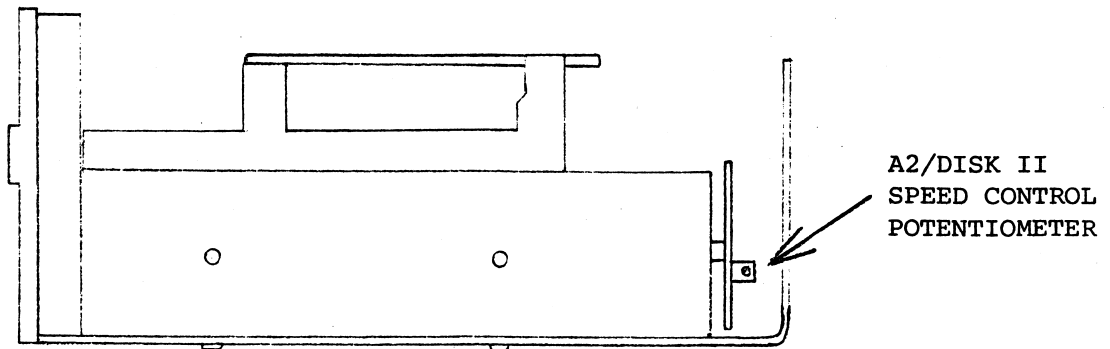
Figure 1

A40/A70 Disk Drive

(Top View)

A2/DISK II
SPEED CONTROL
POTENTIOMETER

Figure 2

A2/Disk II Disk Drive

(Side View)