FASTBACK

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FASTBACK AND FASTREAD UTILITY PACKAGE

FASTBACK is a utility program that will copy a file larger than can be held on a single floppy disk to multiple diskettes. FASTREAD will restore a set of floppy diskettes back to a file on a hard drive. These programs are written entirely in machine language, and provide a considerable time saving when compared to the standard Tandy file backup programs written in BASIC. Both of these programs may be started up and run automatically with a JCL file to allow automated backup procedures to be used.

INSTALLATION

As with any computer software product, it is recommended that you make a backup copy before starting to use the package. Do so, and place the original master in a safe place. To install the programs on the hard disk, do a backup from the floppy onto the hard drive (normally, onto the partition used as drive 0).

FASTBACK - Hard disk to floppy

Prior to using FASTBACK, you need to determine how many floppy disks will be needed to hold the file you will be copying. Single sided 40 track disks will have a capacity of 171K; double sided disks will have 342K. Format all of the disks needed, and then FORMAT 2 EXTRA. Label all disks except the extra disks with the name of the file, and number them consecutively from 1 to the end. Put labels on the extra disks but do NOT number them at this time. These extra disks can be used in the event that one of the numbered disks develops a flaw during use. This will be explained later.

Any disks that have locked out tracks CANNOT be used by FASTBACK. If tracks do get locked out during the formatting procedure, set the disk aside (or throw it away) and format another in its place. Remember - you are making a copy of the file in case something happens to the original on the hard disk. Why take chances with marginal floppy media?

To start the file save procedure, place the first floppy disk in the drive to be used and type in the command FASTBACK at the DOS Ready prompt. Three prompts must now be answered to start the file save. The first prompt asks whether you want to verify all writes to the floppy disk:

        VERIFY all writes (Y/N) ?

Normally, this prompt will always be answered Y (for Yes). In the event that time is extremely critical (approaching electrical storm, office closing in 20 minutes, etc.), you can answer this N (for No), and the file copy time will be cut approximately 50%. This is NOT recommended, however, and should only be done in emergency situations and with known reliable floppy drives.

The second prompt will be for the name of the file on the hard drive you wish to save to floppy:

        Source file ?

Type in the name of the file, including the extension (if any) and the drive number. If the file is not found, the message "File not in directory" will appear and the program will exit back to the DOS Ready prompt. Once the source file is found and opened, the next prompt will be for the floppy drive number to save it to:

        Destination drive ?

Answer this with the drive number holding the floppy disk. The file save will now begin, and two lines of information will appear on the screen:

        Using disk # n

Writing cylinder nn

The disk number shown should correspond to the number of the disk in the floppy drive. If it doesn't, check to see that all the disks in the floppy set you are using are numbered consecutively and are in order. At any time, pressing the BREAK key will abort the file save and return to the DOS Ready prompt. Once the disk is full, you will be prompted:

Insert disk N, Press ENTER

The "N" will be the number of the next disk in the set. Place it in the floppy drive and press the ENTER key to resume copying. This procedure will continue until the file is entirely saved to floppy. When finished, the screen will clear, the message "Completed successfully" will be displayed, and the DOS Ready prompt will appear.

FASTBACK ERROR MESSAGES

There are certain error messages that can appear if FASTBACK detects something wrong. Three of them can appear even before the program actually starts writing to floppy:

Not enough free memory for FASTBACK
Destination disk MUST be a floppy drive
Source and destination disks can't be the same

FASTBACK requires approximately 8K of free memory after it is loaded. Since the program itself is less than 3K long, this message should NEVER appear. If it does, it indicates a severe hardware error or a bad configuration at the DOS level. Stop immediately and check things out! The other two errors usually come from mis-typing the drive number on the source filename or for the destination drive. Check your answers and re-start the program with the proper values.

One error message deals with flawed tracks on a disk:

Disk has locked out tracks. Press ENTER

If you see this message, the floppy disk you just inserted had tracks locked out during formatting. As mentioned earlier, this is a no-no. Press ENTER, and the original prompt for the floppy disk will re-appear. Pull out the offending disk and put in a new one. If the disk in question is one of your numbered set, take one of the extra disks, number it to replace the flawed one, and insert it instead.

This brings us to the two last error conditions - an error when writing to the floppy, and an error when reading from the hard disk:

Floppy disk error
Put in replacement disk, press <ENTER>

DO NOT press Break unless you want to quit!!

This message will appear anytime there is an error writing or verifying the floppy disk. Here is where the extra disks come into use. Pull out the bad floppy, take an extra disk and number it to match the bad disk, place it back in the drive and press ENTER. If you want to abort the copy instead (or if you didn't make those extra disks), press BREAK to quit and return to DOS Ready.

The hard disk read error will show as:

Source disk read error, <BREAK> to abort, <ENTER> to ignore

If this messages appears, there is a bad sector on the hard disk. The choice is yours - continue and get as much of the good information as possible, or stop the file save. Press the indicated key once you decided what to do.

AUTOMATED USE FROM JCL

To run FASTBACK from a JCL file, you need a minimum of four lines:

```
FASTBACK
Y
FILENAME
DRIVE#
```

Line 1 must always be the command FASTBACK to execute the program. Line 2 is usually "Y" (Yes to the verify question). Line 3 is the name and drive of the source file. Line four is a single digit for the floppy drive #. Of course, comment lines giving information can be included as shown in the next example. Also, since all keyboard responses inside FASTBACK are done in a "non-JCL" mode, two or more of these sequences can be put together in the event that there is more than one file to save. The following example is one method of starting up FASTBACK:

```
. SEMI-WEEKLY backup of mailing list - Get "A" set of disks
. Place disk 1 in drive 5 (top floppy)
. Close door, and press ENTER when ready...
//pause
FASTBACK
Y
MAIL/KEY:1
5
```

FASTREAD - Restore floppy to hard disk

FASTREAD will read a set of floppy disks created with FASTBACK and restore the original file back to the hard drive. The hard drive partition does not have to be the same one the file came from originally.

To start the program, type the command FASTREAD at the DOS Ready prompt. Several prompts will now appear. The first is for verification of the writes to the hard drive:

    VERIFY all writes (Y/N) ?

This prompt should always be answered by pressing Y (for Yes). The time saved for not verifying will be approximately 5 seconds when restoring from a 40 track, single sided floppy. In extreme conditions, there may be a reason to not verify the writes, but it is not recommended. The next prompt will be for the drive holding the floppy disk:

    Source drive ?

Be sure the first floppy disk is in the drive and the door is closed, and respond by pressing the appropriate number. At this point, the filename of the original file will be read from the floppy and displayed on the screen. The next prompt will be for the hard disk to receive the file:

    Destination drive ?

Answer with the hard disk drive number where the file should go. The restore will now start and the screen will show two messages:

    Using disk # n

    Reading cylinder nn

The disk number currently being read will be shown, and should match the label on the

disk. The cylinder number will increase from 1 until the floppy disk has been entirely read. The next disk will be called for with the prompt:

    Insert disk N, Press ENTER

The "N" represents the number of the next floppy disk in the set. Insert it and press ENTER. Pressing BREAK at this point or during the reading will abort the restore and return to the DOS Ready prompt. However, be aware that the file on the hard drive will be changed once FASTREAD has started.

The disks will be prompted for until the last disk is read. At that point, the screen will clear, the message "Completed successfully" will be displayed, and the DOS Ready prompt will appear.

FASTREAD ERROR MESSAGES

Disk read/write errors, trying to restore disks out of order, or using non-FASTBACK floppy disks will all show different error messages on the screen. FASTBACK writes certain information to an otherwise unused portion of the floppy disk for FASTREAD to check during the restore. If this information is missing, or if disks from different FASTBACK sessions are mixed, an error message will also appear. Three FASTREAD generated errors can appear at the start of the restore:

    Not enough memory for FASTREAD
    Not disk number 1. Insert correct disk, press <ENTER>
    Not a FASTBACK disk - can't read

FASTREAD requires approximately 8K of free memory after it is loaded. Since the program itself is less than 3K long, this message should NEVER appear. If it does, it indicates a severe hardware error or a bad configuration at the DOS level. Stop immediately and check things out! The next error message indicates that the floppy disk in the set is NOT the first disk in the set. Find the correct disk, place it in the drive, and press ENTER to continue. Pressing BREAK will abort the restore at this point. The last message indicates that the floppy disk was not created by FASTBACK. The usual cause of this is typing in the wrong source drive number. Check your responses and re-start the procedure.

Two error messages can appear if errors on the source floppies are detected:

    Error reading header. <BREAK> to abort, <ENTER> to retry
    Source disk read error. <BREAK> to abort, <ENTER> to ignore

The first message will appear if there is a disk read error when a floppy is initially being read. You should retry several times by pressing ENTER, because the header information MUST be read successfully before the data on the disk can be restored to the hard drive. If the retries are not successful, pressing BREAK will exit back to DOS. The second error indicates a read error in the data saved on the floppy. This is usually caused by something that happened to the floppy after it was created with FASTBACK - exposure to a magnetic field, touching the floppy media with fingers, etc. Pressing enter will ignore the error and attempt to read the next sector on the disk. Pressing BREAK will abort the restore and return to DOS. This message may appear several times in a row if more than one sector of the disk is bad.

Two error messages can appear when accessing the hard drive:

    Disk write error. <BREAK> to abort, <ENTER> to ignore
    Verify error. <BREAK> to abort, <ENTER> to continue

Since the hard drive media cannot be physically changed, errors when writing or verifying can be ignored so the entire file is copied. However, it might be a good idea to re-format the hard drive so the bad areas are locked out, and then restore the data to it.

AUTOMATED USE FROM JCL

Like FASTBACK, the FASTREAD program can be started with a JCL file. Again, four lines are necessary - the FASTREAD command, the Verify answer, and the source and destination drive numbers.

For example:

```
FASTREAD
Y
5
1
```

This example JCL file would initiate FASTREAD, use verify, read from floppies in drive 5, and write to the hard drive in logical drive position 1.