Commodore Disk Commands

Commodore DOS supports a wide range of commands designed to enable the user to construct complex random access file handling programs, as well as the usual program and data file handling procedures. These commands are used as shown below. In each case 8 is the identifying device number of the disk drive.

SAVE

Creates named (up to 16 characters) program (PRG) files that can be programs or sequential data. The format is as follows:

    SAVE"FILENAME",8

LOAD

Constructed as:

    LOAD"FILENAME",8

This copies the specified PRG file into RAM from the bottom of user memory upwards. The command

    LOAD"FILENAME",8,1

copies the specified file back into the memory locations from which it was originally SAVEd.

    LOAD"$",8

copies the disk directory into user memory. It can then be LISTed like a BASIC program and contains the following:

    Disk name
    2 character disk identifier
    Up to 144 file names
    Type (PRG or SEQ) for each file
    Length of each file in blocks
    Number of free blocks available

VERIFY

Constructed as:

    VERIFY"FILENAME",8

compares the specified file with the file currently contained in user memory and generates an error message if they are different. Used to check if files have been SAVEd correctly.

OPEN

Establishes a unique communication channel that is identified with a 'logical file number' (LFN) within the range 1 to 255. Up to 10 LFNs may be open at one time. OPEN also establishes a 'secondary address' (SA), which determines the way the device accessed will behave. The only disk drive secondary address is 15, which accesses the priority 'command' channel. OPEN is entered as:

    OPEN LFN,8,SA

CLOSE

Takes the format:

    CLOSE LFN

Terminates the specified logical file. Logical files should always be CLOSEd when they are no longer required.

PRINT#, INPUT# AND GET#

PRINT# operates in a similar manner to PRINT except that data is output, as a SEQ file, to the specified OPEN logical file instead of the screen. Constructed as:

    PRINT#LFN,"DATA" or
    PRINT#LFN, A$,B$, . . .

In the same way, INPUT# and GET# read SEQ files. INPUT# retrieves string data but is only effective if the stored strings are separated by semi-colons or commas, otherwise INPUT# will treat the data as one long string. GET# retrieves data one byte at a time, including semi-colons and commas. This is most useful if the contents of a file are unknown and not separated. The following are examples of the command formats:

    INPUT#LFN,A$,B$ . . .
    GET#LFN,A$,B$ . . .

When PRINT# is used in conjunction with a logical file OPENed to the command channel (e.g. OPENLFN,8,15) like this:

    PRINT#LFN,8,15,"command string"

it is transformed into the most powerful disk handling command available. Command strings are used to implement disk maintenance commands and advanced random access (relative — REL) file commands.

Disk Maintenance Commands

When used in conjunction with PRINT# or OPEN on the command channel, in the format given, these command strings perform these functions:

NEW

Formats and names the diskette
Constructs BAM and Directory
Assigns the 2 character disk identifier (DI)
Command: "N:DISKNAME,DI"

INITIALISE

Checks BAM in disk RAM with BAM on disk
Command: "I"

VALIDATE

Deletes blocks allocated by advanced REL commands not held on directory and files not CLOSEd after they were written
Writes a new BAM
Command: "V"

RENAME

Changes the Directory listing of a specified file
Command: "R:NEWNAME=OLDNAME"

SCRATCH

Deletes specified files from disk and directory
"S:FILENAME 1,FILENAME 2,..."

COPY

Writes a copy of a file on the same disk
Command: "C:DUPNAME+ORIGNAME"
Joins SEQ files and writes them as a single SEQ file on the same disk. Known as 'concatenating'
Command: "C:CONNAME=NAME1, NAME2,..."

Error Checking

The front panel of the 1541 disk drive holds a green 'power on' LED and a red disk condition indicating LED where:

On = Reading from or writing to disk
Off = Waiting for instructions
Flashing = DOS has detected an error

To find out the nature of the error it is necessary to read the DOS error channel. The following program prints the error codes generated by DOS. A list of error codes and their meanings is given in the disk drive user manual.

```
10 REM**DISK ERROR
   CHECK**
20 OPEN15,8,15
30 INPUT#15,EN,EMS,ET,
   ES
40 PRINTCHR$(147)
50 PRINT"ERROR NO"EN
60 PRINTEMS
70 PRINT"TRACK"ET
80 PRINT"SECTOR"ES
90 CLOSE15:END
```