Peripheral Vision

By Mark Fellows

AN OVERVIEW OF THE DOS THAT POWERS CMD DEVICES

CMD DOS (Disk Operating System) is the control program built into CMD's HD, FD, and RAMLink which is responsible for controlling all operations related to these devices. The DOS interprets commands from the computer and responds by performing the requested operation (load, save, format, etc.). The DOS breathes life into CMD devices; without it, our equipment would do little more than take up space on your computer desk. Of course, this is also true for Commodore disk drives (such as the 1541, 1571 and 1581) which, like CMD HD and FD drives, are "intelligent" and contain an on-board microcomputer which by nature requires a control program (DOS) to function. RAMLink, instead of having its own microprocessor, uses the C-64 or C-128 microprocessor to perform its functions and in that respect can also be regarded as an intelligent device.

The FD and RAMLink (like Commodore disk drives) have their DOS programmed onto a ROM (Read-Only-Memory) chip. The HD has its DOS stored in a hidden area (partition) on the hard drive and is downloaded to RAM each time the drive is powered-up.

Compatibility

The core of CMD DOS provides an emulation of Commodore DOS 1541, 1571 and 1581 commands. This enables CMD devices to act and respond like Commodore disk drives, which provides the user with a familiar command structure along with a high degree of software compatibility. In other words, you can plug in a CMD device and use it just like your other Commodore disk drives. Even RAMLink, which plugs directly into the computer's Cartridge Port, appears as a disk drive, even though programs and files are being accessed from a solid-state RAM disk.

All CMD devices support PRG, SEQ, REL and USR files along with all file-related commands, including Load, Save, Verify, Open, Close, Scratch, Rename, Copy, and Record Position. Direct Access files are supported along with the Block-Allocate, Block-Free, Block-Read, Block-Write, Buffer-Pointer and Block-Execute commands. The 'User' commands are also provided: UØ, U1 (block read), U2 (block write), U3-U8 (jump), UI (warm reset) and UJ (cold reset). Memory access commands are also included (Memory-Read, Memory-Write, and Memory-Execute), along with support for Utility Loader and Autoboot Loader files. 1541, 1571 and 1581 Job Queue locations and commands are emulated on all CMD devices, and a special extended 'Native' Job Queue is also provided. Fast serial 'Burst' commands are supported on the HD and FD.

Commands are sent to CMD devices in the usual manner (over the Command Channel; Secondary Address 15). The Error Channel is also accessed in the same manner as with other Commodore disk drives. Files are opened and closed and file data is accessed through the normal BASIC commands or Kernal routines. The directory structure of CMD devices is the same as Commodore disk drives and directories can be viewed by using the standard commands. Commodore wild card and pattern matching syntax is supported as well.

The close adherence to Commodore DOS standards makes CMD devices compatible with nearly all C-64/128 software and eliminates the need for program modifications. In addition, GEOS compatibility is provided through special Configure files supplied with the devices or through CMD's gateWay desktop.

Partitions

Because of the large capacity of CMD devices, CMD DOS provides a means of organizing the storage area into manageable sections. On the FD and RAMLink you can divide the overall storage space into as many as 31 segments (partitions), while on the HD, as many as 254 partitions can be created. Partitioning a CMD device is similar to dividing a large disk into a number of smaller disks and is accomplished through the use