DDK Product Overview

The Microsoft MS-DOS CD-ROM Extensions are an extension to the MS-DOS operating system which permit reading CD-ROM discs which conform to both the High Sierra format and the ISO-9660 version of the High Sierra format. The CD-ROM disc appears just like a read-only magnetic disk to the user and to applications software, ensuring compatibility with current software.

Product Components

This product consists of a program supplied by Microsoft to assist programmers in developing MSCDEX compatible CD-ROM device drivers. The program supplied by Microsoft is named MSCDEX.EXE. Technical documentation as well as a sample hardware-dependent device driver is also supplied by Microsoft.

Product Highlights of Version 2.21

The Microsoft MS-DOS CD-ROM Extensions Version 2.21 include these updated features:

Ø The MS-DOS version variables have been updated and MS-DOS 5.0 no longer needs SETVER to run MSCDEX.

Ø The program TESTDRV has been updated with a new release. This program provides a general test that very rigorously tests your driver against the MSCDEX specifications.

Ø The programs DOSSPEED and WINSPEED have been replaced with CDSPEED. CDSPEED checks the transfer rate of your driver under the MS-DOS environment. CDSPEED can be used to verify the the transfer rate of the Multimedia PC Specification.

Ø The section "MS-DOSifying Your CD-ROM" has been expanded to include information on writing applications for read-only media, trapping extended INT 24h errors, and a description of the behavior of INT 21h functions when used with CD-ROM.

Technical Overview

This product uses the Microsoft Networks interface to MS-DOS so it requires MS-DOS version 3.1 or higher. MS-DOS 3.1 virtualizes the interface to drives. The entire CD-ROM (potentially all 660 megabytes) will appear to applications as a single MS-DOS drive letter. The Microsoft MS-DOS CD-ROM Extensions provide a high degree of compatibility with applications that depend on MS-DOS standard interfaces. See the section "MSDOSIFYing Your CD-ROM" for more information on accessing files on the CD-ROM from MS-DOS. The following list summarizes the characteristics of the MS-

DOS CD-ROM Extensions:
- Requires MS-DOS 3.1 or higher (or PC-DOS 3.1 or higher)

Ø Implements the High Sierra format and ISO-9660 format

Ø Requires a hardware-dependent device driver

The program MSCDEX.EXE is an installable file system driver implemented as a terminate and stay resident module. The user will usually load this program using AUTOEXEC.BAT when the computer is booted. (The user might also load MSCDEX with the INSTALL command in CONFIG.SYS or alternately load it directly at the command prompt.) The hardware-dependent device driver implements basic functions to read the CD-ROM disc and is loaded with the MS-DOS CONFIG.SYS file.
The Microsoft MS-DOS CD-ROM Extensions implement both the High Sierra file format and the ISO-9660 version of that standard. All features defined in May 28th proposal for Level 1 are implemented. In addition the following features beyond the High Sierra Level 1 standard are implemented:

Ø Support for CD-ROM XA Interleaved Files

Ø Support for 31 Character File Names when possible through truncation

Ø Support for Hidden Files

Ø Support for Access to VTOC

Ø Ignores Higher Level Files and Functions when present on the disk:

   - Associated Files
   - Protection Bits
   - Record Bits
   - File Version Numbers

Ø Support for shift-JIS Kanji (Japanese character) filenames

Hardware-Dependent Device Driver
This product requires a hardware-dependent device driver that interfaces to a specific OEM drive or drives. A detailed specification for the device driver as well as a sample driver are included. The driver implements the basic functions of reading the CD-ROM and is installed using the MS-DOS CONFIG.SYS conventions. A minimum set of functions for reading the CD-ROM disc are required to be in the device driver. Optional additional functions for increased performance when supported by the CD-ROM drive and controller may also be implemented in the driver. For more information on these functions, see the "Hardware-Dependent Device Driver Specification" section of this documentation.

Licensing the Microsoft MS-DOS CD-ROM Extensions

Microsoft will license the MS-DOS CD-ROM Extensions to manufacturers and marketers of CD-ROM disc drives. The license agreement allows the use of the product on a personal computer to which a licensed disc drive is attached. Developers of CD-ROM discs will not need to acquire any license or pay any royalty in order to develop or sell CD-ROM discs, and will not be entitled to distribute the MS-DOS CD-ROM Extensions. The end user will purchase the driver from drive manufacturer or marketer, not the CD-ROM disc developer.

The Microsoft MS-DOS CD-ROM Extensions will be delivered to licensees on a 3-1/2" MS-DOS diskette. Licensees are expected to distribute the Extensions to their customers on a floppy diskette containing both MSCDEX.EXE and the hardware-dependent device driver written by the licensee. The floppy would be included in the package containing the CD-ROM drive.

Creating CD-ROM Discs in the High Sierra Format

The Microsoft MS-DOS CD-ROM Extensions provide for reading CD-ROM discs in the High Sierra/ISO-9660 format on MS-DOS computers. They do not create CD-ROM discs in the High Sierra/ISO-9660 format. Microsoft does not manufacture CD-ROM discs, nor provide pre-mastering services. Third party companies can create CD-ROM discs in the High Sierra/ISO-9660 format and provide other pre-mastering services. Microsoft can supply a list of companies providing or planning to provide these services upon request. Software developers do not need the MS-DOS CD-ROM Extensions to create either applications software that reads CD-ROM discs, or to create CD-ROM discs. Once the software is ready and a disc has been pressed, developers will want a copy of the Extensions for testing; however, they are not needed to start development.

Software developers need do nothing special for accessing CD-ROM discs; they issue the same MS-DOS OPEN and READ calls as for opening any magnetic disks. Programmers can develop CD-ROM applications using standard MS-DOS tools. They need to be aware that they cannot create any temporary files or write any files in either the directory or on the entire CD-ROM disc. Software developers will want to minimize the number of seeks to the CD-ROM because of the comparatively long seek times of CD-ROM drives.

End.