Preparation for installing the CD-ROM software depends on what type of
computer system you have -- a two-drive, diskette-based system or a hard-
drive system. Follow the instructions for the type of system you have.

NOTE: If your computer is using all available DMA and IRQ channels, use the
software transfer files where noted in the following instructions. Software
transfer files allow your computer to operate the CD-ROM drive even if all
available DMA and IRQ channels are in use.

TEXT CONVENTIONS

This installation guide uses a simple method of notation to distinguish
among text you type, keys you press, and what you see on your computer
screen.

* small caps bold indicates a key that you press on your computer.

* lowercase italics represent variable words, letters, characters, values,
    or filenames.

* [] (brackets) indicate optional parameters. Use these optional parameters
    if you want the functions they provide.

* Characters that appear on your computer screen are displayed differently
  from the regular text.

Note: MS-DOS accepts both uppercase and lowercase letters.

TWO-DRIVE, DISKETTE-BASED INSTALLATION

The first thing you must do if you have a diskette-based computer system is
create a bootable diskette to use when you want to start up your computer
and use the CD-ROM drive.

Note: If your computer system normally boots (starts-up) from DOS in ROM
(read only memory), you must set the computer to boot from the diskette
drive, as described in the computer's user's guide.

To create a bootable diskette, do the following:

1. Insert your MS-DOS diskette into Drive A and insert a blank diskette
   into Drive B.

2. Type:

   format b: /s ENTER

   The following prompt appears:

   Insert new diskette for drive B:
   and strike ENTER when ready

3. Press ENTER

4. When formatting is complete, the following prompt appears:

Format complete

      Volume label (11 characters, ENTER for none)?

5. Press ENTER

      The following prompt appears:

      Format another (Y/N) ?

      Type n and press ENTER.

6. Type:

      dir b:

      Confirm that the command.com file is on your new bootable diskette.

7. Remove your MS-DOS diskette from Drive A and insert the supplied CDR-1000
   Device Driver diskette into Drive A.

8. Proceed to "Installing CD-ROM Extensions."

HARD-DRIVE INSTALLATION

To prepare your computer's hard-drive system for the CD-ROM software, do the
following:

1. Type c: and press ENTER to select the hard drive's primary partition as
   the default drive.

2. Type cd\   and press ENTER to select the root directory of Drive C.

3. Insert the CDR-1000 Device Driver diskette into Drive A. Type: a: and
   press

      ENTER to change the default drive to Drive A.

4. Proceed to "Installing CD-ROM Extensions."

INSTALLING CD-ROM EXTENSIONS

Your computer requires special files called extensions to access the CD-ROM
drive. These files allow the MS-DOS system to operate the CD-ROM drive.

After you prepare your two-drive, diskette-based, or hard-drive system, you
can install the CD-ROM files (extensions). Use the following steps to copy
and modify the necessary files.

NOTES:

* The following steps also list optional software transfer files in shaded
  boxes. Use these files only if your computer does not have available DMA
  and IRQ channels.

* The software transfer files slightly increase the amount of time the drive

Note: The volume label
information in Step 4
does not appear in all
version of DOS.

requires to read files from a disc.

1. At the DOS prompt, type:

   setup ENTER

2. The following prompt appears:

   Do you want to install MTMCDD.SYS?
   [Y or N]

Note: IF your computer is using all available DMA
and IRQ channels, type N and press ENTER to install
the mtmcds.sys software transfer file. The follow-
ing prompt appears:

    Do you want to install MTMCDS.SYS:
    [Y or N]

Type Y and press ENTER twice. The following
prompt appears:

    Which directory would you like
    the CD-ROM device driver files
    installed in?
    (Press ENTER for default)

    c:\DEV   [default]

Proceed to Step 4.

Notes: Specify Drive
B instead of Drive C
throughout this
procedure, if you are
using a two-drive,
diskette-based
computer.

3. Type Y and press ENTER twice. The following prompt appears:

   Which directory would you like the CD-ROM device driver files installed
   in?
   (Press ENTER for default)

   C:\DEV   [default]

4. Press ENTER if you want to install the mtmcdd.sys file (or the mtmcds.sys
   file) in the default directory. If not, type the drive designation and
   the complete pathname of the directory you want.

5. Press ENTER. The following prompt appears:

   Installing file MTMCDD.SYS copying file MTMCDD.SYS to
   C:\DEV\MTMCDD.SYS... ...Done

   Press [ENTER] when ready to proceed.

Note: If you select the mtmcds.sys software transfer file,
the following prompt appears:

   Installing file MTMCDS.SYS
   Copying file MTMCDS.SYS to
   C:\DEV\MTMCDS.SYS... ...Done

```
    Press [ENTER] when ready to proceed.

Proceed to Step 6.
```

6. Press ENTER. The following prompt appears:

    Which directory would you like
    MSCDEX.EXE installed in?
    (Press ENTER for default)

    C:\BIN   [default]

7. Press ENTER if you want to install the mscdex.exe file in the default
   directory. If not, type the drive designation and the complete pathname
   of the directory you want.

8. Press ENTER. The following prompt appears:

    Installing file MSCDEX.EXE copying file MSCDEX.EXE to
    C:\BIN\MSCDEX.EXE... ...Done

    Press [ENTER] when ready to proceed.

9. Press ENTER. Then, follow the instructions on the display.

    The following prompt appears:

    Would you like to continue
    the setup procedure? [Y or N]

```
Note:  If you want to modify the config.sys file and
the autoexec.bat file manually, type N and press
ENTER. The following prompt appears:

   The setup program did not modify your
   CONFIG.SYS or AUTOEXEC.BAT files.

   A:\>

Then, follow the instructions on the display and
reboot your computer. See "MTMCDD and MTMCDS
File Parameters" and "MSCDEX File Parameters"
in this manual for information about modifying
the config.sys and autoexec.bat files.
```

10. Type Y and press ENTER to make changes to the file
    called config.new.

```
Note: If you select the mtmcds.sys software
transfer file in Step 2, proceed to Step 16
```

    The following prompt appears:

```
     Select CPU speed?   (SLOW = 1, FAST = 2)
     /S:1        [default]
     /S:
```

11. Press ENTER if you want to select the default value. If not, type 2.

12. Press ENTER. The following prompt appears:

```
     MTMCDD is a device driver for DMS transfer.
     You need to specify the DRQ and IRQ channel
     number of the interface card.

     Which channel (1,3) would you like
     DRQ ch specified?
     (Press ENTER for default)
     /T:3        [default]
     /T:
```

     Note: DRQ in this step refers to the adapter interface DMA channel
     setting.

13. Press ENTER if you want to select the default value. If not, type 1.

14. Press ENTER. The following prompt appears:

```
     Which channel (2,3,5) would you like
     IRQ ch specified?
     (Press ENTER for default)
     /I:3        [default]
     /I:
```

15. Press ENTER if you want to select the default value. If not, type 2 or
    5.

16. Press ENTER. The following prompt appears:

```
     Adding the following entries
     to C:\CONFIG.SYS
     DEVICE=\DEV\MTMCDD.SYS /D:MSCD001
     /T:3  /I:3  /S:1

     Press  [ENTER] when ready to proceed
```

```
Note: If you selected the mtmcds.sys software
transfer file in Step 2, the following prompt
appears:

     Select CPU speed? (SLOW=1, FAST=2)
     (Press ENTER for default)
     /S:1      [default]
     /S:

Press ENTER if you want to select the default value
If not, type 2.

     Adding the following entries
     to C:\CONFIG.SYS
```

```
    DEVICE=\DEV\MTMCDS.SYS
    /D:MSCD001    /S:1

    Press [ENTER] when ready to proceed.

Proceed to Step 17.
```

17. Press ENTER. Then, follow the instructions on the display.

    The following prompt appears:

    Do you want setup to make the changes to
    CONFIG.SYS?   [Y or N]

```
Note: If you want to keep your config.sys as is and
keep the changes in the config.new file, type N and
press ENTER. The following prompt appears:

    OK, setup will leave the changes in
    CONFIG.NEW.

    Press  [ENTER] when ready to proceed.

Proceed to Step 19.
```

18. Type Y and press ENTER.

    The following prompt appears:

    Copying C:\CONFIG.SYS to C:\CONFIG.BAK
    Copying c:\CONFIG.NEW to C:\CONFIG.SYS

    Done...

    Press [ENTER] when ready to proceed.

    Notes:
    * The setup program copies the original config.sys to the backup file
      named config.bak.

    * the config.new file is a copy of the original config.sys file
      including setup changes.

19. Press ENTER. The following prompt appears:

    Adding the following entry
    to C:\AUTOEXEC.BAT:
    \BIN\MSCDEX.EXE /D:MSCD001
    Press [ENTER] when ready to proceed.

20. Press ENTER. Then, follow the instructions on the display.

    The following prompt appears:

    Do you want setup to make the changes

```
        to AUTOEXEC.BAT? [Y or N]
```

```
┌─────────────────────────────────────────────┐
│ Note: IF you want to keep your changes in the │
│ autoexec.new file, type N and press ENTER.    │
│                                               │
│ Then, follow the instructions on the display and │
│ reboot your computer.                         │
└─────────────────────────────────────────────┘
```

21. Type Y and press ENTER. The following prompt appears:

    Copying C:\AUTOEXEC.BAT to C:\AUTOEXEC.BAK
    Copying C:\AUTOEXEC.NEW to C:\AUTOEXEC.BAT

    Done...

    Press [ENTER] when ready to proceed.

22. Press ENTER. Then, follow the instructions on the display and reboot
    your computer.

If autoexec.bat or config.sys does not exist on your bootable diskette
(two-drive, diskette-based system), the above procedure automatically
creates the file(s).

This completes the software installation. Remove the CD-ROM Setup diskette
from Drive A and store it in a safe place.

Note: We suggest that you make backup copies of the new config.sys and
autoexec.bat files.

 MTMCDD and MTMCDS
 File Parameters

The mtmcdd.sys file is a device driver file installed in the default
directory or in the directory of your choosing. The config.sys file contains
device drivers that allow your computer to identify and operate the devices
connected to it.

Most computers operate with the mtmcdd.sys file's factory setting. However,
if you want to change the settings in your computer's config.sys file, read
the following sections and modify the config.sys file with a word processor
or the MS-DOS Edlin text editor. The parameters you can set are described
below.

Use the following command to update your computer's config.sys file:

device=(d:)(path)mtmcdd.sys
/D:device name [/M:nn][/I:n][/S:n]
[/P:nnn][/T:n]

```
┌─────────────────────────────────────────────┐
│ Note: If your computer is using all available DMA │
│ and IRQ channels, update the following software │
│ transfer command line.                        │
│                                               │
│ device=(d:)(path)mtmcds.sys                   │
│ /D:device name [?m:nn][/I:n]                   │
└─────────────────────────────────────────────┘
```

```
[/S:n][/P:nnn][/T:n]

The mtmcds.sys software transfer file's /I and /T
parameters do not affect your computer's operation.
```

Parameters

(d:)(path)mtmcdd.sys - use this parameter to specify the drive and path
location of the mtmcdd.sys/mtmcds.sys file. The default setting is the DEV
directory of the current drive.

/D:device name - use this parameter to specify the name for the CD-ROM
drive. This name must be identical to the device name used in the mscdex.exe
parameters. For example, you might use:

c:\dev\mscdex /d:mscd001

[/M:nn] - use this parameter to specify the number of stock buffers for
temporarily storing the most recently read disc information. the mtmcdd.sys
file's default value is 2; the mtmcds.sys file's default value is 1.

Note: The larger this number is, the better your computer performs, because
it can locate data more quickly. However, specifying too many buffers slows
your computer down and can prevent your computer from running a program. You
can specify a maximum of 22 stock buffers.

[/I:n] - use this parameter to specify the interrupt request (IRQ) channel
number. Use the identical jumper number as you set on the adapter interface.
n can be 2,3,or 5. The default setting is 3.

Note: This setting should not be used by another device in the computer.

[/P:nnn] - use this parameter to specify the base address of the adapter
interface. Use the same number as you set by the DIP switches. The default
setting is 300.

[/T:n] - use this parameter to specify the DMA channel number you selected
on the adapter interface. The default setting is 3.

[S:n] - use this parameter to identify your computer's speed. Set the value
to 1 if your computer's Central Processing Unit (CPU) operates on less than
16MHz. Set the value to 2 if your computer's CPU operates on 16MHz or above.

MSCDEX
File Parameters

The mscdex.exe file, in your computer's root directory, is an extension
program for MS-DOS. This program allows your computer to access the CD-ROM
drive. Your computer uses this file to request disc data.

When the autoexec.new file contents are added to the autoexec.bat file, the
CD-ROM drive can be accessed by your computer. However, if you want to
change the settings in your computer's autoexec.bat file, read the following
sections and modify the autoexec.bat file with a word processor or the
MS-DOS Edlin text editor. The parameters you can set are described below.

```
(d:)(path)mscdex/D:device name
[/M:n][/E][/V][/L:drive letter]
```

Parameters

(d:)(path)mscdex - use this parameter to specify the drive and path location
of the mscdex.exe file. The default setting is the BIN directory of the boot
drive.

/D:device name - use this parameter to specify the name for the CD-ROM drive.
This name must be identical to the device name specified in the config.sys
file's mtmcdd.sys parameters. For example, you might use:

c:\bin\mscdex/d:mscd001

Note: You can use maximum of 11 characters for the device name.

[/M:n] - use this parameter to specify the number of sector buffers for
temporarily storing the most recently read disc information. For example,
you might use c:\bin\mscdex/d:mscd001/m:4 to specify 4 sector buffers. The
default value is 6.

Typically, each drive should have a minimum of 4 buffers. The larger this
number is, the better your computer performs, because it can locate data
more quickly. However, specifying too many buffers slows your computer down
and can prevent your computer from running a program.

[/E] - use this parameter to instruct the mscdex.exe file to use expanded
memory. If your system uses expanded memory, you must first load an expanded
memory driver before loading the mscdex.exe file. For example, you might use:

c:\bin\mscdex/d:mscd001/e

Note: If no expanded memory driver is loaded in your computer, the following
prompt appears:

Expanded memory not present or not usable

[/V] - use this switch if you want the computer to display information about
allocation of RAM and expanded memory when you boot your computer. For
example, you might use:

c:\bin\mscdex/d:mscd001/v

When you use this parameter, the following memory information appears:

5556864 bytes free memory
0 bytes expanded memory
12752 bytes CODE
1712 bytes static DATA
12618 bytes dynamic DATA
27344 bytes used

[/L:drive letter] - use this parameter to specify the letter you want to
assign to the first CD-ROM drive. Do not assign the letter C to the CD-ROM
drive, or any other drive in a hard-disk or two-diskette system. Doing so
prevents you from accessing the CD-ROM drive. For example, you might use:

```
c:\bin\mscdex/d:mscd001/1:f
```

Note: Your computer normally assigns the next available drive letter for
       you.

For this reason, use this parameter only for assigning a drive letter beyond
the last drive letter used in your computer.

(dtc-08/02/93)