Introduction

Congratulations on the purchase of your new Pioneer CD-ROM Drive! The unit is packaged with floppy disks that contain device drivers necessary for installing the Pioneer CD-ROM Drive to your IBM-PC or compatible computer. The device drivers allow the CD-ROM Drive and the computer to communicate and exchange data. On the next page is a SET UP & DRIVER INSTALLATION OVERVIEW which explains step-by-step how to install the device driver software and how to use your CD-ROM Drive.

In this manual, "Drive" means Single CD-ROM Drive, CD-ROM Writer and CD-ROM Changer. Sentences with the single disc mark “ ” are explanations relating to the Single CD-ROM Drive and CD-ROM Writer. Sentences with the multi-disc mark “ ” are explanations relevant to the CD-ROM Changer.

Please be sure to carefully review the instructions in this manual prior to installing the software device drivers. Here is a summary of each chapter:

Chapter 1 includes the Introduction to this Manual, a brief summary of the following chapters and an overview of the setup and installation of your driver.

Chapter 2 includes Pre-Installation Notes. These notes reference how to make a back-up of your driver diskettes, include recommendations, explains typing conventions used in this manual and provides tips for the user of IBM-PC or compatible computers.

Chapter 3 is an Inspection Checklist for the IBM-PC and Compatibles Driver Diskette.

Chapter 4 outlines the Macintosh Driver Installation Process.

Chapter 5 has Questions and Answers that will provide assistance with the operation and set up of your new Pioneer CD-ROM Drive.

Set-Up & Driver Installation Overview

1) Install a SCSI host adapter (interface card) in the IBM PC or compatible computer. For proper installation of the host adapter, please refer to the interface card manual.

2) With the computer power turned OFF, connect the Pioneer Drive to the computer SCSI interface card using the proper SCSI cable.

3) Set the SCSI ID number on the CD-ROM Drive. When it is the only device attached to an IBM or compatible computer, the factory-set SCSI ID at 0 should work fine. Otherwise, set the SCSI ID to a number that is not used by any other device on the SCSI bus.

4) Power-ON the Pioneer CD-ROM Drive.

5) Power-ON the computer. Verify you computer is free of any virus and back-up the driver diskettes included with the Pioneer CD-ROM Drive.

6) Launch the Installer program included on the driver diskette. This program allows you to do a full or custom installation of the software drivers. See Chapters 3 & 4 for details.

7) Reboot your computer. Follow the "Operations Check" for IBM-PC and compatibles or for Macintosh. You are ready to use your Pioneer CD-ROM Drive. If you encounter any difficulties, refer to ***Troubleshooting Appendices*** at the back of this manual.

Pre-Installation Notes

Back Up Diskettes

The license agreement that is enclosed with your Pioneer product allows you to make a backup copy of the driver diskettes, in case your originals become lost, damaged or corrupted. We strongly recommend that you take this precautionary step before you proceed with the installation of your software device drivers. Please be sure to verify your computer is free of any virus before making your backup copy.

Your DOS operating system comes with a utility such as a [DISKCOPY] and/or [COPY] command which you can use to make a duplicate disk. Follow the instructions in your DOS manual. Once the files have been backed up, it is a good idea to date and label the disk.

IBM-PC & Compatibles Users, Check SCSI Host Adapter

Make sure the SCSI host adapter (interface card) you are using supports multiple Logical Unit Numbers, ("LUNs"). A LUN is an address assignment which allocates a separate drive letter to each of the 6 CD-ROM discs.

Example:

Floppy Drives	≡	Drive Letters A and B
Hard Drive	≡	Drive Letter C
CD-ROM Discs	≡	Drive Letters D,E,F,G,H and I

Most SCSI host adapters do support multiple LUNs, but we recommend you check the card's documentation or call the manufacturer to verify that your interface card will meet this requirement.

Conventions used in this manual

This Installation Guide uses the following conventions to help you interpret and follow the information provided as you install and use the device driver software:

Characteristic and/or Key	Comment / Definition
Bold Type	represents a command which you must type. To carry out a command, type the bold-faced word(s) then press [ENTER]. Example: If you are instructed to type **A:**, type **A**, type **:** (colon), then press the [ENTER] key.
[ ] Square	Square brackets are used to surround the key name or key sequence which you must press to execute a given command. (DO NOT type the square brackets.)
[Function Keys]	appear as bold faced text in square brackets. Example: Pressing the **[F1]** key will bring up the On-Line Help.
Italics	Italics are used to emphasize a point.
Bold Italics	are used when referencing another section in this book
BOLD SMALL CAPS	indicate Menu Titles.
ALL CAPS	indicate a menu selection. Example: Select INSTALL from the **QUICK INSTALL MENU**.
[ENTER]	indicates the ENTER key is to be pressed to confirm a menu selection. Some instructions in this manual simply state [ENTER] without instructing you to press the key. In those instances, the word Press is understood.
√	The check mark is used to indicate a helpful hint or to note additional and pertinent information.

DOS / WINDOWS 3.1 Device Driver Installation

Inspection Checklist/PC

Pioneer CD-ROM Drives for DOS & WINDOWS 3.1 (not for WINDOWS 95 and WINDOWS NT) are packaged with a floppy disk containing software device drivers for IBM-PC and compatible computers. The disk contains a Setup Program; a file to load and remove the MPC control utility; DRDUTL, a program that changes the device driver working mode; and DISC, a program that exchanges drive letters. Also included on the disk is XDISC(*6), a program for use with Pioneer six disc changers that allows assignment of one drive letter to each daisy-chained Pioneer CD-ROM Changer. You do not need XDISC to use the Pioneer Single CD-ROM Drive/Writer or to daisy chain several Single CD-ROM units. Before you proceed with the installation, verify that you have the necessary files on the diskette.

Please be sure to read and then follow these steps in order:

- Exit your current computer application and go to the DOS prompt.
- Insert the diskette into the “A” or “B” drive.
- Type **DIR A:** or **DIR B:** where A or B is the letter of the drive into which the diskette has been placed. Press **[ENTER]**. The following files should be listed in the directory on the screen:

  SETUP.EXE PC-AT (Directory)

  NOTE: On the PC98 system, the files SETUP98.EXE, MANUAL_J.TXT and PC-98 (Directory) will be displayed.

- At the C:\ prompt, type **DIR A:\PC-AT** (or if you are using the B: drive, type **DIR B:\PC-AT**) and **[ENTER]**. The following file names should be listed on the screen:

RD600.SYS	DRD60PS.SYS
DRD60ASP.SYS	MPC.COM
MPCRMV.COM	DISC.EXE
DRDUTL.EXE	XDISC.EXE

If your disk does not contain all of the files listed above, please contact your Authorized Pioneer Dealer or call the Pioneer Bulletin Board System using your computer, modem and computer software to obtain current drivers. (See Appendix D, Pioneer Technical Resource Numbers.) After you’ve verified the contents of the disk, proceed to the next page, ***Installation instructions***.

Installation

Installing software drivers so you can use your Pioneer CD-ROM Drive with your computer is easy! This flow chart details the installation process. NOTE: Launch the Setup Program from DOS, not WINDOWS. If you launch the Setup Program from WINDOWS, the installation may not finish correctly.

DOS

⇓

Insert the IBM-PC & Compatible Driver Diskette into the floppy drive on your computer.

⇓

At the DOS Prompt, type **A:** (**B:)** to change to the drive you are installing the software from.

Press **[ENTER]**.

⇓

At the A:\ or B:\ DOS Prompt, type **SETUP** and **[ENTER]**. This will begin the Setup Program.

Note: The screen may go blank for a few seconds while the program loads.

(See the following pages for details about using the Setup Program.)

⇓

Once the program has finished loading, the message *Installation is completed* will appear.

⇓

Reboot your computer.

⇓

You are ready to use your Drive. (See page 3-8, Using your Pioneer CD-ROM Drive.)

When the Setup Program is launched, the screen will display the Program Start and Default Setting screen (see figure below).

```
************************************************************************
*******   PIONEER CD-ROM DEVICE DRIVER SETUP PROGRAM Ver.2.23A   *******
*******      Copyright 1995 PIONEER ELECTRONIC CORPORATION       *******
************************************************************************

This program starts an installation in the following conditions.

               [1] Boot Drive              :   C:
               [2] Install Directory       :   C:\PIONEER
               [3] Device Driver (**)      :   for ASPI manager  type
```

```
                          < Start Up >
      |                                                          |
      | Do you start an installation on this condition?          |
      | (Y/N): [Y]. If you have any change, select N.  |
      |__________________________________________________________|

                (**) <Selectable device drivers list>
                * for ASPI manager type (DRD60ASP.SYS)
                * for Future Domain interface type (DRD600.SYS)
                * for IBM SCSI adapter/A type (DRD60PS.SYS)

                <Quit: ESC key, HELP: F1 key>
```

Figure 1(?) - DOS/WINDOWS - Install Default Settings

These default settings are suitable for most computer configurations. To accept the INSTALL parameters press **[ENTER]** from the **START UP** menu.

If you need to change the settings, type **N** and **[ENTER]**. The screen will change to the **SETUP** menu.

```
*************************************************************************
*******   PIONEER CD-ROM DEVICE DRIVER SETUP PROGRAM Ver.2.23A   *******
*******      Copyright 1995 PIONEER ELECTRONIC CORPORATION       *******
*************************************************************************

 This program starts an installation in the following conditions.


                [1] Boot Drive              :   C:
                [2] Install Directory       :   C:\PIONEER
                [3] Device Driver (**)      :   for ASPI manager type

                          < Main Menu >
      |                                                          |
      |        Select a change item. (1-3): [1]                  |
      |__________________________________________________________|

                (**) <Selectable device drivers list>
                * for ASPI manager type (DRD60ASP.SYS)
                * for Future Domain interface type (DRD600.SYS)
                * for IBM SCSI adapter/A type (DRD60PS.SYS)

                <Quit: ESC key, HELP: F1 key>
```

Figure 2(?) - DOS/WINDOWS - Select Change Item

Change Boot Drive

If you wish to change the drive from which MS-DOS will boot, type **1** to select CHANGE BOOT DRIVE. The default boot drive (c:\) will be displayed (see figure below).

To change the default drive form C to another drive, type in the letter which corresponds to the drive you wish to change to and press **[ENTER]**.

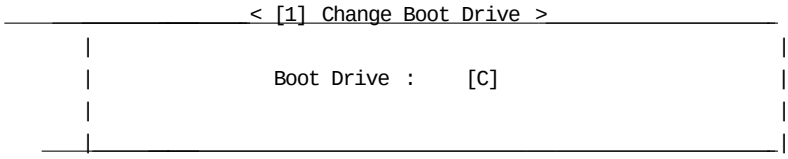

Figure 3(?) - DOS/WINDOWS - Change Boot Drive

Change Install Directory

The Install Directory is the directory path the driver files will be copied to. The default directory path is C:\PIONEER. To change the directory path, type **2** to select CHANGE INSTALL DIRECTORY**.** This will display the current Install Directory path and ask for the new directory path (see figure below). Type in the name of the new directory path and press **[Enter]**. The directory path is now changed and you will be returned to the **SETUP MENU**.)

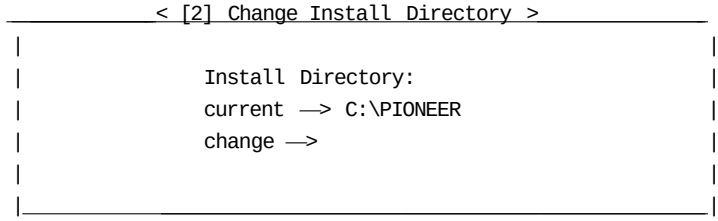

Figure 4(?) - DOS/WINDOWS - Change Install Directory

Change Device Driver

ASPI Manager Type is the default device driver setting. (This is the driver for the adapter that is connected to the CD-ROM drive.) Using the numerical keys or arrow keys to change the driver, type in or scroll to the number of the replacement driver and press **[ENTER]**.

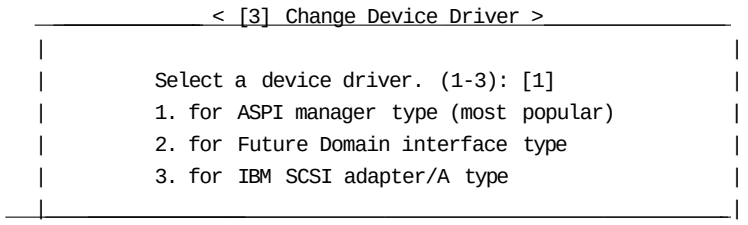

Figure 5(?) - DOS/WINDOWS - Change Device Driver

The parameters are now changed and you are returned to the **SETUP MENU**. To continue with the installation, press **[ENTER]**.

NOTE: At anytime during the Setup Program you may abort the installation by pressing the **[ESC]** key repeatedly until the **QUIT** menu appears. For On-Line Help, press the **[f1]** at anytime. The **HELP** screen may be scrolled by using the arrow keys. To quilt **HELP**, press **[ESC]** or the **[f1]** keys

After the driver files have been copied, the Setup Program will ask you if you would like to have the files CONFIG.SYS and AUTOEXEC.BAT rewritten (see Figure 6(?)). If you trust the changes made by Set Up Program, type **Y** and press **[ENTER]**. The original versions of CONFIG.SYS and AUTOEXEC.BAT are saved as backup files and will now have the extension .DRM. If you do not wish the Setup. If you do not wish the Setup Program to make the changes to these files for you, type **N** and **[ENTER]**. Your CONFIG.SYS and AUTOEXEC.BAT files will remain unchanged.

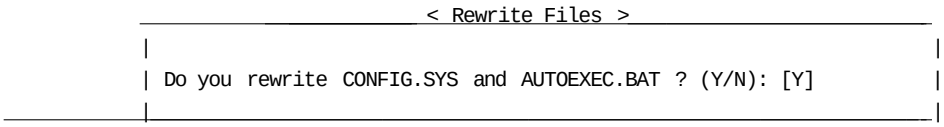

Figure 6(?) - DOS/WINDOWS - Rewrite Files

The installation is now complete. On the screen will appear the following alert message (Figure 7(?) below).

NOTE: If you selected not to have Setup Program change your CONFIG.SYS and AUTOEXEC.BAT files, the message in Figure 7(?) will change slightly to indicate those files were unchanged.

```
************************************************************************
*******   PIONEER CD-ROM DEVICE DRIVER SETUP PROGRAM Ver.2.23A   *******
*******      Copyright 1995 PIONEER ELECTRONIC CORPORATION       *******
************************************************************************

 Installation is completed.
 Setup Program altered CONFIG.SYS and AUTOEXEC.BAT as follows.

 CONFIG.SYS :
 ---> (altered)
 DEVICE=C:\PIONEER\DRD60ASP.SYS /D:MSCD001 /C:CDP

 Previous CONFIG.SYS has been saved to CONFIG.DRM.

 AUTOEXEC.BAT :
 ---> (altered)
 C:\DOS\MSCDEX.EXE /D:MSCD001

 Previous AUTOEXEC.BAT has been saved to CONFIG.DRM.

 A:\>
```

Figure 7(?) - DOS/WINDOWS - Installation completed

NOTE: If you selected not to have the Setup Program rewrite the CONFIG.SYS and AUTOEXEC.BAT files, refer to the following example to edit the files yourself. The Device Name MSCD??? in the CONFIG.SYS file should match the MSCD??? Device Name in AUTOEXEC.BAT. Refer to the example of MSCD001 in the example below:

CONFIG.SYS:

LASTDRIVE=Z

x:\install-dir\DRD60XXX.SYS /D:MSCD??? /C:CDP

AUTOEXEC.BAT:

x:\xxx\MSCDEX.EXE /D:MSCD???

Operations Check

You will have completed a successful installation when:

- The Pioneer software drivers are installed;
- The CD-ROM Drive is correctly connected to your computer; and
- Messages similar to those below appear on your monitor during boot up:

```
PIONEER CD-ROM DEVICE DRIVER VER x.xx
for MSCDEX Ver. x.xx - IBM PC-XT/AT/AX PS/2/55, Future Domain
Copyright (c) Pioneer Electronic Corporation. 1990-199x
Portion (c) 1986-199x Future Domain Corporation
Inquiry ID=0 : PIONEER CD-ROM DRxxxX XXXX

The LDP/CDP Device Driver for SCSI model Ver. 1.03
Copyright (c) Pioneer Electronic Corporation. 1990,1991

C:\>DOS\MSCDEX.EXE /D:MSCD001
MSCDEX Version 2.23
Copyright (C) Microsoft Corp. 1986-1993. All rights reserved.
Drive E: = Drive MSCD001 unit 0
```

Figure 10 - DOS/WINDOWS - Operations Check on Boot-Up

Note: If the messages scroll by too quickly to read, you can pause the screen by quickly pressing [CTRL + S]. To continue with the boot up, press any key.

Note: A different starting drive letter can be selected using the Command Line switch /L: in Device line. See ***APPENDIX*** for more information.

Note: Depending on your specific computer configuration, additional lines may be interspersed and some of the lines in the Operations Check Screen may vary from those described above.

Using Your Pioneer CD-ROM Drive

You are now ready to use the Pioneer CD-ROM Drive connected to your computer system.

For use under DOS follow the instructions shown on the left side of the chart. For use under WINDOWS 3.1, follow the instructions on the right:

DOS	WINDOWS 3.1
⇓	⇓
Place the CD-ROM disc in the tray label side UP	Place the CD-ROM disc in the tray label side UP
Place the CD-ROM discs in the magazine trays label side Down	Place the CD-ROM discs in the magazine trays label side Down
⇓	⇓
Turn on the Pioneer CD-ROM Drive.	Turn on the Pioneer CD-ROM Drive.
⇓	⇓
Restart your computer.	Restart your computer.
⇓	⇓
To access CD-ROM Disc from DOS	To access CD-ROM disc from WINDOWS 3.1
⇓	⇓
At the DOS Prompt, type the drive letter you wish to access as shown in the following example: C:\>**E:** (**[ENTER]**.)	Double Click on the File Manager in the Main Program group. CD-ROM icons appear at the top of the File Manager Window, next to the original driver letters.
⇓	⇓
Type **DIR** (**[ENTER]**)	Double Click on the icon to access the disc.

Figure 11 - DOS/WINDOWS - Using the Pioneer CD-ROM Drive

Installing More Than One Pioneer CD-ROM Drive

Two or more Pioneer drives can be installed on one SCSI chain by using the Pioneer device drivers for IBM-PCs and compatibles that ship with the unit. Use a 50 Pin SCSI ribbon cable to connect internal drives. Make sure the drives in the middle of the chain are not terminated and the last drive is terminated. Assign each drive it's own specific SCSI ID number.

The Pioneer device drivers contain an Auto SCSI ID Search feature that automatically finds the Pioneer drives on the SCSI chain and assigns the correct number of drive letters for the number of discs installed. (ex. for the DR-U124X, set the SCSI ID using pins on the back of the unit. The number of discs installed, of course, is always one.) NOTE: Any combination of single or six-disc Pioneer CD-ROM drives can be daisy chained: DR-U124X, DRM-624X, etc.

Using XDisc to Assign Single Drive Letters to Each Drive

A special utility, XDISC.EXE, is included on the Pioneer Driver Diskette. It was written to allow a single drive letter to be assigned to Pioneer six-disc changers. If you edit the CONFIG.SYS file and then launch XDISC, one drive letter will be assigned for each Pioneer CD-ROM drive installed on the SCSI Chain. When daisy chaining only Single Disc Drives, XDISC is not needed.

To daisy chain three drives, for example: a DR-U124X, a Pioneer DRM-624X and a Pioneer DRM-602X, and to assign each drive a single drive letter, edit the CONFIG.SYS Pioneer Device Driver line to include an /N: parameter switch set to 0 for each drive.

DEVICE= C:\PIONEER\DRD600.SYS /D:MSCD001 /N: 0,0,0 /C:CDP

Then, activate XDISC by typing C:\Pioneer\Xdisc. Once XDISC is launched, type XDISC F 3 to access the third disc in the changer assigned drive letter “F”. NOTE: Do not set 0 and other numbers together as /N: settings. To use XDISC the /N: switch must be set to all 0s.

Multi Player Control (MPC) Program

NOTE: MPC DOES NOT WORK FOR THE CD-ROM WRITER.

MPC for DOS

The Multi Player Control v1.2 is a memory resident “audio” remote control program for the Pioneer CD-ROM Drive. Multi Player Control operates the Pioneer CD-ROM Drive as a CD Player during execution of most programs on a PC. Multi Player Control consists of one file to make it resident in memory and another program to remove it from memory. Use MPC.COM to install Multi Player Control Program and use MPCRMV.COM to remove it from memory.

Install MPC by typing **C:\ PIONEER\MPC.COM**. Once installed, MPC can be activated anytime by pressing (at the same time) the **[ALT+ HYPHEN]** keys. Within this program, you can select the disc and/or track number, instruct the unit to play, pause, or eject the disc, and you can control the volume. Use the arrow key to select functions, and press the space key or enter key to execute a selected function. Use the [ESC] key to close the MPC window. Type **C:\ PIONEER\MPCRMV.COM** to

remove the program.

Direct commands can be sent to the player from within MPC. Select the Command function to activate the command window. Type a specific mnemonic command string such as **TR3SEPL [ENTER]**. This will cause the drive to search (SE) to Track 3 (TR3) and Play (PL). To turn Key Lock ON and disable the eject button on the front of the player, send the command 1KL [ENTER] (where 1=ON and KL=Key Lock). To turn Key Lock off, send the command 0KL [ENTER]. When a command is sent and received by the player, an R will be transmitted from the player confirming receipt and execution of the command. Pioneer LaserFacts Document #32170 contains a complete list of CDP commands to control the CD-ROM Drive. See Appendix C, Pioneer LaserFacts System for instructions on how to obtain the document list.

Calling MPC within Windows 3.1

The MPC program may be used in Windows. Run Program Manager and open the MS-DOS Prompt icon. Read instructions and press **[ALT+ENTER]** to open a DOS window within Windows 3.1. This window can be moved and made smaller. Within that Window, press **[ALT+ HYPHEN]** to bring up MPC. Press **[ESC]** at any point to put MPC away. Type **EXIT** to return to Windows.

MPC for DOS Error Message:

"Device Driver Not installed. MPC Program is not resident"

MPC.COM will not install if the device driver is not installed or if the /C:CDP switch has not been included in the Pioneer device driver line. Check the Pioneer device driver line in CONFIG.SYS to make sure that the Pioneer driver has been loaded and the /C:CDP switch is at the end of the device driver line. Install the driver if it has not been installed, and/or type in /C:CDP at the end of the device driver line if it is missing.

Failure to Remove MPC Program

If, for some reason, the MPC program is not removed after you type **C:\Pioneer\MPCRMV.COM**, the next time the machine is boot up, the system will default to MPC not active, i.e., the next time the machine is restarted, MPC will not appear.

Disc Exchange (DISC) Program

This program exchanges CD-ROM drive letters. Type **C:\PIONEER\DISC E: F:** to exchange drive E with drive F. Type **DISC DeviceName -R** to return the order of discs to the original state (ex. Device

Name is MSCD001).

Driver Utility (DRDUTL) Program

Use this utility program ONLY when your application program requests to change the mode of a DRD600 series CD-ROM Device Driver.

Type **C:\PIONEER\DRDUTL E: MODE:{ON/OFF}** to change the mode of Device Driver.

MODE	DEFAULT
CHKDSK	OFF
SEEK	ON
VDRTRY	ON

Questions and Answers

Here are answers to some commonly asked questions about Pioneer CD-ROM Drives.

What if there is no sound audible?

The disc is probably outputting Compressed Audio. This data needs to be transferred from the unit to the host computer for decompression and conversion to audio. Make sure you have a sound card installed to handle these tasks. If you do have a sound card installed and are still unable to hear compressed audio, check with the sound card manufacturer or disc publisher.

If the audio is CD-DA (Compact Disc-Digital Audio), it will be output through the headphone jack on the front of the unit, or through the audio connector on the back of the unit to an amplifier and speakers, powered speakers, or a sound board. To test that these connections have all been made properly, insert a compact audio disc (CD) into the disc tray, make sure the drivers are properly installed, then use MPC or Media Player under Windows to play the CD in the Drive.

Will a combination sound card/SCSI interface card work with Pioneer CD-ROM Drives?

A sound card with a SCSI interface included will work fine with Pioneer drives, as long as the SCSI card is ASPI compliant. Install the ASPI Manager that ships with the SCSI interface card, then install ASPI compatible drivers, Pioneer DRD60ASP.SYS. If possible, make sure the card is compatible with a 50 pin SCSI connector.

Can I use a Pioneer CD-ROM Drive with a sound card?

You can use the Pioneer units with any sound card as long as the card is supported by the actual software on the CD-ROM disc that you are using. Remember, if the CD-ROM disc uses compressed audio, you will need a sound card. Contact the CD-ROM disc publisher or distributor to find out what sound cards the product supports before you purchase a CD-ROM disc that includes compressed audio.

What should I do if the BUSY light flashes at one second intervals and the drive does not respond to commands?

This is a visual indicator from the drive that something is affecting the CD-ROM Drive's ability to perform. It may be a mechanical problem. Call Pioneer End-User Technical Support for more information. See *Appendix D, Pioneer Technical Resource Numbers*.

What should I do if the disc tray/magazine will not eject from the unit?

There are two possible causes of this symptom. One is that the software has locked the disc into the machine and will not let the user eject the disc. The other is that the user has set the last jumper pin or Dip Switch to *Eject Disable* position, thereby disabling the eject switch on the front panel. In either case, to remove the disc, make sure that the last jumper switch or Dip Switch is in the *Eject* Enable

position. Then turn your system OFF and back ON. This should allow the front panel eject button to work.

Note: If the disc still does not eject, call Pioneer End-User Technical Support. See *Appendix D, Pioneer Technical Resource Numbers*.

What should I do if the CD-ROM Changer always inserts the first or same disc, no matter which disc the software has been instructed to use?

The software package was probably written to work with a Single CD-ROM Drive. Try placing the disc in the first slot and then reinstall the application. Contact the software manufacturer to see if a version of the software exists that supports multiple subunits.

If you are using an ASPI compatible host adapter, the ASPI Manager may require an /L: or /ET: statement to enable access to multiple logical units. Refer to the documentation accompanying the host adapter or contact the host adapter manufacturer.

Troubleshooting IBM-PC DOS/WINDOWS Driver Installation

If the Pioneer CD-ROM Drive does not respond after running through the Operations Check on page 3-7 of this Software Installation Guide, note any error messages that may appear in the Inquiry ID line on boot up. Error messages and how to correct them are described on individual pages of this Appendix as indicated below. If you do need to call for Pioneer End-User CD-ROM Technical Support, please be prepared to describe any error messages and the contents of the CONFIG.SYS and AUTOEXEC.BAT files in your system (See *Appendix D, Pioneer Technical Resource Numbers*). This will help Pioneer Industrial Representatives solve your problem more quickly.

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Driver Error: SCSI Host Adapter can't communicate with drive

SCSI interface card can't communicate with drive

This means the device driver was not able to locate the proper SCSI interface card in the PC.

1. Verify that the Pioneer CD-ROM Drive has been turned

2. ***Make sure you are using the SCSI Cable that goes with your interface card.***

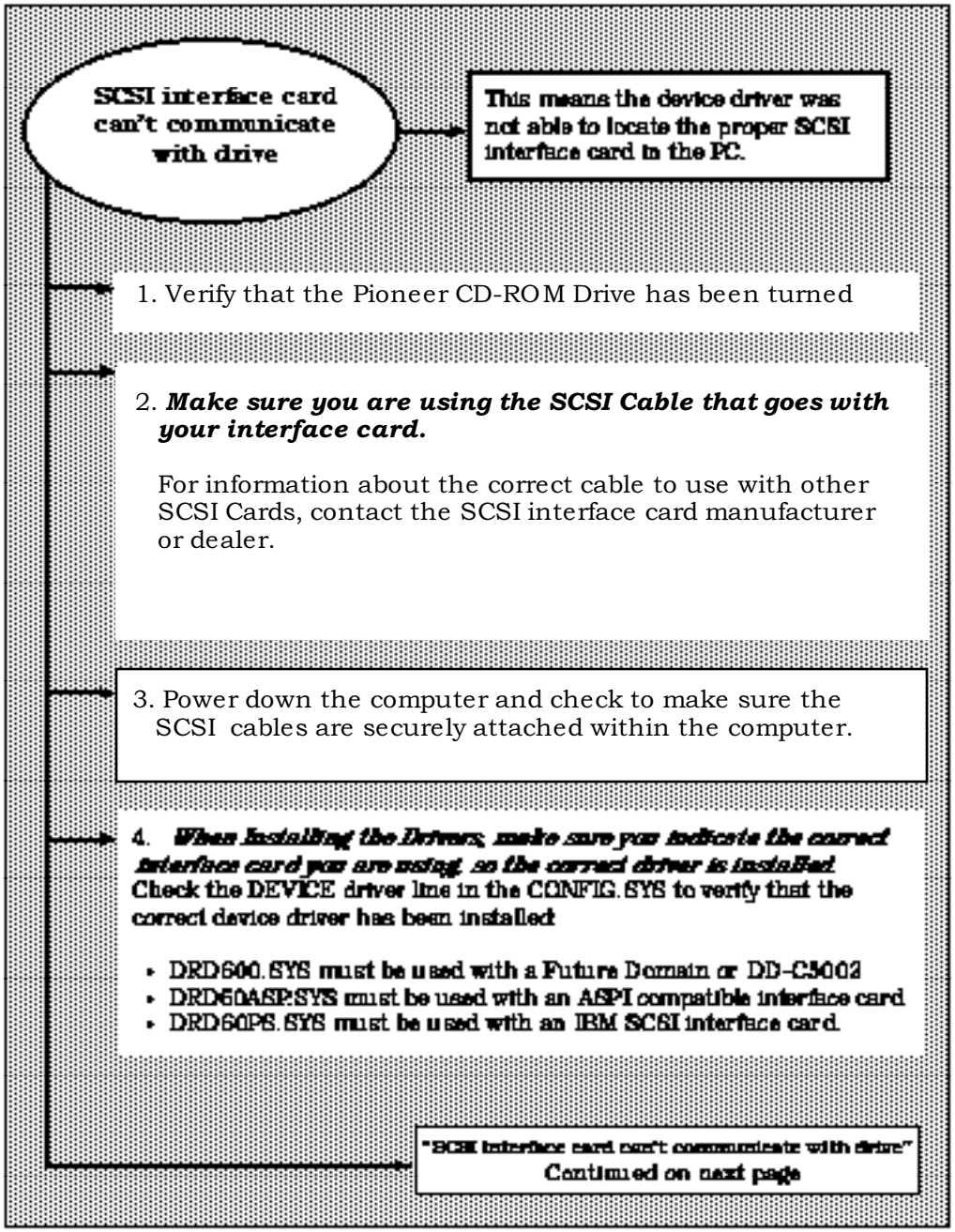
   For information about the correct cable to use with other SCSI Cards, contact the SCSI interface card manufacturer or dealer.

3. Power down the computer and check to make sure the SCSI cables are securely attached within the computer.

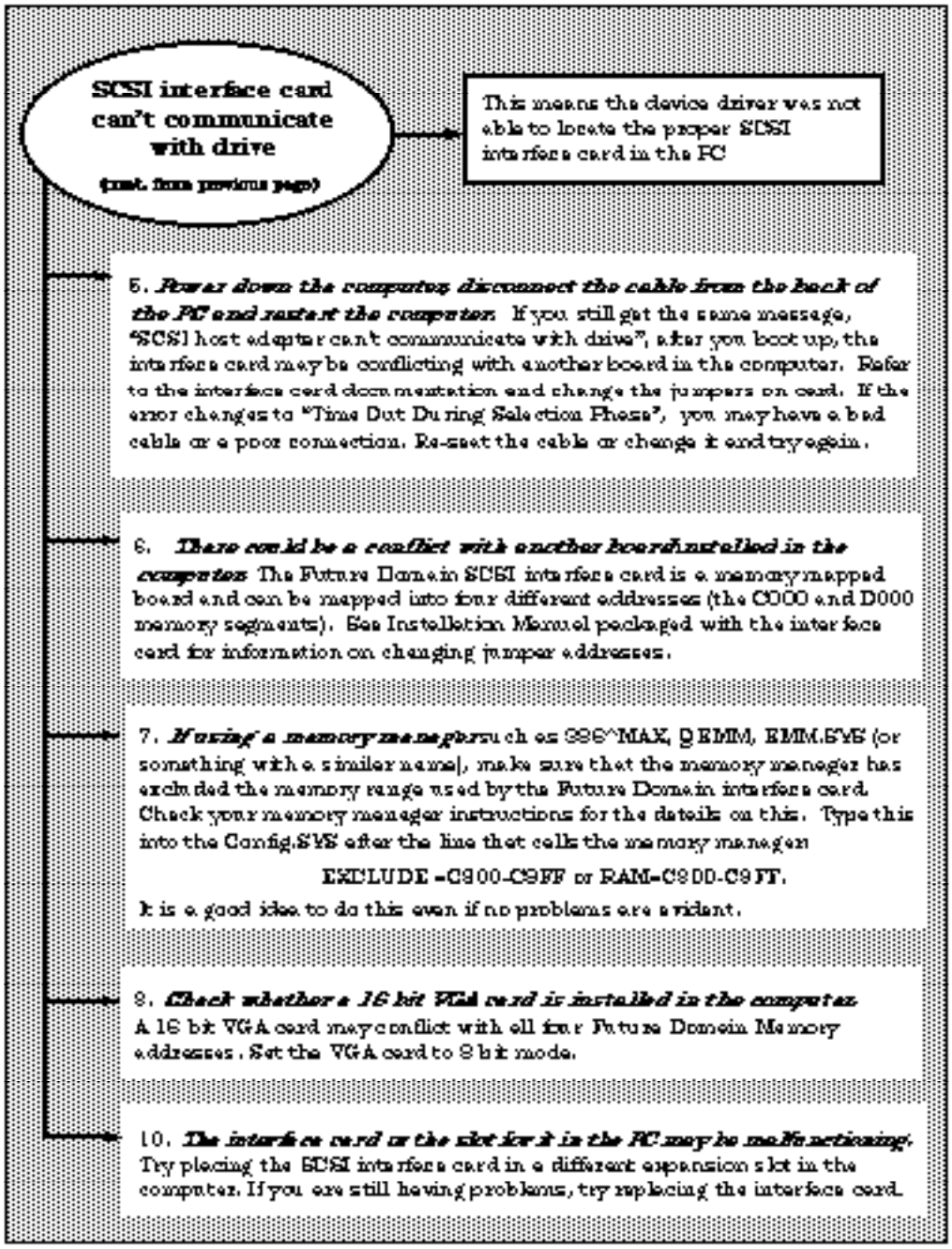
4. ***When Installing the Drivers, make sure you indicate the correct interface card you are using, so the correct driver is installed.***
   Check the DEVICE driver line in the CONFIG.SYS to verify that the correct device driver has been installed

   - **DRD600.SYS must be used with a Future Domain or DD-C5002**
   - **DRD60ASP.SYS must be used with an ASPI compatible interface card**
   - **DRD60PS.SYS must be used with an IBM SCSI interface card.**

"SCSI interface card can't communicate with drive"
Continued on next page

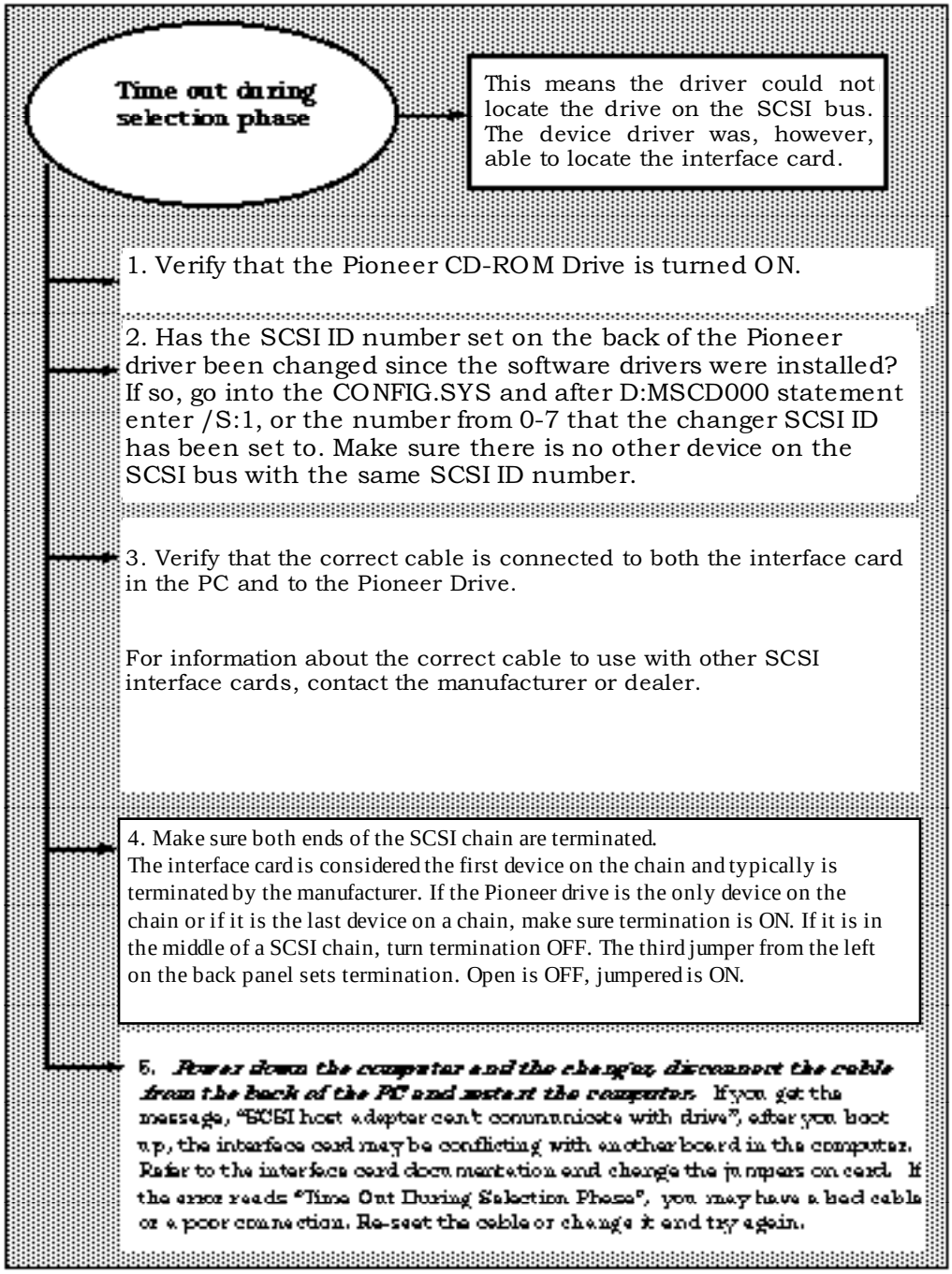


Driver Error: SCSI Host Adapter can't communicate with drive (cont).



Driver Error: Time out during selection phase

Time out during selection phase



This means the driver could not locate the drive on the SCSI bus. The device driver was, however, able to locate the interface card.

1. Verify that the Pioneer CD-ROM Drive is turned ON.

2. Has the SCSI ID number set on the back of the Pioneer driver been changed since the software drivers were installed? If so, go into the CONFIG.SYS and after D:MSCD000 statement enter /S:1, or the number from 0-7 that the changer SCSI ID has been set to. Make sure there is no other device on the SCSI bus with the same SCSI ID number.

3. Verify that the correct cable is connected to both the interface card in the PC and to the Pioneer Drive.

For information about the correct cable to use with other SCSI interface cards, contact the manufacturer or dealer.

4. Make sure both ends of the SCSI chain are terminated.
The interface card is considered the first device on the chain and typically is terminated by the manufacturer. If the Pioneer drive is the only device on the chain or if it is the last device on a chain, make sure termination is ON. If it is in the middle of a SCSI chain, turn termination OFF. The third jumper from the left on the back panel sets termination. Open is OFF, jumpered is ON.

5. ***Power down the computer and the changer, disconnect the cable from the back of the PC and restart the computer.*** If you get the message, "SCSI host adapter can't communicate with drive", after you boot up, the interface card may be conflicting with another board in the computer. Refer to the interface card documentation and change the jumpers on card. If the error reads "Time Out During Selection Phase", you may have a bad cable or a poor connection. Re-seat the cable or change it and try again.

Driver Error: Time out waiting for initial bus free phase, status phase or data phase
Driver Error: Characters on the Inquiry "ID=0" line are jumbled

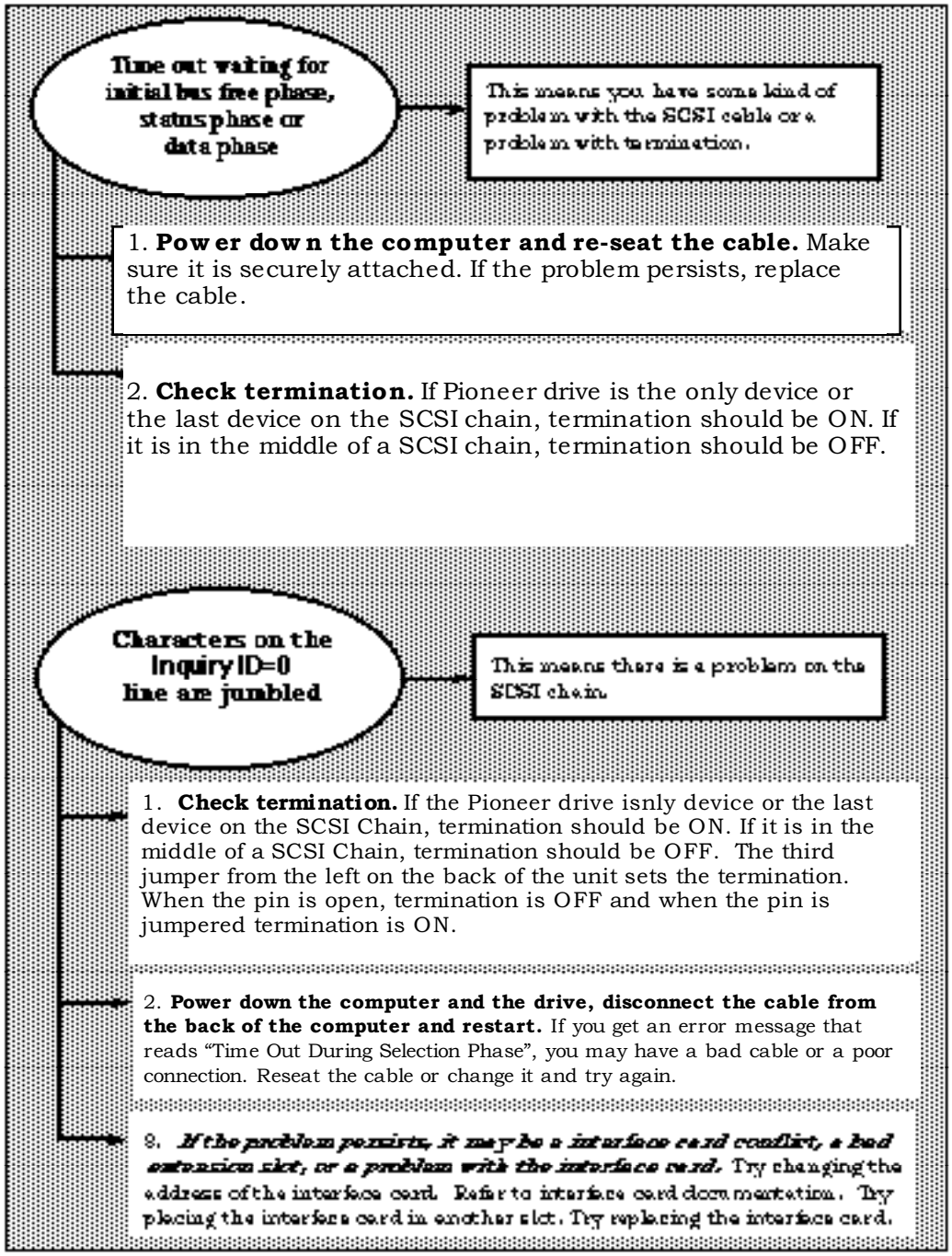
Time out waiting for initial bus free phase, status phase or data phase

This means you have some kind of problem with the SCSI cable or a problem with termination.

1. **Power down the computer and re-seat the cable.** Make sure it is securely attached. If the problem persists, replace the cable.

2. **Check termination.** If Pioneer drive is the only device or the last device on the SCSI chain, termination should be ON. If it is in the middle of a SCSI chain, termination should be OFF.

Characters on the Inquiry ID=0 line are jumbled



This means there is a problem on the SCSI chain.

1. **Check termination.** If the Pioneer drive isnly device or the last device on the SCSI Chain, termination should be ON. If it is in the middle of a SCSI Chain, termination should be OFF. The third jumper from the left on the back of the unit sets the termination. When the pin is open, termination is OFF and when the pin is jumpered termination is ON.

2. **Power down the computer and the drive, disconnect the cable from the back of the computer and restart.** If you get an error message that reads "Time Out During Selection Phase", you may have a bad cable or a poor connection. Reseat the cable or change it and try again.

3. ***If the problem persists, it may be a interface card conflict, a bad extension slot, or a problem with the interface card.*** Try changing the address of the interface card. Refer to interface card documentation. Try placing the interface card in another slot. Try replacing the interface card.

Driver Error: The "Inquiry ID=0 Pioneer CD-ROM DRM604X 2404" line is blank

The Inquiry ID=0 line is blank

(There is no Pioneer Changer model number or ROM version number on this line.)

This means that the device driver located a interface card which appeared to be a Future Domain interface card, but was not. We have seen this with Seagate ST01 and ST02 interface cards and the CMS SCSI adapter/ daughter board for the PS/2 Model 80-286 which all use the TI SCSI chip.

1. ***There could be a conflict with another board installed in the computer.*** The Future Domain SCSI interface card is a memory mapped board and can be mapped into four different addresses (the C000 and D000 memory segments). See Installation Manual packaged with the interface card for information on changing jumper addresses.

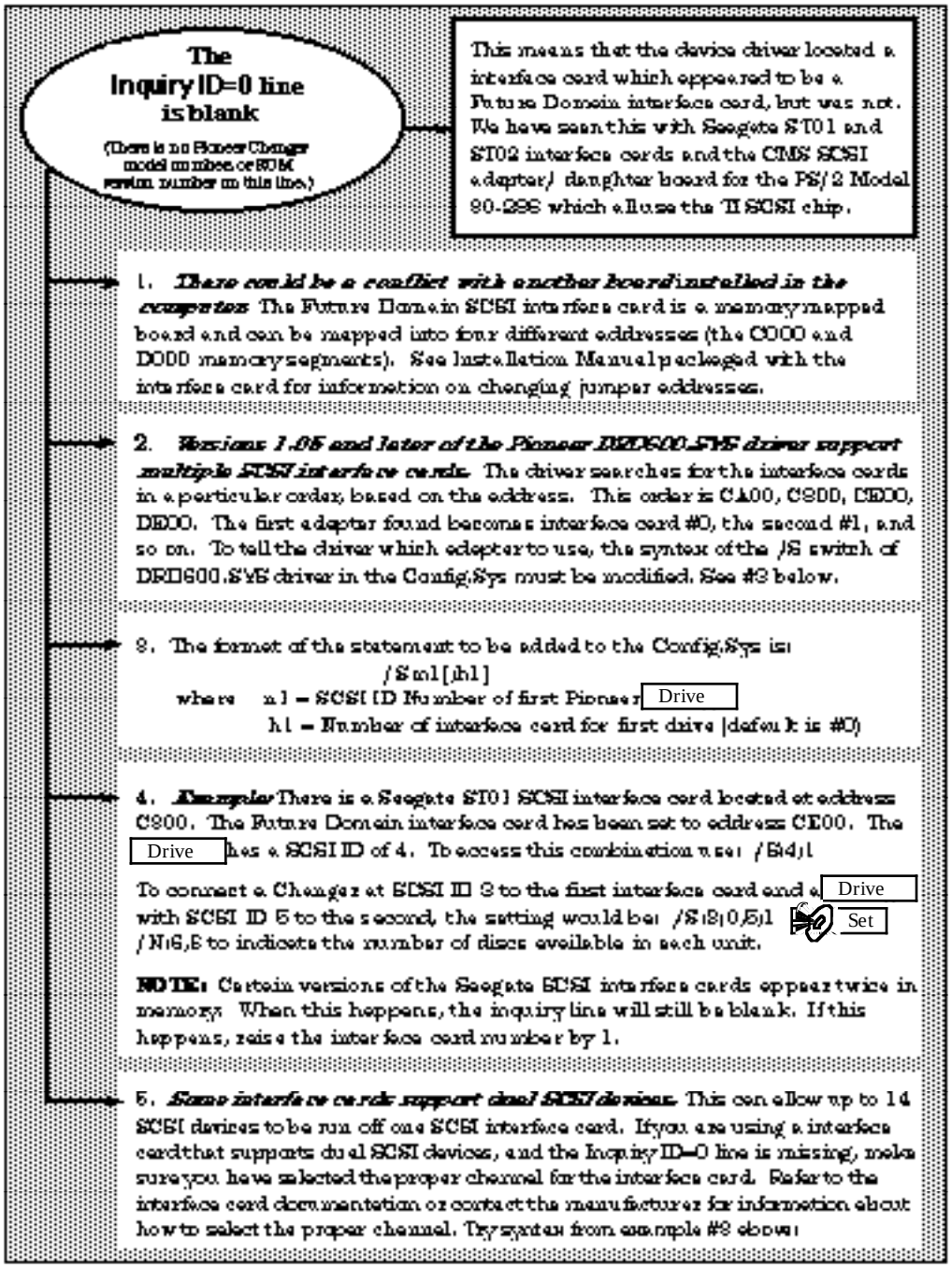
2. ***Versions 1.05 and later of the Pioneer DRD600.SYS driver support multiple SCSI interface cards.*** The driver searches for the interface cards in a particular order, based on the address. This order is CA00, C800, CE00, DE00. The first adapter found becomes interface card #0, the second #1, and so on. To tell the driver which adapter to use, the syntax of the /S switch of DRD600.SYS driver in the Config.Sys must be modified. See #3 below.

3. The format of the statement to be added to the Config.Sys is:

/S:n1[,h1]

where n1 = SCSI ID Number of first Pioneer Drive

h1 = Number of interface card for first drive (default is #0)



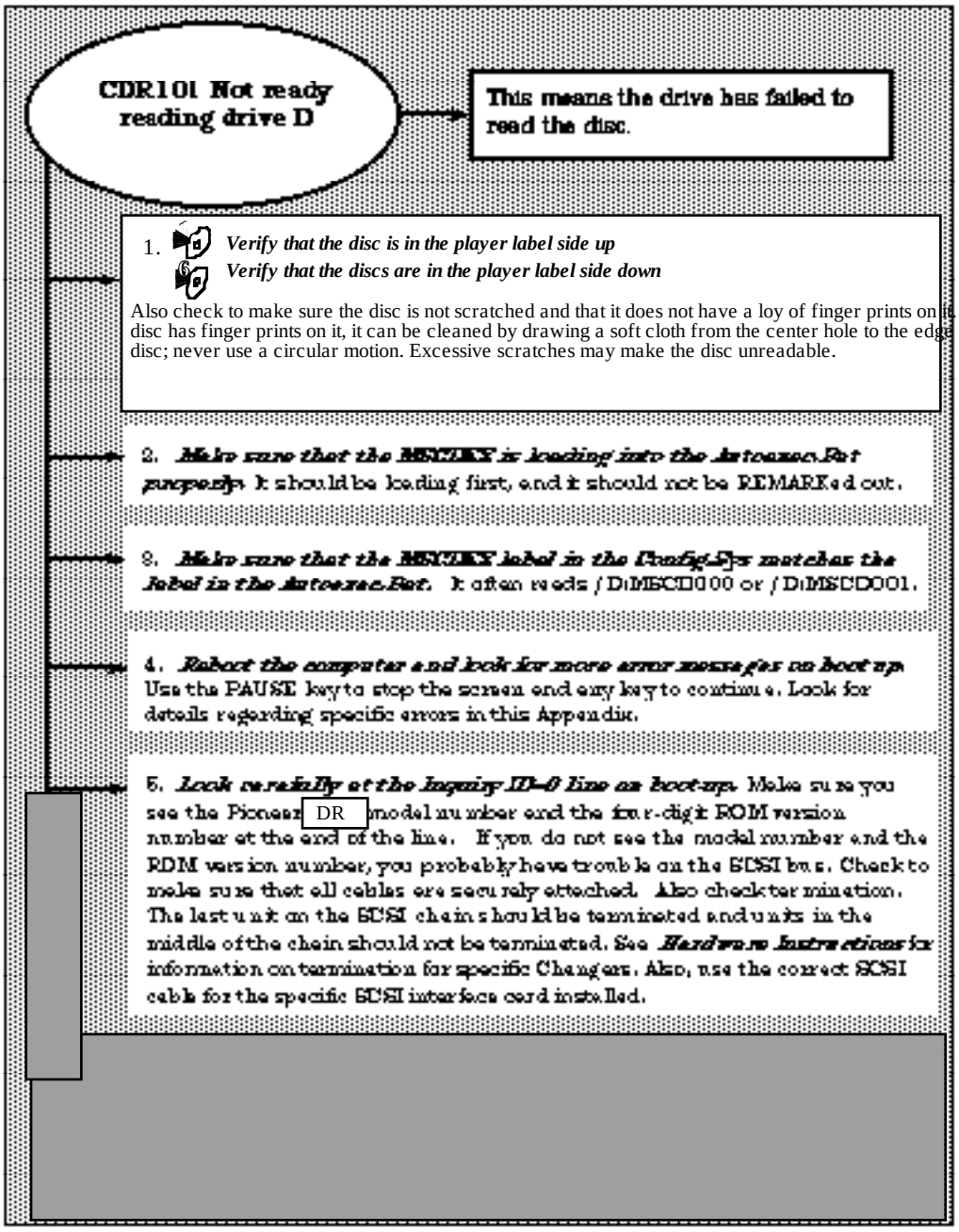
4. ***Example:*** There is a Seagate ST01 SCSI interface card located at address C800. The Future Domain interface card has been set to address CE00. The Drive has a SCSI ID of 4. To access this combination use: /S:4,1

To connect a Changer at SCSI ID 3 to the first interface card and a Drive with SCSI ID 5 to the second, the setting would be: /S:3,0,5,1 Set /N:6,8 to indicate the number of discs available in each unit.

NOTE: Certain versions of the Seagate SCSI interface cards appear twice in memory. When this happens, the inquiry line will still be blank. If this happens, raise the interface card number by 1.

5. ***Some interface cards support dual SCSI devices.*** This can allow up to 14 SCSI devices to be run off one SCSI interface card. If you are using a interface card that supports dual SCSI devices, and the Inquiry ID=0 line is missing, make sure you have selected the proper channel for the interface card. Refer to the interface card documentation or contact the manufacturer for information about how to select the proper channel. Try syntax from example #3 above:

MSCDEX Error: CDR 101 Not Ready Reading Drive D



CDR101 Not ready reading drive D

This means the drive has failed to read the disc.

1. ***Verify that the disc is in the player label side up***
   Verify that the discs are in the player label side down

Also check to make sure the disc is not scratched and that it does not have a loy of finger prints on it. If the disc has finger prints on it, it can be cleaned by drawing a soft cloth from the center hole to the edge of the disc; never use a circular motion. Excessive scratches may make the disc unreadable.

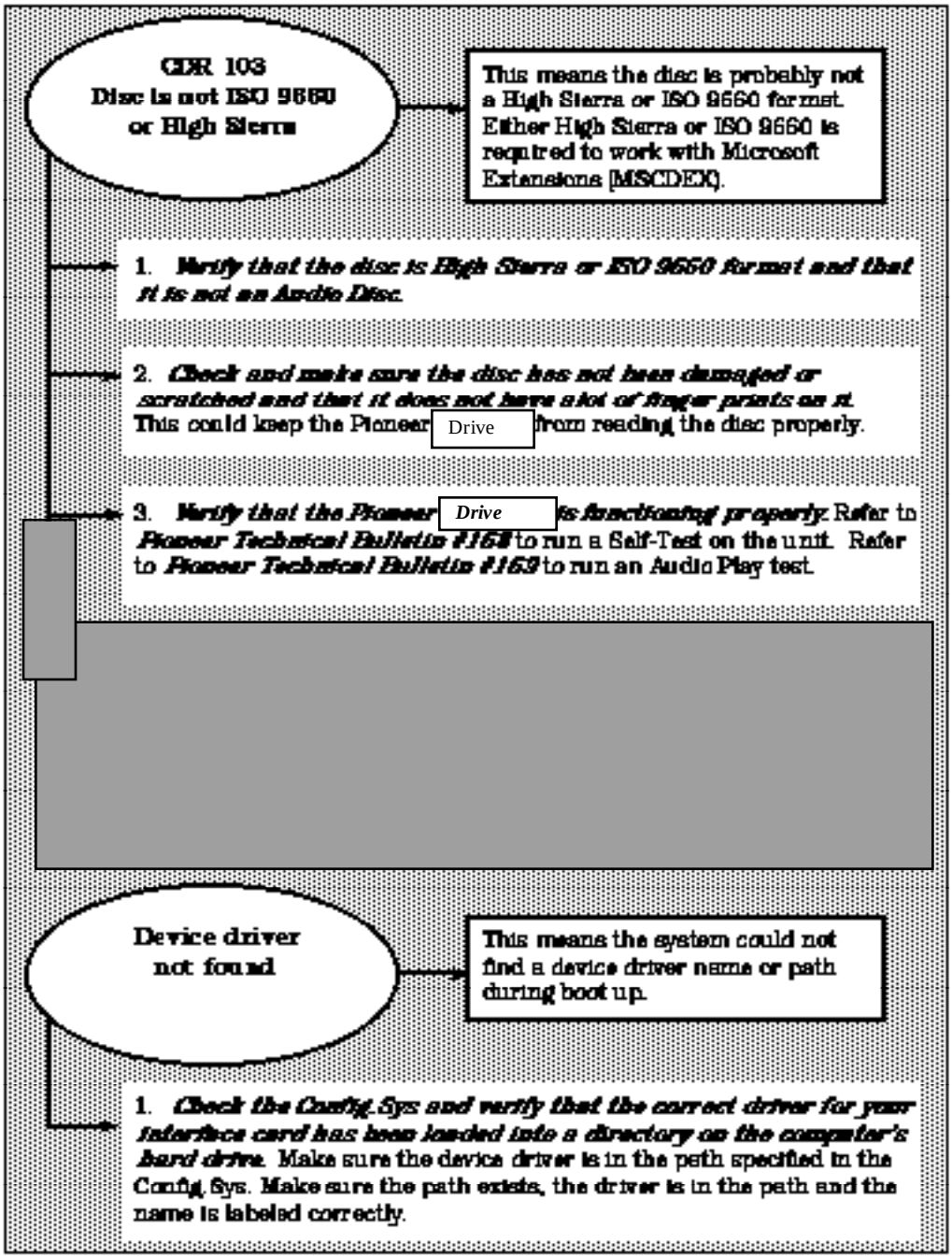
2. ***Make sure that the MSCDEX is loading into the Autoexec.Bat properly.*** It should be loading first, and it should not be REMARKed out.

3. ***Make sure that the MSCDEX label in the Config.Sys matches the label in the Autoexec.Bat.*** It often reads /D:MSCD000 or /D:MSCD001.

4. ***Reboot the computer and look for more error messages on boot up.*** Use the PAUSE key to stop the screen and any key to continue. Look for details regarding specific errors in this Appendix.

5. ***Look carefully at the Inquiry ID=0 line on boot-up.*** Make sure you see the Pioneer DR model number and the four-digit ROM version number at the end of the line. If you do not see the model number and the ROM version number, you probably have trouble on the SCSI bus. Check to make sure that all cables are securely attached. Also check termination. The last unit on the SCSI chain should be terminated and units in the middle of the chain should not be terminated. See ***Hardware Instructions*** for information on termination for specific Changers. Also, use the correct SCSI cable for the specific SCSI interface card installed.

MSCDEX Error: CDR 103 Disc is not ISO 9660 or High Sierra
MSCDEX Error: Device driver not found



CDR 103
Disc is not ISO 9660
or High Sierra

This means the disc is probably not a High Sierra or ISO 9660 format. Either High Sierra or ISO 9660 is required to work with Microsoft Extensions (MSCDEX).

1. ***Verify that the disc is High Sierra or ISO 9660 format and that it is not an Audio Disc.***

2. ***Check and make sure the disc has not been damaged or scratched and that it does not have alot of finger prints on it.*** This could keep the Pioneer Drive from reading the disc properly.

3. ***Verify that the Pioneer Drive is functioning properly.*** Refer to ***Pioneer Technical Bulletin #168*** to run a Self-Test on the unit. Refer to ***Pioneer Technical Bulletin #169*** to run an Audio Play test.

Device driver
not found

This means the system could not find a device driver name or path during boot up.

1. ***Check the Config.Sys and verify that the correct driver for your interface card has been loaded into a directory on the computer's hard drive.*** Make sure the device driver is in the path specified in the Config.Sys. Make sure the path exists, the driver is in the path and the name is labeled correctly.

MSCDEX Error: Incorrect DOS version
DOS Error: Invalid drive specification

Incorrect DOS version

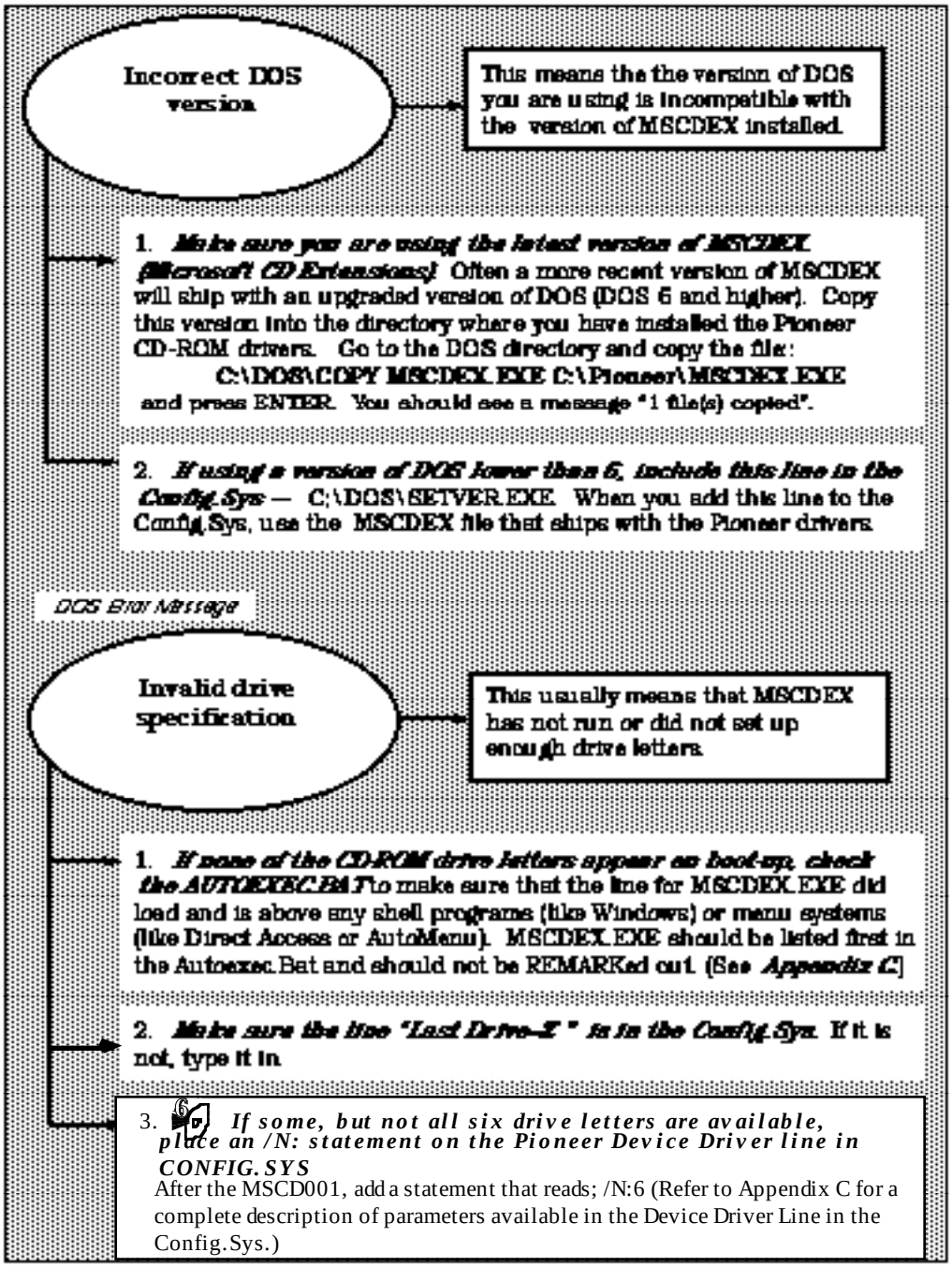
This means the the version of DOS you are using is incompatible with the version of MSCDEX installed.

1. ***Make sure you are using the latest version of MSCDEX (Microsoft CD Extensions)*** Often a more recent version of MSCDEX will ship with an upgraded version of DOS (DOS 6 and higher). Copy this version into the directory where you have installed the Pioneer CD-ROM drivers. Go to the DOS directory and copy the file:
C:\DOS\COPY MSCDEX.EXE C:\Pioneer\MSCDEX.EXE
and press ENTER. You should see a message "1 file(s) copied".

2. ***If using a version of DOS lower than 6, include this line in the Config.Sys*** — C:\DOS\SETVER.EXE. When you add this line to the Config.Sys, use the MSCDEX file that ships with the Pioneer drivers.

DOS Error Message

Invalid drive specification



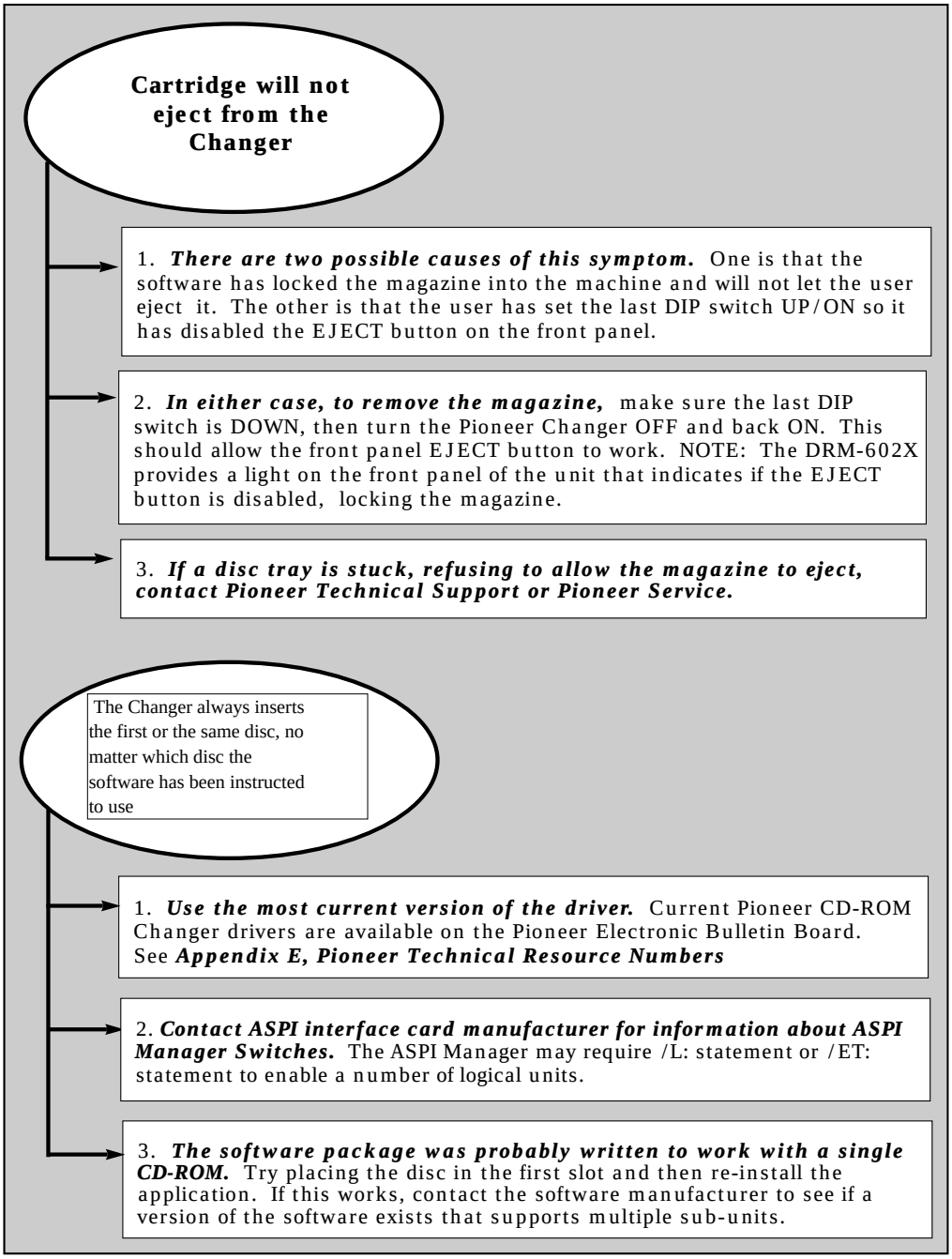
This usually means that MSCDEX has not run or did not set up enough drive letters.

1. ***If none of the CD-ROM drive letters appear on boot-up, check the AUTOEXEC.BAT*** to make sure that the line for MSCDEX.EXE did load and is above any shell programs (like Windows) or menu systems (like Direct Access or AutoMenu). MSCDEX.EXE should be listed first in the Autoexec.Bat and should not be REMARKed out. (See ***Appendix C***)

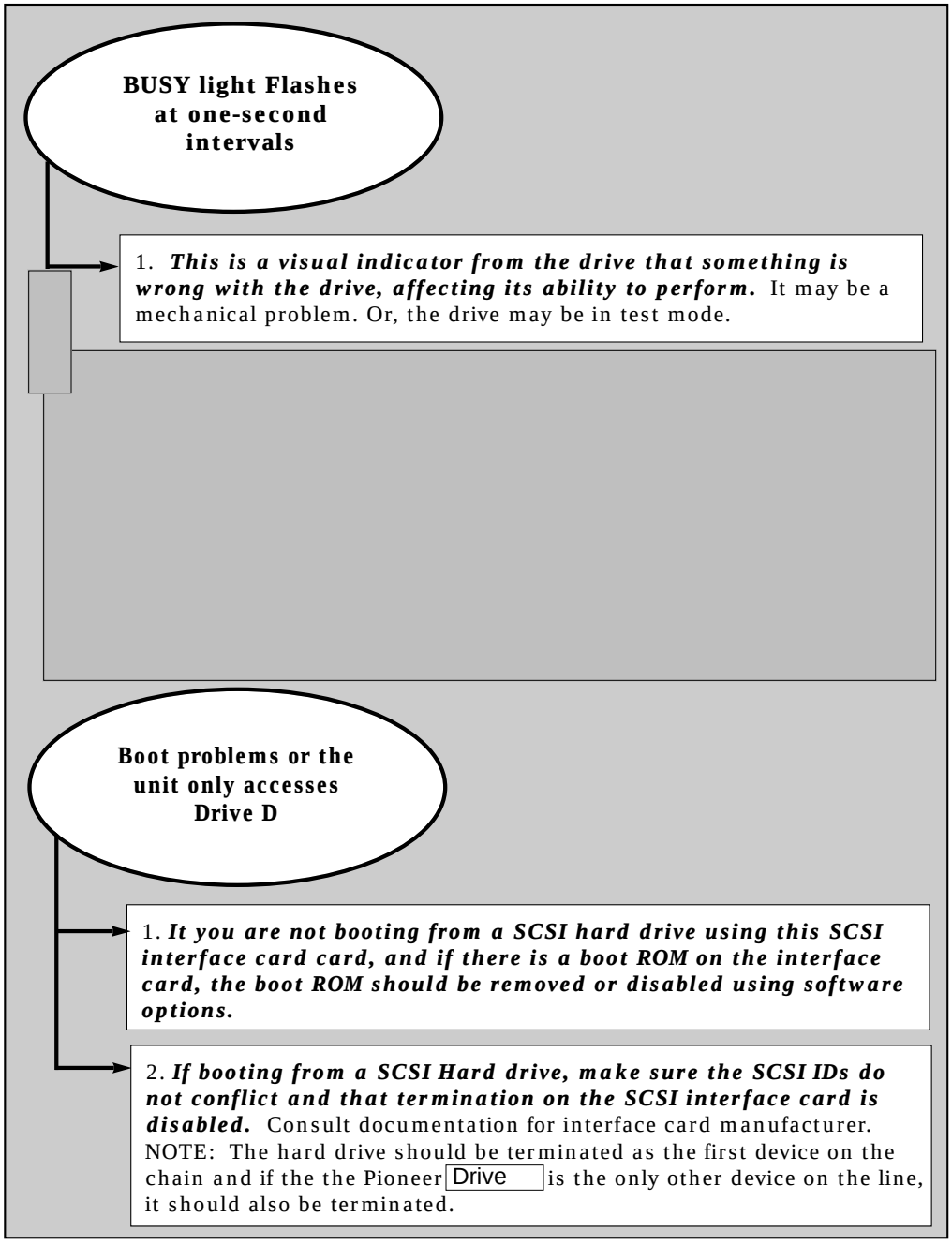
2. ***Make sure the line "Last Drive-Z" is in the Config.Sys.*** If it is not, type it in.

3. ***If some, but not all six drive letters are available, place an /N: statement on the Pioneer Device Driver line in CONFIG.SYS***
After the MSCD001, add a statement that reads; /N:6 (Refer to Appendix C for a complete description of parameters available in the Device Driver Line in the Config.Sys.)

Hardware Issues: Cartridge will not eject from the Changer
The Changer always inserts the first or the same disc



Hardware Issues: The BUSY light flashes and one-scond intervals
Boot problems or the unit only accesses Drive D



Installation Overview for IBM-PC & Compatibles

Device Driver & MSCDEX File

The INSTALL program adds a line to the CONFIG.SYS file which tells the system to load the device driver that is correct for the SCSI host adapter installed in the computer and it adds or modifies a line in the computer's AUTOEXEC.BAT file to access MSCDEX (Microsoft CD Extensions).

Device Driver Loaded into CONFIG.SYS

The device driver line in the CONFIG.SYS indicates the Directory and PATH where it is located, as well as the SCSI ID number of the CD-ROM Drive, and it installs the CDP commands. The CONFIG.SYS file should look similar to this:

```
DEVICE = C:\PIONEER\DRD600.SYS /D:MSCD001 /C:CDP
```

The device driver allows communication to take place between a computer system and a peripheral device. It is loaded when the system is booted. Pioneer supplies the following three device drivers for use with several common SCSI host adapters:

1. DRD600.SYS

This device driver works with the Future Domain SCSI host adapters (the TMC and MCS series) and with the Pioneer DD-C5002 SCSI host adapter.

2. DRD60PS.SYS

This device driver works with the IBM SCSI host adapters for PS/2s.

3. DRD60ASP.SYS

This device driver works with any ASPI compatible host adapter. NOTE: When using an ASPI compatible host adapter, obtain the ASPI Manager file from the host adapter manufacturer or distributor. Install the ASPI Manager before you run the Pioneer Driver Installation Program. During the INSTALLATION procedure, indicate the type of SCSI host adapter installed in your computer, i.e., ASPI Compatible, DD-C5002, FUTURE DOMAIN, or IBM. (The default is Future Domain.) The INSTALL program then loads the proper driver into the CONFIG.SYS file. (See page B-2 for a description of the Device Driver Command Line Switches and page B-3 for a description of the MSCDEX Command Line Switches.)

Device Driver command line switches:

DEVICE = C:\DEV\DRD600.SYS /D:MSCD000 /C:CDP

Switch	Description	Example
/D: (device name)	Specifies the device name of the CD-ROM device. This name MUST agree with the device name declared in MSCDEX.	/D:MSCD000
/N:n1[,n2]	Specifies the number of CD-ROM discs that are in the magazine. This is installed automatically with Version 2.0 and above of the drivers. You may not see this switch in the device driver line.	/N:1
/C: (device name)	Specifies the device name of the character device for CDP control.	/C:CDP
/S:n1[;h1][,n2[;h2]]	Specifies the SCSI ID and the host adapter number of the Pioneer Drive unit. This must be the same SCSI ID as the one set by the dip switches. This is installed automatically with Version 2.0 and above of the drivers. You may not see this switch in the device driver line.	/S:0
/B or /E	Specifies whether or not the device driver should load in a look ahead buffer for prefetch. B -> Conventional Memory E -> Expanded Memory	

MSCDEX.EXE command line switches:

MSCDEX /D:MSCD000

Switch	Description	Example
/D: (device name)	Specifies the device name of the CD-ROM device. This name MUST agree with the device name declared in driver.	/D:MSCD000
/M:n	Specifies the number of cache buffers for MSCDEX to allocate.	/M:24
/E	Tells MSCDEX to use EMS (Expanded) memory for the cache buffers. If EMS is available, this can save lots of RAM.	
/L: (drive letter)	Specifies for MSCDEX the drive letter to start assigning the CD-ROM discs.	/L:M
/V	Provides memory usage statistics on how much memory is used by buffers, memory resident code, and resident data.	
/K	Tells MSCDEX to use Kanji file structures if present.	
/S	Tells MSCDEX to patch DOS to allow sharing of CD-ROM drives on MS-NET based networks.	

Initialization

Rebooting the computer after installation will initialize the changes made to your AUTOEXEC.BAT and CONFIG.SYS files enabling your PC to recognize and communicate with the Pioneer CD-ROM Drive.
To initialize the Drives, follow these steps:

1. Exit all applications you are running.

2. Turn the power OFF to your system, to your changer, and to any other external SCSI devices.

3. Turn the power back ON to the Drive, to any other external SCSI devices and to your computer system.

Pioneer LaserFacts System

Pioneer New Media Technologies, Inc., has placed a full library of technical resource materials on a Pioneer LaserFacts System. This is a FAX retrieval system that makes technical documents available 24-hours per day.

Please refer to the LaserFacts Directory of Documents to obtain the number of the document you wish to order. You can obtain a Directory by calling the LaserFacts line or by calling End-User CD-ROM Technical Support. See ***Appendix D, Pioneer Technical Resource Numbers.***

To use the Pioneer LaserFacts System, follow these easy steps:

1. Call: 1-310-952-2309 from your FAX phone.
   When you call the Pioneer LaserFacts System from your FAX phone, your documents will be FAXed to you immediately; you can request up to three (3) documents at one time.

2. Respond to the system's voice instructions.
   Enter a five-digit Document Number from the Pioneer LaserFacts Document Directory to indicate the document you wish to receive. If you do not have a directory to identify a specific Document Number, follow the menu options and have the directory FAXed to you. By responding to other menu options, you can access some of the most frequently requested documents without entering a document number.

3. Hang up and wait for documents to be FAXed.

Your documents will be sent immediately when you call from your FAX phone.

Pioneer Technical Resource Numbers

US CUSTOMERS

This Software Driver Installation Guide should be your first reference if questions should arise during the installation of your Pioneer CD-ROM drive. If your question is not answered or you find that you need more assistance, Pioneer offers these other valuable resources for you to contact. (These Pioneer Technical Resource Numbers are effective as of January 1995.):

Driver Installation, Hardware Set-Up and Configurations, and Troubleshooting

(800) 872-4159 - PIONEER INDUSTRIAL PRODUCTS REPRESENTATIVE

You may receive help from one of our representatives who will review your problem step-by-step and help you to resolve it quickly and easily.

Software Drivers

(310) 835-7980 - PIONEER BULLETIN BOARD

The latest software drivers for Pioneer CD-ROM products may be downloaded using your computer, a modem and modem software.

Technical Documents and Updates

(310) 952-2309 - PIONEER LASERFACTS SYSTEM

Technical Documents are available 24-hours a day. Documents with the latest information will transmit directly to your telecopier (FAX) machine. Please refer to *Appendix C* for more information about this Pioneer System.

EUROPE CUSTOMERS

Please refer to the addresses and telephone numbers below for the Pioneer facility in your area.

Europe	Pioneer Electronic Europe N.V.	BBS: 32-3-570-0880
		Phone: 32-3-570-0511
		Fax: 32-3-570-0894
Austria	Pioneer Electronic Europe	Phone: 43-1-522-2116
		Fax: 43-1-522-2116 20
	Gen.vertr.Pioneer Fa.Hans Lurf	Phone: 43-1-6164-580-0
		Fax: 43-1-6164-580-40
Belgium	Pioneer Belgium	Phone: 32-3-570-0500
		Fax: 32-3-570-0884
Denmark	Pioneer Electronics Denmark	BBS: 45-4252-4866
		Phone: 45-4252-6066
		Fax: 45-4252-6459

Finland	Ukokaupat Oy	Phone: 358-0521-788 Fax: 358-0521-4702
France	Pioneer Setton	Phone: 33-1-4760-7999 Fax: 33-1-4760-7988
Germany	Pioneer Electronics Deutschland	BBS: 49-2156-911-900 Anal 49-2156-911-901 ISDN Phone: 49-2154-913-0 Fax: 49-2154-429-670
Greece	Christos Axarlis	Phone: 30-1-3815-483 Fax: 30-1-3807-978
Iceland	Hljombaer	Phone: 354-562-5999 Fax: 354-552-5324
Ireland	Audio Vision Import	Phone: 353-1-4504-855 Fax: 353-1-4504-870
Italy	Pioneer Electronics Italia	Phone: 39-02-50-741 Fax: 39-02-656-6439
Norway	Pioneer Electronics Norge	BBS: 47-22-222-442 Phone: 47-22-222-212 Fax: 47-22- 223-320
Portugal	SETRON Soc. de Equip. Electronicos	Phone: 351-1-868-2407 Fax: 351-1-868-7175
Spain	Pioneer Electronics Espana	Phone: 34-3-729-0966 Fax: 34-3-729-0505
Sweden	Pioneer Electronic Svenska	BBS: 46-8-771-0822 Phone: 46-8-609-9141 Fax: 46-8-771-9250
Switzerland	SACOM Data	Phone: 41-32-51-5111 Fax: 41-32-51-7375
The NetherLands	Pioneer Electronics Holland	Phone: 31-36-538-7777 Fax: 31-36-536-5511

United Kingdom Pioneer High Fidelity(G.B)

BBS: 44-1753-789-755
Phone: 44-1753-789-789
Fax: 44-1753-664-010