

# EPSON®

## ATA/IDE CD-ROM DRIVE



### USER'S MANUAL

**CMD-2260**  
**6X CD-ROM Drive**

# FEDERAL COMMUNICATIONS COMMISSION (FCC) RADIO FREQUENCY INTERFERENCE STATEMENT

## Class B Computing Device

Note: This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will occur in a particular installation. If this equipment does not cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from

**FCC WARNING:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## CANADIAN DEPARTMENT OF COMMUNICATIONS (DOC) NOTICE

"This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled 'Digital Apparatus', ICES-003 of the Department of Communications."

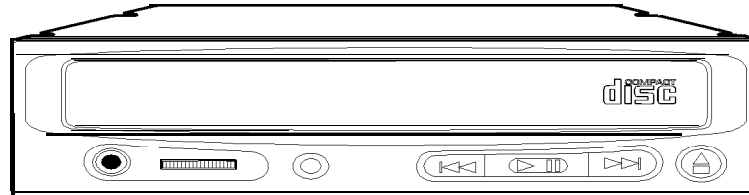
The information in this User's Manual has been carefully reviewed and is believed to be accurate. The vendor assumes no responsibility for any inaccuracies that may be contained in this document, makes no commitment to update or to keep current the information in this manual, or to notify any person or organization of the updates.

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**USER'S MANUAL  
FOR CMD-2260 6X  
ATA/IDE CD-ROM DRIVE UNIT**



**TABLE OF CONTENTS**

|   |    |
|---|----|
| Laser Safety Information                    | 4  |
| Handling Precautions                        | 5  |
| Drive Parts and Functions                   | 6  |
| Hardware Installation                       | 8  |
| Software Installation                       | 10 |
| Device Driver Installation                  | 13 |
| MSCDEX.EXE Installation                     | 14 |
| Additional Installation Instructions        | 15 |
| Product Features                            | 16 |
| Technical Support                           | 17 |
| Windows <sup>®</sup> '95 Installation Notes | 17 |
| Technical Support Options                   | 18 |

# LASER SAFETY INFORMATION

## Class 1 LASER Product

This equipment is certified to comply with DHHS Rule 21 CFR Chapter 1, Subchapter J in effect as of date of manufacture.

### Caution:

- (1) Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- (2) The drive is designed to be incorporated into a computer-based system or unit which has an enclosing cover. It is not allowed to use the drive alone.
- (3) User must not attempt to install the drive into a computer-based system or unit, or to remove the drive from a computer-based system or unit.
- (4) To prevent fire or electrical shock do not expose this appliance to rain or moisture.
- (5) To avoid electric shock or the laser beam harmful to the eyes, do not attempt to disassemble the cabinet.

Attention - L'emploi des commandes ou réglages ou l'exécution des procédés autrement que ceux spécifiés ici peut resulter en l'exposition de rayonnement hasardée.

Cet appareil conforme à la partie 15 des réglementations de la FCC. Le fonctionnement est soumis aux deux conditions suivantes. (1) Cet appareil ne peut pas causer l'interférence nuisible et (2) cet appareil doit accepter aucune interference reçu, y compris l'interférence qui peut causer un fontionnement indésiré.

## DISC USAGE

This CD-ROM unit provides read-only memory using CD-ROM discs with the following trademarks:



## HANDLING PRECAUTIONS

### DISC HANDLING

- . Hold the disc by the edges. Do not touch the surface of the disc, especially the bottom of the disc.
- . To remove dust or finger prints, use a clean soft dry cloth. Do not use thinners or cleaners on the disc.
- . Do not write with a hard tip pen on the surface.
- . Do not store the disc in a high temperature area or leave in a car under direct sunlight.
- . Do not bend or drop the disc.

### DRIVE OPERATION

#### *To avoid errors:*

- . Never push objects of any kind through the tray loader, never spill liquid on unit
- . Do not attempt to service this product yourself.
- . Do not use CD-ROM drive at a vertical installation.
- . Do not remove drive unit during operation, must turn off power first.

### AVOID THE FOLLOWING ENVIRONMENTS

- . High-temperature, high-humidity, extreme temperature changes
- . Dusty
- . Excessive vibration
- . Inclined place

### PRECAUTION WHEN TRANSPORTING

Transport the drive with the disc removed and packaged as originally received.

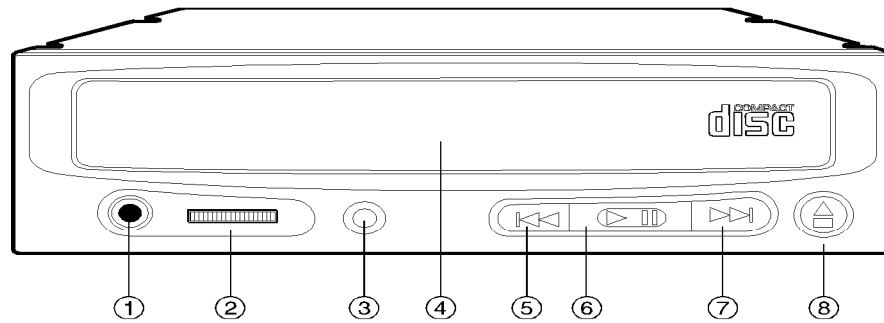
#### **Notice :**

Many errors are usually caused by the following:

1. Random electrical noise
2. Dust or finger prints on the surface of a CD disc
3. Scratches and defects on the surface of a CD disc
4. Mishandling the cable connections

## DRIVE PARTS AND FUNCTIONS

### FRONT PANEL



#### 1. HEAD PHONE JACK

Connects headphone, use 3.5mm stereo mini plug.

#### 2. VOLUME

Adjust audio output level.

#### 3. BUSY INDICATOR

Power on and drive ready/busy indicator.

#### 4. DISC TRAY

Accepts a CD-ROM disc.

#### 5. REVERSE SELECT - Audio CD Function Only

Manually steps backwards for track selection

#### 6. PLAY/PAUSE

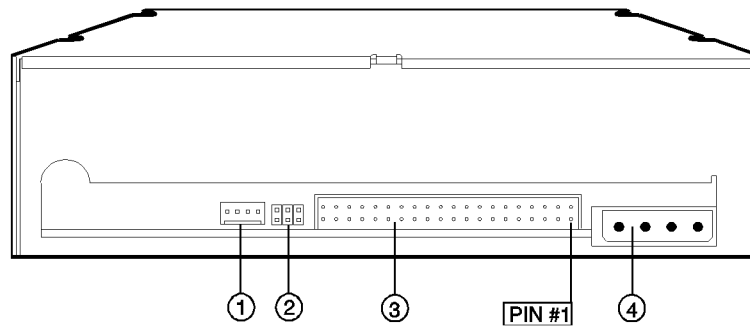
#### 7. FORWARD SELECT - Audio CD Function Only

Manually steps forwards for track selection

#### 8. EJECT/LOAD BUTTON

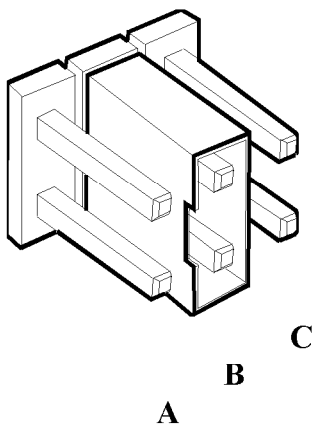
Load and unload the CD-ROM tray with a disc using this button.

## REAR PANEL



1. AUDIO OUT CONNECTOR  
Standard card connector pins

2. INTERFACE MODE SELECTOR



A. CSEL (Cable Select)  
B. SLAVE (Factory Default)  
C. MASTER

3. 40 PIN IDE INTERFACE CONNECTOR  
Interface to connect to host computer

4. DC (IN) CONNECTOR

# HARDWARE INSTALLATION

## SYSTEM REQUIREMENTS

You need the following equipment to install your CD-ROM Drive:

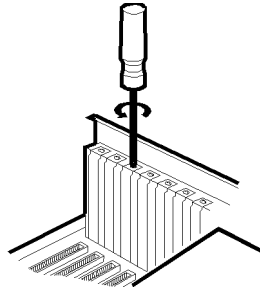
- IDE compatible sound card or IDE interface card
- IBM PC/AT or compatible
- 3.5" or 5.25" floppy drive
- MS-DOS 6.0 or higher

## HARDWARE INSTALLATION

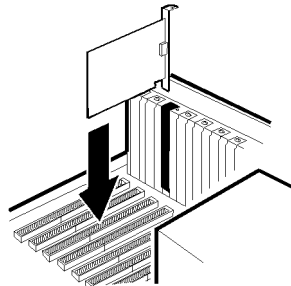
Before installing the drive, be sure that you have turned off the computer, and the power cord is disconnected from the wall socket.

## PROCEDURE

1. Install the drive into a 5-1/4" bay using mounting screws.
2. Select an expansion slot on the mother board to insert the sound card or interface card. The drive can also be connected to your existing IDE hard drive cable if you do not already have two hard drives installed on your system.
3. Remove the appropriate expansion slot cover.

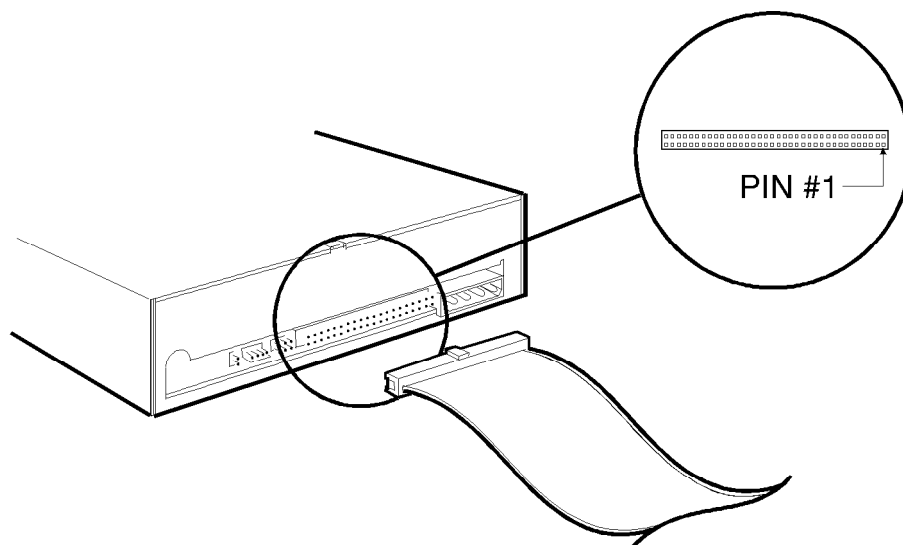


4. Gently insert the card into the expansion slot.

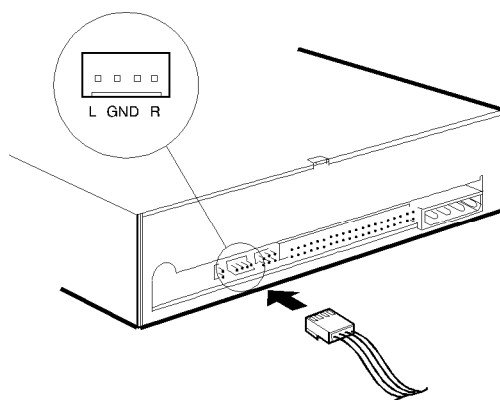




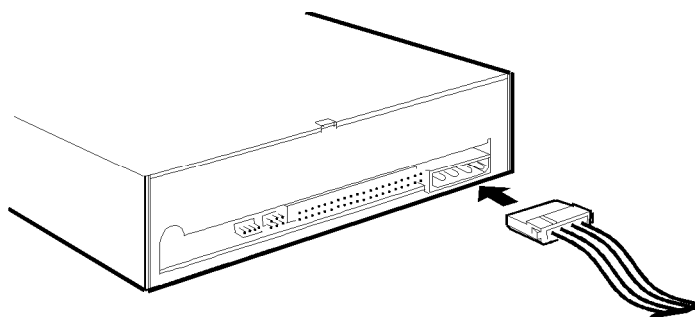
5. Connect the 40-pin drive interface and sound cable at the rear of the CD-ROM drive. To prevent an incorrect connection and possible system damage, place Pin 1 of the cable connector (red colored edge of the cable) to Pin 1 on the ATAPI drive connector. Do not force the cable and the connector.



6. The four pin audio cable must be connected from your CD-ROM to your sound card to enable the capability to play audio CD's with your unit.



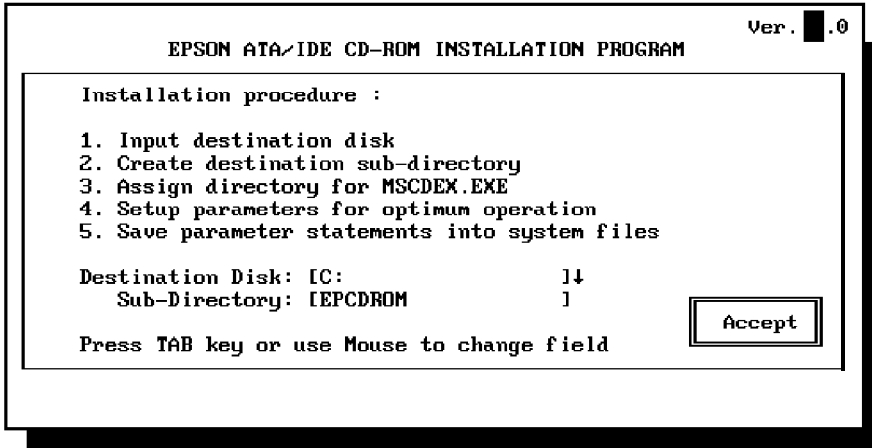
7. Connect the DC power cable from the PC's power supply to the DC power connector at the back of the drive.



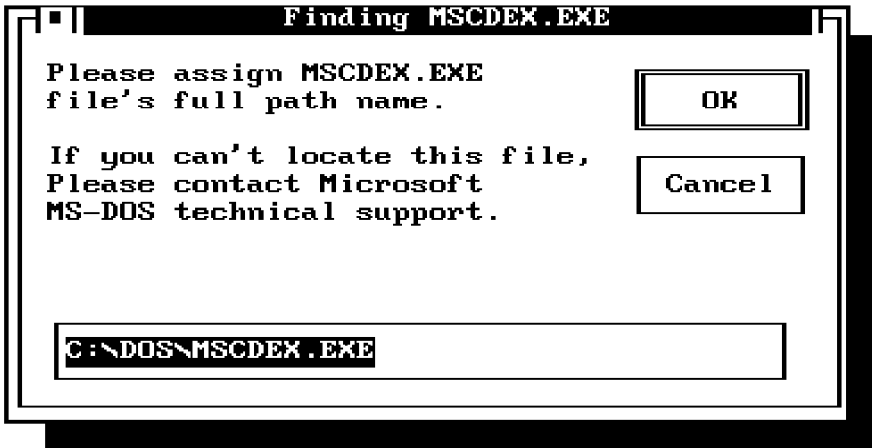
8. Replace the cover on your computer and reconnect the system

## SOFTWARE INSTALLATION

1. Insert the installation disk into Drive A or Drive B. (Not required for Windows '95 installations - see page 20).
2. At the DOS prompt, type the drive letter where the disk is inserted, followed by a colon. Press ENTER
3. Type install and press ENTER. The following menu appears:

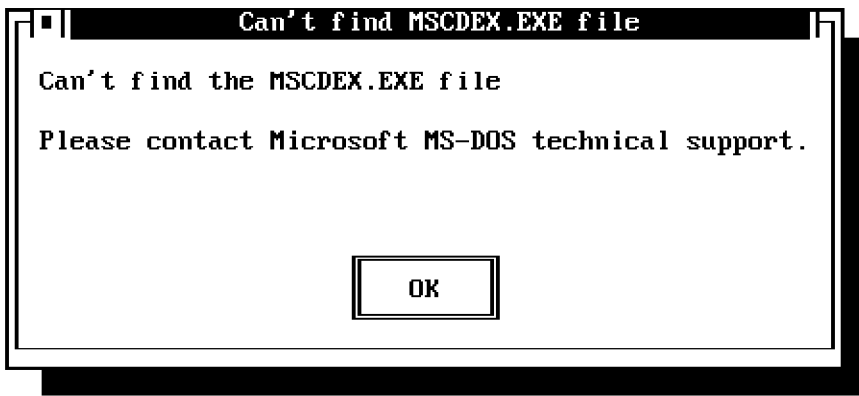


4. The next menu allows you to specify where the MS-DOS MSCDEX.EXE file is located.



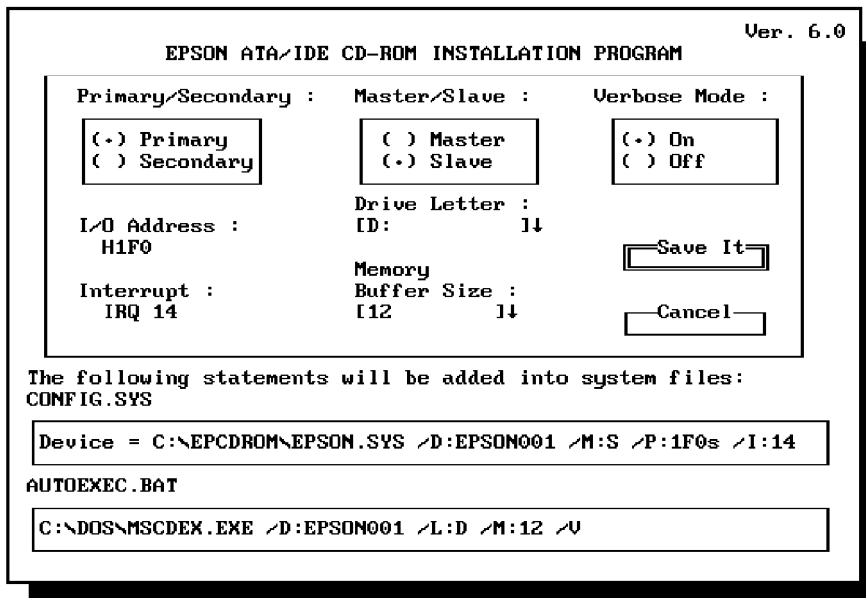
The default selection is C:\DOS. Chose OK when you have completed your selections. If there were no errors, the setup menu appears as shown in (6) below.

5. If the MSCDEX.EXE file is not on your drive, or you have not chosen the correct directory, the following menu appears. The MSCDEX.EXE file is included on your DOS 6.0 or higher installation disks. If this file was not installed on your drive during your initial DOS installation you can extract the file directly off the installation disks. If this file is not included on your installation disks you can contact Microsoft Technical support.



6. The defaults provided by the program are:

|                        |                         |
|------------------------|-------------------------|
| Primary/Secondary:     | Primary                 |
| Master/Slave:          | Slave                   |
| Assigned Drive Letter: | Next Available Drive ** |
| Memory Buffer Size     | 12 **                   |
| Verbose Mode:          | On **                   |



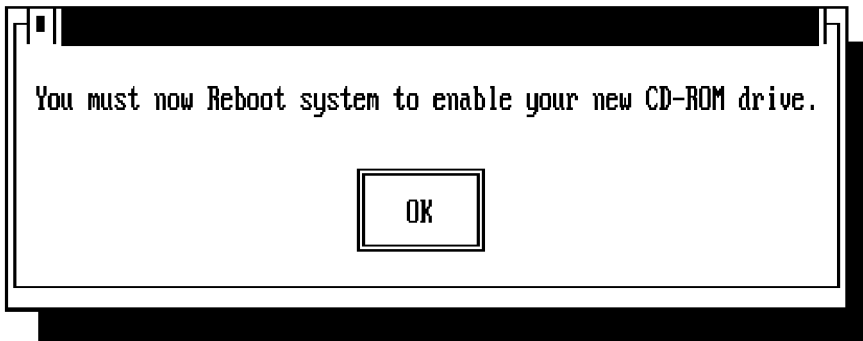
\*\* These settings are utilized by the MSCDEX.EXE program. Complete documentation is available in your MS-DOS manual.

It is suggested that you accept the default settings unless you have sound card or adapter documentation which require different settings.

7. Use the TAB key to move between fields and make selections, then chose SAVE IT and press ENTER. Your installation is now complete.



8. Your computer **MUST** now be rebooted for all changes to become effective.



## DEVICE DRIVER INSTALLATION

The Device Driver, EPSON.SYS, is described below.

```
DEVICE=[drive:][path\]EPSON.SYS /D:device-name /M: /P: /I: /V
```

For example:

```
DEVICE=C:\EPCDRROM/EPSON.SYS /D:EPSON001 /M:S /P: 1F0s /I:14 /V
```

- [drive:][path\] specifies the drive and the path name in use.
- /D: Specifies the device name that will be used in conjunction with the MSCDEX.EXE file, so that the MSCDEX.EXE file can find and communicate with the Device Driver.
- [/M:S] Specifies the data transfer mode. The only choice is “S” for programmed I/O
- [/P:X] Specifies the base port address for your interface. Options are 170 and 1F0. The default is 1F0.
- [/I:X] Specifies the device IRQ assignment. Choices are: 9, 10, 11, 12, 14, and 15. The default is 14.
- /V: Verbose mode specifies whether complete setup information is printed to the screen

## MSCDEX.EXE INSTALLATION INSTRUCTIONS

MSCDEX.EXE must be included in the AUTOEXEC.BAT file. The MSCDEX.EXE will be invoked each time the system boots up. The syntax is as follows:

C: \ <path> \MSCDEX.EXE / D:<device name. /L:<drive letter>/M:<buffersize>

Example:

C:\DOS\MSCDEX.EXE /D:EPSON001 /M: 12

|               |  |
|---------------|--|
| Path-filename | The path where the MSCDEX.EXE file is located.                             |
| Device-name   | The same name that was used with the DEVICE DRIVER in the CONFIG.SYS file. |
| Buffer Size   | Specifies the number of sector buffers. The default is 12.                 |
| IL:           | Specifies the drive letter to the first CD-ROM drive.                      |
| IV:           | Directs MSCDEX to display memory statistics when it is loaded.             |

# Additional Installation Instructions

## Installing CD Audio Player For Windows

If “CD Audio” is not available in your Windows Accessories Group “Media Player”, you must complete the following steps to install it:

- 1) Go to “Control Panel” and then to “Drivers”;
- 2) If [MCI] CD Audio is not listed go to add;
- 3) Chose [MCI] CD Audio and install the file;
- 4) If [MCI] CD Audio was listed choose setup and your CD-ROM should be detected;
- 5) Exit Windows and then restart Windows;
- 6) Go to Media Player and choose CD Audio under device.

## Installing OS/2 2.x and 3.x

- 1) If you are using OS/2 Warp, you must choose the driver “Unlisted IDE CD-ROM”;
- 2) If you are using OS/2 2.x, you must obtain the new drivers from Epson or IBM.

## Installing Linux

You must obtain the IDE compatible files from your Linux distributor or from Epson

## Installing A IDE Controller Card With A Primary and Secondary Port

If you are connecting the Epson CD-ROM to the secondary port of the controller card, the drive must be configured to be a master drive. When you are using the master drive configuration, it is suggested that you also use IRQ 15.

# PRODUCT FEATURES

| SPECIFICATIONS  | CMD-2240<br>CD-ROM DRIVE  | CMD-2260<br>CD-ROM DRIVE  |
|---|---|---|
| <b>Disc</b><br>Applicable Disc  | CD-ROM Mode 1, CD-DA, CD-I;<br>CD-ROM XA Mode 2, Form 1 & 2   | CD-ROM Mode 1, CD-DA, CD-I;<br>CD-ROM XA Mode 2, Form 1 & 2   |
| Disc Diameter   | 12cm, 8cm   | 12cm, 8cm   |
| <b>Performance</b><br>Data Rate - Sustained<br>Data Rate - Burst  | 750KB/sec<br>2.7MB/sec ATAPI Mode 0<br>5.2MB/sec ATAPI Mode 1<br>8.3MB/sec ATAPI Mode 2<br>11.1 MB/set ATAPI Mode 3 | 900KB/sec<br>2.7MB/sec ATAPI Mode 0<br>5.2MB/sec ATAPI Mode 1<br>8.3MB/sec ATAPI Mode 2<br>11.1 MB/set ATAPI Mode 3 |
| <b>Access Time</b><br>1. Tested with MPCII Wizard<br>2. Tested with Philips<br>PARSCOM direct measurement program<br>0 to 20 mins (1/3 stroke)<br>20 to 40 mins (1/3 stroke)<br>40 to 54 mins (1/3 stroke)<br>Average Random Seek | 210ms average<br><br>140ms average<br>120ms average<br>100ms average<br>180ms average<br>(Full Stroke) 0 to 54 mins | 195ms average<br><br>270ms average<br>233ms average<br>220ms average<br>229ms average                               |
| <b>Data Buffer</b>  | 256KB   | 256KB   |
| <b>Optical Pickup</b>   |   |   |
| <b>Laser</b>  | Semiconductor   | Semiconductor   |
| <b>Slide Mechanism</b>  | Linear Motor  | Linear Motor  |
| <b>Spindle Motor</b>  | Brushless   | Brushless   |
| <b>Mechanical Noise Play</b>  | 30dBA   | 30dBA   |
| <b>Power Consumption</b>  | 5 Watts Average   | 5 Watts Average   |
| <b>Environmental Conditions</b>   |   |   |
| Operating   | Temperature: 5 to 55° Celsius<br>Humidity: 5 - 90% non condensing   | Temperature: 5 to 55° Celsius<br>Humidity: 5 - 90% non condensing   |
| Storage   | Temperature: -25 to 55° Celsius<br>Humidity: 5 - 90% non condensing   | Temperature: -25 to 55° Celsius<br>Humidity: 5 - 90% non condensing   |
| <b>Error Rate</b><br>Soft Read Error<br>Hard Read Error<br>Seek Error   | Less than 10 <sup>-9</sup><br>Less than 10 <sup>-12</sup><br>Less than 10 <sup>-6</sup>                             | Less than 10 <sup>-9</sup><br>Less than 10 <sup>-12</sup><br>Less than 10 <sup>-6</sup>                             |
| <b>Dimensions and Weight</b><br>Dimensions (W/H/D)<br>Weight  | 146 x 41.5 x 208 mm<br>(without front panel)<br>1kg   | 146 x 41.5 x 208 mm<br>(without front panel)<br>1kg   |
| <b>Front Panel</b><br>Disc Loading<br>Indicator (LED)<br>Audio Output<br>Volume Control   | MTL<br>Power ON/BUSY<br>Headphone Jack<br>Wheel Knob  | MTL<br>Power ON/BUSY<br>Headphone Jack<br>Wheel Knob  |
| <b>CD Audio Player Controls</b>   | 4 Buttons; forward select, play/<br>pause, reverse select, open/close   | 4 Buttons; forward select, play/pause<br>reverse select, open/close   |
| <b>Rear Panel</b><br>Power Supply<br><br>Electrical Interface<br>Interface Connector<br>Audio Output  | +5/+12VDC STD PC<br>Power Connector<br>IDE/ATAPI CD-ROM SFF-8020<br>40 Pin IDE<br>SFF - 8020 ATAPI Standard         | +5/+12VDC STD PC<br>Power Connector<br>IDE/ATAPI CD-ROM SFF-8020<br>40 Pin IDE<br>Analog Output, 4 pin Connector    |
| <b>Reliability</b><br>MTBF  | 30,000 POH (25% duty)   | 30,000 POH (25% duty)   |



# Technical Support

## TROUBLESHOOTING

Check the table below for common problems and solutions.

| <b>PROBLEM</b>   | <b>CORRECTIVE ACTION</b>   |
|--|--|
| <ul style="list-style-type: none"><li>• When you play a CD there is no image on the screen.</li></ul>  | There are several probable causes for this problem. The disc might be an audio CD with no screen images. You could have inserted the disc upside down (with the label facing down instead of up). Also, the disc could be defective. |
| <ul style="list-style-type: none"><li>• When you play a CD there is no sound</li></ul>   | You may not have connected the four pin sound cable from the CD to either your sound card or the interface card.   |
| <ul style="list-style-type: none"><li>• During the computer's boot process, you get a message that the CD is not active or responding.</li></ul> | Confirm that you have the power cable connected to the CD unit. If there is power, then confirm that the cable is attached correctly.  |
| <ul style="list-style-type: none"><li>• The CD door will not Open</li></ul>  | Confirm that you have the power cable connected to the CD-ROM unit. Also, confirm that the cable is attached correctly.  |

If after troubleshooting your problem the CD-ROM drive is still inoperable do not remove the cover or tamper with the unit. The technical support options contained on the next page should be used to correct your problem.

## Important Notes for Windows® '95

When installing your CD-ROM drive with Microsoft Windows '95, it is not necessary to install the device driver. The CD-ROM drive is "plug-'n'-play" with Windows '95 and will automatically be recognized by that operating system. If you have upgraded your system to Windows '95 from an earlier DOS or Windows installation, and you are having difficulty with performance of the drive under Windows '95, it may be necessary to verify that the MSCDEX.EXE is in the Windows/command subdirectory. It should appear as follows:

Incorrect: C:\DOS\MSCDEX.EXE/D:MSCDOO1/M: 12

Correct: C:\WINDOWS\COMMAND\MSCDEX.EXE/D:MSCDOO1/M: 12

## **Technical Support Options**

The following Technical Support options are available if you have questions or concerns:

Call Epson Technical Support at 800-922-8911

On CompuServe, GO EPSON or contact us directly at 76004,1432

### **Using Test Directory Contained On Installation Disk**

The test directory contained on your installation disk is for use as directed by technical support. These programs provide information that will enable you to receive a quick solution to many common technical support problems.

P/N 120-00005-01