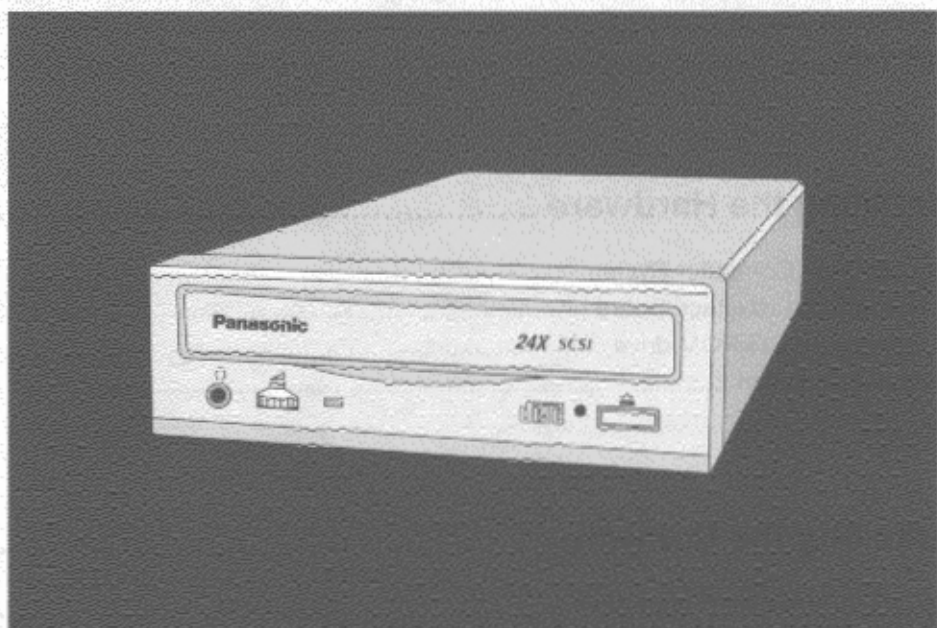


# Operation Manual

## LK-MC606BP

### Internal CD-ROM Drive



Please read through these instructions before operating this unit.

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# Important Safety Notice

- (1) To prevent fire or electric shock, do not expose this appliance to rain or moisture.
- (2) To avoid electric shock or damage to the eyes due to laser beam, do not attempt to disassemble the cabinet.
- (3) To reduce the risk of electric shock, do not remove cover. Refer servicing to the qualified personnel only.

## Notice

- (1) Reproduction of any part of this publication without authorization is prohibited.
- (2) The manufacturer reserves the right to revise this document without notice at any time.
- (3) If any questions arise concerning this document, please contact your sales representative, or Panasonic at 1-800-Panasy (1-800-726-2797).

## 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 not occur in a particular installation. If this equipment does 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 that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### FCC Warning

Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

### Caution

Use shielded connecting cables in order to meet FCC emission limits and also to prevent interference to nearby radio and television reception.

# Laser Safety Information

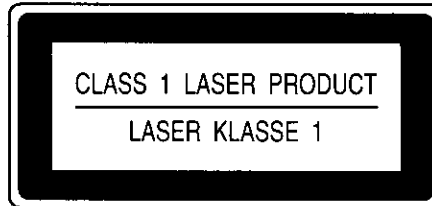
## Class 1 Laser Product

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

Class 1 laser products are not considered to be hazardous. To ensure continued product safety, the following precautions should be heeded.

### Caution

- 1) The 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 a cover. Your CD-ROM drive may not be used as a stand-alone unit.
- 3) Do not open the drive unit; no user adjustable or serviceable parts are inside.



- This label is attached to the upper shield on the top of the drive unit.



- This label is attached to the bottom of the drive unit.

## Laser Specification

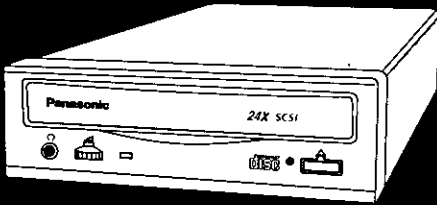
Type ..... Semiconductor laser GaAlAs  
Wave length .....  $790 \pm 25$  nm  
Divergence .....  $\theta = 53.5^\circ \pm 1.5^\circ$   
Output Power ..... 0.22 mW

# Getting Started

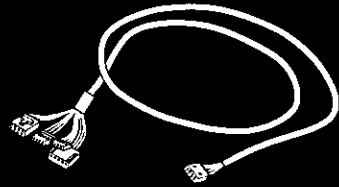
Congratulations on your purchase of the Panasonic LK-MC606BP. The Panasonic LK-MC606BP CD-ROM drive features Panasonic's 24X speed technology. This manual will provide you with instructions for installing your CD-ROM drive, Driver Software, and Utilities. Thank you for choosing the Panasonic CD-ROM drive for you CD-ROM playing needs. Before going ahead with installation of your CD-ROM drive, please read the important notes in this section.

## Kit Contents

The following is a checklist of items which are included with your Panasonic CD-ROM drive. Be sure to save the original Box and packing materials to ensure safe future shipments or transportation of your Panasonic CD-ROM drive.



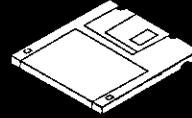
■ CD-ROM Drive unit



■ Audio Cable



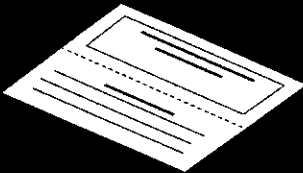
■ Operation Manual



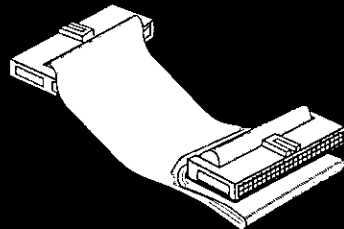
■ Installation Disk (1disk)



■ Mounting Screw (4pcs.)



■ Warranty & Registration Card



■ Interface Cable

# System Requirements

## Computer

IBM PC-AT or Compatible  
80286, 80386, 80486 and Pentium  
personal computers

## Operating System

PC-DOS Ver. 6.3 or later  
(included "MSCDEX")  
MS-DOS Ver. 6.2 or later  
(included "MSCDEX")  
Windows 3.1/ 3.11  
Windows NT 3.1/ 3.5/ 3.51/ 4.0  
MS Windows 95  
OS/2 2.1/ 2.11/ Warp 3/ Warp 4

## Recommended SCSI Interface Board

- Adaptec AHA-15xx series/AHA-294x series
- ASPI-compatible SCSI Interface Board only support.
  - Not available DCAM-compatible SCSI Interface Board (by Future Domain, etc.).

# Media for your CD-ROM

CD-ROM stands for read-only memory using an audio compact disc system as a media package which handles digital data.



This drive unit uses CD-ROM discs which bear the following mark.



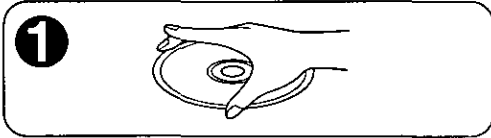
Only digital audio compact discs having this mark can be used with this unit.

# Handling Discs

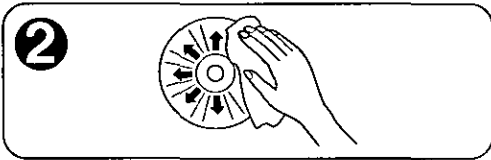
Most problems are usually caused by the following.

- Dust or finger-prints on the surface of the CD-disc.
- Random electrical noise.
- Scratches and defects on the surface of CD-disc.

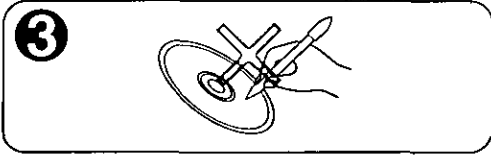
To avoid any of these problems, please keep mind the following guidelines when handling compact discs.



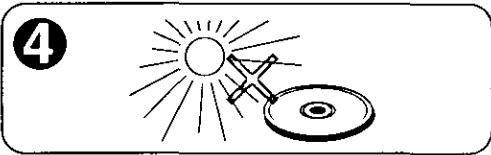
Hold the disc by the edges, do not touch the surface of the disc.



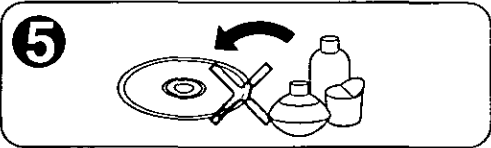
To remove dust or fingerprint, use a clean, soft, dry cloth. When cleaning, wipe gently in a radial direction.



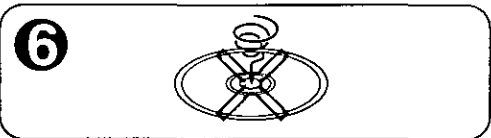
Do not write on the reading side, or paste paper to the surface of the disc. Should not paste any label to the outer back surface (the label side) of the disc, or it generates drive vibration due to imbalance of the disc.



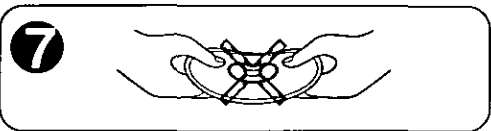
Do not store the disc in a place where the temperature is high.



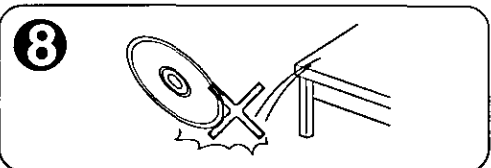
Do not use benzine, thinners and cleaners, etc. A very mild soap and water solution should be used to clean the disc.



Do not make the center hole larger.



Do not bend the disc.



Do not drop the disc, or subject it to shock.



---

## When Transporting

To avoid damage

- Keep the original packing materials for the drive unit.
- Before transporting the drive unit, remove CD-ROM disc from the drive unit and repack the drive unit in its original packing.

## When Installing

Do not install the CD-ROM drive in environments where the drive would be subjected to:

- High-temperature, high-humidity, or extreme temperature changes.
- Dust
- Excessive vibration / sudden shock.
- Inclines or angled operation.
- Direct sunlight.

## When Using

- Never push objects of any kind through the cabinet.
- Never spill liquid of any kind on the unit
- Do not place foreign objects in the disc insertion slot and attempt to operate.
- This drive is not user serviceable, do not open or remove cover.

## When Operating

To avoid data errors

- Do not move the drive unit while operating.
- Do not operate the unit immediately after a sudden increase in temperature.

## Feature Summary

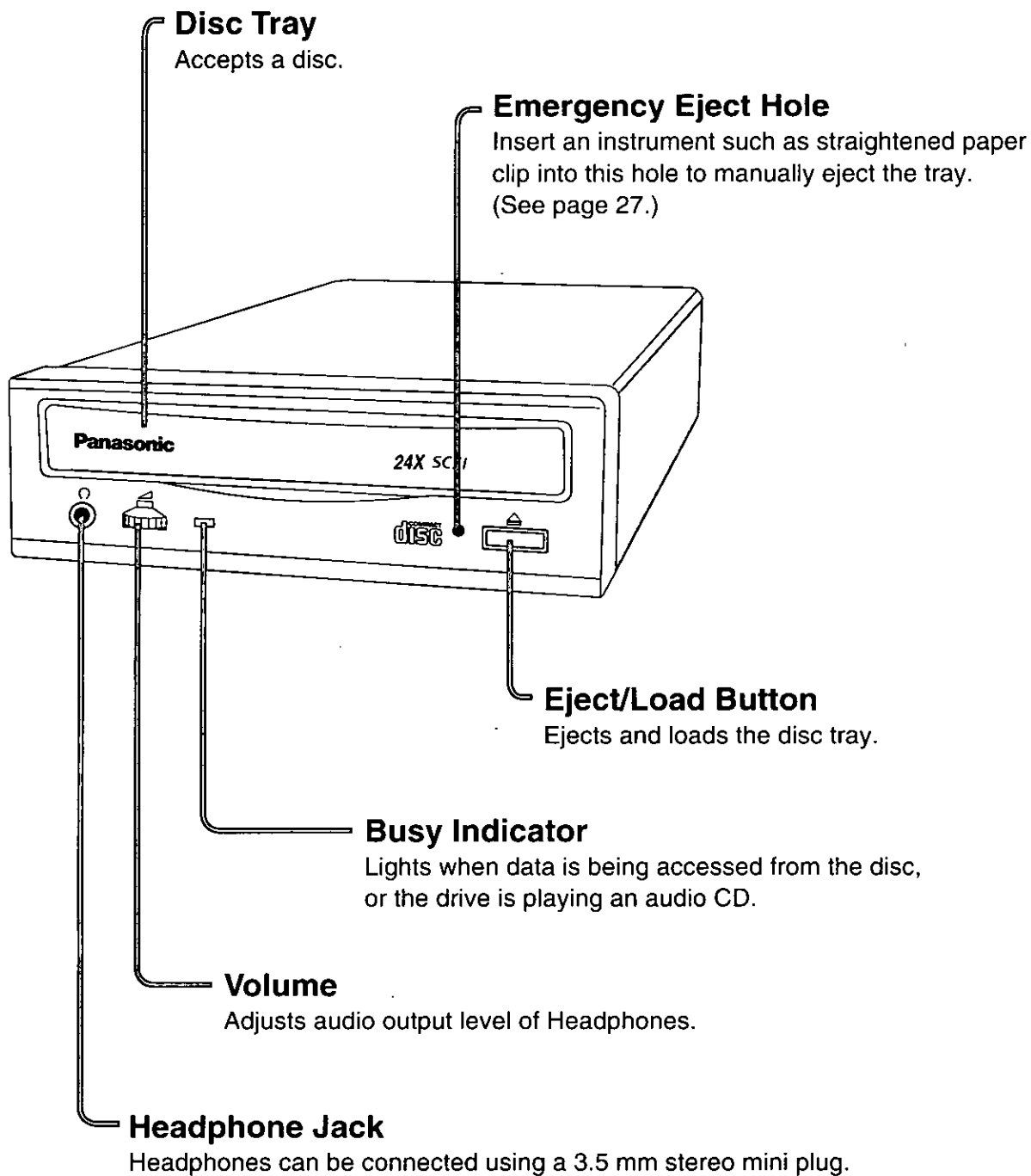
- (1) Embedded SCSI-2
- (2) Automatic loading with tray.
- (3) Horizontal and Vertical installation (Vertical: 12 cm Disc only).
- (4) Audio playback capability.
- (5) 5.25" Half Height design.

## Power Saving

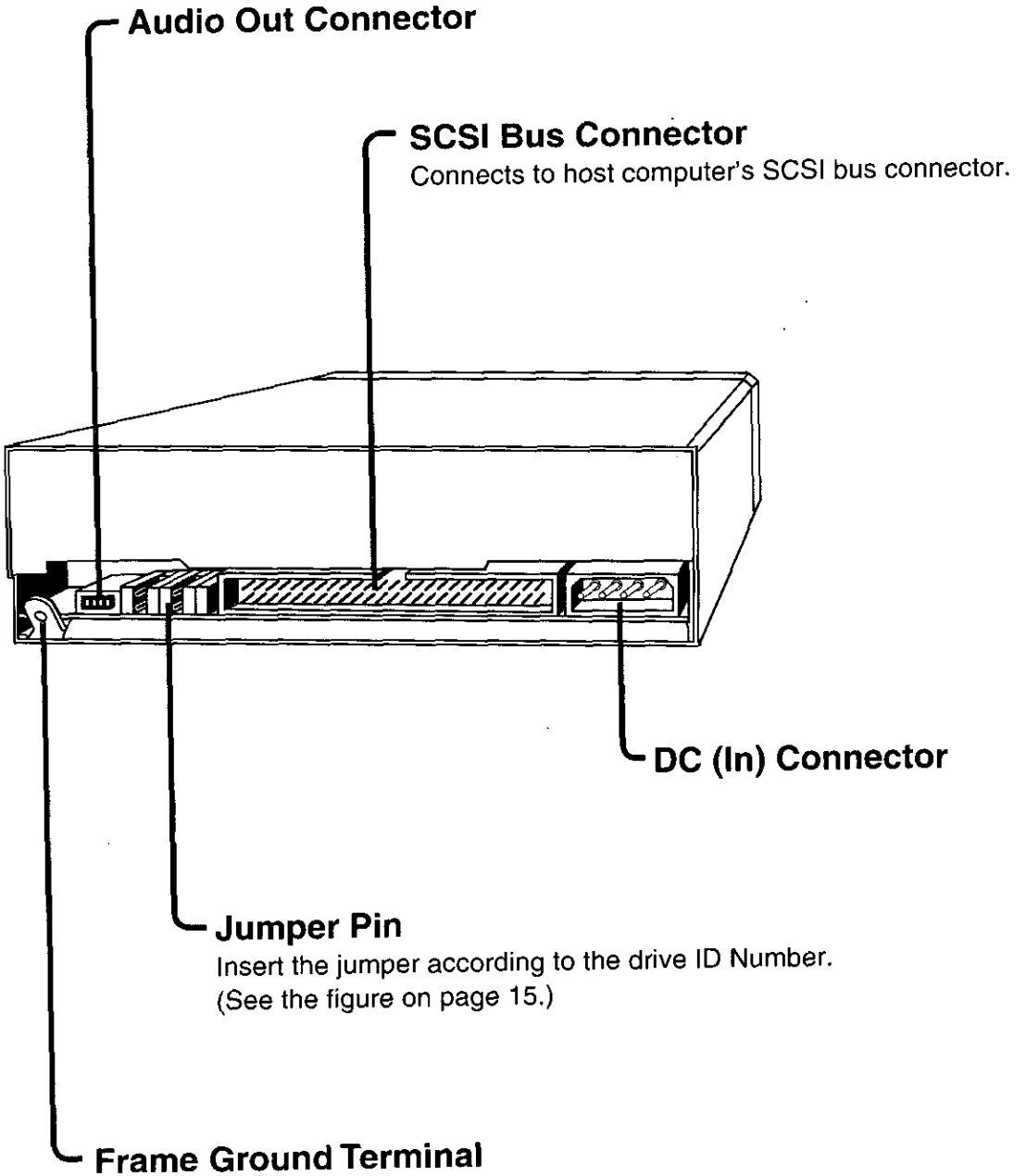
Your CD-ROM drive enters the **Power Save Mode**, if no command is sent to the drive from the host for more than 5 minutes. During Power save mode, the laser and spindle motor stop. Re-start is automatic when the Host Command is received.

# 1 Parts and Functions

## 1 1 Front View



**1 2 Rear View**



# 2 Installing the Hardware

Please read this section completely before starting installation.

The following instructions will guide you through the process of installing the CD-ROM drive.

## 2 1 Prepare Your Computer System

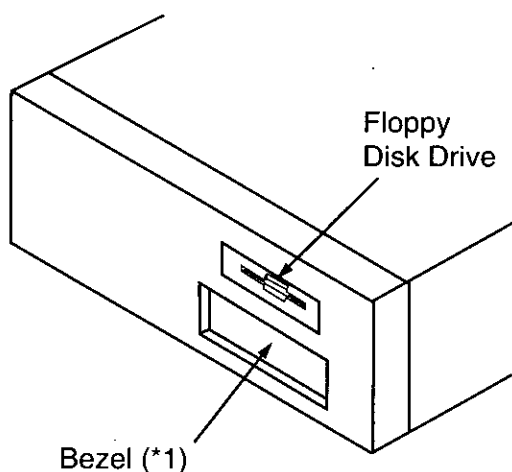


Figure 1

Consult your system operation manual for information before procedure.

- a** Turn off your system and all connected devices. Unplug the power cord.
- b** Remove the top cover from your system.
- c** Remove the bezel (\*1) on a vacant disk drive bay.

## 2 2 Installing SCSI Interface Board (not included)

Refer to the instruction manual of the interface board that you use and make sure that it is connected in the right way, and that all the settings for the interface board are correct.

**Important !** Before you begin installing your Panasonic CD-ROM drive, please note the following information about SCSI interface board.

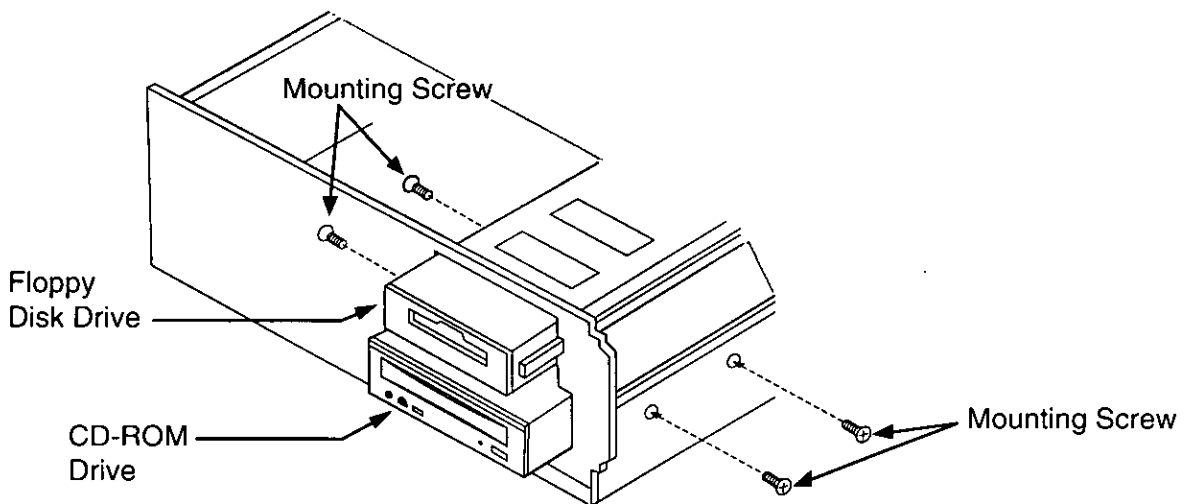
- Jumper settings
- IRQ level
- Memory address

This information is available in SCSI interface board manual. You may need this information during software installation.

## 2 3 Installing your CD-ROM Drive

### 1) Mounting CD-ROM Drive

- a** Remove the drive from its packaging.
- b** Check jumpers for proper I.D. and other items. (Page 15, Figure 4)
- c** Look above your vacant disk drive bay. If it is occupied by a floppy disk drive, slide this floppy disk drive forward a couple of inches. Do not disconnect its cables. This will allow for a easier CD-ROM drive installation. (Figure 2)
- d** Slide the CD-ROM drive into the vacant bay until it is parallel with the floppy disk drive.
- e** Connect DC power cable, interface and audio cable to the back of the drive. See next section "Different Installation Configurations"
- f** Gently slide the drive into the drive bay. Secure with included screws.



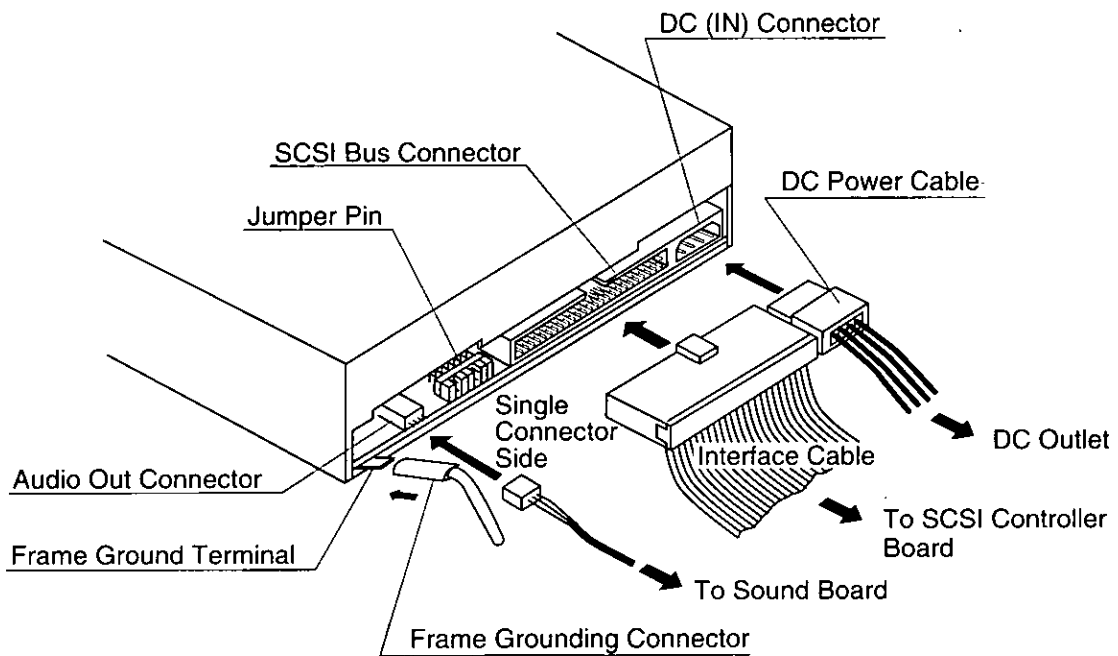
**Figure 2**

### 2) Different Installation Configurations

The Small Computer System Interface (SCSI), allows up to seven devices to be connected to the SCSI port of the computer. This is called a **Daisy Chain**.

Different installation configurations are described here. Select the one that best fits your configuration.

## If the LK-MC606BP is the Only Device Connected to the SCSI Port



**Figure 3**

Installing the LK-MC606BP as the Only Device Connected to the SCSI Port.

### ■ Connecting the Hardware

- 1 Set the main power switch at the computer to off.**  
We recommend the computer be unplugged.
- 2 Install included interface cable as shown in Figure 3.**  
Connect the end of the cable (the 50-pin connector) to the LK-MC606BP CD-ROM Drive. Then, attach the other connector to the SCSI controller board. If you have a sound board and you wish to connect your CD-ROM drive through it, connect the included audio cable as shown in Figure 3 and consult your sound board manual.
- 3 Connect DC power cable to the CD-ROM drive.**

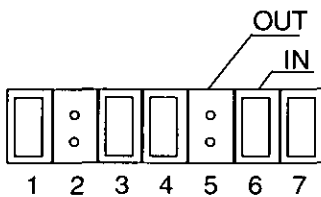
## ■ Setting Jumper Pin (The SCSI Identification Number and Other Item)

### 1 The jumper pin setting ranges from 0~7. (Refer to Figure 4.)

Set the ID number to any number other than the ID number that is used by the computer's SCSI hard disk drive, which is typically 0, or the SCSI controller which is typically 7, or any other devices currently connected to the SCSI system. The factory default SCSI ID number is ID5.

### 2 Locate the jumper pin at the rear of the drive.

Ensure that jumper pin 6 and 7 are set to IN. Set the other jumper pin to their factory default setting (see Figure 4).



• Jumper Pin Setting in this case

Jumper Pin No.	ID NUMBER							
	0	1	2	3	4	5	6	7
1	OUT	IN	OUT	IN	OUT	IN	OUT	IN
2	OUT	OUT	IN	IN	OUT	OUT	IN	IN
3	OUT	OUT	OUT	OUT	IN	IN	IN	IN

	Description	IN	OUT
4	Parity	ON	OFF
5	Sector Size	512	2048
6	Terminator	ON	OFF
7	Term Power	ON	OFF

Note:

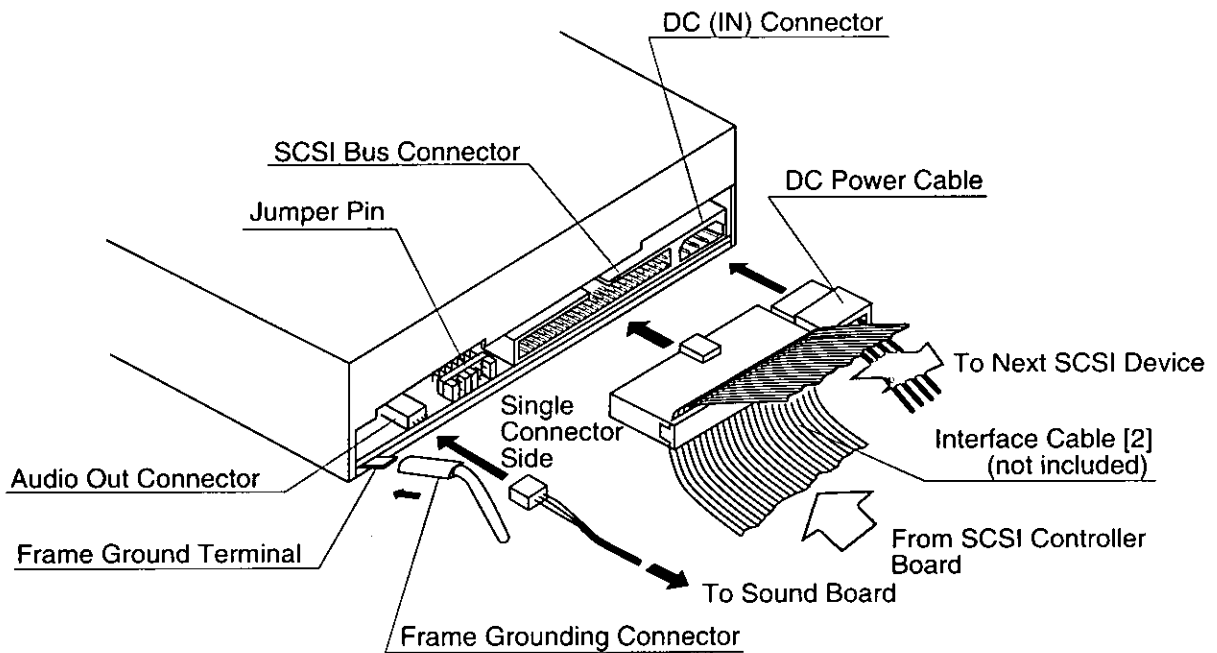
\*1 = Default

\*2 = Can't use, used by the SCSI controller.

Reverse = Default

**Figure 4** Setting the Jumper Pin

## If the LK-MC606BP is the First Device in a Daisy Chain



**Figure 5**

Connecting the LK-MC606BP as the First Device in the Daisy Chain.

### ■ Connecting the Hardware

- 1 Set the main power switch the computer to off.**  
We recommend the computer be unplugged.
- 2 Install interface cable [2] as shown in Figure 5.**  
Connect the middle connector on the cable to the SCSI bus connector on the LK-MC606BP CD-ROM Drive. Then, attach the one of other connector to SCSI controller board and the one to next SCSI device in the chain. If you have a sound board and you wish to connect your CD-ROM drive through it, connect included audio cable as shown in Figure 5 and consult your sound board manual.
- 3 Connect DC power cable to the CD-ROM drive.**

#### Note:

This configuration requires SCSI interface cable with two more connectors that is not included in this package. Consult your dealer.



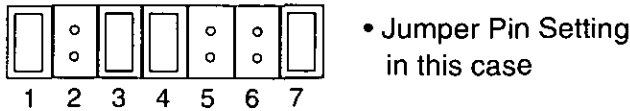
## ■ Setting Jumper Pin (the SCSI Identification Number and Other Item)

- 1 Set the ID; use any available number 0 ~ 7.**

However, do not select any number that is the ID for another SCSI device in the chain. This includes the computer's SCSI hard disk drive, which is typically ID 0, or the SCSI controller which is typically 7, or any other devices currently connected to the SCSI system. The factory default SCSI ID number is ID5.
- 2 Locate the jumper pin at the rear of the drive. Ensure that jumper pin 6 is set to OUT.**

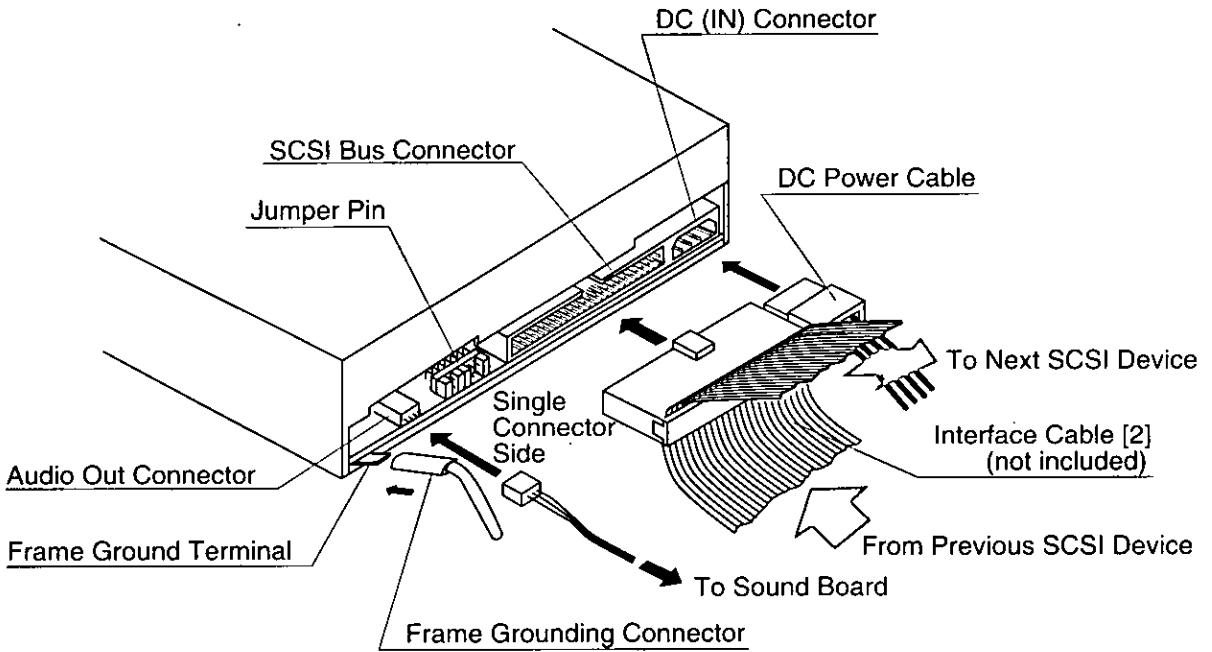
Set the other jumper pin to their factory default setting (see Figure 6).
- 3 You must always terminate the last device in the SCSI daisy chain.**

Refer to the owner's manual of the last device for information regarding termination.



**Figure 6**

## If the LK-MC606BP is Connected Within a Daisy Chain



**Figure 7**

Connecting the LK-MC606BP within a Daisy Chain.

### ■ Connecting the Hardware

- 1 Set the main power switch the computer to off.**  
We recommend the computer be unplugged.
- 2 Install interface cable [2] (not included) as shown in figure 7.**  
Connect the middle connector on the cable to the SCSI bus connector on the LK-MC606BP CD-ROM Drive. Then, connect the other connector on the cable to the previous SCSI device. If the LK-MC606BP is not the last device in the chain, connect the other connector on the cable to the next SCSI device in the daisy chain. If you have a sound board and you wish to connect your CD-ROM drive through it, connect included audio cable as shown in Figure 7 and consult your sound board manual.
- 3 Connect DC power cable to the CD-ROM drive.**

#### Note:

This configuration requires SCSI interface cable with two more connectors that is not included in this package. Consult your dealer.

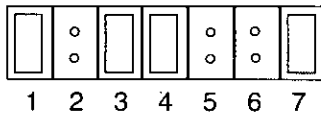
## ■ Setting Jumper Pin (the SCSI Identification Number and Other Item)

### 1 Set the ID; use any available number 0~7.

However, do not select any number that is the ID for another SCSI device in the chain. This includes the computer's SCSI hard disk drive, which is typically ID 0, or the SCSI controller which is typically 7, or any other devices currently connected to the SCSI system. The factory default SCSI ID number is ID5.

### 2 Locate the jumper pin at the rear of the drive.

If the drive is the last device in the chain, jumper pin 6 must be set to IN. If the CD-ROM drive is not the last device in the chain, jumper pin 6 must be set to OUT. Set the other jumper pin to their factory default setting (see Figure 8).



• Jumper Pin Setting  
in this case.

Figure 8

### 3) The last step in the installation procedure is to load the Easy Installation Software.

Refer to next chapter<sup>3</sup>.

## 2 4 Vertical Installation

### Setting a Disc to the Tray Vertically

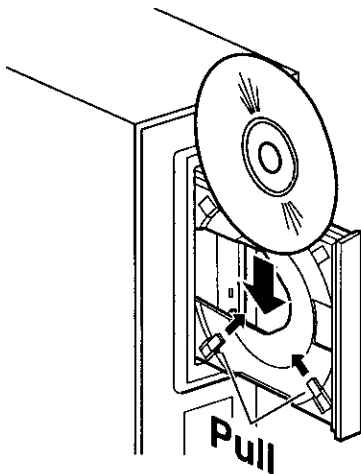


Figure 9

There are four disc clips that will hold a disc in place vertically on the CD-ROM drive tray. When you install the CD-ROM drive vertically, please pull the two disc clips near the bottom edge of the disc tray and load a disc vertically as left figure 9.

# 3 Installing the Software

## 3 1 File Contents on the Floppy Disk

The following is contents of programs included on your installation floppy disks.

Disk Name	File Contents
<b>CD-ROM Drive Installation Software</b>	<ul style="list-style-type: none"><li>• Installer</li><li>• Device driver</li><li>• Utility<ul style="list-style-type: none"><li>CD Listener</li></ul></li><li>• Readme</li></ul>

## 3 2 Installing Device Driver Software for DOS / Windows 3.1

### Installation

To operate your Panasonic CD-ROM drive with your personal computer, you will need to install programs to control the drive, known as device drivers, as well as MS-DOS CD-ROM extensions. These programs are automatically loaded through the easy installation program in Section 3.3. Before proceeding to the Easy Installation Section, please review the icons listed below.



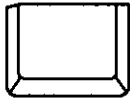
..... Control key



..... Alternate key



..... Delete key



+



..... When two or more keys are to  
be pressed simultaneously.

## 3 Easy Installation (for DOS / Windows 3.1)

### Note

This procedure assumes that the ASPI manager included with your ASPI-compatible SCSI interface board has been installed. Please refer to your SCSI interface board manual for instructions.

This section leads you through the automatic installation procedure provided for your system. If you prefer to manually install the drivers and modify your **CONFIG.SYS** file and **AUTOEXEC. BAT** file, etc., go to **APPENDIX A**.

- 1 Turn the power of your personal computer on. If your system automatically loads Windows 3.1, **you must Exit Windows 3.1** and reach the DOS prompt C:\. This explanation assumes that your floppy drive is designated **A** and your hard disk drive **C**. If, however, you have used other letters to designate your drives, please substitute the appropriate letters.
- 2 Insert the floppy disk **CD-ROM Drive Installation Software** into your floppy disk drive.
- 3 Type **A:** and press <Enter>. The current drive changes to **A**.
- 4 Type **INSTALL** and press <Enter>. The program will then ask for the destination drive. The software will then be transferred to the hard disk, and the **CONFIG.SYS** and the **AUTOEXEC.BAT** files will automatically be changed.
- 5 Follow the procedures displayed on your screen until the completion message appears. The following information may be needed for software installation, depending upon the host adapter you used:
  - IRQ Level
  - Memory Address

**6** Eject the floppy disk from the floppy disk drive. After the installation, keep this floppy disk for future use.

**7** To restart the system, press the reset button on your personal computer, or



Check that the device driver of this equipment has been installed during the start-up procedure. Every time DOS is started, the device driver of this equipment will be automatically installed.

## **3 4 References (for DOS / Windows 3.1)**

This section provides detailed descriptions regarding the device driver.

\* For the spaces enclosed by < >, enter the characters indicating relevant data.

The characters enclosed by [ ] may be omitted.

A space is indicated by □.

### **Device Driver**

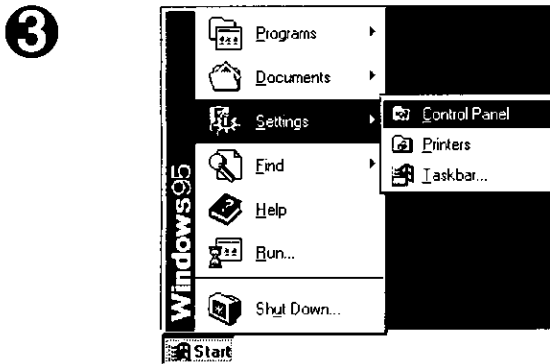
- File name ..... SR\_ASPI.SYS (ASPI-compatible)
- Function ..... Provides the system requirements to operate CD-ROM drive on DOS
- Format ..... DEVICE = [<Drive name>:] [<Path name>] <Device driver name> □  
/D: <Device name> □ /Q  
(Write in CONFIG.SYS.)
- Example of input..... DEVICE = C: \PANACR\SR\_ASPI.SYS □ /D:MSCD000
- Parameter ..... /D: <Device name>  
Assign the <Device name> equivalent to [/D:<Device name>] to be assigned when installing [MSCDEX.EXE]. It cannot be omitted  
/Q Do not display “<A> bort, <R>etry”.  
/B Do not reset CD-ROM drive at Boot Sequence. (Initialize Device Driver)

## 3 5 Recognizing CD-ROM drive under Windows 95

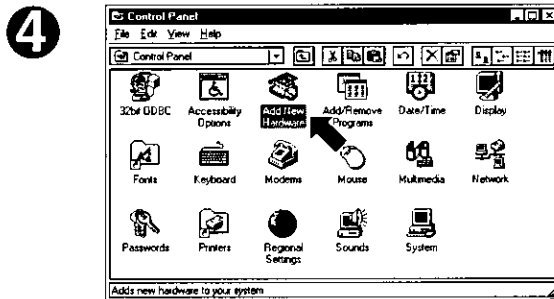
To recognize your CD-ROM drive under Windows 95.  
Follow below steps.

1 Mount the CD-ROM drive in your system.

2 Start up Windows 95.



Pull\_up **Start** Menu in the lower left corner of Windows 95 Start\_up screen and select **Settings**.  
And select **Control Panel**.



Double\_click on **Add New Hardware** icon in **Control Panel** window.

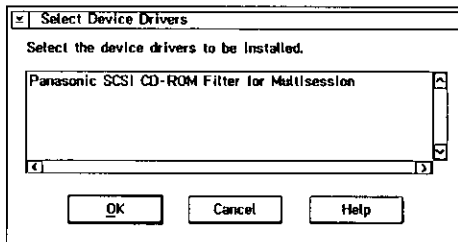
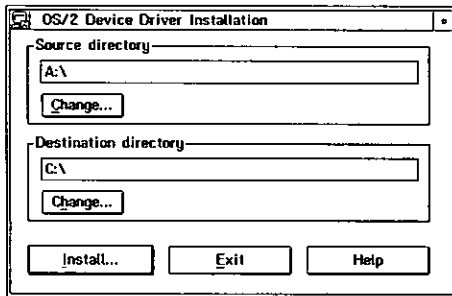
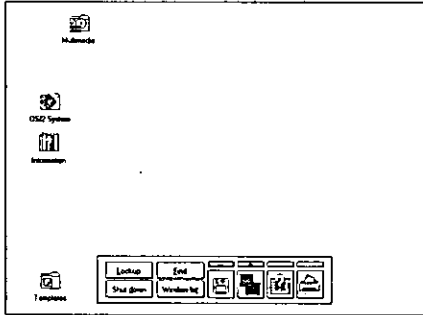


Follow the displayed messages in **Add New Hardware Wizard** window.  
When the driver installation is completed, your system will recognize CD-ROM drive.



## 3 6 Filter Driver for reading Multisession under OS/2

When you read the Multisession disc under OS/2, you will need to install the Filter driver. Follow below steps.



1 Start up OS/2 Operation System.

2 Open the "OS/2 System".

3 Open the "System Setup".

4 Open the "Device Driver Install".

5 Insert the "CD-ROM drive Installation Software for DOS, Windows 3.1, OS/2" disk and click **Install**.

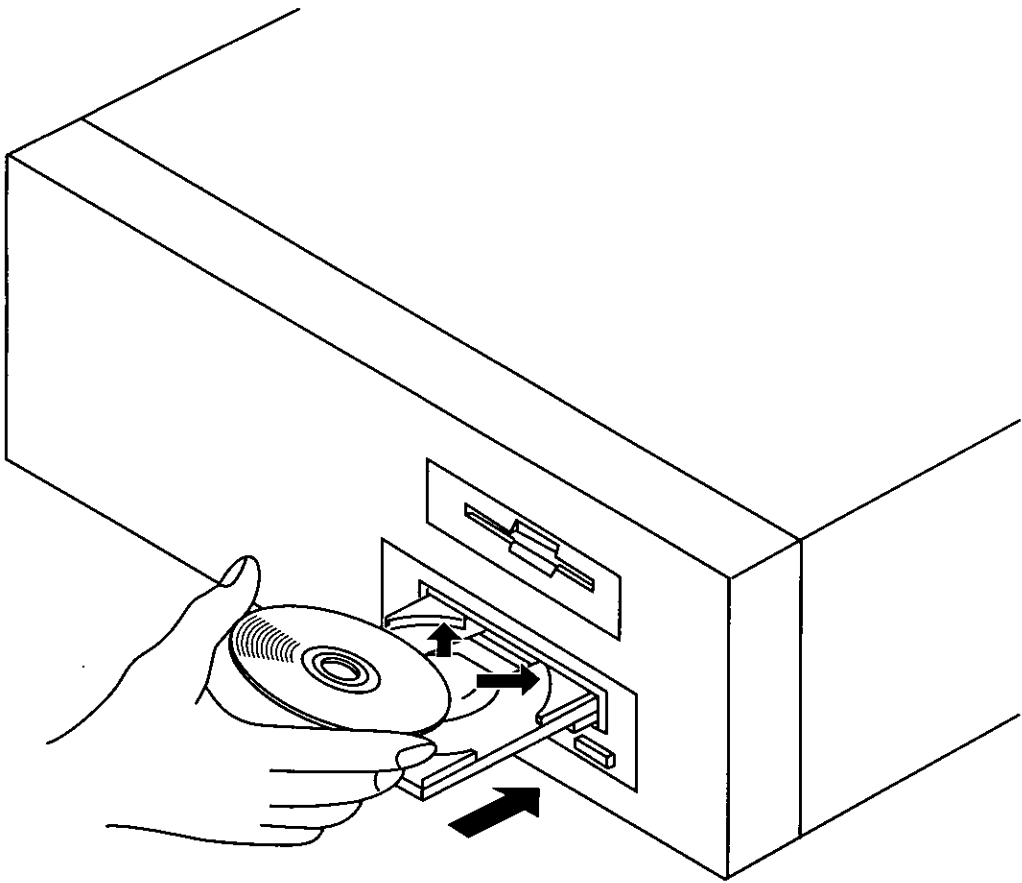
6 Select the "Panasonic SCSI CD-ROM Filter for Multisession" and click **OK**. Following the messages, complete the installation. When the message is finished, restart the personal computer.

### Note

The above indicated icons and dialog\_boxes are for OS/2 Warp Ver.3. The icons and dialog\_boxes for other OS/2 versions will be slightly different.

# Guide to Operation

## 4 1 Installation



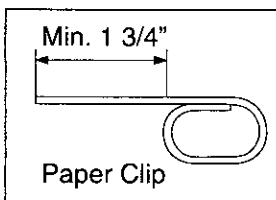
\*This figure shows horizontal Installation.

## ■ Starting the drive.

- 1** Turn on your computer system.
- 2** Press the eject button. The tray will eject from the drive.
- 3** Place the disc in the tray with the disc's label facing up.
- 4** Press the eject button or push the tray. The tray will retract automatically.

### Note

- Do not insert any objects other than an audio CD and a CD-ROM disc into the disc tray. This could result in a malfunction.
- Do not manually force the tray to open or press down hard on the tray when loading a disc, since this may result in damage to or malfunction of the tray.
- When the drive is not in use, keep the tray closed to protect it from dust and dirt.



In case of emergency and the unit is turned off, eject the tray manually. If for some reason the tray will not eject automatically, press straightforwardly the eject-bar (for example, insert a straightened paper clip minimum straight length = 1 3/4 inches, Diameter = 1~1.5 mm) into the emergency eject hole to manually eject the tray. (Before proceeding with this emergency step, make sure that the main power is switched OFF.)

# 5 Using Audio Utility "CD Listener"

**CD Listener** is a software application for playing music compact discs (CD), on a personal computer.

## Note

**CD Listener** can be installed at the same time with the device driver of this equipment (CD-ROM Drive), using the automatic installation program **INSTALL.EXE**.

## ■ Preparation

To listen to music with **CD Listener**, you must connect headphones to your CD-ROM drive, or speakers to your sound board through amplifier.

- Headphone ..... Connect through the headphone jack located on the front panel of the main drive unit.  
Sound volume can be adjusted by the volume on the front face of your CD-ROM drive.
- Speaker with Amplifier  
and Sound Board ..... Connect to an amplifier from the AUDIO OUT on your sound board connected to the CD-ROM drive through audio cable.

## ■ Operation of "CD Listener"

- 1 Insert the music CD in the CD-ROM Drive.
- 2 At the DOS prompt, type **CDLPC** and press <Enter>.

## Note

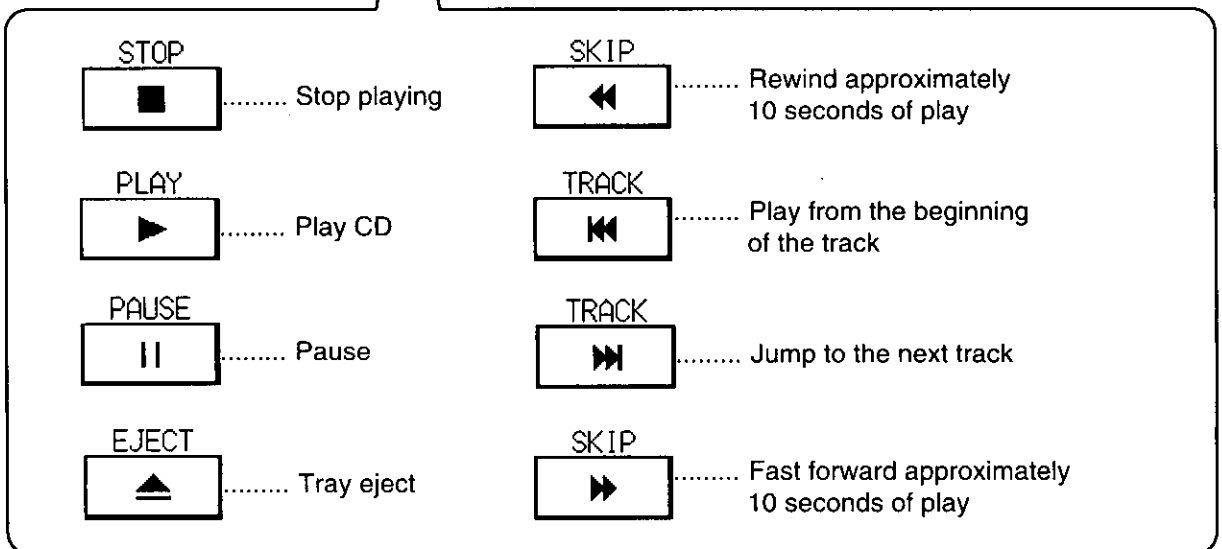
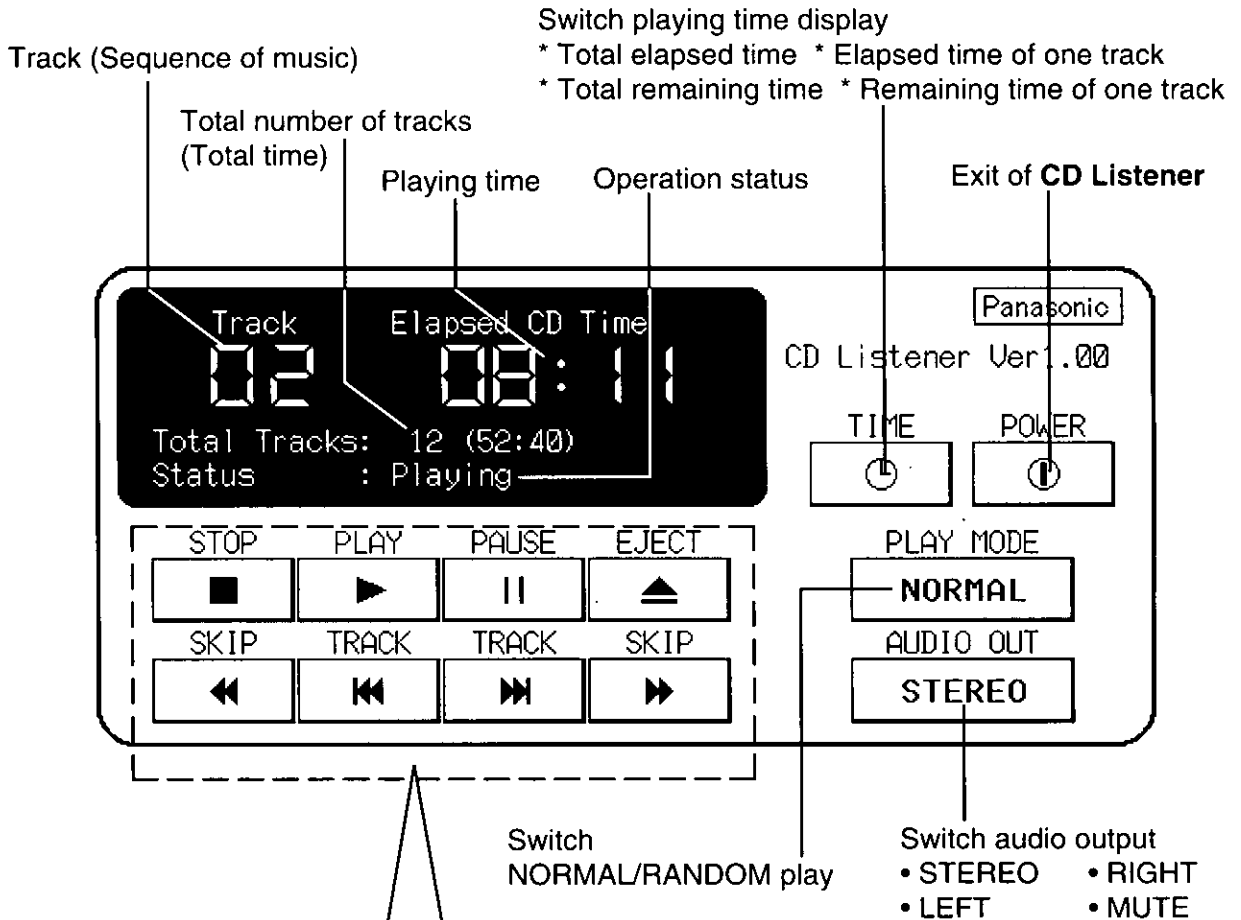
When two or more CD-ROM drives are connected, specify the drive letter here.

Example:

Input drive letter that will be used for audio CD-ROM drive name (D-E).

# for DOS

## ■ Operation Screen



# 6 Specification Summary

## 6.1 Performance

Disc diameter		12 cm, 8 cm	
Disc speed	1X Speed mode	200~530 r/min (Constant linear velocity)	
	24X Speed mode	4740~5530 r/min (Constant Angle velocity)	
Data capacity		656/748 MBytes typical (Mode 1/Mode 2) (74 min. and 42 sec. disc) 180/205 MBytes typical (Mode 1/Mode 2) (20 min. disc)	
Data transfer Rate	Sequential (1X Speed mode)	150 kBytes/s (Mode 1)	
	Sequential (24X Speed mode)	1550~3600 kBytes/s (Mode 1)	
	From buffer	5 MBytes/s (Asynchronous mode) 10 MBytes/s (Synchronous mode)	
Access time	Random access time*1	(1X Speed mode)	400 ms typical
	Random access time	(24X Speed mode)	85 ms typical
	Fullstroke access time*2	(1X Speed mode)	630 ms typical
	Fullstroke access time	(24X Speed mode)	160 ms typical
Buffer Size		512 kBytes	
MTBF		125,000 Power on hours (duty 20 %)	

### Note

\*1 Random access time ..... Average Data read over the complete area from 00 min. 02 sec. 00 blocks to 59 min. 58 sec. 74 blocks more than 2000 times including latency and layered error correction time.

\*2 Fullstroke access time ..... From 00 min. 02 sec. 00 blocks to 59 min. 58 sec. 74 blocks including latency and layered error correction time.

## 6 2 Error Rates

Soft read errors	Less than $10^{-9}$
Hard read errors	Less than $10^{-12}$

## 6 3 Audio Performance

Number of channels	2
Frequency response	20 Hz~20 kHz, -3 dB~+0.5 dB (Line out) 100 Hz~20 kHz, -3 dB~+0.5 dB (Headphone)
SN Ratio	More than 80 dB (Line out)
Distortion	Less than 0.1 % (1 kHz) (Line out) Less than 0.2 % (1 kHz) (Headphone)
Output level Line-out Headphone	0.8 Vrms typ. 0.6 Vrms typ.

## 6 4 General Performance

Power requirement	+5 V $\overline{\text{---}}$ 1.0 A +12 V $\overline{\text{---}}$ 0.8 A
Dimensions (W x H x D)	146 x 41.3 x 203 mm (exclude Front Bezel) (5.75 x 1.63 x 7.99 inches)
Weight	965 g (2.13 pounds)

## 6 5 Environmental Conditions

	Operating	Non-operating
Temperature	5~50 °C	-30~65 °C
Humidity	5~90 %Rh (Non-condensation)	5~95 %Rh (Non-condensation)

## 6 6 Laser Pick Up

Type	Semiconductor laser GaAlAs
Wave Length	790 $\pm$ 25 nm
Divergence	$\theta = 53.5^\circ \pm 1.5^\circ$
Output power	0.22 mW

# 7 Troubleshooting

## 7 1 If Drive Does Not Operate

Most problems with CD-ROM drive operations are due to improper set-up or installation. If your CD-ROM drive does not operate correctly, please check the following table for your problem, and the recommended solution.

When this occurs	Possible cause	Take this action
The drive cannot be powered on.	Power cable has not been securely inserted into the receptacle at the back of your CD-ROM drive.	Make sure the power cable is securely inserted into the receptacle on the back of your CD-ROM drive.
The system cannot start up.	The interface board is not completely connected, or incorrectly set up.	Refer to your Interface Board Installation instructions to ensure proper connection.
	The SCSI cable is incorrectly connected.	Make sure the connector at both ends of cable are fully plugged in.
The personal computer cannot recognize this equipment.	Since the CD-ROM drive power is off when the computer performs its boot up sequence, the device driver has not been loaded.	Reboot the computer after power on the CD-ROM drive.
The tray cannot be ejected.	The eject command has not been transmitted to the CD-ROM drive or to the Host Computer.	If the CD cannot be ejected from the drive, carefully insert a straightened paper clip into the small hole to the right of the CD-ROM drive. The CD will then eject.
	The operating program inhibits ejection.	End the program, or restart the system.
CD-ROM disc cannot be read.	CD-ROM was improperly placed. (For example, the labelled surface is up-side-down.)	Eject the CD-ROM, and reinsert the disc correctly.
No sound is heard.	Either the connection of the sound board/ amplifier is incorrect or the headphones/ sound board/ amplifier have not been connected to the CD-ROM drive.	Check the connection. Refer to the sound board/ amplifier instruction manual.
	Volume is turned down.	Increase the headphones or amplifier volume.

If, after following these procedures, your CD-ROM drive still does not operate, please call the Panasonic Technical Support hotline at 1-800-PANASYS (1-800-726-2797) for assistance.



# Appendix A.

## Manual Software Installation for DOS / Windows 3.1

If you have already completed installation using Easy Installation in Section 3, you do not need to use this section, which describes the manual installation procedure.

You must first create a sub-directory called **PANACR** on your hard disk drive. All files on the floppy disk (**CD-ROM Drive Installation Software**) must be copied to the **PANACR** sub-directory. You will also need to modify your **CONFIG.SYS** and **AUTOEXEC.BAT** files using text editor software.

- 1 Open the file **CONFIG.SYS**, using a text editor.  
If **CONFIG.SYS** does not exist, create a new file with this file name. If you have no editor software, use the editor attached to DOS.
- 2 Add the SCSI board device driver and the device driver of this equipment to **CONFIG.SYS**.

**In the case of ASPI-compatible SCSI interface board  
(Adaptec AHA-15xx series/AHA-294x series):**

```
LASTDRIVE=Z  
DEVICE=C:\ASPI\ASPIXDOS.SYS  
DEVICE=C:\PANACR\SR_ASPI.SYS □ /D: MSCD000
```

### Note

For each ASPI manager name, refer to the Instruction Manual of your ASPI interface board.  
□ is one space.

### Note

When installing the CD-ROM drive into your system, it is necessary to assign a logical drive number to the **CONFIG.SYS** file with the **LASTDRIVE** command. For details on the **LASTDRIVE** command, refer to your DOS manual.

**3** Save and close the modified **CONFIG.SYS**.

**4** Open **AUTOEXEC.BAT**.

If **AUTOEXEC.BAT** does not exist, create a new file with this file name.

**5** Add **C:\PANACR;** to the line starting with "PATH" in **AUTOEXEC.BAT**.

```
PATH=C:\PANACR;
```

**6** Add the following one line to the first line of **AUTOEXEC.BAT**.  
(Installation of MS-DOS CD-ROM Extensions)

```
C:\DOS\MSCDEX.EXE /D: MSCD000 /M: 15 /V
```

[Example of input]

```
C:\DOS\MSCDEX.EXE /D: MSCD000 /M: 15 /V
@ECHO OFF
SET COMSPEC = C:\DOS\COMMAND.COM
PROMPT $P$G
PATH=C:\DOS; C:\PANACR;
SET TEMP = C:\DOS
```

**7** Save and Close the modified **AUTOEXEC.BAT**.

**8** Exit the editor.

**9** Restart your personal computer. Check that the device driver of this equipment has been installed during the start up.

Every time DOS is started, the device driver of this equipment will be automatically installed.

## ■ Installing Audio Utility "CD Listener" for DOS (Manual)

Copy **CDLPC.EXE** on the floppy disk to sub-directory **C:\PANACR**.

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Multimedia Systems Division  
Division of Matsushita Electric Corporation of America



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Weight and dimensions shown are approximate.  
Specifications are subject to change without notice.