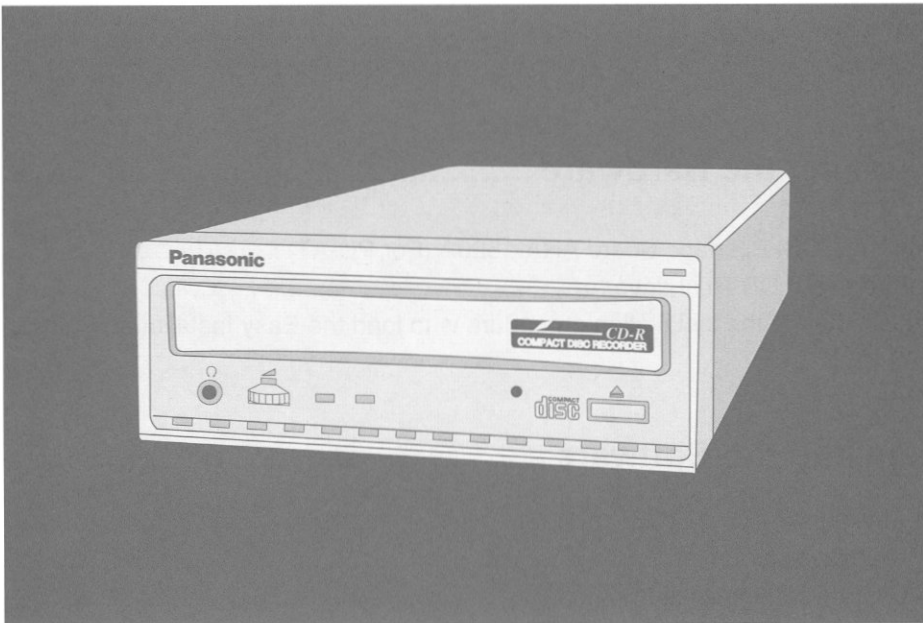# Panasonic

CD-R*tist*™
CD-ROM Creator and Player

Operation Manual
LK-MW602SK
External SCSI CD-R Drive

Please read through these instructions before operating this unit.

Table of Contents

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CHAPTER 2 Installing the Hardware 14

CHAPTER 3 Installing the Software 22

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-Panasys (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

Important Safety Instructions

1. Read all of these instructions

2 Save these instructions for later use

3. Follow all warnings and instructions marked on the product

4 Unplug this product from the wall outlet before cleaning Do not use liquid cleaners or aerosol cleaners Use a damp cloth for cleaning

5 Do not use this product near water

6 Do not place this product on an unstable cart, stand, or table The product may fall, causing serious damage to the product

7 This product should be operated from the type of power source indicated on the marking label If you are not sure of the type of power available, consult your dealer or local power company

8 This product is equipped with a 3-wire grounding type plug, a plug having a third (grounding) pin This plug will only fit into a grounding-type power outlet This is a safety feature If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet Do not defeat the purpose of the grounding-type plug

9 Do not allow anything to rest on the power cord Do not locate this product where persons will walk on the cord

10 If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord ampere rating Also, make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes

11 Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock Never spill liquid of any kind on the product

12 Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks Refer all servicing to service personnel

13 Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions
    A When the power cord or plug is damaged or frayed
    B If liquid has been spilled into the product
    C If the product has been exposed to rain or water
    D If the product does not operate normally when the operating instructions are followed Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation
    E If the product has been dropped or the cabinet has been damaged
    F If the product exhibits a distinct change in performance, indicating a need for service

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

This equipment is classified as a Class 1 level LASER product and there is no hazardous LASER radiation

---

Caution

The use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure

---

```
CLASS 1 LASER PRODUCT
―――――――――――――――
   LASER KLASSE 1
```
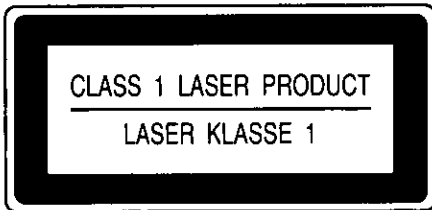
*This label is attached to the bottom of the drive unit

Laser Specification

Type	Semiconductor laser GaAlAs
Wave length	785 ± 5 nm
Divergence	$\theta v = 24° \pm 4°$
Output Power	Read = 0 5 mW
	Write = 17 mW

Getting Started

Congratulations on your purchase of the Panasonic CD-Rtist This CD-R drive will allow you to play standard CD-ROM titles at quadruple speed and write CD-R disks are double speed We have designed this product to include EVERYTHING that you need to install your CD-Rtist and start creating and playing CD-ROMs quickly and easily This manual will provide you with instructions for installing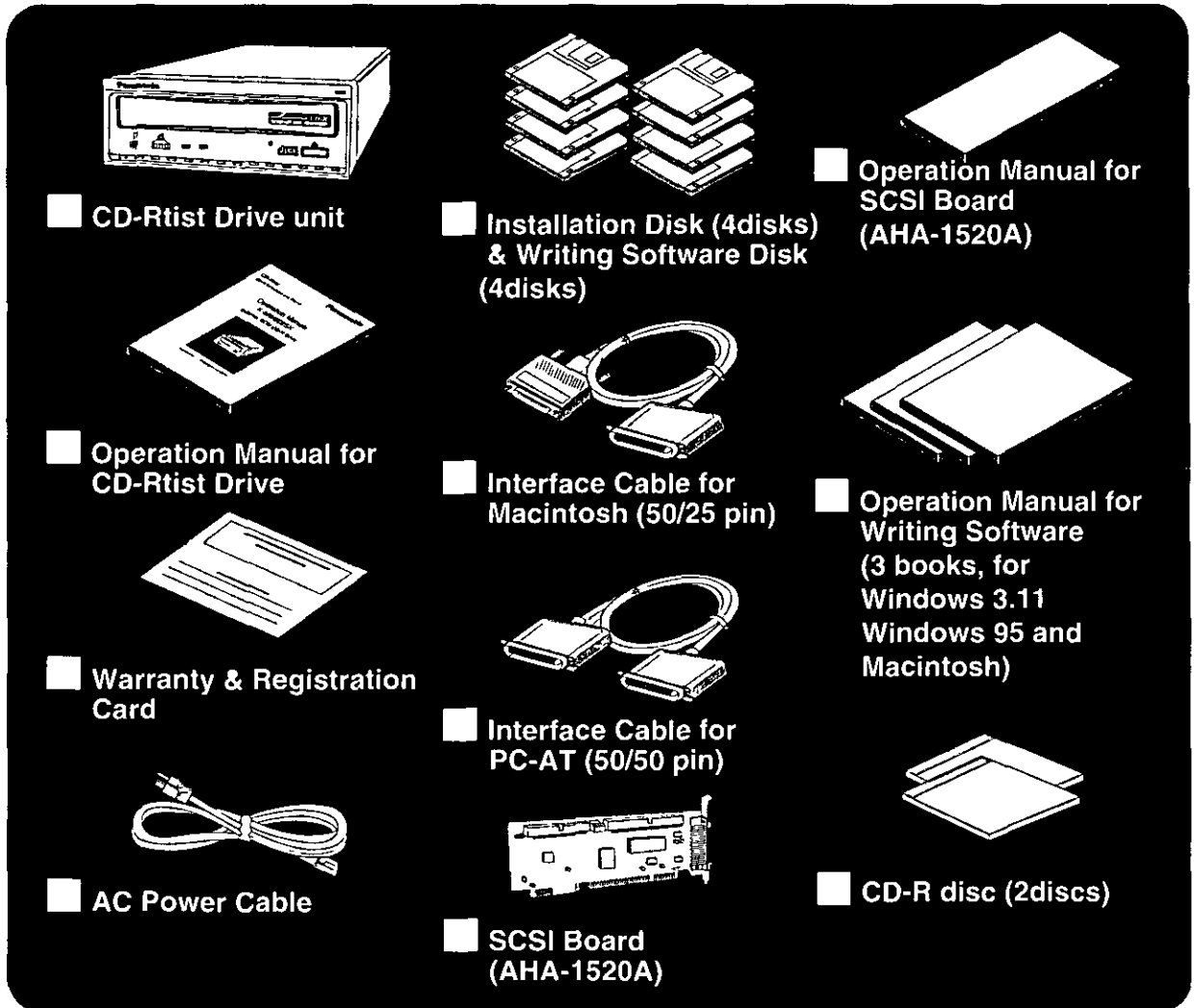 your CD-Rtist and loading Panasonic's Pana CD Magic and Pana CD Handler software After you have completed these tasks, please follow directions in the appropriate Incat Easy CD Pro manual for loading your powerful CD Writing software Thank you for choosing the Panasonic CD-Rtist for you CD-ROM creating and playing needs

Before going ahead with installation of your CD-Rtist, please read the important notes in this section

Kit Contents

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

■ CD-Rtist Drive unit

■ Operation Manual for CD-Rtist Drive

■ Warranty & Registration Card

■ AC Power Cable

■ Installation Disk (4disks) & Writing Software Disk (4disks)

■ Interface Cable for Macintosh (50/25 pin)

■ Interface Cable for PC-AT (50/50 pin)

■ SCSI Board (AHA-1520A)

■ Operation Manual for SCSI Board (AHA-1520A)

■ Operation Manual for Writing Software (3 books, for Windows 3.11 Windows 95 and Macintosh)

■ CD-R disc (2discs)

Note

The installation disks provided with this system are a 3 5" double density floppy disk (for Macintosh) and a 3 5" high density floppy disk (for PC-AT) If your system requires a 5 25" floppy disk instead, please contact Panasonic at 1-800-726-2797

8

System Requirements

Writing mode
- IBM PC-AT or compatible 486 / 66MHz or greater, Pentium
- MS Windows 3 11, MS Windows for Work Groups 3 11
  MS Windows 95
- RAM 8MB or more for Windows 3 11
- RAM 16MB or more for Windows 95
- SCSI Hard Disk Drive / data capacity 50MB min 650MB max
  (access time 19msec or faster, data transfer rate 600KB/s or faster)
- SCSI controller board ADAPTEC AHA-1520A (included)

Supporting System for Macintosh
Quadra 650, System 7 1
PowerMac 6100/60 AV, System 7 5 1
PowerMac 8100/80 AV, System 7 5 1

Media for your CD-Rtist

CD-R media is compact disc memory that you can write digital data on the area one time and read with this CD-Rtist drive Due to variations in CD-R media manufacturing it is recommended that you use Panasonic CD-R media with your CD-Rtist The CD-Rtist will provide best results with this media Panasonic CD-R media for your CD-Rtist is LK-R74S (74 min and 42 sec disc)

|	
COMPACT disc **Recordable**	This drive unit uses CD-R discs which bear the following mark
COMPACT disc	This drive unit uses CD-ROM discs which bear the following mark
COMPACT disc **DIGITAL AUDIO**	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
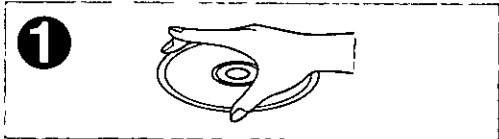
1 Hold the disc by the edges, do not touch the surface of the disc
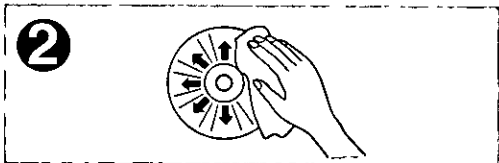
2 To remove dust or fingerprint, use a clean, soft, dry cloth When cleaning, wipe gently in a radial direction
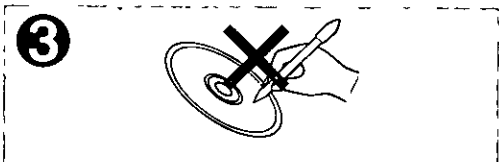
3 Do not write on the recording/reading side, or paste paper to the surface of the disc When labelling a disc for identification purposes, write only on the premarked label side using a soft, felt tip marker
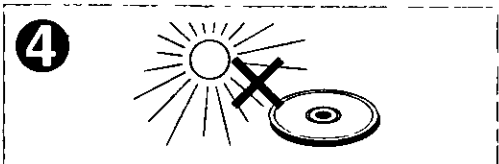
4 Do not store the disc in a place where the temperature is high
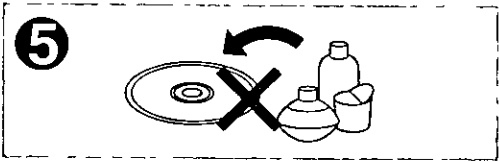
5 Do not use benzine, thinners and cleaners, etc A very mild soap and water solution should be used to clean the disc

6 Do not make the center hole larger
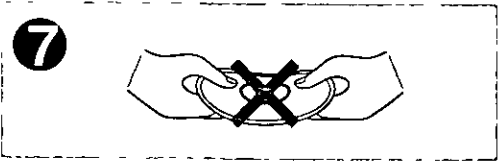
7 Do not bend the disc
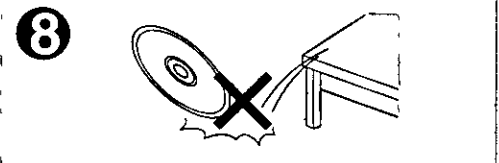
8 Do not drop the disc, or subject it to shock

When Transporting

To avoid damage

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

When Installing

Do not install the CD-Rtist 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 slots
- 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
- Please read through "Important Safety Instructions" (page 6)

When Writing to CD

ANY interruption is fatal to CD recording, so ensure that your system does not include any TSR utilities which may periodically or otherwise interrupt operations Screen savers, alarms or reminders, incoming faxes, Pana CD Magic / Pana CD Handler (included utilities) will kill disc writing You should also turn off network sharing so that no one can access the files you're trying to write - this would also fatally interrupt writing

Feature Summary

(1) Embedded SCSI II (Small Computer System Interface II)
(2) Automatic loading with tray
(3) Horizontal installation
(4) Audio playback capability
(5) Digital data write and read capability

Power Saving

Your CD-Rtist 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

Emergency Eject Hole
Use when you wish to eject a disc from drive,
when power is off
-In case a disc is stuck in your CD-R drive, this
hole can be used to manually eject the tray
Shut down system power, and use a small
pointed instrument such as a straightened
paper clip

Disc Tray
Accepts a disc

Power Indicator
Indicates when CD-Rtist drive
power is turned on

Panasonic

CD-R
COMPACT DISC RECORDER

disc

Eject/Load Button
Ejects and loads the disc tray

Writing Indicator
Lights when the drive is writing onto the CD-R disc

Busy Indicator
Lights when data is being accessed from the disc,
or when the drive is playing an audio CD

Volume
Adjusts Headphone audio output level

Headphone Jack
Accepts standard 3 5mm stereo mini plug to connect your
headphones to the CD-Rtist drive

Audio Output Jacks

ID Switch

Sets ID-Number of SCSI interface Use a straightened
paper clip to change the ID if necessary

Terminator Switch

Interface Connector 2

Daisy chains to another SCSI device
using an optional SCSI bus cable

Interface Connector 1

Connects to host computer's SCSI bus connector,
using external SCSI interface cable (25 to 50 pin)
included

Power Connector

Connects to an AC power outlet using AC power cord

Power Switch

Use to turn the power on and off Set this switch to "I" to turn
the CD-Rtist drive unit on Set this switch to "O" to turn it off

2 Installing the Hardware

2 1 Installing SCSI Interface Board AHA-1520A (For PC-AT)

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-Rtist 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 2 Installing your CD-Rtist drive

The Small Computer System Interface (SCSI), allows up to seven devices to be connected to the SCSI port on the back of the computer This is called a Daisy Chain Different installation configurations are described here Select the one that best fits your configuration

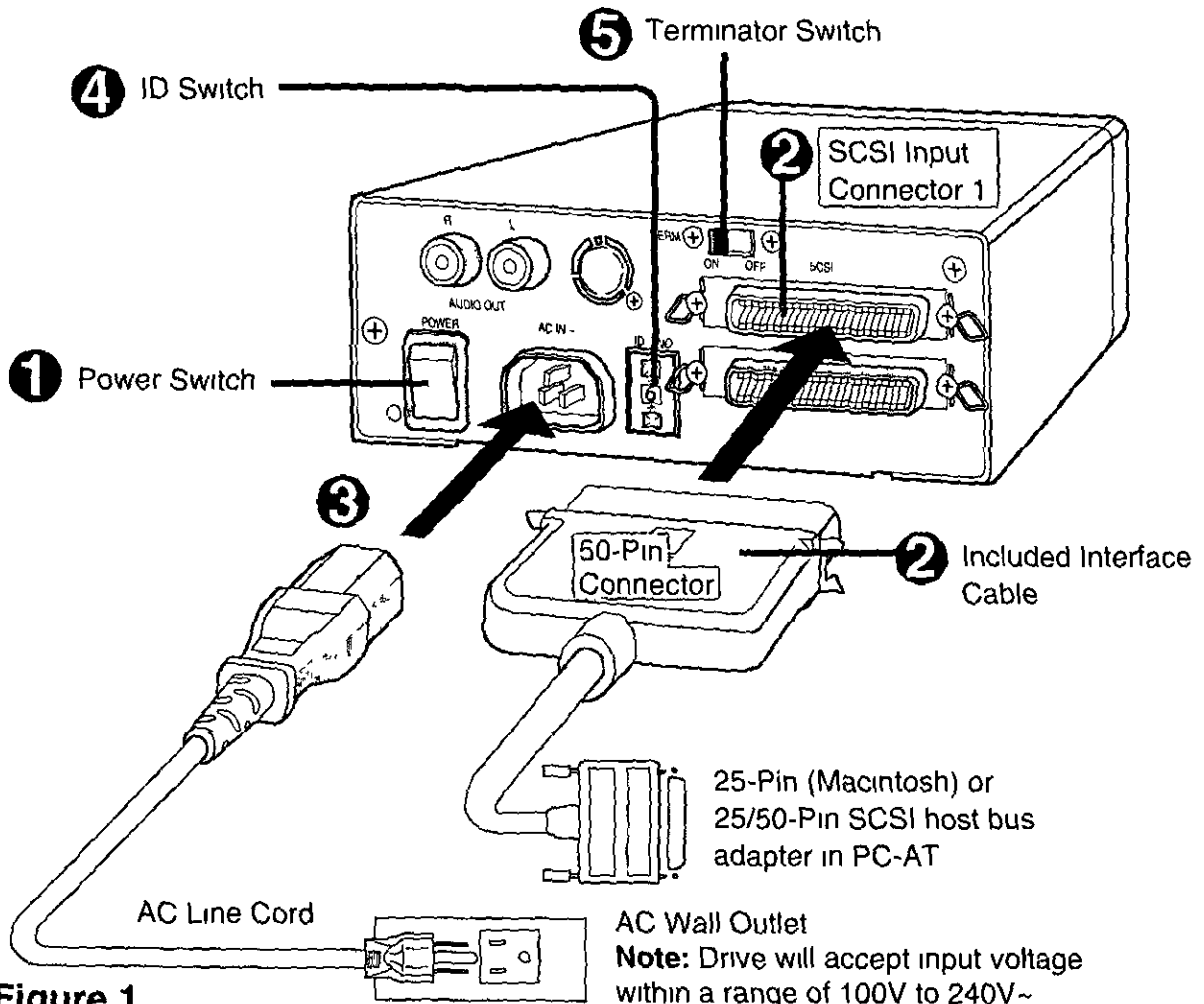### If the LK-MW602SK is the Only Device Connected to the SCSI Port

Figure 1

Installing the LK-MW602SK as the Only Device Connected to the SCSI Port

■ Connecting the Hardware

① Set the main power switch at the CD-Rtist drive and the computer to off.
We recommend both units also be unplugged

② Install included interface cable as shown in Figure 1.
Connect the end of the cable with the 50-pin connector to the SCSI input port on the LK-MW602SK CD-Rtist Drive Then, attach the other connector to the computer's SCSI port or SCSI controller board If your SCSI controller board has 50-pin connector, please use a 50pin-50pin connector cable

③ Connect one end of the AC line cord to the CD-Rtist drive
and the other end to the wall outlet as shown in Figure 1

■ Setting the SCSI Identification Number and the Terminator Switch Settings

④   **ⓐ Locate the ID switch in the lower center at the rear of the CD-Rtist drive.**
There are two small buttons that extend from the switch Insert a straightened paper clip into the button to change the ID The ID No can be increased by pressing the bottom button, and it can be decreased by pressing the top button

ⓑ The switch setting ranges from 0~7.
Set the ID No to any number other than the ID No that is used by the computer's hard disk drive, which is typically 0, or the SCSI controller which is typically 7, or any other devices currently connected to the system The factory default SCSI ID number is ID5

⑤ Locate the terminator switch at the rear of the drive. Ensure that terminator switch are set to on.

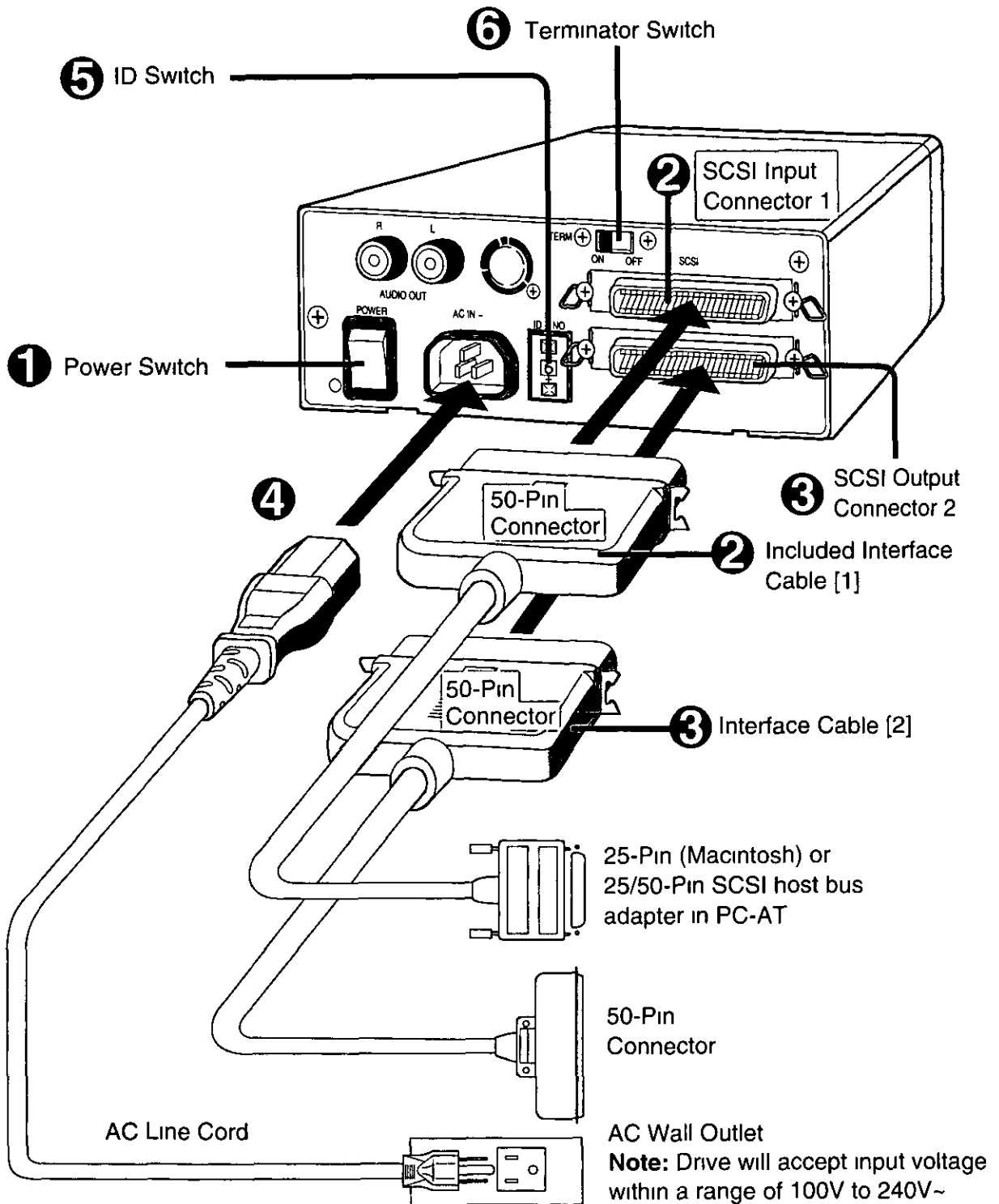## If the LK-MW602SK is the First Device in a Daisy Chain

6 Terminator Switch

5 ID Switch

2 SCSI Input Connector 1

1 Power Switch

R   L

AUDIO OUT

POWER   AC IN ~   TERM   ON   OFF   SCSI   ID NO

3 SCSI Output Connector 2

2 Included Interface Cable [1]

4

50-Pin Connector

50-Pin Connector

3 Interface Cable [2]

25-Pin (Macintosh) or 25/50-Pin SCSI host bus adapter in PC-AT

50-Pin Connector

AC Line Cord

AC Wall Outlet
Note: Drive will accept input voltage within a range of 100V to 240V~

Figure 3
Connecting the LK-MW602SK as the First Device in the Daisy Chain

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■ Connecting the Hardware

❶ Set the main power switch at the CD-Rtist drive and the computer to off.
We recommend both units also be unplugged

❷ Install included interface cable [1] as shown in Figure 3.
Connect the end of the cable with the 50-pin connector to the SCSI input port on the
LK-MW602SK CD-Rtist Drive Then, attach the other connector to the computer's
SCSI port or SCSI controller board If your SCSI controller board has 50-pin connector,
please use a 50pin-50pin connector cable

❸ Connect interface cable [2].
Connect interface cable [2] One end of the cable must be connected to the SCSI
output of the CD-Rtist drive The other end of the cable must be connected
to the input of the next SCSI device in the chain

❹ Connect one end of the AC line cord to the CD-Rtist drive
and the other end to the wall outlet as shown in Figure 3

Note
This package includes one 50pin-50pin connector cable only If this configuration requires two
50pin-50pin cables, consult your dealer

■ Setting the SCSI Identification Number and the Terminator Switch Settings

❺
ⓐ Locate the ID switch in the lower center at the rear of the CD-Rtist drive.
There are two small buttons that extend from the switch Insert a straightened
paper clip into the button to change the ID The ID No can be increased by
pressing the bottom button, and it can be decreased by pressing the top button
(0~7)

ⓑ 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 hard disk drive, which is typically ID 0, or the
SCSI controller which is typically 7, or any other devices currently connected to
the system The factory default SCSI ID number is ID5

❻
**ⓐ Locate the terminator switch at the rear of the drive. Ensure that terminator
switch is set to off.**

ⓑ 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

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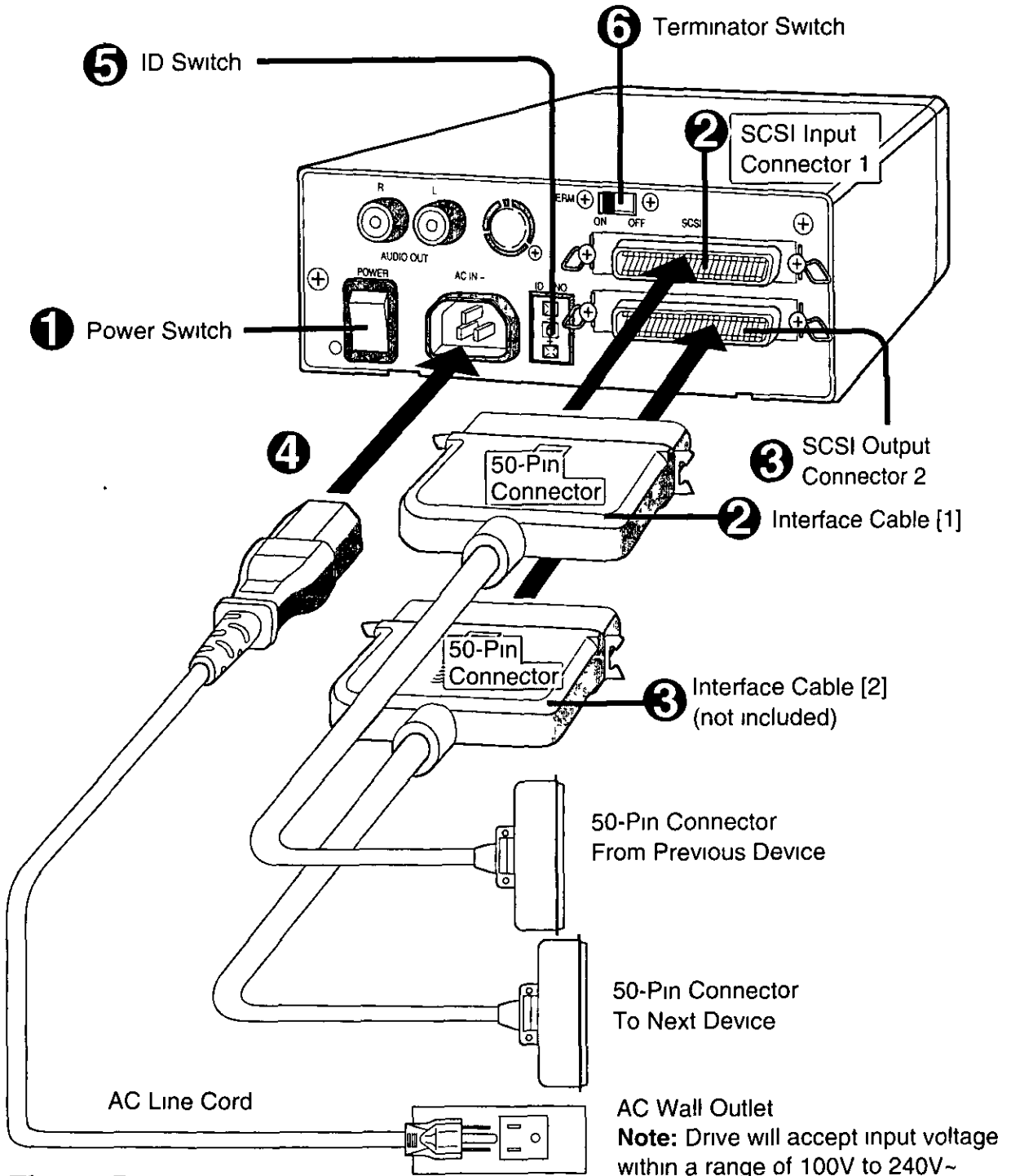## If the LK-MW602SK is Connected Within a Daisy Chain

Figure 5

Connecting the LK-MW602SK within a Daisy Chain

■ Connecting the Hardware

① Set the main power switch at the CD-Rtist drive and the computer to off.
We recommend both units also be unplugged

② Install interface cable [1] as shown in Figure 5.
Connect one end of the cable to the SCSI input port on the LK-MW602SK CD-Rtist
Drive Then, connect the opposite end to the output of the previous device in the daisy
chain
  • If the LK-MW602SK is not the last device in the daisy chain, proceed to step 3
    If it is the last device in the daisy chain, proceed to step 4

③ Connect interface cable [2] (not included).
One end of the cable must be connected to the SCSI output of the LK-MW602SK
CD-Rtist drive The other end of the cable must be connected to the input of the next
SCSI device in the chain

④ Connect one end of the AC line cord to the CD-Rtist drive
and the other end to the wall outlet as shown in Figure 5

Note
This configuration requires two 50/50pin connectors SCSI interface cables [1][2]
But, only one 50/50pin cable is included in this package Consult your dealer

■ Setting the SCSI Identification Number and the Terminator Switch Settings

⑤ ⓐ Locate the ID switch in the lower center at the rear of the drive.
There are two small buttons that extend from the switch Insert a straightened
paper clip into the button to change the ID The ID No can be increased by
pressing the bottom button, and it can be decreased by pressing the top button

ⓑ 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 hard disk drive, which is typically ID 0

⑥ Locate the terminator switch at the rear of the drive.
If the drive is the last device in the chain, terminator switch must be set to ON If the
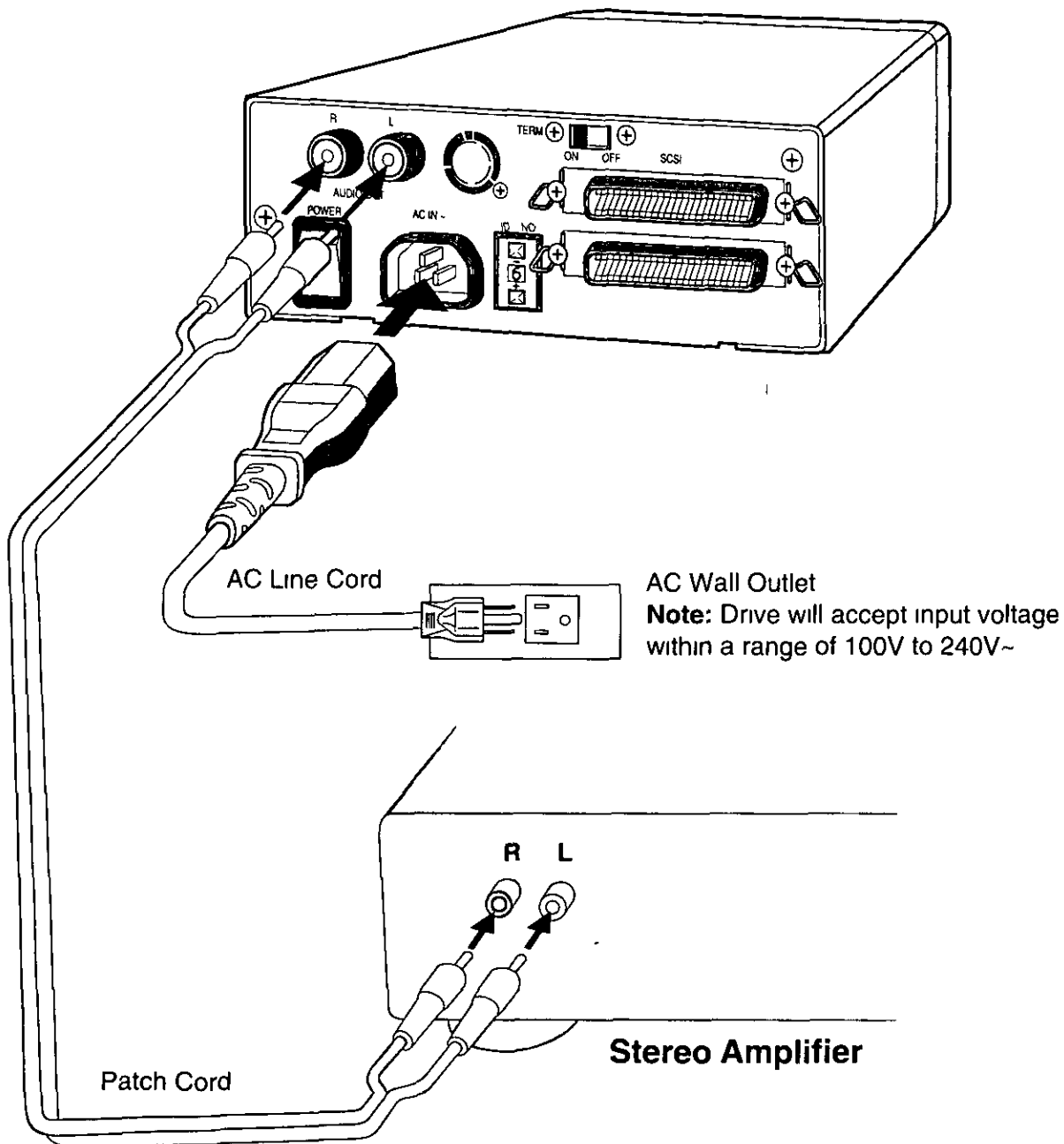CD-Rtist drive is not the last device in the chain, terminator switch must be set to OFF

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AC Line Cord

AC Wall Outlet
Note: Drive will accept input voltage within a range of 100V to 240V~

Patch Cord

Stereo Amplifier

Figure 7

■ Connecting the LK-MW602SK to a Stereo Amplifier

The LK-MW602SK can be used to play digital audio compact discs through a stereo amplifier.

Connect the stereo patch cord as shown in Figure 7 (This patch cord is not included into kit contents) If you have a sound board and you wish to connect your CD-Rtist drive through it, consult your sound board manual

2 3 The last step in the installation procedure is to load the Easy Installation Software.

Refer to next chapter 3

CHAPTER 3 Installing the Software

3 1 For Macintosh (for PC-AT refer to section 3 2)

To use this device, install the **Panasonic CD-ROM** software floppy disk (floppy disk name is **CD-R Drive Installation software for Macintosh**) which accompanies the CD-Rtist drive
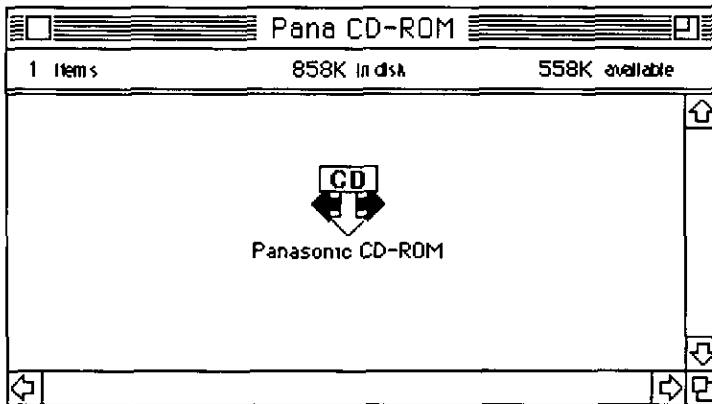
3 1.1 Installation

The following steps explain how to install your CD-ROM software Please keep in mind that minimum memory requirements are 1 MB for System 6 and 2 MB for System 7

(1) First, switch the power on the CD-Rtist drive, then on your Macintosh
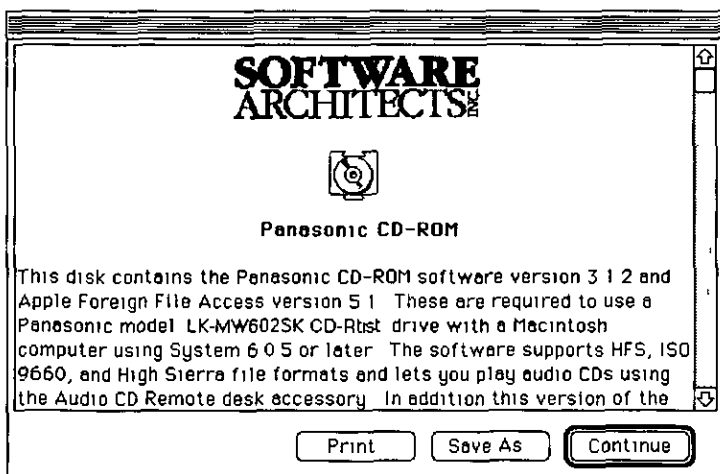(2) Insert the utility disk
The **Panasonic CD-ROM** software folder opens automatically
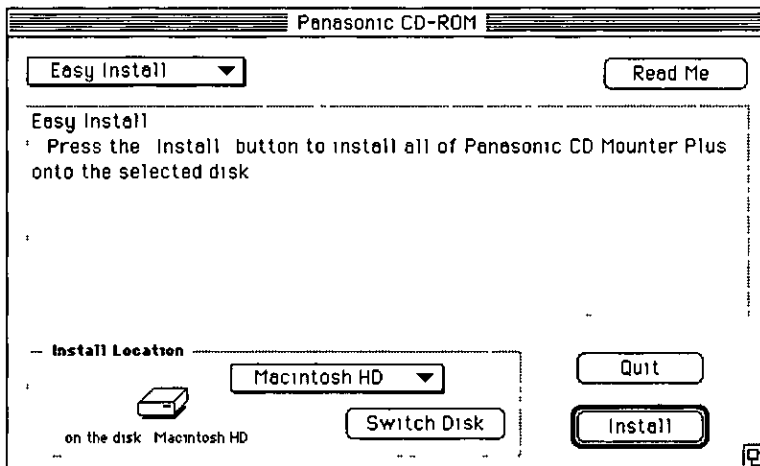To start installation, double-click the **Panasonic CD-ROM** icon with your mouse

```
┌─────────────────────────────────────────────────┐
│ ▤□▤▤▤▤▤▤▤ Pana CD-ROM ▤▤▤▤▤▤▤▤▤▤□▤ │
├─────────────────────────────────────────────────┤
│ 1  Items        858K in disk      558K available │
├─────────────────────────────────────────────────┤
│                                              ⇧  │
│                      ┌──┐                        │
│                      │CD│                        │
│                      └┬┬┘                        │
│                      ▼▼                         │
│                  Panasonic CD-ROM                │
│                                                  │
│                                              ⇩  │
├─────────────────────────────────────────────────┤
│ ◁                                          ▷ ⊞ │
└─────────────────────────────────────────────────┘
```

(3) The **Panasonic CD-ROM** installation information is displayed If you need, read or print this information

Click [Continue]

```
┌─────────────────────────────────────────────────┐
│                                              ⬆  │
│              SOFTWARE                            │
│              ARCHITECTS Inc                      │
│                  ⊚                               │
│             Panasonic CD-ROM                     │
│                                                  │
│ This disk contains the Panasonic CD-ROM software version 3 1 2 and │
│ Apple Foreign File Access version 5 1  These are required to use a │
│ Panasonic model LK-MW602SK CD-Rtist drive with a Macintosh │
│ computer using System 6 0 5 or later  The software supports HFS, ISO │
│ 9660, and High Sierra file formats and lets you play audio CDs using │
│ the Audio CD Remote desk accessory  In addition this version of the ⬇ │
│                                                  │
│         [ Print ]  [ Save As ]  [ Continue ]     │
└─────────────────────────────────────────────────┘
```
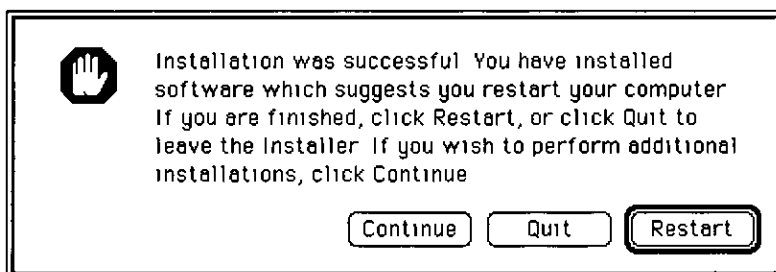
22

(4) The dialog box of the installer is displayed Click [Install] for normal installation
To install specific software only, select **Custom Install** in the upper left Pull_down
menu and select the desired software (For further details, refer to next page)

```
╔═══════════════════ Panasonic CD-ROM ═══════════════════╗
║  ┌─ Easy Install  ▼ ─┐                    ┌── Read Me ──┐  ║
║                                                           ║
║  Easy Install                                             ║
║  '  Press the  Install  button to install all of Panasonic CD Mounter Plus  ║
║  onto the selected disk                                   ║
║                                                           ║
║                                                           ║
║  ─ Install Location ──────────────────────                ║
║                    ┌── Macintosh HD  ▼ ──┐    ┌── Quit ──┐ ║
║         ┌─────┐                                           ║
║         ╱     ╱                    ┌── Switch Disk ──┐    ┌── Install ──┐║
║      on the disk  Macintosh HD                            ║
╚═══════════════════════════════════════════════════════════╝
```

Note
Click [Switch Disk] to install on a different hard disk

(5) Software installation is now complete
Click [Restart] to restart the system

```
┌────────────────────────────────────────────────────────┐
│   ✋   Installation was successful  You have installed    │
│        software which suggests you restart your computer │
│        If you are finished, click Restart, or click Quit to │
│        leave the Installer  If you wish to perform additional │
│        installations, click Continue                     │
│                                                          │
│              [ Continue ]   [ Quit ]   [ Restart ]       │
└────────────────────────────────────────────────────────┘
```

(6) Check the icon
When the Macintosh computer is restarted and the system is properly operated, the
Panasonic CD-ROM icon shown below will appear at the bottom of the screen
The number at the upper right of the icon is the SCSI ID number of this device
If the **Panasonic CD-ROM** icon is not displayed, refer to the **Troubleshooting table** on
page 63

Note
QuickTime must be installed to run some applications with CD-ROM

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③ 1.2 Customized Installation

Select **Custom Install** in the upper left Pull_down menu

The following dialog box will appear Check the left box of the items you wish to install,

then click [Install]

Note

Click [I] of the items for detail information


```
═══════════════════  Panasonic CD-ROM  ═══════════════════

  [ Custom Install  ▼ ]                  ,          [  Read Me  ]

  ☐ Foreign File Access Translators                      [I] ⇧

  ☐ Audio CD Remote                                      [I]
  ☐ Panasonic CD-ROM Extension                           [I]

  ☐ Read Me                                              [I]
  ☐ TeachText                                            [I]
                                                             ⇩
       Disk space available  4,142K        Approximate disk space needed  OK
    Install Location
                        [    Macintosh HD    ▼ ]      :      [   Quit   ]

                        [    Switch Disk    ]  :      [   Install   ]
    on the disk  Macintosh HD                                   ⌘
```
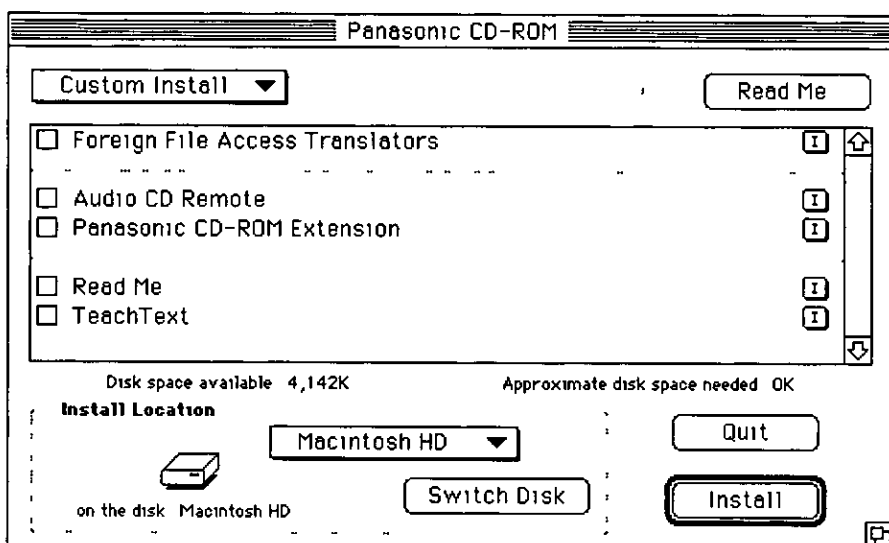
③ 2 For PC-AT

③ 2.1 File Contents on the Floppy Disk
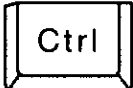
The following is contents of programs included on your installation floppy disks

Disk Name	File Contents

CD-R Drive Installation Software for PC	• Installer
	• Device driver
	• SCSI DCAM driver
	• ASPI Manager (AHA-152X series)
	• Extensions
	• Utility
	    CD Listener
	    Pana CD Magic
	    Pana CD Handler
	        etc

Video for Windows 1.1D	Run Time Edition
QuickTime 2 0 for Windows	Run Time Edition

③ 2.2 Installing Device Driver Software and Extensions for DOS / Windows 3.11

Installation

To operate your Panasonic CD-R 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 2 3 Before proceeding to the Easy Installation Section, please review the icons listed below

Ctrl .... Control key

Alt . .   .. Alternate key

Delete ...   . Delete key

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

③ 2.3 Easy Installation (for DOS / Windows 3.11)

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**

❶ Turn the power of your personal computer on If your system automatically loads Windows 3 11, **you must Exit Windows 3.11** 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

❷ Insert the floppy disk **CD-R Drive Installation Software for PC** into your floppy disk drive

❸ Type **A** and press <Enter> The current drive changes to **A**

❹ 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

❺ 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

❻ Eject the floppy disk from the floppy disk drive After the installation, keep this floppy disk for future use

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

[Delete] + [Alt] + [Ctrl]

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 2.4 References (for DOS / Windows 3.11)

This section provides detailed descriptions regarding the device driver, and MS-DOS CD-ROM Extensions

* 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	CR_ASPI SYS (ASPI-compatible)
	CR_DCAM SYS (Future/CAM-compatible)
• Function	Provides the system requirements to operate CD-R drive on DOS
• Format	DEVICE = [<Drive name>] [<Path name>] <Device driver name> ⌴
	/D <Device name> ⌴ [/Q] ⌴ [/B]
	(Write in CONFIG SYS)
• Example of input	DEVICE = C \PANACR\CR_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-R drive at Boot Sequence
	(Initialize Device Driver)

MS-DOS CD-ROM Extensions

• File name	MSCDEX EXE
• Function	Provides the system requirements to operate CD-R drive on DOS
• Format	[<Drive name>] [<Path name>] MSCDEX EXE ⌴ /D <Device name>
	[/E] [/L <Drive name>] ⌴ [/M <Size>] ⌴ [/V] (Write in AUTOEXEC BAT)
• Example of input	C \PANACR\MSCDEX EXE ⌴ /D MSCD000 ⌴ /M 15 ⌴ /V
• Parameter	/D <Device name>
	Assign the <Device name> equivalent to [/D <Device name>] to
	be assigned when installing the device driver It cannot be omitted
	/E
	Assign this parameter when using an expanded memory (EMS)
	When the expanded memory is used, the resident main memory is
	reduced
	/L <Drive name>
	Assign the drive name of this equipment
	/M <Size>
	Assign the size of the buffer to be used, by the sector number
	The default value will be <Size> - 10(20KB per drive) When the
	<size> is enlarged, the access will be accelerated, and the resident
	memory size is increased
	/V
	Displays the status of memory use, when installing MSCDEX

③ 2.5 Recognizing CD-Rtist drive under Windows 95

To recognize your CD-Rtist drive under Windows 95, you need to install the driver for SCSI board (AHA-152X)
Follow below steps

❶ Mount the included SCSI board (AHA-1520A) and CD-Rtist drive
in your system

❷ Start up Windows 95

❸
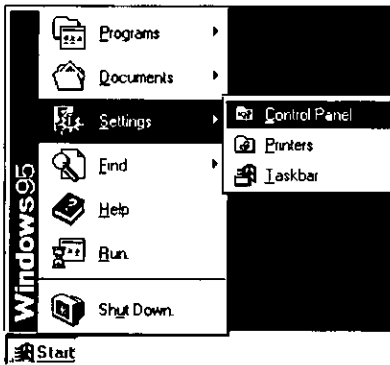
Pull_up **Start** Menu in the lower left corner of Windows 95 Start_up screen and select
Settings
And select **Control Panel**

❹
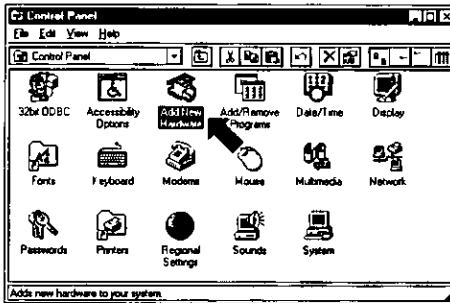
Double_click on **Add New Hardware** icon in **Control Panel** window

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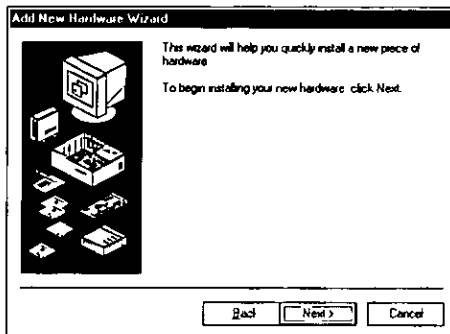
Follow the displayed messages in **Add New Hardware Wizard** window
When the driver installation is completed, your system will recognize CD-Rtist drive

4 Guide to Operation

4 1 Installation

■ Starting the drive.
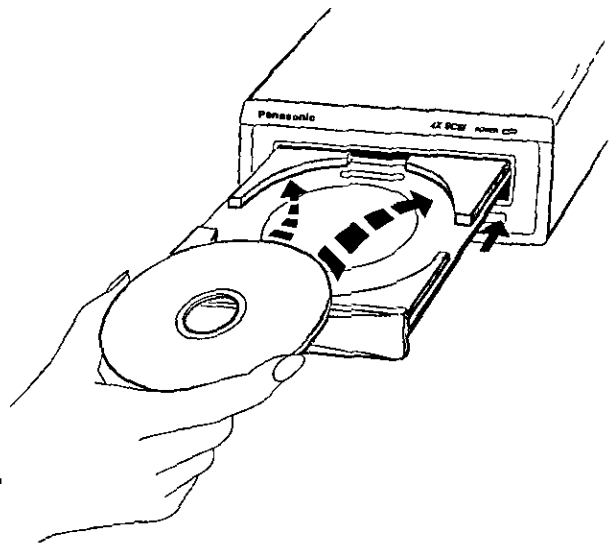
1 Turn on the CD-R drive unit.

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 (or CD-R) 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

Min 1 3/4"
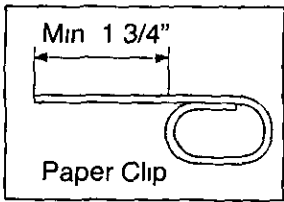
Paper Clip

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 the eject-bar (for example, insert a straightened paper clip minimum straight length = 45mm, Diameter = 1~1 5mm) 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)

4 2 Operation

■ Power-on (off) procedure

If AC power cable of CD-R drive is not connected to AC connector of Host Computer, turn on your CD-R drive before turning on computer When powering down, turn off computer before turning off your CD-R drive

30

C^{HAPTER} 5 Using the Software

5 1 For Macintosh

5 1.1 Playing Audio CDs

To play audio CDs, use the **Audio CD Remote** Desk Accessory

Note

The Macintosh built-in speaker cannot play audio CDs To play audio CDs, you must connect headphones to the drive headphone jack or audio output jacks to an audio system amplifier

Operation of the Audio CD Remote

Use of the **Audio CD Remote** Desk Accessory (under the Apple Menu) for playing CDs is explained here

Playing an Audio Compact Disc

① Click on the apple icon to pull down the apple menu Select **Audio CD Remote.** The control panel is displayed on the screen

② Set an audio CD into the drive The number of tracks are displayed along the right side of the panel

③ The control panel functions are similar to those of any conventional CD player

- **Disc Switch (Up /Down)** button is used to select the Discs
- **Play / Pause** button is used to initiate play or to pause
- **Eject / Stop** button is used to open the drive tray or to stop play
- Click and hold the **track selector,** then drag the mouse to select a track Tracks can also be selected using the **track up** and **track down** buttons
- Click and hold the **volume control,** then drag the mouse to increase or decrease volume
- **Scan** is used to fast forward or fast reverse through the disc
- **Right** and **Left Speaker** buttons can be used to switch off the respective speaker
- **Disc and Track indicator** displays the Disc and track currently selected
- **Elapsed time indicator** displays the time elapsed during the playing of a track

Note

When an audio CD is set into the drive, the **Audio CD** icon appears on the Desktop Clicking the icon does not play the CD

Click to Exit Audio CD Remote

Click to open the wide panel (See next page)

Current Disc and Track Indicator

Elapsed Time Indicator

Disc Switch Button (Down)

Play / Pause Button

Reverse Scan Button

Track Down Button

Left Speaker Button

Volume Control

Audio CD Remote

Disc — Track

01-01

Time

Pause

00:00

Disc

Play   Eject

Scan

Track

Left   Right

Volume

-01
-02
-03
-04
-05
-06
-07
-08
-09
-10
-11
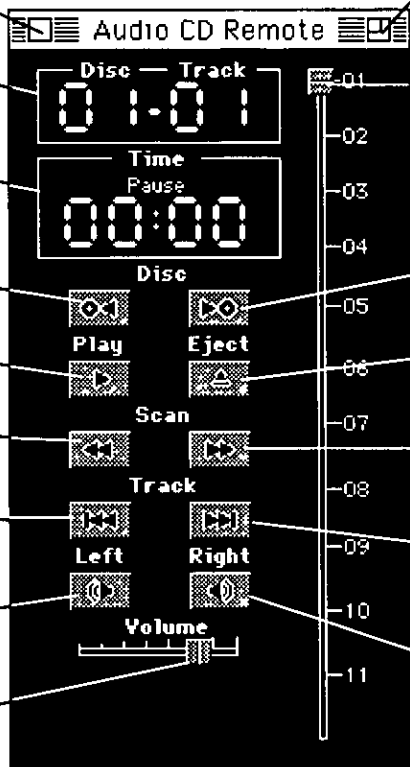
Track Selector

Disc Switch Button (Up)

Eject / Stop Button

Forward Scan Button

Track Up Button

Right Speaker Button

Using Wide Panel of Audio CD Remote

Select Play

You can play the desired Audio Track
Select the desired Audio Track in **Track List** Then drag into **Play List** and place
After Clicking the Play button, the selected Audio Tracks will be played sequentially

Random Play

Click ![icon]
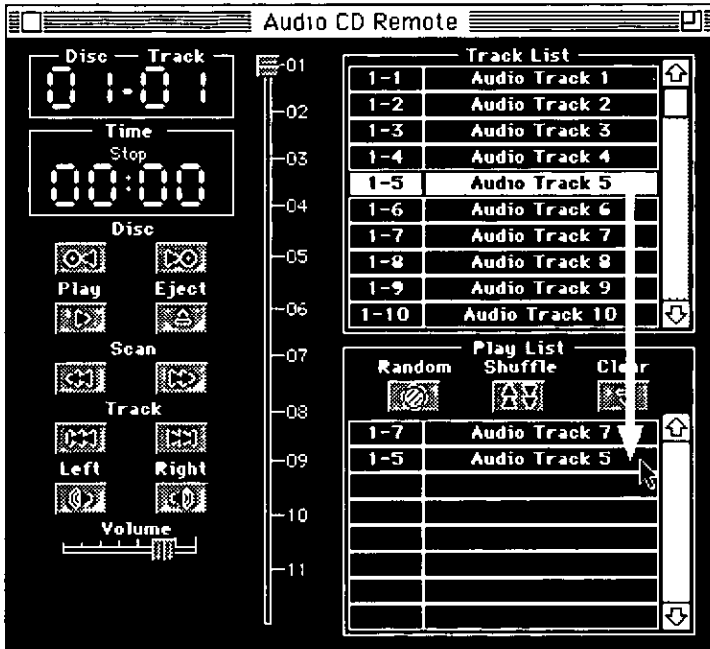
All tracks in the disc will be played randomly

Shuffle Play

Click ![icon]

The selected tracks in **Play List** will be shuffle played

Clear

Click ![icon]

The all selected tracks in **Play List** will be cleared

5 1. 2 Ejecting a CD Disc

To eject a CD-ROM from the drive, drag the CD-ROM icon to the Trash
While the CD-ROM icon is visible on the Desktop, the eject button cannot be used

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⑤ 2 For PC-AT

⑤ 2.1 Using Audio Utility "CD Listener" for DOS

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-Rtist Drive), using the automatic installation program **INSTALL.EXE**

Preparation

To listen to music with **CD Listener**, you must connect headphones or speakers to your CD-Rtist drive

- Headphone   Connect through the headphone jack located on the front panel
                           of the main drive unit
                           Sound volume can be adjusted by the volume switch on the
                           front face of your CD-Rtist drive
- Speaker   Connect to an amplifier from the AUDIO OUT on the back of
                           your CD-Rtist drive

Operation of "CD Listener"

① Insert the music CD in the CD-Rtist Drive

② At the DOS prompt, type **CDLPC** and press <Enter>

Note

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

Example

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

Operation Screen

Track (Sequence of music)

Total number of tracks
(Total time)

Playing time   Operation status

Switch playing time display
* Total elapsed time   * Elapsed time of one track
* Total remaining time   * Remaining time of one track

Exit of **CD Listener**

```
 Track        Elapsed CD Time         Panasonic
 02           08: 11             CD Listener Ver1.00
 Total Tracks:  12 (52:40)            TIME       POWER
 Status      : Playing                 ⊕          ①
```

```
  STOP      PLAY      PAUSE     EJECT          PLAY MODE
   ■         ▶         II        ▲             NORMAL
  SKIP      TRACK     TRACK     SKIP           AUDIO OUT
   ◀◀        ◀◀        ▶▶        ▶▶             STEREO
```

Switch
NORMAL/RANDOM play

Switch audio output
• STEREO   • RIGHT
• LEFT   • MUTE

STOP ■	Stop playing	SKIP ◀◀	Rewinds approximately 10 seconds of play
PLAY ▶	Play CD	TRACK ◀◀	Plays from the beginning of the track
PAUSE II	Pause	TRACK ▶▶	Jumps to the next track
EJECT ▲	Tray eject	SKIP ▶▶	Fast forward approximately 10 seconds of play

6 Installing and Using the Utility

6 1 Installation

Pana CD Magic and **Pana CD Handler** are two useful utility programs included with your CD-Rtist drive Both of these applications run under MS Windows 3 11 They provide playback support for many popular CD formats, and an easy way to launch frequently used applications This kit also includes recent versions of Microsoft **Video for Windows** and Apple **QuickTime for Windows** These are system enablers (drivers) that enable your PC to playback video Before installing **Pana CD Magic** and **Pana CD Handler**, your CD-Rtist drive, the driver and the board for each CD-ROM driver should be installed and operational

Note

Pana CD Magic was designed to run under Windows 3 11 Depending on the system configuration, operation of **Pana CD Magic** under Windows 95 may be erratic Please use the Media Player which is included with Windows 95 if there are problems with **Pana CD Magic** under Windows 95

Software (For PC-AT)

Installing the Device Driver

This section explains the installation method for the device drivers for various **Pana CD Magic** applications. Installation of these drivers is required to run **Pana CD Magic** applications

◆ CD Audio Player

In order to play a music CD with CD Audio Player, it is necessary to install the device driver **[MCI] CD Audio** which is included with MS Windows 3 11

❶
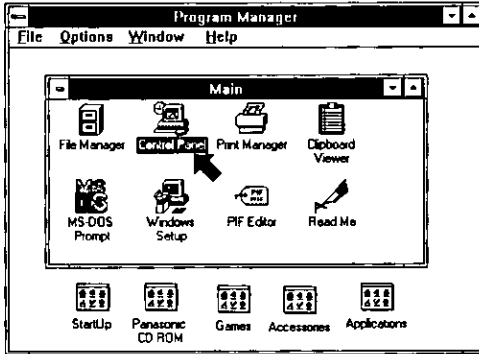
Open the **Control Panel** from the [Main] window

❷

Open the **Drivers.**

Installs removes and configures drivers

❸

Click the **Add**

❹
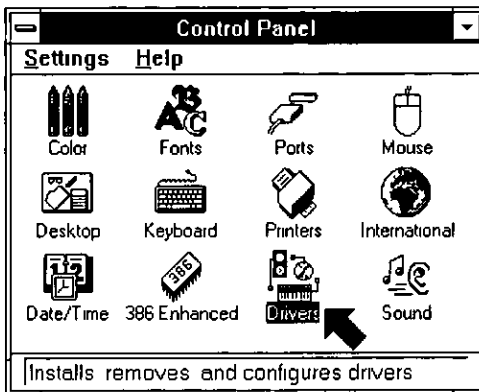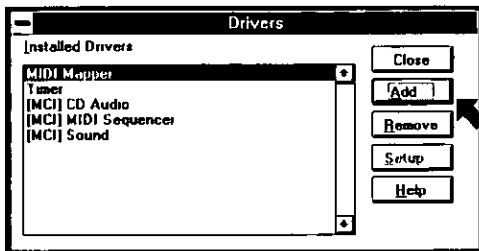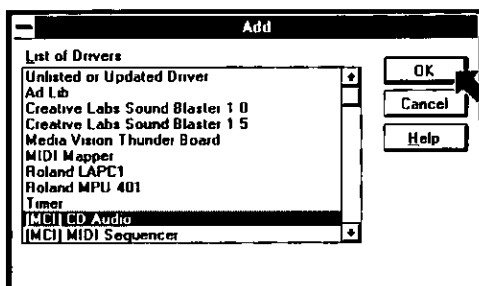
Select **[MCI] CD Audio** from [List of Drivers], and click **OK**
When the driver installation is completed, return to the original screen

◆ Video for Windows* (for Windows 3.11)

Install the **Video for Windows** driver using the installer which is included in the **Video for Windows 1.1D** disk

◆ CD-i Movie, Video CD, Karaoke (Requires MPEG board)

Install the device driver using the installer included with the MPEG board

◆ QuickTime for Windows* (for Windows 3.11)

Install the **QuickTime for Windows** driver using the installer which is included in the **QuickTime 2.0 for Windows** disk

*To install **Video for Windows** and **QuickTime for Windows**, run **Setup.exe** from the installer diskette The method for installation is similar to installing **Pana CD Magic** and **Pana CD Handler**

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Installing "Pana CD Magic" and "Pana CD Handler"

① Turn on the power of your personal computer and start MS Windows 3 11

② Insert the floppy disk **CD-R Drive Installation Software for PC**, in the floppy disk drive

③
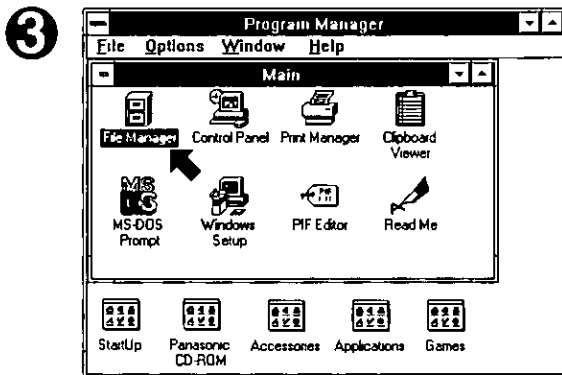
Start **File Manager** located in [Main] window

④
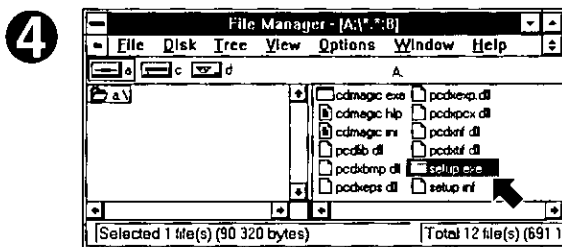
Double_click on **Setup.exe** located in the floppy drive
Execute the installation in accordance with the message When the installation is completed, the icons of the applications will automatically appear on the desktop

⑤
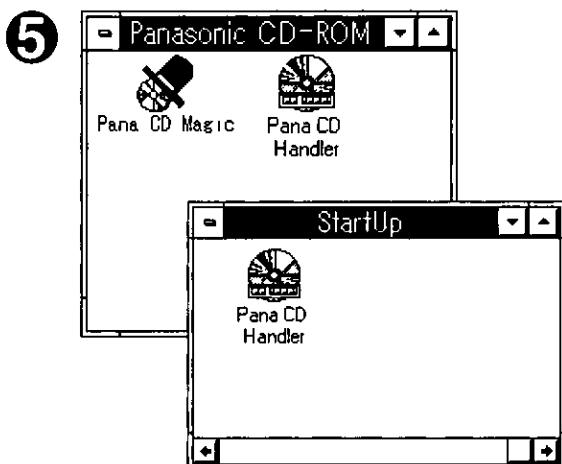
When the installation is completed, the both **Pana CD Magic** and **Pana CD Handler** icon will be displayed in the **Panasonic CD-ROM** window, and the **Pana CD Handler** icon will be displayed in the **Start Up** window
Double_clicking the icon will start the application

⑥ 2 Using "Pana CD Magic"

Preface

Pana CD Magic is an application software designed to play and/or display various CDs, such as compact discs (CD) for music, video CDs, photo CDs, on your personal computer in the MS-Windows 3 11 operating environment To run these applications, you will need the following

CDA Player
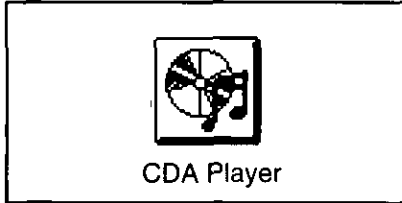
To run a CD Audio, you will need headphones, running through the headphone jack on the front of the CD-Rtist drive, or speakers connected to an amplifier through the Audio Out port on the back of the your interface board or sound board

AVI Player
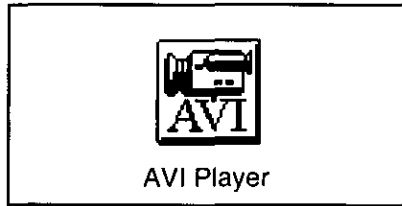
To run a AVI file under **Pana CD Magic**, you will need **Video for Windows** (included) installed.
A sound board is required to hear audio embedded in the AVI video file

CDI Player   VCD Player   Karaoke Player
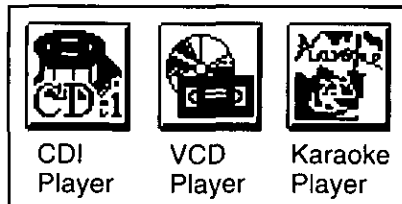
To run a CD-i movie, DAT file or MPG file, you will need an MPEG decoder board (PC-AT series)

MOV Player

To run a MOV file under **Pana CD Magic**, you will need **QuickTime for Windows** (included) installed

PCD Player

To view a Photo CD, you will not need any other system software

Note

The recommended MPEG decoder boards are
Reel Magic (Lite) / Real Magic (Lite) / Video Blaster MP400

Starting "Pana CD Magic"

①
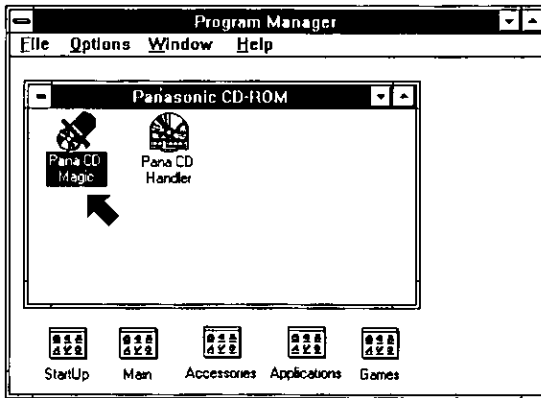
Double_click the **Pana CD Magic** icon

②

Click the desired application

Karaoke Player

MOV Player (QuickTime for Windows Player)

PCD Player (Photo CD Player)

VCD Player (Video CD Player)

CDI Player (CD-i Movie Player)

AVI Player (Video for Windows Player)

CDA Player (CD Audio Player)

Status shows the player name to which mouse is pointing
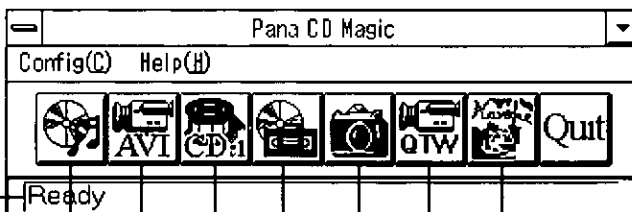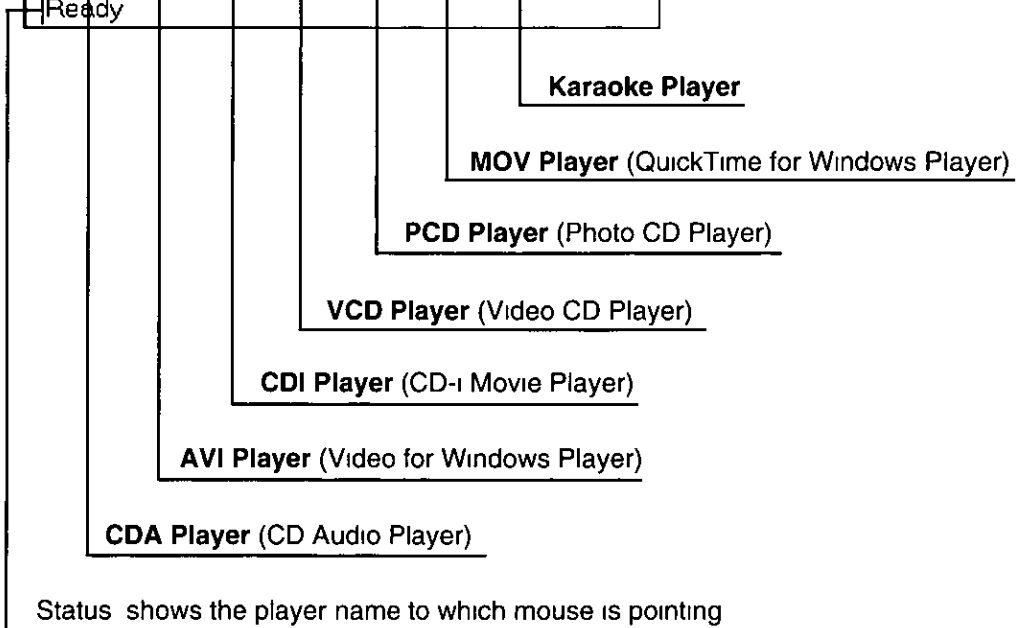
Note

If any of the 7 buttons are "grayed out", they will not function You will need to install the appropriate MCI driver to enable the system

■ CDA Player

❶

—	Pana CD Magic	▼
Config(C) Help(H)		

Ready
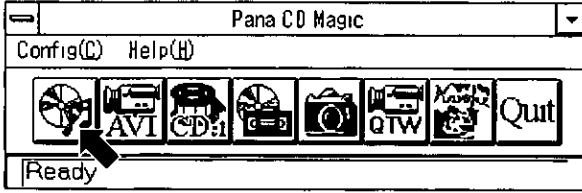
Click the **CDA Player** button
The **CDA Player** control window will
appear

❷

—	CDA Player	▼
Option(O) Help(H)		

Track   Time

01 00:00

Total Tracks 00-(00:00)

| ■ | ▶ | ‖ | ▲ |
| ◀◀ | I◀◀ | ▶▶I | ▶▶ |
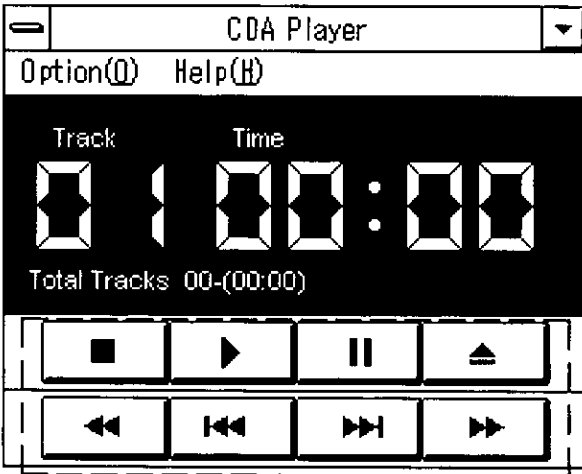
Button (operate by left clicking with the mouse)

■	Stop	◀◀	Rewinds approximately 10 seconds of play
▶	Play	I◀◀	Jump to the beginning of the track
‖	Pause	▶▶I	Jumps forward to the next track
▲	Eject / Close the tray	▶▶	Fast forwards approximately 10 seconds of play

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[Option Menu]

Continuous Play ——————————— Repeated play
Normal Mode ————————————— Sequentially plays all music tracks on CD
Shuffle Mode ————————————— Randomly plays all music tracks on CD
Select Mode ————
Mini Player
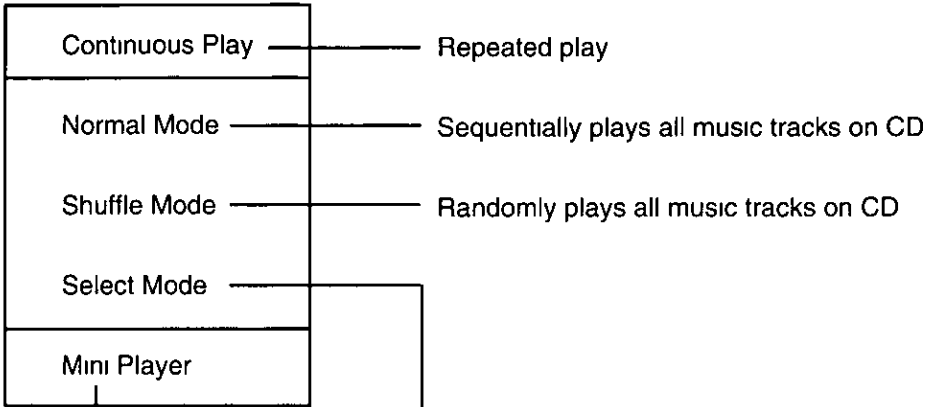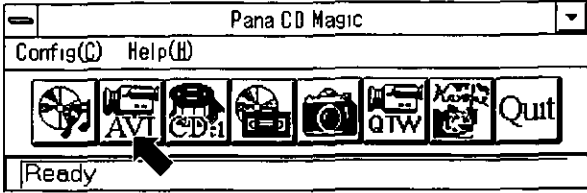
Select a track to be played
[Audio Selector]

Audio Select
Tracks.

Track 01 - 04:53	OK — Music selection completed
Track 02 - 04:44	
Track 03 - 04:23	All[A] — All pieces of music are selected
Track 04 - 04:45	
Track 05 - 03:32	Clear[C] — Music selection is cleared
Track 06 - 03:46	
Track 07 - 04:55	Cancel[N] — Music selection is canceled
Track 08 - 03:56	
Track 09 - 04:20	
Track 10 - 03:53	
Track 11 - 04:24	
Track 12 - 05:02	

[Mini Player]

CDA Player
■ ▶ II ◄◄ ►►I ▲
Track 01 Time 00 00

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■ AVI Player

❶

Pana CD Magic

Config(C)   Help(H)

AVI CDsi   QTW   Quit

Ready

Click the **AVI Player** button
The **AVI Player** control window
will appear

❷

┌─ Main Menu
  - File   designate the AVI file to be played
  - Size   designate the window size
 - Speed   designate the playing speed
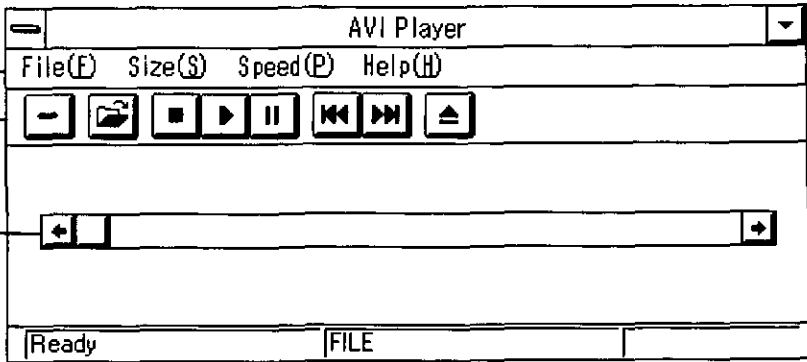
AVI Player

File(F)   Size(S)   Speed(P)   Help(H)

─   ☞   ■   ▶   ‖   ◀◀   ▶▶   ▲

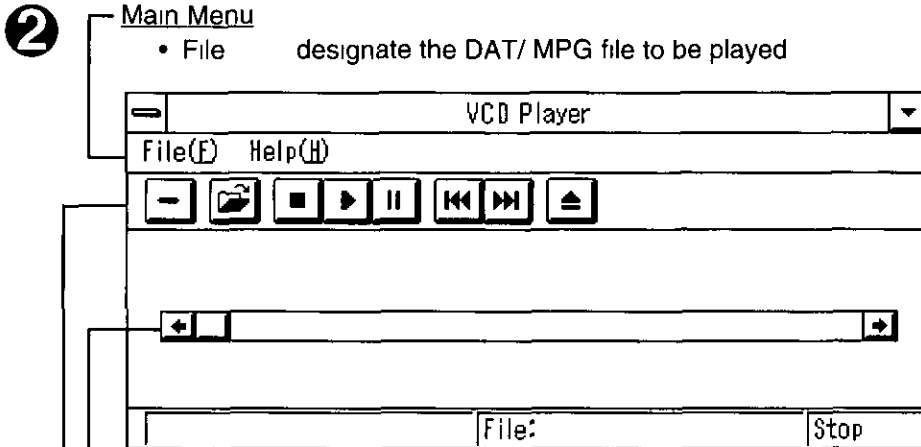◀□   ▶

Ready   FILE

└─ Scroll bar   shows the current position of the file being played Dragging the box
               with the mouse provides random access

Button (operate by left clicking)

─	Quit the **AVI Player**
☞	Open the "Selecting file" window
■	Stop
▶	Play
‖	Pause
◀◀	Jump to the previous file
▶▶	Jump to the next file
▲	Eject / Close the tray

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■ CDI Player

A CDI disc should be loaded in the CD-Rtist drive

❶

⊟	Pana CD Magic	▼

Config(C) Help(H)

[🎵] [📼 AVI] [🎥 CD-I] [💿] [📷] [🎞 QTW] [🎬] [Quit]

Ready
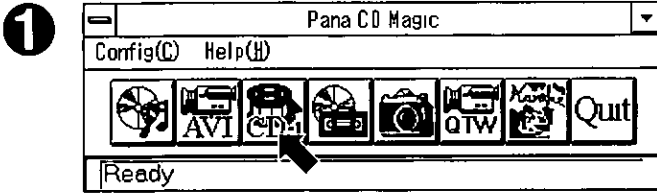
Click the **CDI Player** button
The **CDI Player** control window will appear

❷

⊟	CDI Player	▼

Select(S) Help(H)

[—] [■] [▶] [II] [◄◄] [►►|] [▲]

[←] [   ] [→]
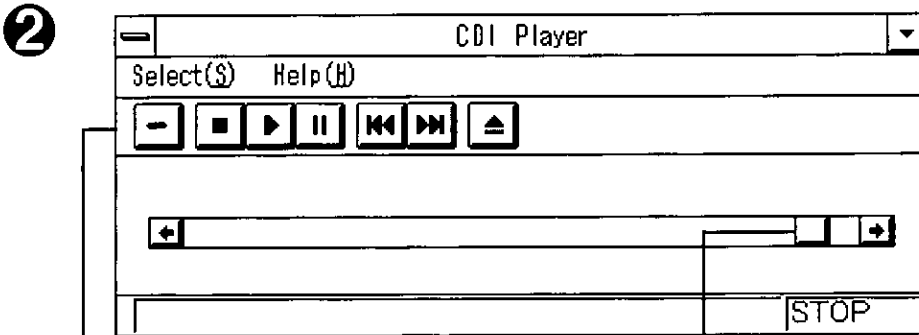
STOP

Button (operate by left clicking)

[—]	Quit the **CDI Player**
[■]	Stop
[▶]	Play
[II]	Pause
[◄◄]	Rewind 5 minutes
[►►|]	Fast forwards 5 minutes
[▲]	Eject / Close the tray

Scroll bar shows the current position of the file being played Dragging the box with the mouse provides random access

■ VCD Player

A Video CD should be loaded in the CD-Rtist drive

①

━	Pana CD Magic	▼
Config(C) Help(H)		

Ready
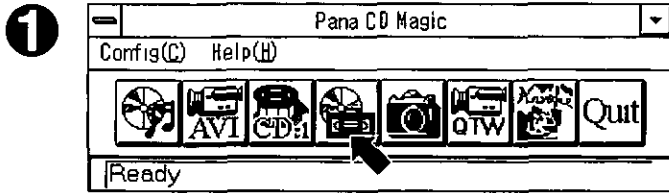
Click the **VCD Player** button
The **VCD Player** control window
will appear

②

─ Main Menu
• File   designate the DAT/ MPG file to be played

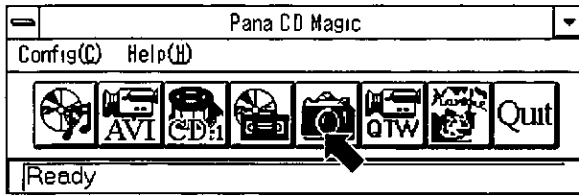| ━	VCD Player	▼
File(F) Help(H)		

File: Stop

── Scroll bar   shows the current position of the file being played Dragging the box
with the mouse provides random access

Button (operate by left clicking)

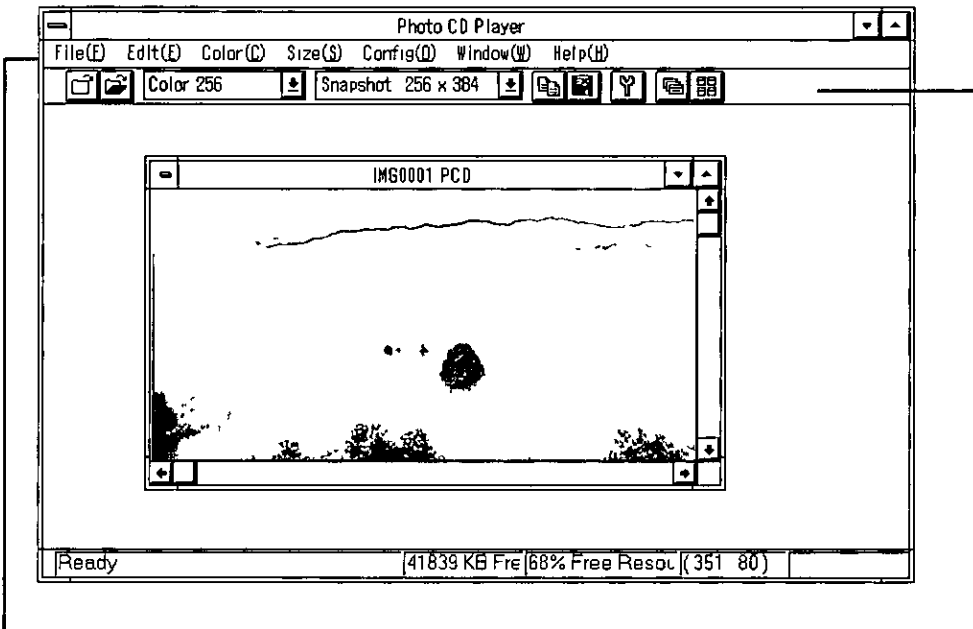| ━ | Quit the **VCD Player** |
🗁	Open the "Selecting file" window
■	Stop
▶	Play
‖	Pause
◄◄	Jump to the previous file
►►	Jump to the next file
▲	Eject / Close the tray

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■ PCD Player

❶

Click the **PCD Player** button
The **PCD Player** control window
will appear

❷

Main Menu

• File	open the contact sheet or the photo file, get information of the file
• Edit	copy, select all, export the file with several format (BMP, EPS, PCX, RIF, TIF)
• Color	change the photo color
• Size	change the photo size
• Config	designate CD-Rtist drive name, default photo size and color
• Window	cascade, tile the photo windows, or arrange icons

Button

	Display contact sheet (photo lists on the CD-ROM or CD-R)
	Open the selected photo file on the CD-ROM or CD-R
	Copy the selected area of photo to Clipboard
	Save the selected photo file (file format BMP, EPS, PCX, RIF, TIF)
	Designate CD-Rtist drive name, photo default size and color
	Cascade Photo windows
	Tile Photo windows

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■ MOV Player

❶

| ⊟ | Pana CD Magic | ▼ |

Config(C)   Help(H)

[icons row: 🎵CD | 📼AVI | 📷CD·1 | 📹 | 📷 | 📼QTW | 🎬 | Quit]

Ready

Click the **MOV Player** button
The **MOV Player** control window
will appear

❷

Main Menu
- File   designate the MOV file to be played
- Size   designate the window size
- Speed   designate the playing speed

| ⊟ | MOV Player | ▼ |

File(F)   Size(S)   Speed(P)   Help(H)

[−] [📂] [■] [▶] [II] [◄◄] [►►] [▲]

[◄]━━━━━━━━━━━━━━━━━━━━━━━━━[►]

Ready   File   Stop

Scroll bar   shows the current position of the file being played Dragging the box
with the mouse provides random access

Button (operate by left clicking)

[−]   Quit the **MOV Player**

[📂]   Open the "Selecting file"
window

[■]   Stop

[▶]   Play

[II]   Pause

[◄◄]   Jump to the previous file

[►►]   Jump to the next file

[▲]   Eject / Close the tray
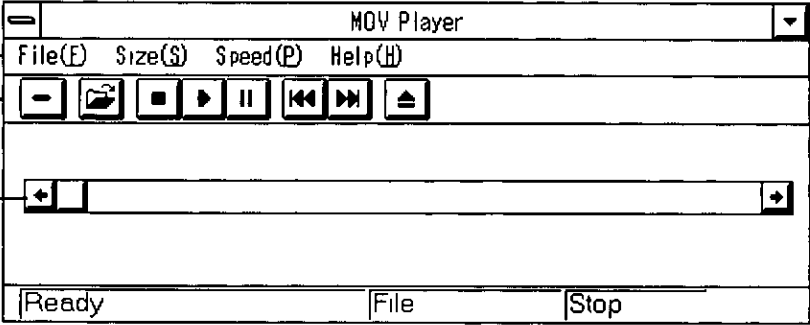
48

■ Karaoke Player

❶
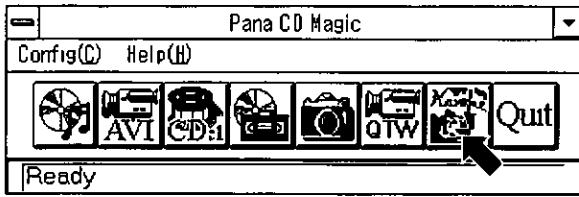
Click the **Karaoke Player** button
The **Karaoke Player** control window
will appear

❷
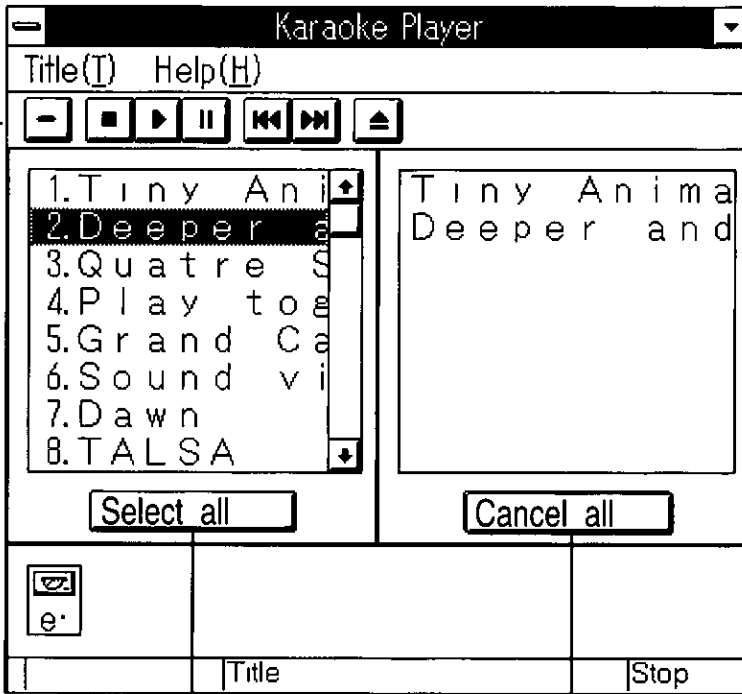
	Select all	Select all
	Cancel all	Clear all selection

Button	Function
—	Quit the **Karaoke Player**
■	Stop
▶	Play the selected title
◄◄	Jump to the previous title
►►	Jump to the next title
▲	Eject / Close the tray

"Selecting file" window

When you click ▣ button or select File - Open on the respective player, the following window is displayed

```
┌─────────────────────────────────────────────────────────────────┐
│ ▭            Selecting files                                      │
│   File list        Directries            Selected files           │
│  ┌──────────┬─┐  ┌─────────┬─┐          ┌──────────┬─┐           │
│  │scene6 avi│▲│  │[ ]      │▲│  ┌─────┐ │scene6.avi│▲│           │
│  │scene7.avi│ │  │[-a-]    │ │  │ OK  │ │scene9.avi│ │           │
│  │scene8 avi│ │  │[-c-]    │ │  └─────┘ │          │ │           │
│  │scene9 avi│ │  │[-d-]    │ │          │          │ │           │
│  │          │ │  │[-e-]    │ │  ┌──────┐│          │ │           │
│  │          │ │  │[-f-]    │ │  │Cancel││          │ │           │
│  │          │ │  │         │ │  └──────┘│          │ │           │
│  │          │ │  │         │ │          │          │ │           │
│  │          │ │  │         │ │  ┌────────┐          │ │           │
│  │          │ │  │         │ │  │Select all│        │ │           │
│  │          │ │  │         │ │  └────────┘          │ │           │
│  │          │ │  │         │ │  ┌────────┐          │ │           │
│  │          │▼│  │         │▼│  │Remove all│        │▼│           │
│  └──────────┴─┘  └─────────┴─┘  └────────┘ └──────────┴─┘        │
└─────────────────────────────────────────────────────────────────┘
```
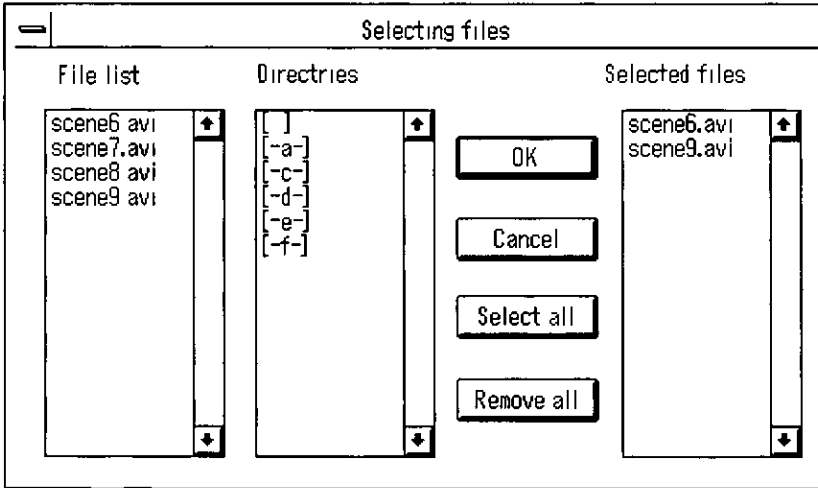
Selecting file procedure

① Select a Drive / directory by double_clicking in **[Directories]**

② Then, the list of available files are displayed in **[File list]**

③ To select the desired file, do one of the following
  • Double_click the desired file
  • Select all files by clicking **[Select all]** button

④ Confirm the file contents of **[Selected Files]**, click **[OK]** button

⑤ When you want to clear the file from **[Selected Files]**, do one of the following
  • Double_click the file of **[Selected File]**
  • Clear all selected files by clicking **[Remove all]** button

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6 3 Using "Pana CD Handler"

◆ Preface

Pana CD Handler is a utility software designed to easily start up application software that you often use

Mouse operating expressions

• **left_click** .... one quick push of the left mouse button

• **right_click** .... one quick push of the right mouse button

• **double_click. .** two quick clicks of the left mouse button

• **drag... ....** move the mouse while holding the left button

◆ Basic Operation

Starting up "Pana CD Handler"

Double_click **Pana CD Handler** icon

Note

Every time Windows is started, the **Pana CD Handler** will start automatically from the **Start up** window

Program Menu Bar

When **Pana CD Handler** is started, the following Menu Bar appears on the screen
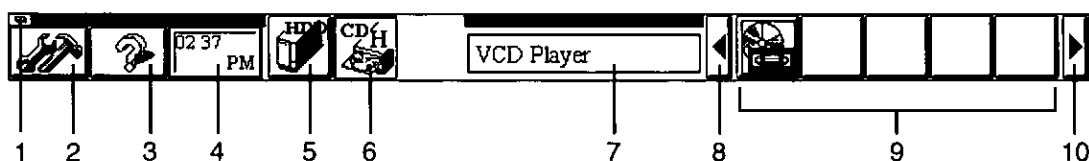
1	Control Menu Box	6	CD-ROM/CD-Rtist Drive
2	Customize Button		Select Button
3	Help Button	7	Run Button Title Box
4	Date/Time display	8	Left Scroll Button
5	Hard Disk Drive Select Button	9	Run Button
		10	Right Scroll Button

Installation of Applications on the toolbar

You can register an Application to **Pana CD Handler** by following these procedures

Ⓐ Installing a new CD-ROM/CD-R application, and registering the icon

❶ Load a CD-ROM/CD-R in the CD-Rtist drive

❷ Left_click on the CD-Rtist drive select button

❸ Right_click on the Run Button point which you wish to enable

❹ Left_click **[Execution of Install Program.]** of **[Customize Run Button]** window

❺ Input appropriate command to **[Command Line]** in **[Execute Install Program]** window and left_click **[OK]**

 – If you do not know the command line, click **[Browse...]** and select the file from **[File Browse]** window

❻ Confirm the each configuration in **[Customize Run Button]** window and left_click **[OK]**

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B Registering the icon of the application that was already installed
(In case of the application on the CD-ROM/CD-R)

❶ Load a CD-ROM/CD-R in the CD-Rtist drive

❷ Left_click on the CD-ROM/CD-Rtist drive select button

❸ Right_click on the Run Button point which you wish to register

❹ Left_click **[Icon Browse]** of **[Customize Run Button]** window

❺ Select the **Group Name** and **Registered Icon** of [**Icon Browse**] window, and left_click **[OK]**

❻ Confirm the each configuration of **[Customize Run Button]** window and left_click **[OK]**

C Registering the icon of the application that was already installed on the hard disk drive

❶ Left_click on the hard disk drive select button

❷ Right_click on the Run Button position which you wish to register

❸ Left_click **[Icon Browse]** of **[Customize Run Button]** window

❹ Select the **Group Name** and **Registered Icon** of [**Icon Browse**] window, and left_click **[OK]**

❺ Confirm the each configuration of **[Customize Run Button]** window and left_click **[OK]**
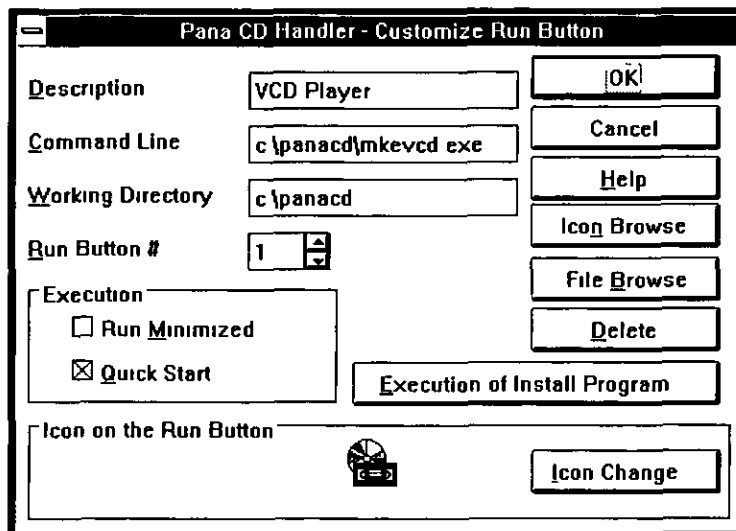
Running an Application from the Pana CD Handler Toolbar

Left_click on the Run Button of the desired application icon

Limited registration of the application software for several CD-ROM type

You can register a maximum of 20 applications to **Pana CD Handler** for one CD-ROM

However, some CD-ROMs will be the same type (as below), and one registered application will be able to play several different discs

- Audio CD
- Video CD
- CD-ı Movie (DIGITAL VIDEO)
- Photo CD
- EB (Electronic Book)

Example

If you register the CD Player software after you load an Audio CD, the registered CD Player automatically appears on the Run Button when loading other Audio CDs

Applications already registered to Pana CD Handler

When you install the **Pana CD Handler** by using the included installation program, the applications of **Pana CD Magic** are registered automatically on the HDD Run Button

■ When left_clicking on the HDD select button, the applications which appear on the Run Button are the 7 players of **Pana CD Magic**

■ When left_clicking on the CD-ROM/CD-Rtıst drive select button, the applications which appear on the Run Button are as follows

- CDA Player while selecting Audio CD
- CDI Player while selecting CD-ı Movie
- VCD Player while selecting Video CD
- PCD Player while selecting Photo CD
- Karaoke Player while selecting Karaoke CD
- None while selecting EB (Electronic Book)

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◆ Change and Clear

You can change the attributes of a Run Button
First, right_click on the Run Button you wish to modify

A Changing the Icon

1 Left_click [Icon Change...] from [Icon on the Run Button] of [Customize Run Button] window

2 Select the icon at [Selection Icon] of [Icon Change] window, and left_click [OK]

– You can change to the icon of any other file on your system
  That is, click [Browse] and select a different file as you wish

3 Confirm the new icon appears on [Icon on the Run Button] of [Customize Run Button] window, and left_click [OK]

4 The new icon will appear on the Run Button

B Changing the Registration Number of a Run Button

1 Select the Position Number at [Run Button #] of [Customize Run Button] window, and left_click [OK]

– The Position Number is displayed on the Run Button when you move the mouse cursor over the Left / Right Scroll Button

2 The registering Number of Run Button is changed

– Another way of changing the registration Number is by dragging & dropping the icon onto a new Run Button number

C Setting up Quick Start

Left_click Check_box of [Quick Start] at [Execution] of [Customize Run Button] window, and left_click [OK]

– Then next time, when the CD-ROM/CD-R disc is changed, the registered application program is automatically started

D Setting up the Running Status

Left_click Check_box of [Run Minimized] at [Execution] of [Customize Run Button] window, and left_click [OK]

– Then, the application is minimized, and appears on the bottom of the screen

E Clearing a Registered Application

1 Select [Delete] of [Customize Run Button] window, and left_click [OK]

2 Confirm that each configuration item is empty, and left_click [OK]

3 Then, the selected Run Button icon on the Menu Bar is deleted

◆ Tool Operation

Functions Summary

⟨1⟩ Control Menu Box

   •Minimize **Pana CD Handler**, display about **Pana CD Handler**, close **Pana CD Handler** or exit MS Windows

⟨2⟩ Customize Button

   •Sets up display status of Program Menu bar and Wall Paper flipper

⟨3⟩ Help Button

   •Online operating instructions

⟨4⟩ Date/Time display

   •Displays date / time
   (Enlarged display while pushing left button of mouse)

⟨5⟩ Hard Disk Drive Select Button

   •Changes to Run button of application on the Hard Disk Drive

⟨6⟩ CD-ROM Drive Select Button

   •Changes to Run Button of application of the CD-Rtist Drive
   (After CD-ROM media is set, some icons will appear on the Run Buttons)

⟨7⟩ Run Button Title Box

   •Displays the title of the program which the mouse cursor is currently over

⟨8⟩ Left Scroll Button

   •Scroll the Run Button icon to the left

⟨9⟩ Run Button

   •Starts up, registers or changes the Application Program of Run Button
   (Depending on which mouse button is clicked)

⟨10⟩ Right Scroll Button

   •Scroll the Run Button icon to the right

Control Menu Box

A   Minimize **Pana CD Handler** to an icon on the Desktop

Left_click **[🔲]** , and select **[Minimize]**.
- **Pana CD Handler** is changed to a minimized icon, and appears on the bottom of the screen

B   Quit **Pana CD Handler**

Left_click **[🔲]** , and select **[Close]**.
- **Pana CD Handler** is closed

C   Exit **MS Windows**

Left_click **[🔲]** , and select **[Exit Windows]**.
- **MS Windows** operating system is terminated

Customize Button

First, left_click

$\boxed{A}$ Always on top

❶ Mark Check box **[Always on top]** by left_clicking with the mouse

❷ **Pana CD Handler** is always displayed on top of all other active applications

$\boxed{B}$ Set up arrangement of **Pana CD Handler** Panel

❶ Select **[Display]** of **[Operation Panel]**, and left_click **[OK]**

❷ **Pana CD Handler** Panel can be displayed in the vertical or horizontal direction

$\boxed{C}$ Selection of Wall Paper

❶ Left_click **[Add File...]** in **[Wall paper]**

❷ Locate **[File Name]** of **[Add Wall Paper]**, and left_click **[OK]**

 – If you can not remember the File Name and path, find the file by clicking **[Browse]**

❸ Confirm that the new Wall Paper is added in **[Wall paper]**, and left_click **[OK]**

$\boxed{F}$ Clearing of Wall Paper

❶ Select the file name of **[Wall paper]**, and left_click **[Delete File .]**

❷ Confirm that the selected file name is cleared, and left_click **[OK]**

$\boxed{E}$ Set up the Wall Paper flipper

❶ Set up **[Flipper Period]** of **[Wall paper]**, and left_click **[OK]**

❷ The Wall Paper is changed to another file for each flipper period

 – To stop the Wall Paper from flipping, left_click on **[Changing Prohibit]**

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F Set up the Wall Paper Display Mode

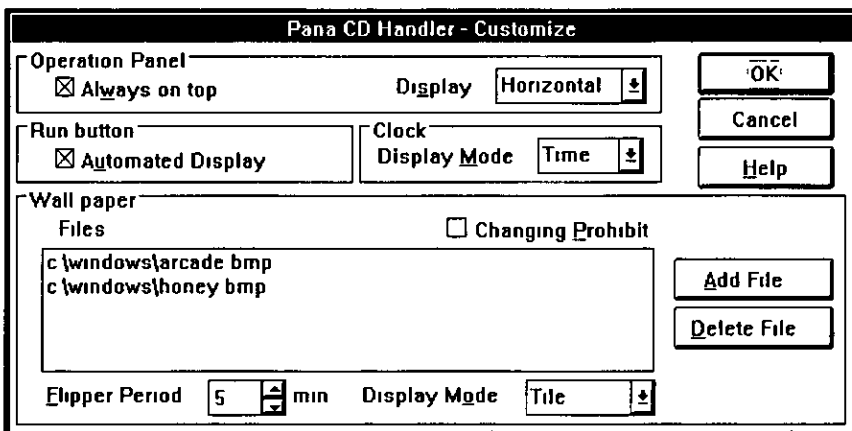① Select [Display Mode] or [Wall paper], and left_click [OK]

② The Wall Paper is displayed either centered or tiled to fill the screen

G Set up the Automated Display of the Run Button

① Mark the Check box of [Automated Display] of [Run button] with left_clicking, and left_click [OK]

② When the Run Button has been already registered, the Run Button display is updated the next time you exchange the CD-ROM

H Set up the Date / Time Display

① Select [Display Mode] of [Clock], and left_click [OK]

② The Date / Time of the selected mode is displayed in the Date / Time display Box

```
┌─────────────────────────────────────────────────────────────────┐
│                    Pana CD Handler - Customize                    │
│  ┌─Operation Panel──────────────────────────────┐   ┌─────────┐   │
│  │  ☒ Always on top         Display  Horizontal ▼│   │   OK    │   │
│  └──────────────────────────────────────────────┘   └─────────┘   │
│  ┌─Run button──────────┐ ┌─Clock─────────────────┐  ┌─────────┐   │
│  │  ☒ Automated Display │ │ Display Mode  Time  ▼ │  │ Cancel  │   │
│  └─────────────────────┘ └───────────────────────┘  └─────────┘   │
│  ┌─Wall paper─────────────────────────────────────┐ ┌─────────┐   │
│  │  Files                    ☐ Changing Prohibit   │ │  Help   │   │
│  │  c \windows\arcade bmp                          │ └─────────┘   │
│  │  c \windows\honey bmp                            │ ┌─────────┐ │
│  │                                                  │ │ Add File│ │
│  │                                                  │ └─────────┘ │
│  │                                                  │ ┌─────────┐ │
│  │  Flipper Period  5 ▲▼ min  Display Mode Tile ▼  │ │Delete File│
│  └─────────────────────────────────────────────────┘ └─────────┘ │
└─────────────────────────────────────────────────────────────────┘
```

Help Button

① Left_click [icon]

② The online help system is displayed

Please refer the online operation manual when you have difficulty

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7 Specification Summary

7 1 Performance

Disc diameter	Write	12cm*1
	Read	12cm

Read function	Acceptable disc types	• CD-Audio
		• CD-ROM (Mode 1 and Mode 2)
		• CD-ROM XA (Mode 2, Form 1 and Form 2)
		• CD-I (Mode 2, Form 1 and Form 2)
		• CD-I Ready
		• CD-I Bridge
		• CD-Plus
		• Photo CD (single and multiple sessions)
		• CD-WO (fixed and variable packets)
		   The drive does logical to physical mapping
		   for fixed packet tracks

Write function	Applied format	• CD-Audio
		   The drive does not supported SKIP/
		   UNSKIP track and SKIP/UNSKIP time
		    interval items described in ORANGE
		   BOOK Part II
		• CD-ROM (Mode 1 and Mode 2)
		• CD-ROM XA (Mode 2, Form 1 and Form 2)
		• CD-I (Mode 2, Form 1 and Form 2)
		   This drive only supports "CD-I" in the case
		   of writing a single session Disc using track
		   at once writing method or Disc at once
		   writing method
		• CD-I Bridge
		• CD-I Ready
		   This drive only supports "CD-I Ready" in
		   the case of using Disc at once writing
		   method

	Writing Method	• Disc at once • Track at once • Fixed / Variable packet writing • Multi-session

Disc speed	Normal Velocity mode	200~540rpm (Constant linear velocity)	
	Quad Velocity mode	800~2160rpm (Constant linear velocity)	
Data capacity		656/748 MBytes typical (Mode 1/Mode 2) (74min and 42 sec disc) 180/205 MBytes typical (Mode 1/Mode 2) (20min disc)	
Data transfer Rate	Sequential (Normal Velocity mode)	150/171 kBytes/s (Mode 1/Mode 2)	
	Sequential (Quad Velocity mode)	600/684 kBytes/s (Mode 1/Mode 2)	
	From buffer	2 8 MBytes/s	
Access time	Random access time*2 (Normal Velocity mode)		450ms typical
	Random access time (Quad Velocity mode)		250ms typical
Buffer Size		Writing/1X or 2X Reading 1 MByte 4X Reading 256 kBytes	

Note

7 2 Error Rates

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

7 3 Audio Performance

Number of channels	2
Frequency response	20Hz~20kHz, -3dB~+0 5dB
SN Ratio	More than 83dB
Distortion	Less than 0 1% (1kHz)
Output level Line-out	0 8Vrms

7 4 General Performance

Power requirement	100-240V~AUTO Sense Switching 0 42-0 20A 50/60Hz
Dimensions (W x H x D)	158 x 57 3 x 314 5 mm (6 22 x 2 26 x12 4 inches)
Weight	2 7kg (5 95 pounds)

7 5 Environmental Conditions

	Operating	Non-operating
Temperature	5~35°C	-30~60°C
Humidity	5~90%Rh (Non-condensation)	5~95%Rh (Non-condensation)

7 6 Laser Pick Up

Type	Semiconductor laser GaAlAs
Wave Length	785 ± 5 nm
Divergence	$\theta = 24° \pm 4°$
Output power	Read = 0 5 mW Write = 17 mW

8 Troubleshooting

8 1 If Drive Does Not Operate

Most problems with CD-Rtist drive operations are due to improper set-up or installation If your CD-Rtist 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 device cannot be powerd on (Power lamp does not light)	Power cable is either not connected or it has not been securely inserted into the receptacle at the back of your CD-Rtist drive	Make sure the power cable is plugged into the power outlet and that it is securely inserted into the receptacle on the back of your CD-Rtist drive
	The power switch is at "O"	The power switch is at "I"
The Desktop does not appear (for Macintosh)	The SCSI number of the Macintosh computer or other peripheral device has been set to the same as that of the CD-Rtist drive	Assign your CD-Rtist drive a new SCSI device number ranging from 1-6
The system (for PC-AT) 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
When the system is started, the CD-ROM icon does not appear	**Panasonic CD-ROM** has not been installed in the System Folder	Referring to page 18, using the accompanying floppy disk, install the **Panasonic CD-ROM** in the System Folder
If your CD-Rtist drive is not properly connected, the icon shown below appears	Power cable is either not connected or it has not been securely inserted into the receptacle at the back of your CD-Rtist drive	Make sure the power cable is plugged into the power outlet and that it is securely inserted into the receptacle on the back of your CD-Rtist drive
	The power switch is at "O"	Switch the power switch at the back of the machine to "I"
(for Macintosh)	SCSI cable and connector are not properly connected	Turn off the power to all equipment Securely connect the SCSI connector and cable

When this occurs	Possible cause	Take this action
The personal computer (for PC-AT) cannot recognize this equipment	The device driver of this equipment or **MS-DOS CD-ROM Extensions** is not installed into DOS	Install the device driver of your CD-Rtist drive into DOS, using the install program in the attached floppy disk
	The drive name, assigned by the parameter/L when installing **MS-DOS CD-ROM Extensions**, is within the range of drive names already recognized by DOS	For the drive name of parameter/L, assign a drive name not recognized by DOS
	Since the CD-Rtist 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-Rtist drive
The tray cannot be ejected	The eject command has not been transmitted to the CD-Rtist 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-Rtist 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 (CD-R) was improperly placed (For example, the labelled surface is up-side-down)	Eject the CD-ROM (CD-R), and reinsert the disc correctly
Photo CD does not operate properly	QuickTime Ver 1 5 or later has not been installed in the System Folder (for Macintosh)	Install QuickTime Ver 1 5 or later and restart
	The PCDVIEW application is not installed (for Macintosh)	Use the PCDVIEW or Apple Photo Access application to view Photo CD files
	The **Pana CD Magic (Photo CD Player)** is not installed (for PC-AT)	Use the **Pana CD Magic (Photo CD Player)** or Photo CD Access application to view Photo CD files
No sound is heard	Either the connection of the amplifier is incorrect or the headphones/amplifier have not been connected to the CD-Rtist drive	Check the connection Refer to the amplifier instruction manual
	Volume is turned down	Increase the headphones or amplifier volume

If, after following these procedures, your CD-Rtist drive still does not operate, please call the Panasonic Technical Support hotline at 1-800-PANASYS (1-800-726-2797) for assistance
This hotline is available, 24 hours a day, 7 days a week

Appendix A.

Manual Software Installation for DOS/Windows 3.11

If you have already completed installation using Easy Installation in Section⒊ 2 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-R Drive Installation Software for PC)** 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-152x series/AHA-294x series):

```
LASTDRIVE=Z
DEVICE=C:\ASPI\ASPI2DOS.SYS ⎵ /D ⎵ /Z
DEVICE=C:\PANACR\CR_ASPI.SYS ⎵ /D: MSCD000 ⎵ /Q ⎵ /B
```

Note

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

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

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

❺ Add "C \PANACR," to the line starting with "PATH" in **AUTOEXEC.BAT**

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

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

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

[Example of input]

```
C:\PANACR\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
```

Note
For the details, refer to **MS-DOS CD-ROM Extensions** (reference page 29)

❼ Save and Close the modified **AUTOEXEC BAT**

❽ Exit the editor

❾ 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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Panasonic Computer Peripheral Company
Multimedia Systems Division
Division of Matsushita Electric Corporation of America

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Two Panasonic Way, Secaucus, New Jersey 07094

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

LMQT00164   Printed in Japan