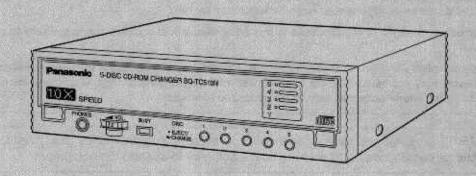
Panasonic

5-Disc CD-ROM Changer SQ-TC510N

Operating Instructions



Before connecting, operating or adjusting this product, please read these instructions completely. Please save this manual.

Interface: Enhanced (DE interface with ATAPI Support For IBM PC-AT compatible DOS/Windows





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

FEDERAL COMMUNICATIONS COMMISSION (FCC) RADIO FREQUENCY INTERFERENCE STATEMENT

Class B Computing Device

CAUTION:

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 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.

Any unauthorized changes or modifications to this equipment would void the user's authority to operate this device.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

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) For most up to date information, please refer to README.TXT of the Setup disks.
- (4) If any questions arise concerning this document, please contact your sales representative or Panasonic Technical Support at 1-800-Panasys (1-800-726-2797).

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:

- (1) The use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- (2) The CD-ROM Changer is designed to be incorporated into a computer-based system or unit which has an enclosed cover. The CD-ROM Changer may not be used as a stand-alone unit.

LASER Specification:

Type:

Semiconductor laser GaAlAs

Wave length: 780 nm

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Information

INTRODUCTION

Congratulations on your purchase the 5-DISC CD-ROM Changer. The Panasonic SQ-TC510N CD-ROM Changer features Panasonic's 10× speed technology, which allows digital audio to be accessed at different speeds.

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

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



This CD-ROM Changer uses digital audio compact discs which bear the following mark.



Supports Major CD-ROM Formats

CD-DA(Audio), CD-ROM, CD-ROM XA, Photo CD Multisession* Video for Windows**, QuickTime for Windows**, CD-I***, Video-CD***

- * Requires a Photo CD viewer (not included)
- ** Requires Microsoft Video for Windows, Apple QuickTime for Windows (not included)
- ***Requires MPEG decoder board or MPEG decoder software and CD-I and/or Video-CD playback software (not included)

System Requirements

80386, 80486 or Pentium based ISA Computer 8 MB of RAM 3 MB of free space on Hard Disk 16-bit ISA expansion slot or most EIDE hard disk (HDD) controllers

Windows 95 Ready Supports DOS 5.0 & Higher, Windows 3.1 & 3.11

Feature Summary

- 1 Half-height mounting 5-disc CD-ROM Changer
- 2 Tray system premits easy exchange of single disc.
- 3 High Quality and Durability adopted by Stepping Traverse Motor
- 4 10×-speed data transfer rate [1500 KB/s (average)]
- 5 Enhanced IDE Interface ATAPI support
- 6 Easy visible "DISC WINDOW" to check which disc is loaded

Software Preface

"Disc Director" is an application utility software designed to load, play and/or display five CDs such as compact discs (CD) for music or CD-ROM on your personal computer in the MS Windows operating environment.

To install and run this application utility, you will need the following:

- •386SX or higher processor with a minimum 8 MB RAM
- •3 MB free hard disk space

Disc Director is designed to be used with Windows 3.1 or Windows 95. We recommend using Disc Director with 5 Drive letter configuration.

Notice Concerning Software

- •To playback video CDs, you will need special hardware and software (sold separately).
- •Some applications restrict the usage of the device driver. Please check the drive letter and select the correct disc tray for playing applications. If you don't know the correct slot number/drive letter number, please try from disc tray 1 to disc tray 5 in sequence.
- •As more applications and operating systems become "changer aware", we will continue to update our device drivers and Utility software. You may get the most up to date driver and utility software by downloading from our BBS or internet web site.

BBS

#201-863-7845

Web address

Panasonic, com

Conventions used in this guide to describe key operations

This manual describes key operation by using keytop letters enclosed in angle brackets (<and>). For example, "press<Y>" means to press the letter **Y** on the keyboard. Some of the keys, however, have symbols as keytop names and have specific functions. They are named according to their functions.

Example: ENTER or RETURN key is described as <Enter>.

Key Combination appears in the following format:

"Holding down the Ctrl and Alt keys, press the Del key" is described as "Press <Ctrl><Alt>".

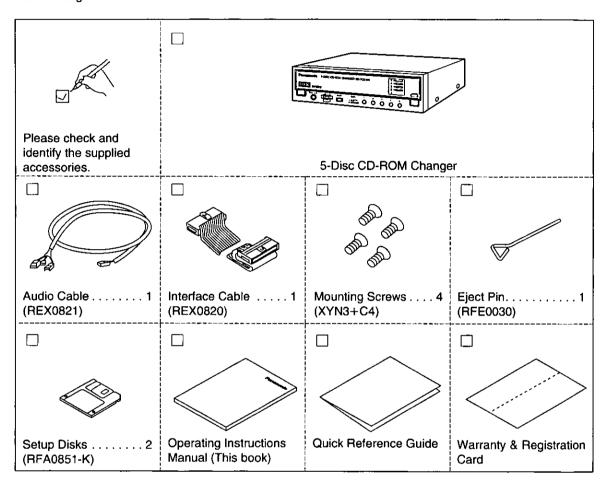
Licenses and Trademarks:

Product names mentioned in this manual are trademarks or registered trademarks of their respective companies and are hereby acknowledged. Information in this manual is subject to change without notice and does not represent a commitment on the part of the vendor. The software described in this manual is furnished under a license agreement and may be used or copied only in accordance with the terms of that agreement.

- •IBM PC-AT is a trademark of International Business Machines Corporation.
- Microsoft Windows, MS-DOS, MSCDEX and Video for Windows are trademarks of Microsoft Corporation.
- QuickTime for Windows is a trademark of Apple Computer, Inc.
- ●© Copyright LHA Version 2.13 H. Yoshizaki, 1988-1991
- C Copyright Matsushita Electric Industrial Co., Ltd. 1996

IDENTIFYING THE KIT CONTENTS

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



NOTE:

The setup disks provided with this system are 3.5" high density floppy disks. If your system requires a 5.25" floppy disk instead, please contact Panasonic at 1-800-726-2797.

Before you begin installing your Panasonic CD-ROM Changer, please take a few minutes to read the following Operation Guidelines.

I) WHEN TRANSPORTING

To avoid damage

- •Keep the original packing materials.
- Before transporting the CD-ROM Changer, remove the discs from the Changer and repack it in its original packing.

II) WHEN INSTALLING

Do not install the CD-ROM Changer in environments where it would be subjected to

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

Do not Insert the CD-ROM Changer in a vertical position.

III) WHEN USING

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

IV) WHEN OPERATING

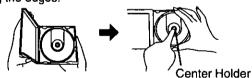
To avoid data errors

- •Do not move the CD-ROM Changer while operating.
- Do not operate the CD-ROM Changer immediately after a sudden increase in temperature.

V) WHEN HANDLING DISCS

To remove a disc from its case

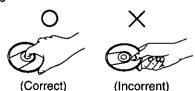
Press the center holder and lift the disc by grasping the edges.



To hold the disc

Hold the disc by the edges so the surface is not soiled with fingerprints.

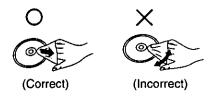
Fingerprints, dirt and scratches can cause skipping and distortion.



(Conect) (Incor

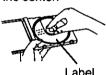
If the surface is solled

Wipe gently with a soft, damp (water only) cloth.



To store a disc in its case

Insert the disc with label facing upwards and press downwards at the center.



If the disc is brought from a cold to a warm environment, moisture may form on the disc.

Wipe this moisture off with a soft, lintfree cloth before using the disc.

Improper disc storage:

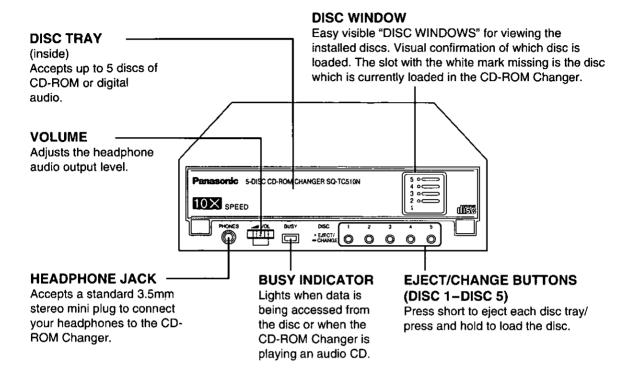
You can damage discs if you store them in the following places:

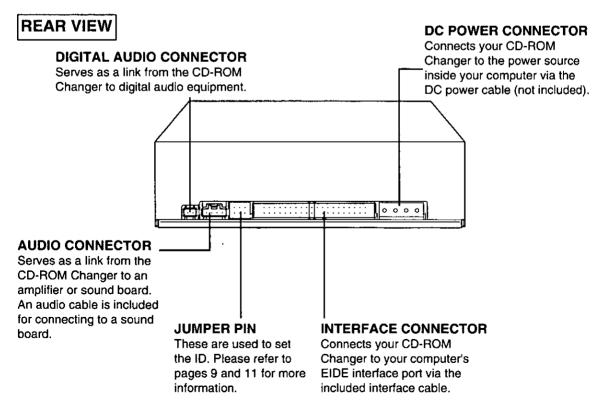
- Areas exposed to direct sunlight
- Humid or dusty areas
- Areas directly exposed to a heat outlet or heating appliance

Handling precautions:

- Do not write on the disc with a ballpoint pen or other writing utensils.
- Do not use record cleaning sprays, benzine, thinner, static electricity prevention liquids or any other solvent.
- Do not soil with fingerprints.

FRONT VIEW



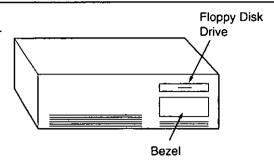


INSTALLING THE HARDWARE

The System

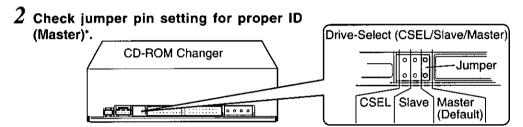
Read this section completely before proceeding. Consult your system operation manual for CPU disassembly instructions.

- 1 Turn off your system and all connected devices.
- 2 Disconnect all AC power cables.
- 3 Remove the top cover from your system.
- 4 Remove the bezel covering a vacant disk drive bay.



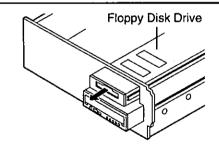
The CD-ROM Changer

 $m{1}$ Remove the Changer from its packaging.

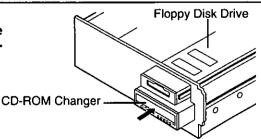


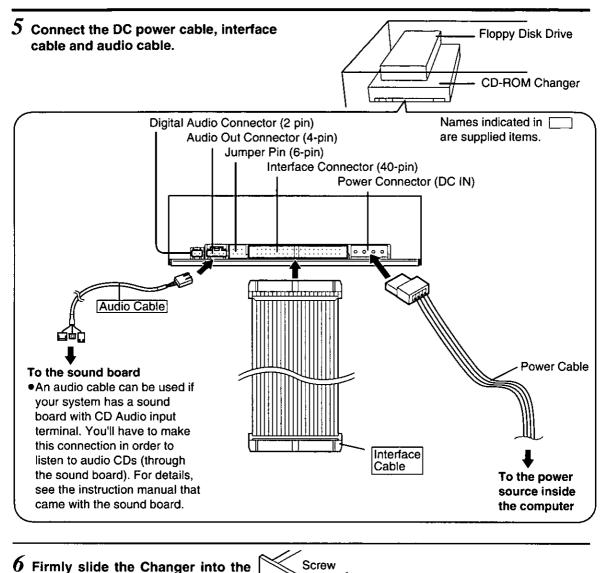
*Set to SLAVE if you connect to your systems Primary HDD IDE Controller. Most installations do not require changing the jumper pins.

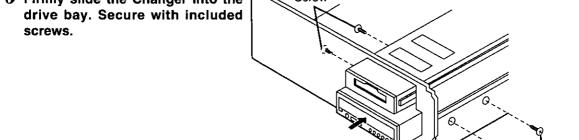
- 3 Look above your vacant disk drive bay.
 If it is occupied by a floppy disk drive:
 It might be necessary to slide the floppy disk drive forward a couple of inches.
 - Do not disconnect its cables. This may allow for easier CD-ROM Changer installation.



4 Slide the CD-ROM Changer into the vacant bay until it is parallel with the floppy disk drive.

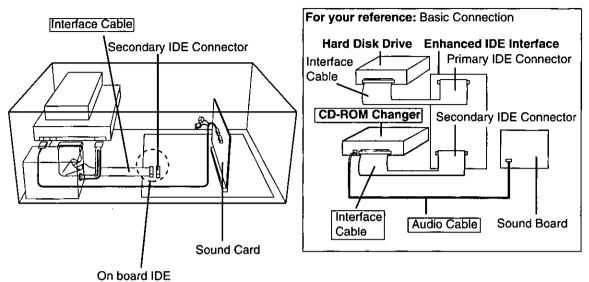






⁷ Reattach the top cover and reconnect your peripheral devices and AC power.

For most Enhanced IDE type computers



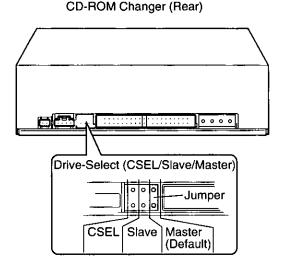
Other Settings (Jumper Pin)

We recommend that you connect the CD-ROM Changer as described on pages 9–11. If, for some reason, your computer does not allow this configuration, note the following **Jumper pin setting options**.

Changing the jumper pin setting

You will have to change the master-slave jumper pin in the following instances:

- Single cable you may need to change the master/ slave pin.
- •With two devices connected, one must be set to slave, and the other set to master.
- •To change the setting, pull the jumper off with tweezers and slide the jumper onto the correct pins.



Restriction with Windows 95:

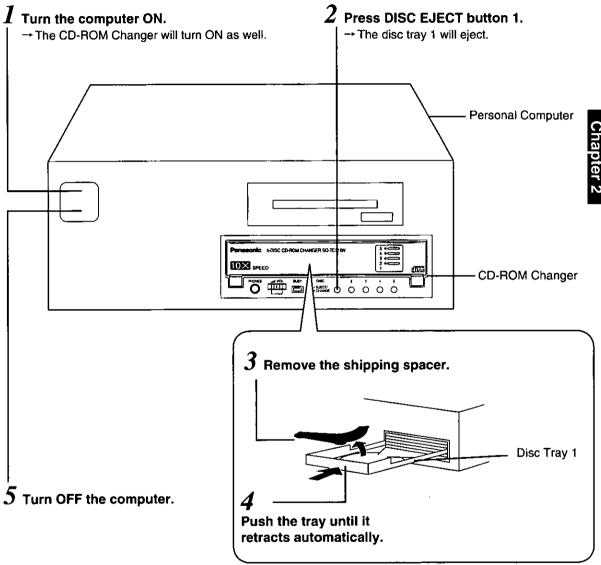
Generally, only one type of device (ex. HDD or CD-ROM) can be connected to a single EIDE interface connector. For example, a hard disk drive and a CD-ROM Changer cannot both be connected to the same EIDE connector port when using Windows 95. This restriction is for Windows 95 but not Windows 3.1.

REMOVING THE SHIPPING SPACER

Removing the Shipping Spacer

Before using the CD-ROM Changer, you must remove the shipping spacer from the disc tray. Install the Driver and Utility only after you have removed the spacer.

Failure to do this may damage your disc on the changer.



NOTE:

Save the shipping spacer and box. You will need them when moving or shipping the equipment.

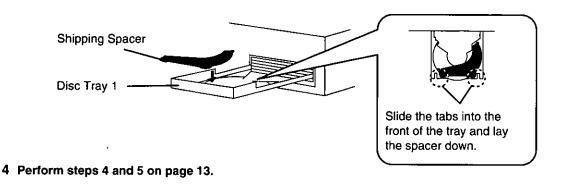
Inserting the Shipping Spacer

Be sure to take the following precautions before moving your Changer a considerable distance, shipping the changer, or taking it in for service.

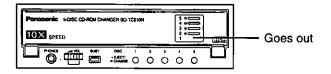
$m{1}$ Insert the shipping spacer into disc tray 1.

(This is also necessary if moving your computer with the CD-ROM Changer still installed.)

- 1 Turn your computer ON. The CD-ROM Changer will turn ON as well.
- 2 Press DISC EJECT button 1. Disc tray 1 will eject.
- 3 Insert the shipping spacer into disc tray 1.



2 Check the white mark next to the "1" on the disc window. If the white mark is still visible, repeat steps 2 and 4 on page 13 until it goes out.



 $oldsymbol{3}$ Pack the Changer in the original box.

INSTALLING THE SOFTWARE

Installing under Windows 3.1, 3.11

This section explains how to install the Panasonic CD-ROM Changer Utility and the changer device driver for Windows 3.1 and 3.11 and MS-DOS 5.0 or later on your computer's hard disk and outline what you should and can do after installation is complete.

To install the CD-ROM Changer Utility and the changer device driver, you need Setup Disk No. 1 (included) and your Panasonic 5-disc CD-ROM Changer SQ-TC510N.

NOTE:

If you already installed another CD-ROM device driver, we recommend that you deactivate the existing device driver before performing installation. For help please view the Readme. txt file on the installation disc.

 $m{I}$ Turn the computer on.

If your system automatically loads Windows, you must exit Windows and reach the DOS prompt C:\. This explanation assumes that your floppy disk 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.

- $oldsymbol{2}$ Place the included Setup Disk No. 1 in the floppy disk drive.
- 3 Type A:<Enter>.
 The current drive changes to "A".
- 4 Type CD WIN31<Enter>.
- 5 Type SETUP31<Enter>.
- $m{6}$ Follow the instructions on the screen until installation is complete.

After you have installed the Changer Utility and the Driver Software for DOS/Windows 3.1 in your system, eject the Setup Disk from the floppy disk drive and reboot the system. When your computer is restarted, the CD-ROM Changer will be installed on your system. Please view and print the included Readme. txt file. (Refer to page 20.)

IMPORTANT:

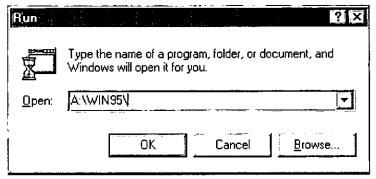
If you intend to upgrade your computer from Windows 3.1 to Windows 95, be sure to use the **SOS Utility** and change the "**Number of CD-Drive" setting** from "5" to "1". (For details, see page 17.) Otherwise, your computer may fail to load Windows 95.

Installing under Windows 95

This section explains how to install the Panasonic CD-ROM Changer Utility and the changer device driver for Windows 95 on your computer's hard disk and outlines what you should and can do after installation is complete.

To install the CD-ROM Changer Utility and the changer device driver, you need Setup Disks No. 1 and No. 2 (included) and your Panasonic 5-disc CD-ROM Changer SQ-TC510N.

- $m{I}$ Place Setup Disk No. 1 in your floppy disk drive A:.
- 2 Click $\mbox{\bf Start}$ on the Windows task bar and choose $\mbox{\bf Run...}$. The Run dialog box appears.



- $oldsymbol{3}$ Type "A:\WIN95\" in the text box.
- 4 Click OK , then follow the instructions on the screen.
- 5 When installation of the Disc Director and the device driver are completed, you need to restart your computer.

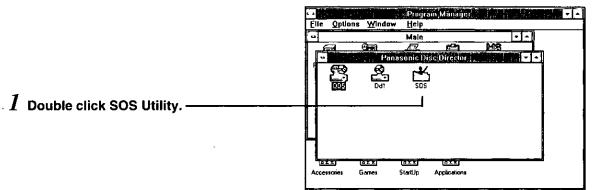
(Refer to page 21 for the operation of the Disc Director.)

SOS Utility (For DOS/Windows 3.1 only)

Use the SOS Utility for the following purposes:

- •When you change the CD-ROM hardware connection and/or jumper setting
 - We recommend that the SQ-TC510N be connected as described on pages 9 to 11 (CD-ROM Changer is connected to Secondary connector & Master pin). However, if for some reason your computer does not allow for this configuration, you can change the **IDE connector**, **Jumper pin setting** and **IRQ setting** by using the **SOS Utility**. Of course, you need to change the hardware setting beforehand.
- •When you upgrade your computer from Windows 3.1 to Windows 95

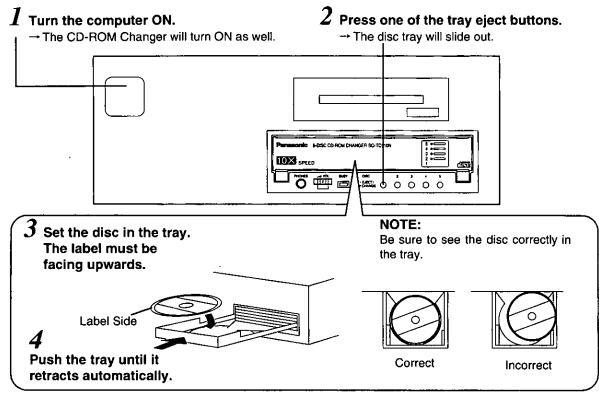
 Be sure to change the "Number of CD-Drive" setting from "5" to "1". Otherwise, your computer may fail to load Windows 95.



Easy Conligure 2 •If changing the hardware connection √ Accept IDE Connector Secondary and setting Master / Slave Master (2) Cancel Select the device driver setting. **IRQ** Setting IRQ 15 If upgrading to Windows 95 Number of CD-Drive 1 Drive Letter Select "1". 1 Drive Letter •If you select 5 drives for Windows 3.1. Warning!!
This Software can change only device driver setting on config.s: we recommend using the Disc Director This Software is NOT Hardware Configure. If butting I/O address or IRQ, you must Change Dip Swich Software Utility. on UF board or M/B. If you select 1 drive for Windows 3.1, we Accept Setting and reboot your system now! recommend using the DD1 (Single drive letter) Utility.

NOTE:

Follow the instructions on the display carefully.



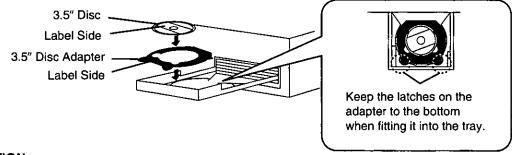
 ${f 5}$ Repeat steps 2 and 3 until you have loaded your discs.

NOTE:

- Do not insert any objects other than a CD and a CD-ROM disc into the disc tray. This could result in a malfunction.
- Do not manually force the tray open or press down hard on the tray when loading a disc, since this may reuslt in damage or malfunction of the tray.
- When the CD-ROM Changer is not in use, keep the tray closed to protect it from dust and dirt.
- •You cannot open/close the disc tray while using the headphones jack.

For 3.5" discs

Use the disc adapter (option: RMQ0611) designed specifically for this unit. As shown below, insert the adapter in the tray, then the disc in the adapter.

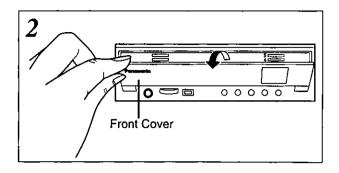


CAUTION:

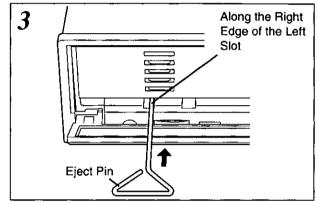
Do not use other types of CD adapters. Incompatible products could cause the equipment to malfunction.

If the tray does not eject automatically

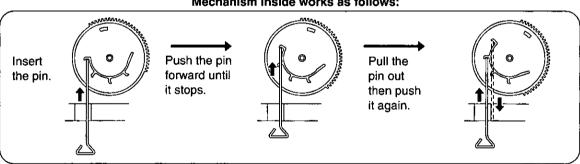
- $m{I}$ Turn OFF your computer.
- $oldsymbol{2}$ Open the front cover of the CD-ROM Changer.



- $oldsymbol{3}$ Push the eject pin.
 - 1 Gently push the pin along the right edge of the left_slot until the pin stops.
 - → The tray will come out a little.
 - 2 Pull the pin out and then push it again about four times until the tray is extended enough that you can pull it out by hand.



Mechanism inside works as follows:

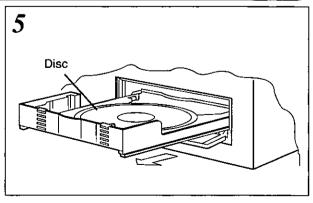


 $m{4}$ Pull the tray the rest of the way by hand.

(The tray currently in the play position and the tray immediately below it can both be pulled out by hand.)

 $oldsymbol{5}$ Remove the disc from the tray and turn ON your computer.

(This is to check the Changer returns to normal.)



If the CD-ROM Changer still seems jammed, please contact our hotline for assistance. (1-800-726-2797)

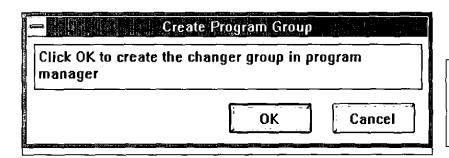
USING THE PANASONIC DISC DIRECTOR

Disc Director provides great new tools so that you can easily access your discs. It will setup the software for you, play audio. You do not need to remember which slot you used to install the software. Disc Director will adjust or auto-run the software you select.

Starting the Disc Director on DOS/Windows 3.1

Windows 3.1 display

When you restart Windows (for the first time) after the installation, the following display will appear:

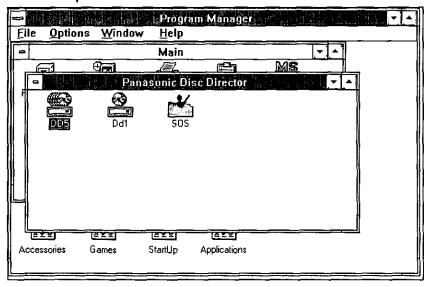


Read this dialog box carefully, important information will be in this dialog box.



Click OK if you agree.

The installation program will now create a program manager group called "PDD" (Panasonic Disc Director).





Double click this icon to use the Five Drive Disc Director. (See page 22.)



Double click this icon to use DD1 Single Drive Letter slot selector.



Double click this icon to use the SOS Utility. (See page 17.)

Panasonic Disc Director utilities have many very useful features.

Please view or print the **Readme, txt** file which is located in the C:\DD5 directory.

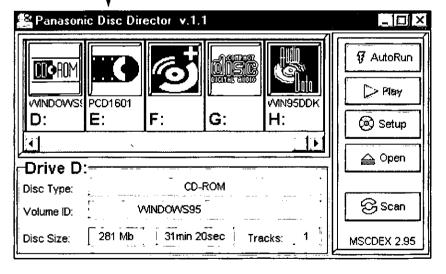
Starting the Disc Director on Windows 95

Select "Start"→"Programs"→"Panasonic Disc Director".



Please see the online help for a review of smart CD Manager features.

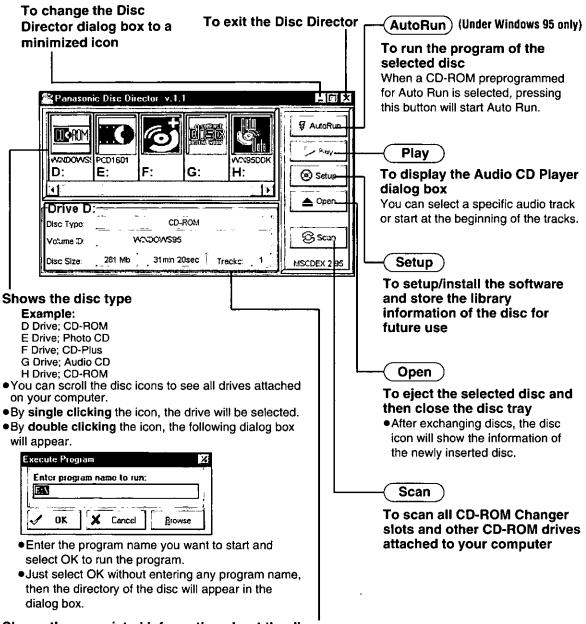
The Disc Director dialog box appears.



For details of this dialog box, see the next page.

Smart CD Manager has many innovative features. We suggest you refer to the "Help File". If you experience any difficulty during installation, please refer to the Readme.txt file on the setup disks.

General Functions of the Disc Director



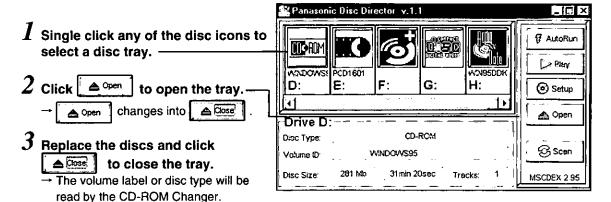
Shows the associated information about the disc you selected (highlighted icon)

- Disc type, such as CD Plus, Audio, etc.
- Volume ID of the CD-ROM
- Number of tracks on the disc
- Disc size in minutes, seconds and frames
 It represents total length of the tracks on the disc.

For your reference:

Helpful hints are provided. Just move the mouse cursor onto the buttons, and the Hint that explains the button is displayed.

Opening/Closing the Disc Tray

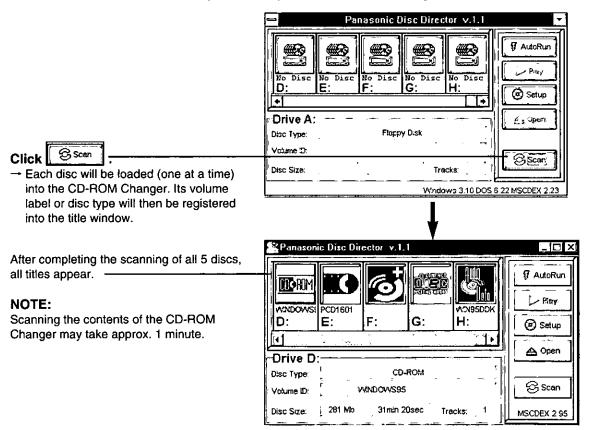


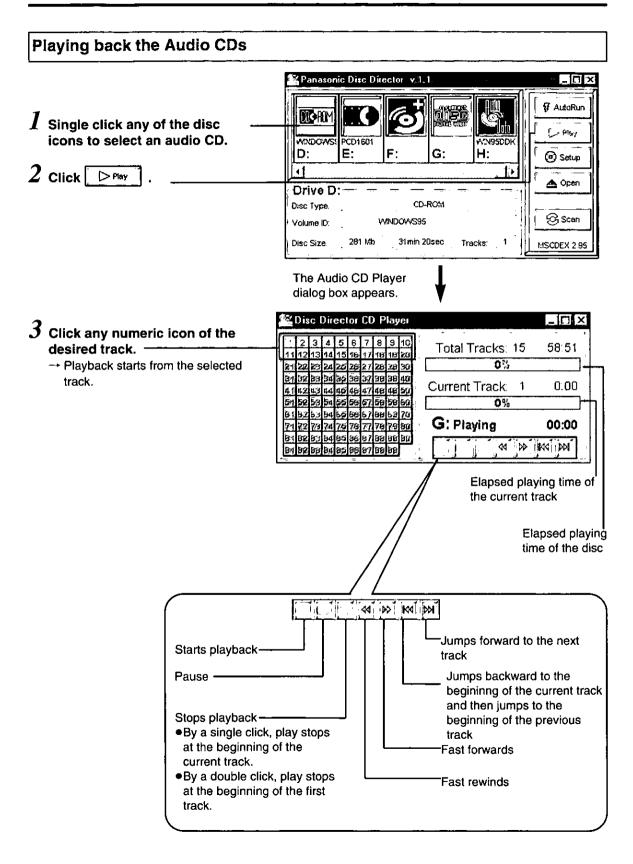
Note:

You cannot open/close the disc tray while using the headphones jack.

Scanning of All Disc Titles

The scan function is a convenient way to "inventory" the contents of the Changer.





TROUBLESHOOTING

Problem	Check these possibilities:	
Tray doesn't eject.	Is the power cord plugged in correctly? Is the CD or CD-ROM inserted properly? Disconnect the headphones.	
Computer doesn't boot.	Is there a disk in the floppy disk drive? Is the IDE cable plugged into the expansion card correctly? Is the expansion card installed correctly?	
CD player doesn't respond to computer commands.	Is the device driver installed correctly? Is the IDE interface cable connected properly? Completely inserted, Pin 1 connected to pin 1 etc.	
CD or CD-ROM won't play.	Are you trying to use a CD or CD-ROM that is not compatible with this machine? Are you using the appropriate CD or CD-ROM software? Is the CD or CD-ROM inserted into the tray properly? Is the CD or CD-ROM inserted with the label side up? Is the CD or CD-ROM damaged, broken, warped or dirty? Is there condensation on the machine? (Is so, leave the machine on for an hour and try again.)	
No sound comes out of headphones.	Is the volume adjusted properly? Are the headphones properly connected?	
Device driver won't load in Windows 95.	Existing real mode driver in config. sys IDE controller is not set correctly—check control panel in Windows 95	

SPECIFICATION SUMMARY

Interface		ATAPI Interface Specified Rev. 2.6. mode 4 (40 Pin Connector)
Playable Disc Format		CD-ROM (mode 1 and mode 2) CD-ROM XA (mode 2 form 1 and form 2) PHOTO CD (Single and multisession)*1 CD-DA, CD Extra (CD Plus) Video CD*1, Video for Windows*1
Data Transfer Rate		1200-1650 KB/s 1500 KB/s (average)* ² 8.33 MB/s (Single word DMA mode 2) 16.7 MB/s (PIO mode 4 with IORDY)
Access Time	1/3 Stroke	130 ms typ.
Buffer Memory Capac	ity	128 KB
Error Rates	Hard Read Errors	Less than 10 ⁻¹²
EITOI Hates	Soft Read Errors	Less than 10 ⁻⁹
Output Level	Headphone	0.6 Vrms (32Ω)
(Impedance)	Line Out	0.8 Vrms (50 kΩ)
Frequency Response Line Out		20 Hz-20 kHz (+0.5, -3 dB)
S/N Line Out		More than 85 dB
Temperature	Operating	5 to 45°C
remperature	Storage	-20 to 60°C
Humidity	Operating	20 to 90% Rh (Non-condensing)
ridiniaity	Storage	20 to 90% Rh (Non-condensing)
Source Voltage		DC 5 V±5% DC 12 V±10%
Source Current		1.2 A (DC 5 V) 1.5 A (DC 12 V)
Dimensions (W×H×D)	146×41.3×224 mm (5-3/4"×1-5/8"×8-13/16")
Weight		1.3 kg (2.9 lb.)

^{*}¹Requires Viewer or Playback Software *²Average of 650 Mbytes Transfer time

Note:

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

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