

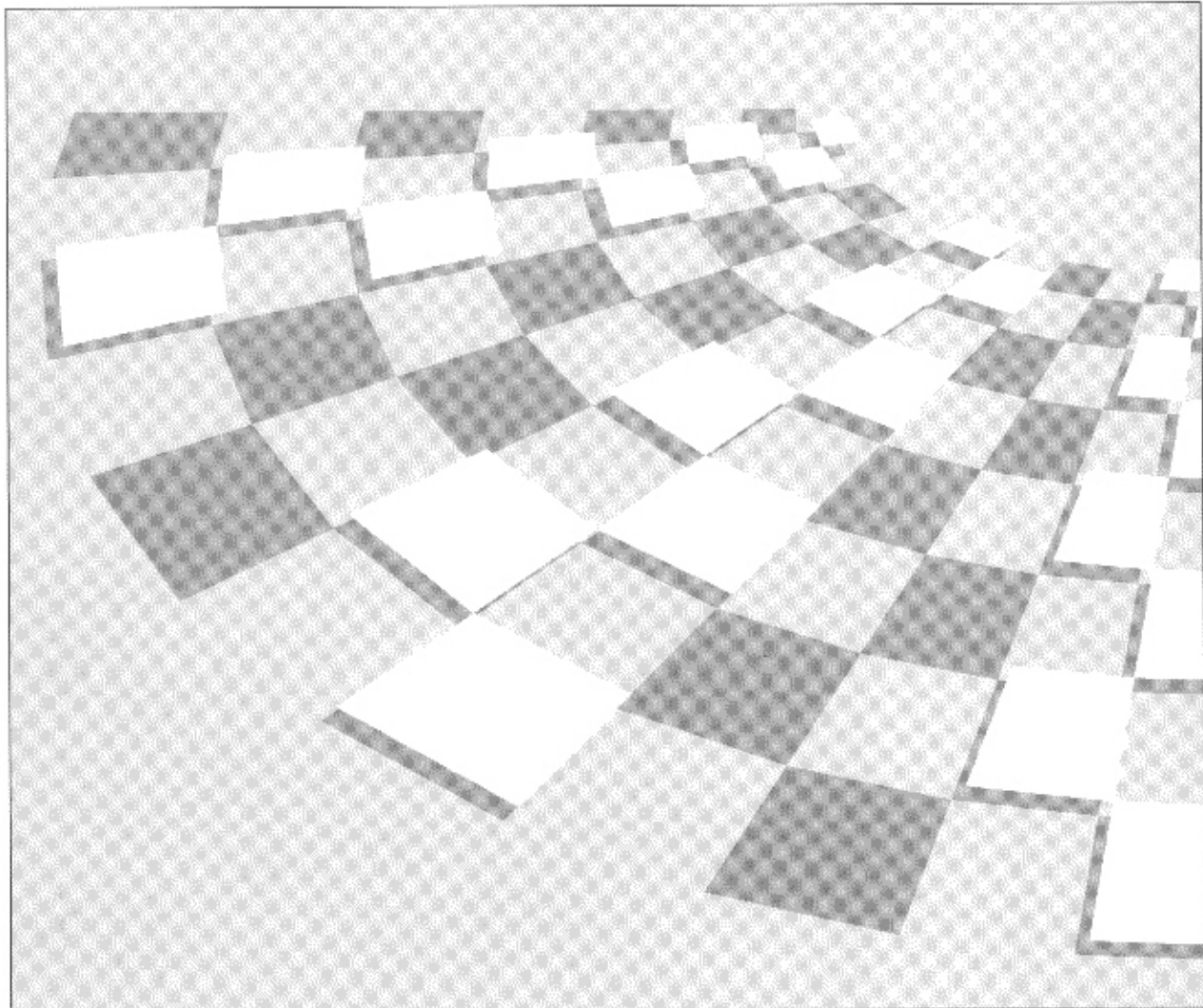


Panasonic

PD/CD-ROM Drive

Operating Instructions

Model **LF-1600A**



Before attempting to connect, operate or adjust this product, please read these instructions completely. Please save this manual.



Dear Customers

May we take this opportunity to thank you for purchasing this Panasonic PD/CD-ROM drive. We strongly suggest that you carefully study the operating instructions before attempting to operate the unit and that you note the listed precautions.

TRADEMARKS, etc.

- Microsoft®, Windows®, MS-DOS® and Windows NT® are registered trademarks of Microsoft Corporation.
- "Photo CD" is a trademark of Eastman Kodak of the United States.
- All other trademarks are property of their respective owners.

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Printed in Japan

Matsushita Electric Industrial Co., Ltd. herewith declares that it will not be liable in any way for any loss of data or any other damage, whether direct or indirect, caused by the operation or malfunctioning of this product. Make back-ups of important data in order to protect it from possible loss.

CAUTION:

Use only the provided AC adaptor (LF-JNS0012) and power cord.
Select the power cord according to this Operating Instructions.

ATTENTION:

Utiliser exclusivement l'adaptateur secteur (LF-JNS0012) et le fil d'alimentation fournis.
Sélectionner le fil d'alimentation conformément au manuel d'utilisation.

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IMPORTANT SAFETY NOTICE

● FEDERAL COMMUNICATIONS COMMISSION (FCC) RADIO FREQUENCY INTERFERENCE STATEMENT

Class B digital 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:

To assure continued FCC emission limit compliance, use only the provided AC Adaptor, the proper power supply cord and the shielded interface cable when connecting this device to the computer. Also, 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.

Responsible Party: Matsushita Electric Corporation of America

One Panasonic Way

Secaucus, NJ. 07094 USA

Telephone No.: 1-800-PANASYS (1-800-726-2797)

(For U.S.A.)

● INDUSTRY CANADA (IC) STATEMENT OF CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATION

Notification:

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

(For Canada)

● INDUSTRIE CANADA (IC) DÉCLARATION DE LA RÉGLEMENTATION CANADIENNE SUR LES APPAREILS PROVOQUANT DU BROUILLAGE

Notification:

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

(Pour le Canada)

IMPORTANT NOTICE CONCERNING POWER CORD SET SELECTION

The power cord set for this drive must be selected according to the countries of destination and must be used to prevent electric shock.

Use the following guidelines if it is necessary to replace the provided (original) power cord set.

For the United States and Canada

- The voltage rating and the current rating of the power cord set must be higher than the rated voltage and current of the drive.
- The voltage rating of the power cord set must be higher than the voltage of the power source.
- Requirements according to the voltage of the power source:

For installations where the input voltage is less than 125 V:

The male plug must be NEMA 1-15P style (Fig. 1) and be UL Listed and CSA Certified.

The female receptacle of the cord must meet IEC 320 Requirements and resemble Fig. 2.

The SVT or SJT type cord must be used.

The SVT or SJT type cord must be the 2-wire type and have the rating of No.18 AWG, 300 V.

The length of the power cord set is about 1.9 m.

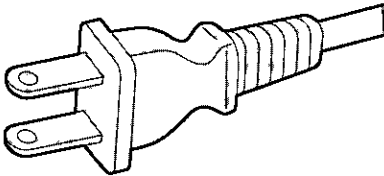


Fig. 1.

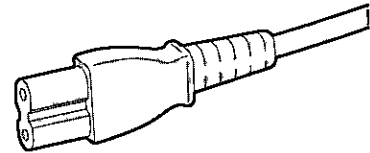


Fig. 2.

For installations where the input voltage is greater than 125 V:

The power cord set (Fig. 3) must meet the requirements of U.S.A. and CANADA and be UL Listed and CSA Certified.

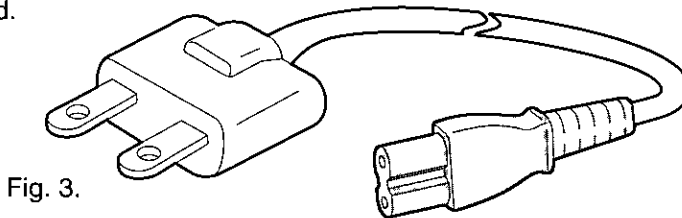


Fig. 3.

The male plug must be NEMA 2-15P style (Fig. 3), be rated for 250 V, 15 A and be UL Listed and CSA Certified.

The female receptacle of the cord must meet IEC 320 Requirements, be rated for 250 V, 2.5 A and resemble Fig. 3.

The SJT type cord must be used.

The SJT type cord must be the 2 wire type and have the rating of No. 18 AWG, 300 V.

The length of the power cord set is about 1.9 m.

REMARQUE IMPORTANTE SUR LA SÉLECTION DU FIL D'ALIMENTATION

Le fil d'alimentation de ce lecteur sera sélectionné en fonction du pays de destination et utilisé de façon à prévenir tout choc électrique.

Si le fil d'alimentation (d'origine) doit être remplacé, suivre les directives ci-dessous.

Pour les Etats-Unis et le Canada

- La tension nominale et le courant nominal du fil d'alimentation seront supérieurs à la tension et au courant nominaux du lecteur.
- La tension nominale du fil d'alimentation sera supérieure à la tension de la source d'alimentation.
- Prescriptions en fonction de la tension de la source d'alimentation:

Pour les installations dans lesquelles la tension d'entrée est inférieure à 125 V:

La fiche mâle sera de type NEMA 1-15P (Fig. 1) et listée UL et certifiée CSA.

La fiche femelle du fil respectera les prescriptions CEI 320 et ressemblera à la Fig. 2.

Il faudra utiliser un fil de type SVT ou SJT.

Le fil de type SVT ou SJT sera à 2 fils et aura une capacité nominale de 18 AWG, 300 V.

La longueur du fil sera d'environ 1,9 m.

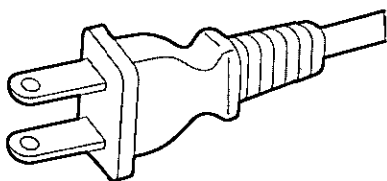


Fig. 1.

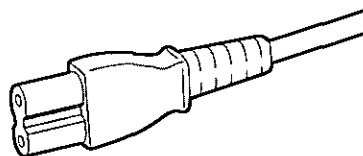


Fig. 2.

Pour les installations dans lesquelles la tension d'entrée est supérieure à 125 V:

Le fil d'alimentation (Fig. 3) respectera les prescriptions des Etats-Unis et du CANADA et sera listée UL et certifiée CSA.

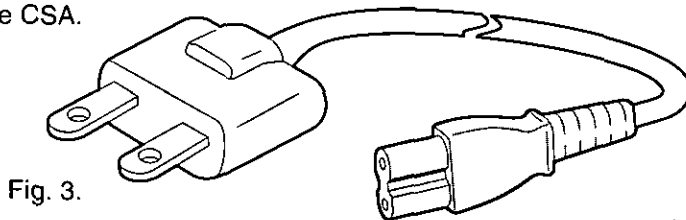


Fig. 3.

La fiche mâle sera de type NEMA 2-15P (Fig. 3), d'une capacité nominale de 250 V, 15 A et listée UL et certifiée CSA.

La fiche femelle du fil respectera les prescriptions CEI 320, elle aura une capacité nominale de 250 V, 2,5 A et elle ressemblera à la Fig. 3.

Il faudra utiliser un fil de type SJT.

Le fil de type SJT sera à 2 fils et aura un calibre No. 18 AWG, 300 V.

La longueur du fil sera d'environ 1,9 m.

LASER PRODUCT

Class I LASER Product

- This equipment is certified to comply with DHHS Rule 21 CFR Chapter I, Subchapter J in effect as of date of manufacture. (For U.S.A.)

This equipment is classified as a Class I LASER Product and there is no hazardous LASER radiation with the safety protection.

Caution:

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

- When the power switch is ON, Do not force the lid open! Do not insert your fingers! Do not look inside the unit!

LASER Specification

Class I LASER Product

Wave Length: 775–820 nm

Laser Power: No hazardous radiation is emitted with the safety protection.

PRODUIT LASER

Produit LASER de Classe I

- Cet appareil est certifié conforme à l'ordonnance DHHS 21 CFR, Chapitre I, Sous-chapitre J en vigueur à la date de fabrication. (Pour les E-U)

Cet appareil est classé comme produit LASER de classe I et il n'émet pas de rayonnement LASER dangereux avec la protection de sécurité.

Attention:

L'utilisation de commandes ou les réglages ou l'exécution de procédures autres que ceux spécifiés ci-après peuvent entraîner un risque d'exposition à un rayonnement dangereux.

- Quand l'appareil est en contact, ne pas ouvrir le couvercle de force ! Ne pas insérer les doigts ! Ne pas regarder à l'intérieur de l'appareil !

Spécification LASER

Produit LASER de classe I

Longueur d'onde: 775–820 nm

Puissance du laser: Aucun rayonnement dangereux n'est émis avec la protection de sécurité.

LABELS

The following labels are used in this product.

ETIQUETTE

L'étiquette suivante est utilisée dans cet appareil.

Panasonic

MODEL NO. LF-1600A

9V

1.3 A LISTED UL 1950
8822 E140407

MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.
KADOMA, OSAKA, JAPAN **MADE IN JAPAN**

MANUFACTURED

SERIAL NO.

THIS PRODUCT COMPLIES WITH DHHS RULES 21 CFR
CHAPTER I, SUBCHAPTER J. 130KOJ

FC TESTED TO COMPLY
WITH FCC STANDARDS

FOR HOME OR OFFICE USE

THIS CLASS B DIGITAL APPARATUS MEETS ALL REQUIREMENTS OF THE CANADIAN INTERFERENCE-CAUSING EQUIPMENT REGULATIONS.

CET APPAREIL NUMÉRIQUE DE LA CLASSE B RESPECTE TOUTES LES EXIGENCES DU RÈGLEMENT SUR LE MATÉRIEL BROUILLEUR DU CANADA.

SET UP PROCEDURE

1. SHUT OFF THE SYSTEM OF COMPUTER PROPERLY.
2. TURN ON THE POWER OF THIS UNIT.
3. REMOVE THE DISC, IF DISC IS INSIDE.
4. PRESS THE (■) BUTTON.
5. SELECT THE ITEMS (F1-F4) BY PRESSING THE (▶/||) BUTTON.
6. SELECT THE CONTENTS BY PRESSING THE (▶▶) BUTTON.
7. RETURN TO NO. 5, IF YOU SELECT THE OTHER ITEMS.
8. SAVE THE SELECTED CONTENTS BY PRESSING THE (■) BUTTON.

ITEM	CONTENTS
F1	SCSI ID 0 ~ 7
F2	TERMINATOR On/OFF
F3	LUN On : Macintosh OFF: WINDOWS
F4	CD-ROM SPEED Hi: HIGH Lo: LOW

JBM0961

(On bottom panel)

(Sur le panneau inférieur)

DANGER	INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
ATTENTION	RAYONNEMENT LASER INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.
注 意	ここを開くと不可視レーザー光が出ます。 ビームを直接見たり、触れたりしないでください。

(Inside of product)

(Intérieur du produit)

IMPORTANT NOTICE CONCERNING INSTALLATION

Warning: For SETTING of PLUGGABLE EQUIPMENT—The socket-outlet must be near this equipment and must be easily accessible.

Caution:

When the unit is not going to be used for a long time

To conserve power, turn off the main unit's power (standby/on) switch, and disconnect the power plug from the mains outlet.

(Even when the main unit's power switch is turned off, power equivalent to about 0.6 W will be consumed unless the power plug is disconnected.)

DISK DISPOSAL

Caution:

This Optical Disk contains tellurium which may be considered hazardous. Check and follow your local regulations before Disposal.

IMPORTANT NOTICE

FOR USER IN U.S.A.

Included with this booklet is a questionnaire which requests important information required by the U.S. Center for Devices and Radiological Health.

It should be filled out by the end-user/purchaser of this equipment—not the reseller.

If you are the end-user and this questionnaire card is missing, please call Panasonic at 1-800-PANASYS and another will be promptly mailed to you.

Please also call 1-800-PANASYS (1-800-726-2797), if you require technical support. This technical support hotline is available 9 a.m. to 7 p.m. EST, normal business days.

REMARQUE IMPORTANTE CONCERNANT L'INSTALLATION

Avertissement: Pour l'INSTALLATION d'un APPAREIL ENFICHABLE—La prise secteur devra se trouver près de l'appareil et être facilement accessible.

Attention:

Si l'appareil ne doit pas fonctionner pendant longtemps

Pour économiser l'énergie, mettre l'interrupteur d'alimentation de l'appareil principal (standby/on) hors contact et débrancher la fiche d'alimentation de la prise secteur. (Même si l'interrupteur d'alimentation de l'appareil principal est hors contact, l'appareil continue de consommer une puissance équivalente à 0,6 W environ tant que la fiche d'alimentation n'est pas débranchée.)

MISE AU REBUT DES DISQUES

Attention:

Les disques optiques renferment du tellurium qui peut être considéré comme dangereux. Vérifier la réglementation locale avant de mettre les disques au rebut et s'y conformer.

SAFETY PRECAUTIONS

- Do NOT disassemble, remodel or reconstruct this unit or its AC adaptor. (Do not remove the main unit's covers, for example.)
- Do not touch the power cord or the AC adaptor or metal objects of the main unit during a thunderstorm.
- Do not use the unit above the established ratings of the mains outlet and power distributor or supply an AC voltage outside the 100–240V range.
- Do not do anything that may damage the AC adaptor, the power cord or the power plug.
- Do not scratch the AC adaptor, the power cord, or the power plug, mark it, rework it, place it in proximity to a heating appliance, forcibly bend it, twist it, pull it, place heavy objects on top of it, bunch it together with other wires or units or cover it with the cloth, and so on.
- Do not connect or disconnect the power plug when your hands are wet.
- Insert the power plug securely until its prongs are completely housed inside the outlet.
- Remove dust, dirt, etc. on the power plug at regular intervals.
- Do not place containers with liquids or metal objects on or near the unit.
- Do not spray the unit with water or allow it to get wet.
- Do not insert metal or inflammable objects inside the unit.
- If a liquid or foreign object has found its way inside, turn off the power and disconnect the power plug.
- If smoke, malodors or noises are emitted from the unit, turn off the power and disconnect the power plug.
- If the unit has been dropped or otherwise damaged, turn off the power and disconnect the power plug.
- When the power cord has been damaged (when its conductors are exposed, etc.), stop using the unit and disconnect the power plug.
- Do not force the lid open! Do not insert your fingers! Do not look inside the unit!
- When closing the lid, take care not to catch your fingers.
- When using headphones, do not turn up the volume too high.
- Do not use cracked or warped discs.
- Do not place the unit where it will be exposed to direct sunlight or where the temperature will become abnormally high.
- Do not place the unit where it is extremely dusty or where the level of moisture from a humidifier, etc. is high.
- Do not place the unit where it will be susceptible to vibration or impact or where the surface is tilted.
- Do not place heavy objects on top of the unit or place it in a poorly ventilated location.
- Use only the provided AC adaptor.
- Do not move the unit or pick it up while a disc is rotating inside.
- Do not open the lid with the emergency eject switch while a disc is rotating inside.

CONSIGNES DE SÉCURITÉ

- NE PAS démonter, modifier ni reconstruire l'appareil ni son adaptateur secteur. (Par exemple, ne pas retirer les couvercles de l'appareil principal.)
- Ne pas toucher le fil d'alimentation, l'adaptateur secteur ni les pièces métalliques de l'appareil principal pendant un orage.
- Ne pas utiliser l'appareil en dehors des spécifications du courant secteur et du distributeur d'alimentation ni l'alimenter à une tension c.a. située en dehors de la plage de 100–240 V.
- Ne rien faire qui puisse endommager l'adaptateur secteur, le fil d'alimentation ou la fiche d'alimentation.
- Ne pas rayer l'appareil secteur, le fil d'alimentation, ou la fiche d'alimentation, y faire des marques, le modifier, le placer à proximité d'un appareil de chauffage, le plier de force, le tordre, tirer dessus, poser d'objets lourds dessus, le lier en faisceau avec d'autres fils ou d'autres appareils et le couvrir avec du tissu, etc.
- Ne pas brancher ou débrancher la fiche d'alimentation avec des mains mouillées.
- Insérer la fiche d'alimentation à fond jusqu'à ce que ses broches soient complètement rentrées dans la prise secteur.
- Enlever la poussière, la saleté, etc. de la fiche d'alimentation à intervalles réguliers.
- Ne pas poser de récipients contenant des liquides ni d'objets métalliques sur ou près de l'appareil.
- Ne pas asperger l'appareil d'eau ni le mouiller.
- Ne pas insérer d'objets métalliques ou inflammables à l'intérieur de l'appareil.
- Si du liquide ou un corps étranger pénètrent à l'intérieur, couper le contact et débrancher la fiche d'alimentation.
- Si l'appareil dégage de la fumée, des mauvaises odeurs ou du bruit, couper le contact et débrancher la fiche d'alimentation.
- Si l'appareil est tombé ou qu'il a été endommagé, couper le contact et débrancher la fiche d'alimentation.
- Si le fil d'alimentation est endommagé (si les conducteurs sont dénudés, etc.), cesser d'utiliser l'appareil et débrancher la fiche d'alimentation.
- Ne pas ouvrir le couvercle de force ! Ne pas insérer les doigts ! Ne pas regarder à l'intérieur de l'appareil !
- Lors de la fermeture du couvercle, faire attention de ne pas se coincer les doigts.
- Lors de l'utilisation d'un casque, ne pas régler le volume trop fort.
- Ne pas utiliser de disques fendus ni gondolés.
- Ne pas mettre l'appareil dans un endroit en plein soleil et où la température peut devenir anormalement élevée.
- Ne pas mettre l'appareil dans un endroit très poussiéreux et où l'humidité (d'un humidificateur par exemple) est élevée.
- Ne pas mettre l'appareil dans un endroit soumis à des vibrations ou des chocs ou dont la surface est inclinée.
- Ne pas poser d'objets lourds sur l'appareil et ne pas l'installer dans un endroit mal aéré.
- Utiliser exclusivement l'adaptateur secteur fourni.
- Ne pas déplacer l'appareil ni l'attraper quand il y a un disque qui tourne à l'intérieur.
- Ne pas ouvrir le couvercle avec la touche d'éjection de secours quand il y a un disque qui tourne à l'intérieur.

OPERATING PRECAUTIONS

■ The unit handling

When installing the unit

- Avoid shelves and other high locations.

When operating the unit

- Do not touch the unit or its cable connector area. (Doing so may cause malfunctioning.)
- Do not touch the lens inside the unit. (The sound may jump and/or the data reading/writing functions may be disabled.)
- Do not bring magnets or magnetic objects near the unit. (Operation may become unstable due to the effects of the magnetism.)
- Do not use the unit when condensation has formed in or on it. [When the unit is suddenly taken from a cold place to a warm location, droplets of water (condensation) will form, causing mis-operation and malfunctioning. In such cases, remove the CD and leave the unit standing for about an hour before proceeding with operation.]
- Do not expose the unit to the sprays from volatile insecticides, etc. (Doing so may deform the external cabinet or cause the paint to peel off.)
- If the unit is used near a radio or TV set and it causes interference with reception, place it at least 2 meters away from the set or use a main outlet which does not share power with the set.

When moving or transporting the unit

- When moving the unit, remove the disc if one is inside, and disconnect the AC adaptor and other cords.
- When transporting the unit for relocation, place the unit in its original packing carton.
- Do not drop the unit or bump it into objects when moving or transporting it.

When the unit is not going to be used for a long time

To conserve power, turn off the main unit's power (standby/on) switch, and disconnect the power plug from the mains outlet. (Even when the main unit's power switch is turned off, power equivalent to about 0.6 W will be consumed unless the power plug is disconnected.)

■ Maintenance

Maintaining the unit's panel surfaces

- Turn off the power and disconnect the power plug from the mains outlet.
- Gently wipe off the dirt using a soft dry cloth.
- To remove stubborn dirt, soak the cloth in some diluted kitchen neutral detergent, wring it out well, and then wipe clean.
- Observe any applicable precautions when using chemical cleaning cloths.
- Do not use benzine, paint thinners or other solvents.

Maintaining the lens and discs

- When this unit has been used for a long period of time, dust may accumulate on its lens, the PD cartridges, CDs and CD-ROMs so that normal operation (read/write, play) will no longer be possible. Although the maintenance period will differ depending on the operating environment and conditions, Panasonic recommends that you use the optional cleaner to maintain the unit once every one to four months.

To maintain the unit's lens:

- Obtain the PD lens cleaner (model number: LF-K123LCA).

To maintain the PD cartridges, CDs and CD-ROMs:

- Obtain the PD/CD disk cleaner (model number: LF-K022DC).

■ Discs supported by the unit

All the discs listed below can be used with the unit. (Special play software is required to play CDs and CD-ROMs.)

PD cartridges, CD-ROM, Music CD, Video CD, Photo CD multi-session, and CD-EXTRA

Make absolutely sure that all PD cartridge to be used with the unit bear this mark.



Features

■ Can be taken anywhere

This is a slim-line, light-weight and compact unit with dimensions of 5¹¹/₁₆" (W) × 1⁷/₁₆" (H) × 8⁵/₈" (D) and a weight of approximately 1.94 lbs. It can easily fit inside an briefcase.

■ Large-capacity recording

Each PD cartridge permits large-capacity recording of approximately 650 MB. This is equivalent to about 450 2HD-formatted floppy disks.

■ Up to 20 times speed playback

CD-ROM data is transferred at up to 20 times the normal speed.

■ Compatible with different types of personal computers

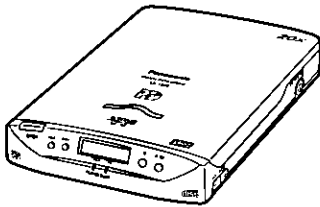
- IBM PC/AT or compatible

■ Supported by different operating systems

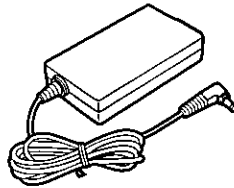
- Windows 95
- Windows NT 3.51 or 4.0

Kit Contents

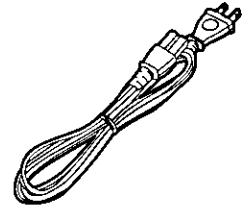
Before using your PD/CD-ROM drive, check that the items shown below were packed with the unit. If any of these items are missing or defective, please contact the dealer from whom you purchased the drive.



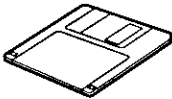
PD/CD-ROM drive (main unit LF-1600A)



AC adaptor (LF-JNS0012)



Power cord



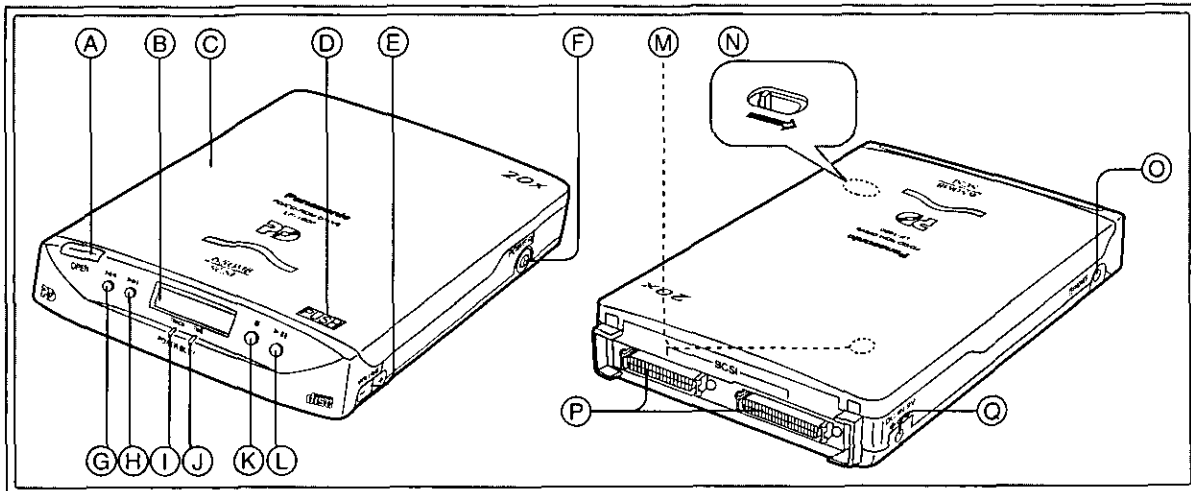
3.5 inch floppy disks (1)

- PD Agent disk
PD Agent for Windows® 95/PD TOOLS for Windows NT®

Operating Instructions (3)

- Operating Instructions (this book)
- Device Driver Installation Guide for Windows 95 and Windows NT
- PD Agent Instruction Manual

Warranty card (for U.S.A.)



Parts and Their Functions

Front panel/Right side panel

- (A) OPEN (lid open) button**
The lid opens slightly when this button is pressed while the unit's power is on. (See pages 20, 21 and 23.)
 - (B) LCD display** (See page 15.)
 - (C) Lid**
 - (D) PUSH area**
Push down here to close the lid.
 - (E) VOLUME (headphones volume) control**
Use this to adjust the headphones volume.
+: To raise the volume. -: To lower the volume.
(See page 24.)
 - (F) POWER (standby/on) switch**
Press this to turn the unit's power on. When it is pressed again for 1 second or longer, the power is turned off. (See pages 20, 21 and 23.)
 - (G) Backward skip/search button (◀◀)**
Tap this button once to locate tracks on a music CD (in the backward direction). Hold it down for rapid review. (See page 24.)
 - (H) Forward skip/search button (▶▶)**
Tap this button once to locate tracks on a music CD (in the forward direction). Hold it down for rapid advance. (See page 24.)
 - (I) POWER lamp**
This lights up green while the power is on.
 - (J) BUSY lamp**
This lights up green while PD cartridge data is being read or written. It flashes green while CD or CD-ROM data is being read.
 - (K) Stop button (■)**
Press this to stop playing a music CD.
(See page 24.)
 - (L) Play/pause button (▶/||)**
Press this to play a music CD. When it is pressed during play, the play is temporarily stopped (pause).
(See page 24.)
- You also use the stop, play/pause and skip/search buttons when setting SCSI ID and/or terminator.
(See pages 16 and 17.)

Rear panel/Left side panel

- (M) Pick-up detection switch (on bottom panel)**
When the unit is picked up during CD-ROM play, this switch detects this action, and it automatically switches the disc speed mode from high to low in order to safeguard the CD-ROM from damage. (See page 17.)
(When the unit is put down again, the high-speed mode is restored.)
- (N) Emergency eject switch (on bottom panel)**
If the lid will not open, first be sure to switch off the unit's power, and then use the end of a paper clip, etc. to slide this switch in the direction of the arrow.
Do not operate this switch under normal circumstances as doing so may cause malfunctioning.
- (O) PHONES jack**
Connect headphones or speakers with a built-in amplifier, available as an optional accessory, to this jack. (See page 19.)
- (P) SCSI connector (SCSI)**
Connect SCSI cable (half-pitch 50-pin, pin type, not provided) to this connector. (See page 19.)
- (Q) DC IN 9V socket**
Connect the provided AC adaptor to this socket.
(See page 19.)

LCD display

When the lid is open

OPEN

When the unit has recognized a PD cartridge

PD

When the unit has recognized a CD or CD-ROM

CD HI

or *1

CD LO

In about 10 seconds ↓

↑ *2

When the unit has recognized a music CD or other CD which contains audio tracks

<Example>

12 59:17

Total number of tracks Total recording time

When the unit has recognized that it has been connected to a personal computer

CD -PC-

When a music CD is being played *3

<Example>

1 0:05

Number of track now playing Elapsed play time
(flashes in the pause mode)

When a music CD track is skipped *3

<Example>

2

Track number

When the headphones volume has been adjusted *4

<Example>

15 - - - -

Goes off after
1 second

When the power switch has been set to the OFF position

OFF

Goes off after flashing

*1: The display changes in accordance with the CD-ROM speed setting.

*2: With a CD-ROM containing the audio tracks of a music CD, the display changes according to the part which is being played.

*3: This display appears only when a music CD or other CD which contains audio tracks is playing.

*4: The volume can be adjusted only when a CD or CD-ROM has been installed or when no disc has been installed. (It cannot be adjusted when a PD cartridge has been inserted.)

Mode Setting Before Use

The SCSI ID, terminator and LUN settings must be configured before the unit is used. Furthermore, since the CD-ROM speed can be changed, it should be set as required. In any case, the operating procedure is the same.

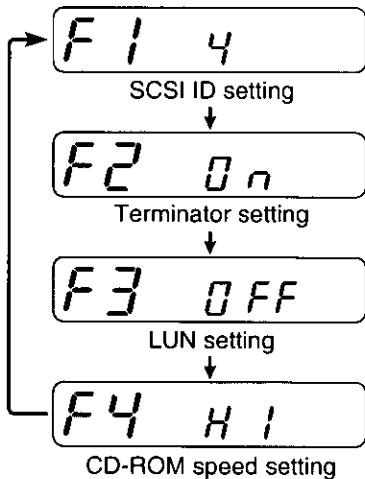
Preparations:

- Connect the AC adapter, and turn on the power. (See page 19.)
- Remove the PD cartridge, CD or CD-ROM if one has been installed on the tray. (See pages 20, 21 and 23.)

- 1** Press the stop button (■) (for about 5 seconds) until what is shown below appears on the LCD display.

F 1 4

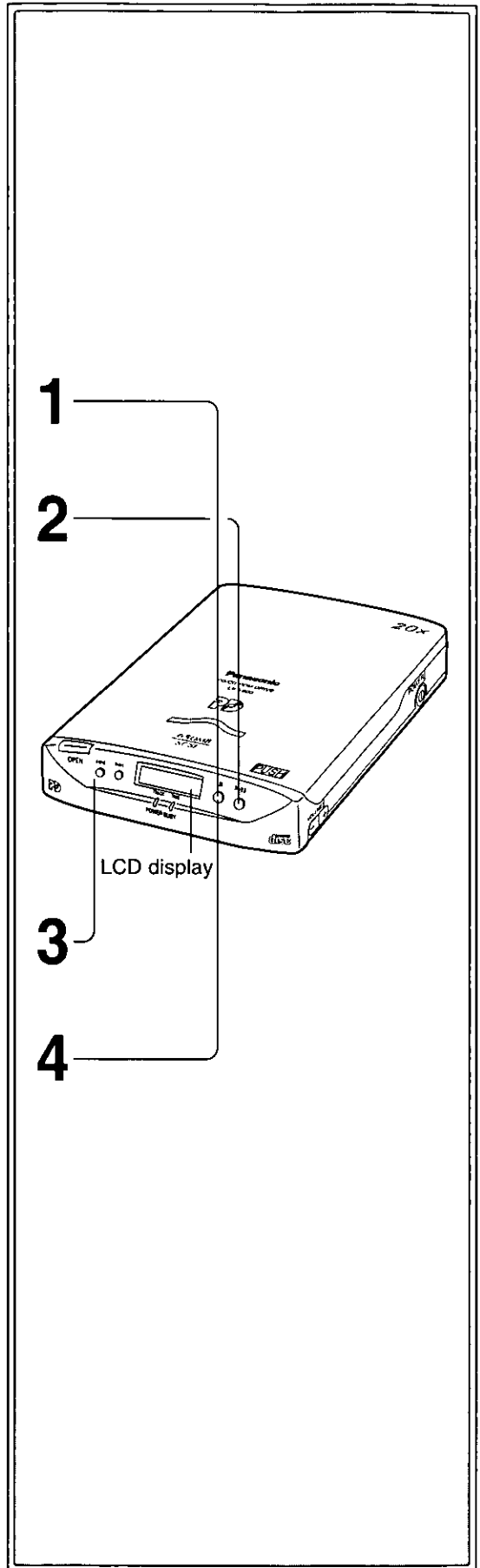
- 2** Press the play/pause button (▶/||) to select the mode which is to be set.
- Each time the button is pressed, the item indicated on the LCD display (F1–F4) changes.



- 3** Press the skip/search button (◀◀ or ▶▶) to select the value which is to be set.
- Each time the button is pressed, what is indicated on the LCD display changes. For further details on the settings, refer to page 17.
- 4** Press the stop button (■) until what is indicated on the LCD display is cleared. (The value which has been set is now entered.)

To set the mode again:

Proceed to exit normally from the personal computer's system, and proceed with steps 1 through 4 above. The personal computer's operation may become unstable if the mode is set with the system already started up.



Description of modes

F1 SCSI ID setting (factory setting: "4")

The SCSI ID is an identification number used in order for the personal computer to differentiate between the SCSI devices (including SCSI interface boards). Set these IDs in such a way that one ID does not identify more than one SCSI device.

Select a number from "0" to "7".

<Example>

F 1 5

For your reference:

Generally, the SCSI IDs for the SCSI devices are set as follows: "0" for the hard disk drive, "3" for the CD-ROM drive, and "7" for the SCSI interface board.

After referring to the accompanying instructions, set an ID for each peripheral device which is not already assigned to this drive.

F2 Terminator setting (factory setting: "On")

A terminator refers to a terminating resistance. It must be set properly when a SCSI device (including this unit) has been connected to the personal computer.

•When the unit is connected as the termination device

(As in Fig. ③ on page 18, for instance)

Select "On".

F 2 On

•When connecting the unit when it does not serve as the termination device

(As in Figs. ④ through ⑥ on page 18, for instance)

Select "OFF".

F 2 OFF

Note:

- Even when the terminator is set to "On" by operating the button on the unit's front panel, this setting will not be established for the terminator if the unit's power is off. The unit's power must be turned on in order to activate the terminator setting.

F3 LUN setting (factory setting: "OFF")

LUN is a function which causes the personal computer to recognize which medium is involved: namely, PD cartridge, CD or CD-ROM. It must be set in accordance with the type of personal computer which has been connected.

- When the unit is connected to an IBM PC/AT or compatible computer
Select "OFF".

F 3 OFF

F4 CD-ROM speed setting (factory setting: "HI")

The CD-ROM speed can be switched between high-speed mode and low-speed mode.

Select "HI" or "Lo".

F 4 HI High-speed mode
(10X-20X normal speed)



F 4 Lo Low-speed mode
(4X-10X normal speed)

For your reference:

- Use the low-speed mode when the unit's vibration or rotational noise is considered to be high during CD-ROM play.
- "F4 CD-ROM speed" can be set also while the personal computer is operating.

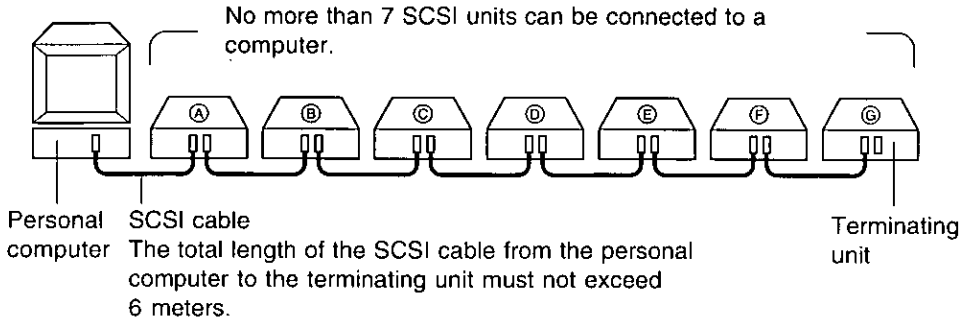
Connections

Concerning SCSI connections

This drive conforms to the SCSI-2 standard.

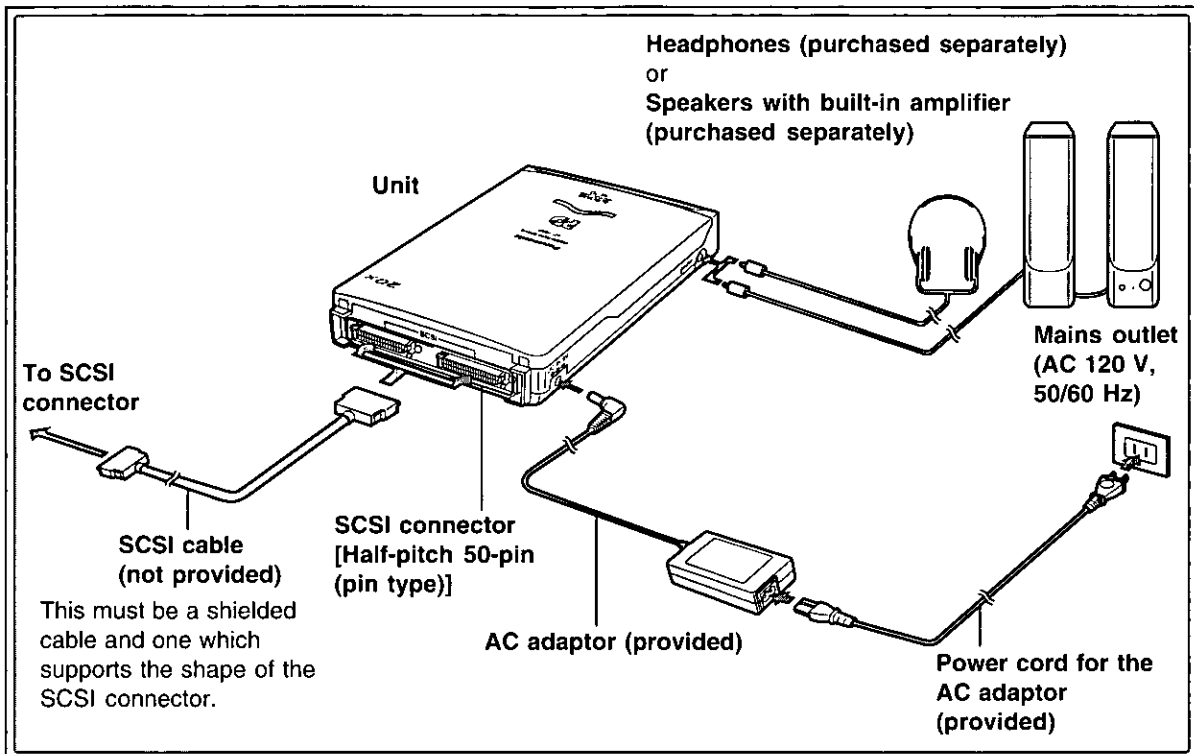
A SCSI host adaptor is therefore required to connect the drive with a personal computer.

<Example of SCSI connection>



Note:

- Do not connect an external terminator to the SCSI connector when the terminator has been set to "On" (see pages 16 and 17). This will result in a double termination, causing malfunctioning and trouble.
- Obtain a SCSI host adaptor separately (from a computer store) if one is not contained inside the personal computer being used.
- For details on the maximum number of devices which can be connected to the SCSI host adaptor and the maximum length of the SCSI cable, refer to the instructions accompanying the computer and SCSI interface board (card).



Note:

When taking the unit on trips overseas

Since the AC adaptor provided with the unit supports supply voltages ranging from 100 V to 240 V, the unit can be used at overseas destinations. However, the proper conversion plug for the areas concerned must be provided. (In the U.S.A., use the unit at the AC 120 V supply voltage setting.)

Concerning servicing overseas

The warranty is valid in the U.S.A. only. The manufacturer regrets that it is unable to provide after-sales servicing overseas in the event the unit should break down outside the U.S.A.

■ Installing the driver software program

Refer to the Device Driver Installation Guide accompanying the unit, and install the driver software program supporting the operating system used by the personal computer. If Windows 95 or Windows NT is used, the unit can be used without having to install a driver software program.

Operation (for PD Cartridge)

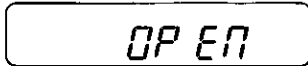
1 Press the power switch to turn on the unit's power.

(The POWER lamp lights up green.)

- Turn on the computer's power last of all.

2 Press the OPEN button to open the lid.

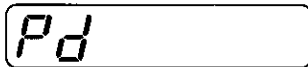
- The lid now opens slightly. Take hold of both sides of the lid and open it wider.



3 Insert the PD cartridge into the tray while ensuring that the space for an adhesive label is facing up.

- Insert the PD cartridge into the tray in the direction of the arrow as far as it will go.

4 Press the PUSH area to close the lid.



5 Operate the computer and read or write the PD cartridge data.

When using a PD cartridge for the first time

As with a floppy disk or hard disk, the PD cartridge must be initialized (formatted).

For details on the initialization method, refer to the chapter on formatting PD cartridges in the Device Driver Installation Guide accompanying the unit.

When reading or writing the PD cartridge data

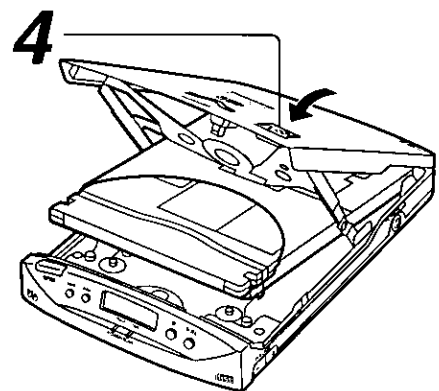
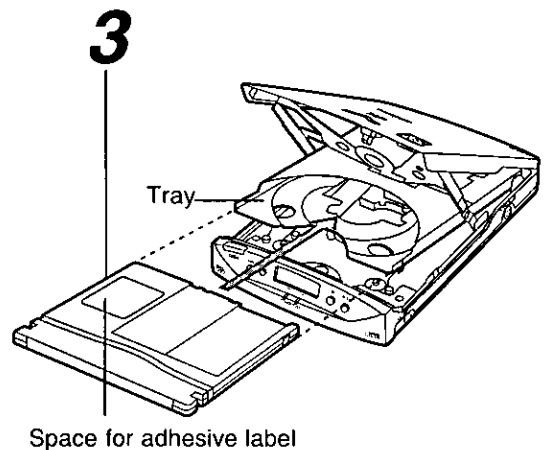
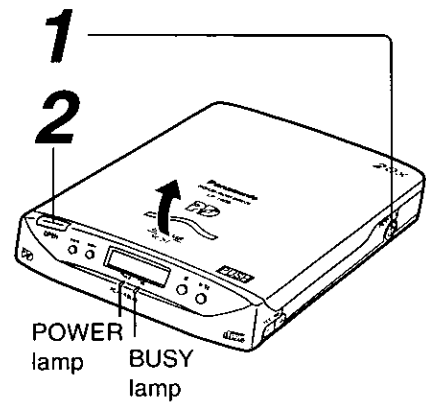
Refer to the instructions of operating systems installed in your computer.

Note:

- Do not turn off the power or remove a PD cartridge while the BUSY lamp is lighted. You may destroy the data or prevent it from being saved properly.
- Do not insert a PD cartridge into and install a CD or CD-ROM on the tray at the same time. The CD or CD-ROM will be scratched or the main unit may be damaged in the process if you do so.

Optional Accessories

- PD cartridge
(model number: LM-R650A)



Operation (for CDs or CD-ROMs)

1 Press the power switch to turn on the unit's power.

(The POWER lamp lights up green.)

- Turn on the computer's power last of all.

2 Press the OPEN button to open the lid.

- The lid now opens slightly. Take hold of both sides of the lid and open it wider.



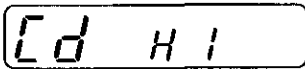
3 Install the CD or CD-ROM on the tray while ensuring that the printed label side is facing up.

- Align the CD with the guide corresponding to the size of the disc used.

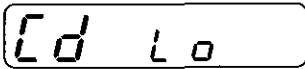
Note:

- Install the CD or CD-ROM so that it is fixed in position. (Otherwise, the CD or CD-ROM may shift out of place and become scratched in the process.)
- When installing the CD or CD-ROM, take care to avoid bringing it into contact with the guides and scratching it.

4 Press the PUSH area to close the lid.

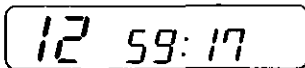


or



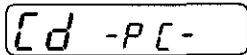
With a CD containing audio tracks in about 10 seconds

<Example>

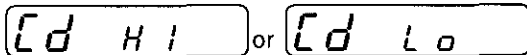


5 Operate the computer and play the CD or CD-ROM.

Music CD

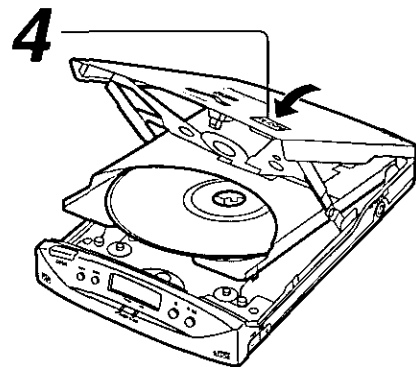
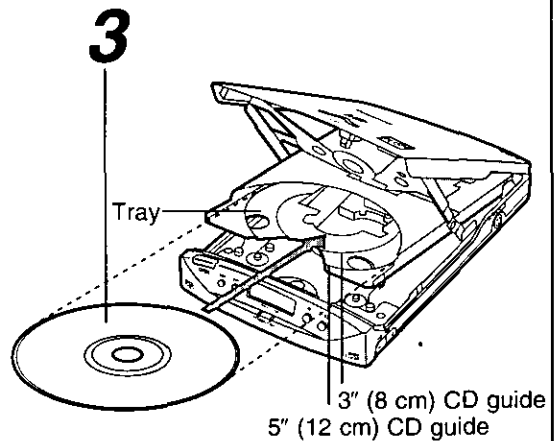
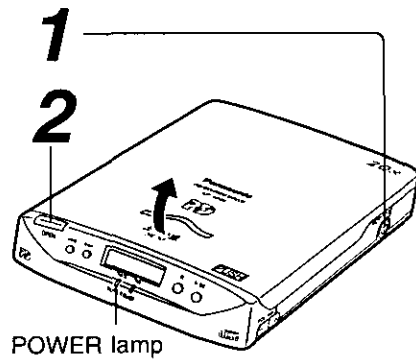


CD-ROM



Note:

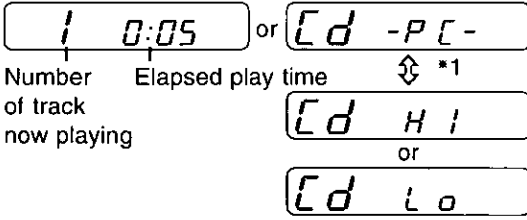
- Do not subject the unit to vibration while the CD or CD-ROM is starting up or playing. (The CD or CD-ROM may be scratched in the process.)
- You cannot listen to the sound from your computer when a music CD is played. Connect the headphones or speakers with a built-in amplifier (purchased separately) to the PHONES jack. (See page 19.)



For your reference:

- A CD containing audio tracks can be played using the unit's control buttons (play/pause, stop and skip/search).
- In this case, the unit's LCD display will change as shown below depending on the type of CD play software.

<Example>



*1: With a CD-ROM containing the audio tracks of a music CD, the display changes according to the part which is being played.

- If you pick up the unit while a CD-ROM is playing, the pick-up detection switch on the unit's bottom panel detects this, and the disc speed is switched from high to low-speed mode.

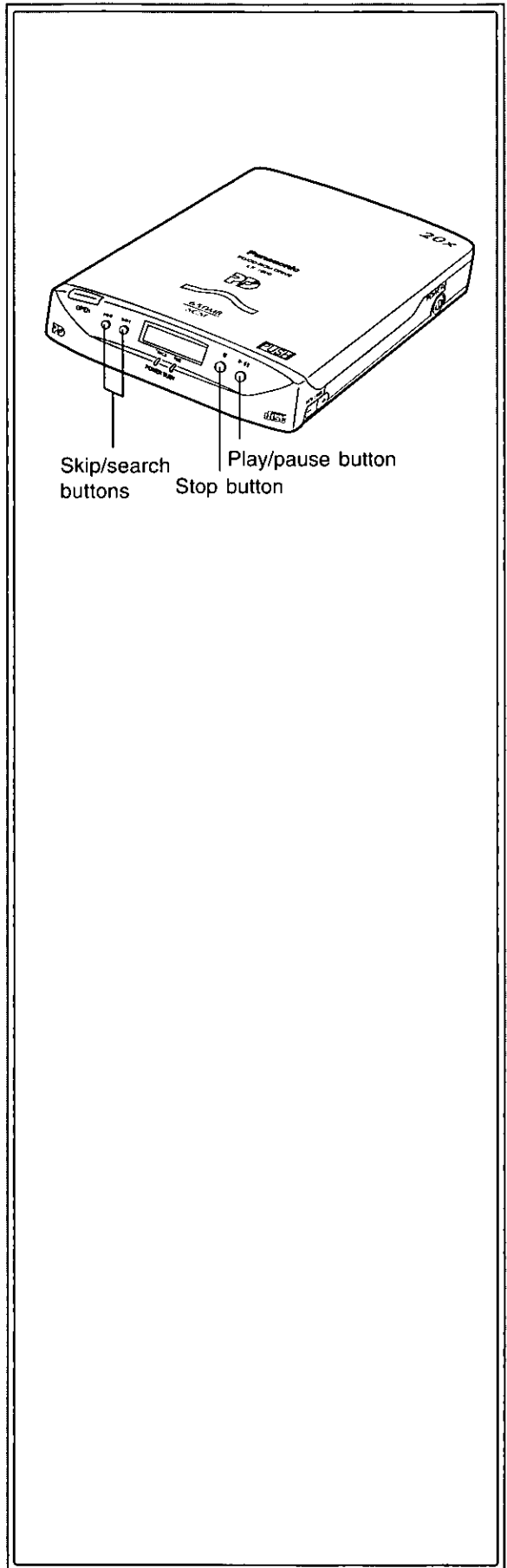
Concerning the PD Agent floppy disk provided (Supported Windows 95)

■ PD Agent (utility software)

The following functions are supplied by the utility software in order to make the unit easier to operate.

1. PD auto execution
When a PD cartridge is inserted, this function automatically executes the application contained on the PD cartridge.
2. PD player
This supplies play and capture functions for music CDs.

For further details, refer to PD Agent Instruction Manual.



Music CD Play Using the Unit by Itself

You can play music CDs and CDs containing audio tracks (any CD whose track numbers and play times appear on the LCD display) without connecting the unit to a computer.

Preparations

Connect headphones or speakers with built-in amplifier to the PHONES jack. (See page 19.)

- Plug type: Stereo mini

1 Press the power switch to turn on the unit's power.

(The POWER lamp lights up green.)

2 Press the OPEN button to open the lid.

- The lid now opens slightly. Take hold of both sides of the lid and open it wider.



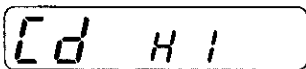
3 Install the CD on the tray while ensuring that the printed label side is facing up.

- Align the CD with the guide corresponding to the size of the disc used.

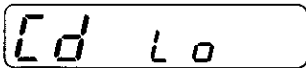
Note:

- Install the CD so that it is fixed in position. (Otherwise, the CD may shift out of place and become scratched in the process.)
- When installing the CD, take care to avoid bringing it into contact with the guides and scratching it.

4 Press the PUSH area to close the lid.

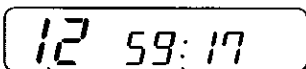


or

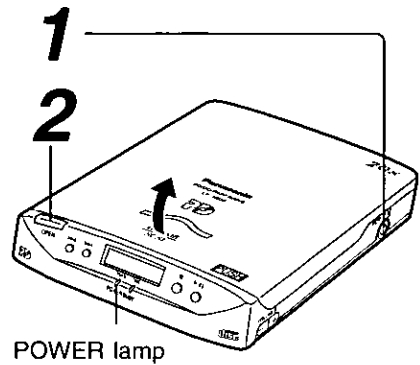


In about 10 seconds

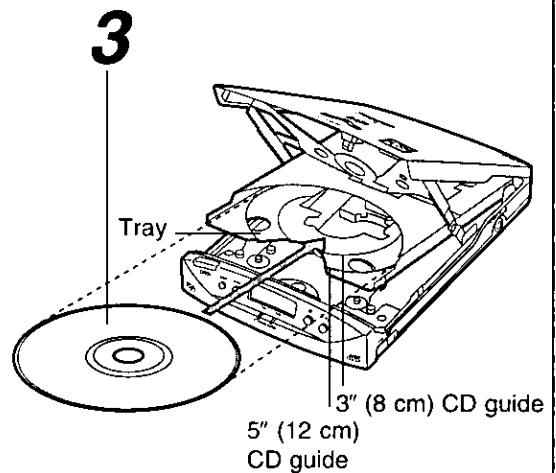
<Example>



Total number of tracks Total recording time



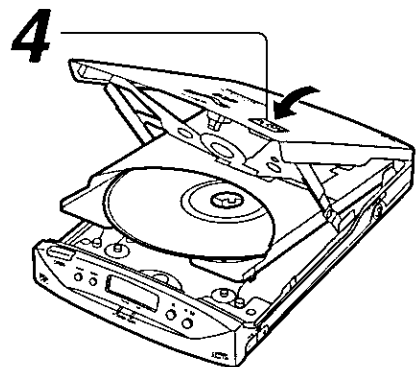
POWER lamp



Tray

3" (8 cm) CD guide

5" (12 cm) CD guide

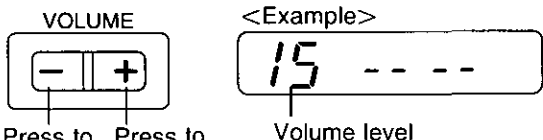


Note:

Before playing the CD, turn down the volume using the headphones VOLUME control first, and then adjust the level.

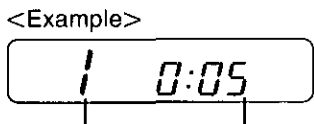
(The volume can be adjusted to any one of 31 steps including "volume 0")

VOLUME control



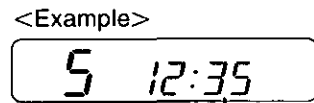
Press to lower the volume
Press to raise the volume

5 Press the play button to start play.



Number of track now playing
Elapsed play time

•When the play button is pressed during play, play is temporarily stopped (pause).




Flashes
(When it is pressed again, play is restored.)


To advance (skip) to the beginning of the next track:

Tap the  button.


To return (skip) to the beginning of the previous track:

Tap the  button twice.
(If the button is tapped once at this point, play returns to the beginning of the track now being played.)

For rapid advance:

Hold down the  button.*1

For rapid reverse:

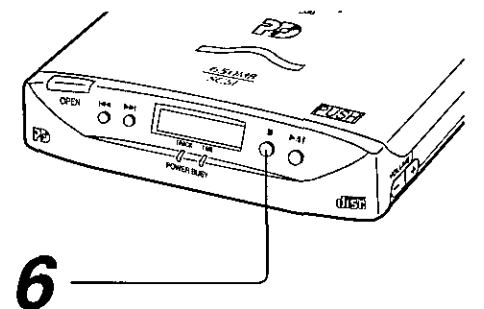
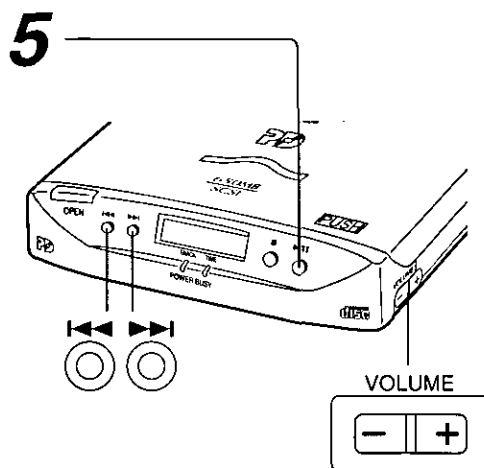
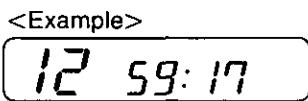
Hold down the  button.*1

*1: The disc speed will be slow for about 3 seconds while the button is held down and then it will speed up.

CAUTION:

- When using your headphones to listen to sound, avoid volume levels which are high enough to hurt your ears.
- Do not move the unit while a CD is playing or use the unit where it will be subject to frequent vibration. (This may scratch the CD or result in jumps in the sound.)

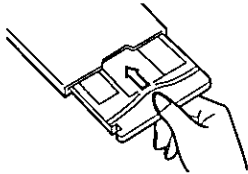
6 Press the stop button to stop play.



PD Cartridge Handling

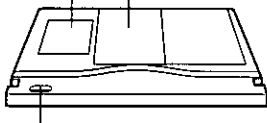
- **Keeping the cartridges in their cases (when they are not being used)**

Remove the cartridge from the unit and store it in its case.



Space for affixing label

Shutter

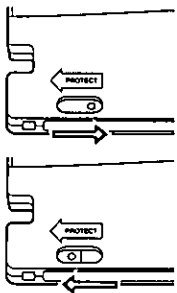


Write protect switch

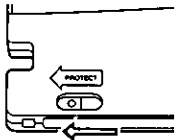
This prevent data from being erased or rewritten in error.

- **Preventing loss of valuable information**

- **To prohibit writing**



Write enable status



Write prohibit status

- **Making backups**

Just as with a hard disk or floppy disk, Panasonic recommends that you make backups (copy the data) at regular intervals.

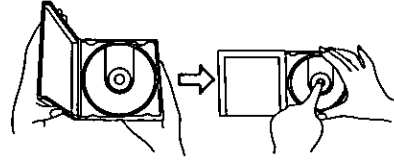
- **To safeguard PD cartridges from damage**

- DO NOT leave in a dirty/dusty location.
- DO NOT leave in direct sunlight, high temperatures or high humidity.
- If condensation has formed on a cartridge because it has suddenly been brought into a warm room, etc., wipe it off using a soft dry cloth.
- DO NOT open the shutter and touch the disk inside.
- DO NOT stack any items on top of the disk.
- DO NOT re-use labels.
- DO NOT incinerate the cartridge. Dispose of the cartridge correctly.

CD and CD-ROM Disc Handling

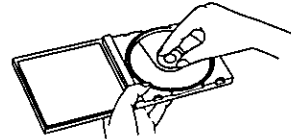
- **To remove a disc from its case**

Press down on the center holder and lift the disc out.



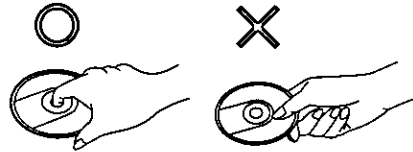
- **To put the disc back in its case**

Press down on the label side so that the disc will go over the center holder.



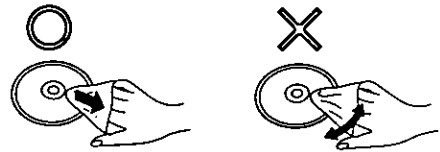
- **When holding a disc**

DO NOT touch the disc surface.



- **If a disc is dirty**

Wipe it with a soft cloth moistened with water and remove any remaining moisture with a dry cloth. Be sure to wipe the disc from its center towards its edge.



- **To safeguard CDs and CD-ROMs from damage**

- DO NOT scratch or mark the disc.
- DO NOT leave in direct sunlight, high temperature or high humidity.
- DO NOT write or stick paper on the front panel.
- DO NOT drop or bend.
- If condensation has formed on a disc because it has suddenly been brought into a warm room, etc., wipe it off using a soft dry cloth.

Troubleshooting

<u>When this occurs</u>	<u>Possible cause</u>	<u>Refer to page</u>
Power fails to come on.	<ul style="list-style-type: none"> ●Did you connect the AC adaptor properly? 	14
Power fails to go off.	<ul style="list-style-type: none"> ●Did you press the power switch for at least 1 second? 	20, 21, 23
Lid fails to close.	<ul style="list-style-type: none"> ●Did you insert the PD cartridge or install the CD or CD-ROM properly? 	20, 21, 23
Lid fails to open.	<ul style="list-style-type: none"> ●Is the power on? ●If using a Macintosh, have you thrown the icon into the trash can. 	20, 21, 23 —
Computer fails to start up.	<ul style="list-style-type: none"> ●Has the drive's SCSI ID been set correctly? ●Has the drive's terminator been set correctly? ●Has a floppy disk been left inside the computer? 	16, 17 16, 17 —
Unit fails to work when an attempt is made to operate it from the computer. Unit is not recognized by the computer.	<ul style="list-style-type: none"> ●Is a SCSI host bus adaptor installed and configured correctly? ●Is the total length of the SCSI cable less than 6 meters? ●Has the drive's terminator been set correctly? ●Did you connect the unit and computer properly? ●Did you install the driver software program properly? ●Is the power on? ●Did you turn on the computer's power after turning on the unit's power? 	— 18 16, 17 18, 19 19 20, 21, 23 20, 21, 23
High level of vibration or rotational noise during CD-ROM play	<ul style="list-style-type: none"> ●In the high-speed mode, the unit's vibration or rotational noise may be high. If this is the case, set the low-speed mode. 	16, 17
No sound from headphones or speakers with built-in amplifier	<ul style="list-style-type: none"> ●Did you set the headphones volume level appropriately? ●Did you connect headphones or speakers properly? 	24 19
No PD cartridge data reading/writing.	<ul style="list-style-type: none"> ●Only the kind of PD cartridges supported by this unit can be used. ●Has the drive's LUN function been set correctly? ●Did you initialize (format) the PD cartridge? ●Did you insert the PD cartridge into the tray properly? ●Did you insert the PD cartridge with the space for an adhesive label facing up? ●Is the disc inside the PD cartridge dirty? ●Has condensation formed inside the unit? 	12 16, 17 20 20 20 12 12
No CD or CD-ROM play.	<ul style="list-style-type: none"> ●Only the kind of CDs or CD-ROMs supported by this unit can be used. ●Has the drive's LUN function been set correctly? ●Did you install the CD or CD-ROM on the tray properly? ●Did you install the CD or CD-ROM with its label side facing up? ●Is the CD or CD-ROM scratched, cracked, warped or dirty? ●Has condensation formed inside the unit? 	12 16, 17 21, 23 21, 23 12, 25 12

Specifications

Power requirements (for provided AC adaptor LF-JNS0012)		AC 100 V–240 V, 50/60 Hz
Power consumption		15.0 W (0.6 W when main unit's power switch is at OFF)
Drive model number		LF-1600A
Interface supported		Fast SCSI-2
Seek time (using Panasonic's measurement method)	PD	82 ms
	CD-ROM (Up to 20 times speed mode)	78 ms
Sustained data transfer rate	PD	518 KB/s–1,141 KB/s
	CD-ROM (Up to 20 times speed mode)	High-speed mode: Approx. 1,500 KB/s–3,000 KB/s
		Low-speed mode: Approx. 600 KB/s–1,500 KB/s
Disk speed	PD	2,026 min ⁻¹ (rpm)
	CD-ROM (Up to 20 times speed mode)	High-speed mode: Approx. 4,000 min ⁻¹ (rpm)–5,000 min ⁻¹ (rpm)
		Low-speed mode: 2,000 min ⁻¹ (rpm) fixed
Disk start/stop time	PD	7 sec/2 sec
	CD-ROM	9 sec/2 sec
Bit error rate (after correction)		Less than 1.0×10^{-12}
Audio output level (headphones)		0.3 Vrms (16Ω)
Buffer capacity		640 KB
Installation direction		Horizontal
Allowable operating temperature range		5°C–35°C (41°F–95°F) (during operation)
Allowable operating humidity range (no condensation)		10% RH–80% RH (during operation)
Dimensions (W×H×D)		5 ¹¹ / ₁₆ "×17 ¹ / ₁₆ "×8 ⁵ / ₈ " (143×35×218 mm) (excluding protrusions)
Weight (main unit)		Approx. 1.94 lbs. (880 g)
SCSI connector types		Half-pitch 50-pin connector (pin type)
Disks supported	PD cartridges	
	CD-DA, CD-ROM XA, Photo CD multi-session, Video CD, CD-EXTRA [80 mm (3"), 120 mm (5")]	

Specifications and external design are subject to change without notice because of product improvements.

FOR USER IN U.S.A.

Technical Support

To answer questions or requests from customers who have bought the Panasonic PD/CD-ROM drive, the following Hotline is available for Panasonic customers. Please do not hesitate to call us.

The Hotline number is 1-800-PANASYS (1-800-726-2797)

This number is available 9 a.m. to 7 p.m. EST, normal business days.

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