

ENGLISH

PHILIPS CD-ROM Drive

User's Manual

**PCA103CD
PCA123CD**

and product names are trademarks and registered trademarks of their respective owners.



Notice 3:

This product complies with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating Electromagnetic Compatibility (89/336/EEC). For the evaluation regarding the electromagnetic compatibility, the following standards were applied:

EN 50 082-1, IEC 801-2, IEC 801-3, IEC 801-4
EN 50 081-1, EN 55 022

CDC Regulatory Statement (Canada)

This digital apparatus does not exceed Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radio-électriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

D.N.S.F1. Regulatory Statement

Class 1 laser product

(EN 60825: 1991)

or

Luokan 1 laserlaite



Klass 1 laser apparat

(EN 60825: 1991)

Additional remarks:

VAROITUS - Laitteen käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyttäjän turyallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

Varning - Om apparaten används på annat sätt än i denna bruksanvisning specificerats, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

According to EN 60825 sub-clause 6, regarding actions to be taken against dangerous radiation including copies of all warning labels and information about the laser components and radiation data such as wavelength, output power and pluse times.



Important Safety Notice

1. Follow all warnings and instructions marked on the product.
2. Danger: Invisible laser radiation when open. Avoid direct exposure to beam.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Slots and openings in the cabinet and the back or bottom are provided for ventilation. To protect it from overheating, these openings must not be blocked or covered. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
5. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
6. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short cut parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

Belangrijke veiligheidsvoorschriften

1. Let op alle waarschuwingen en instructies die op het product staan vermeld.



2. Danger : Cet appareil émet des radiations laser invisibles lorsqu'il est ouvert. Veillez à éviter toute exposition directe aux rayons laser.
3. Débranchez votre ordinateur avant de procéder au nettoyage de l'appareil. N'utilisez pas de produit liquide ou d'aérosol de nettoyage. Utilisez plutôt un chiffon propre et humide.
4. Les fentes et les ouvertures situées sur le capot de l'appareil sont destinées à assurer la ventilation de ses circuits. Pour protéger l'appareil de toute surchauffe, il convient de ne pas obturer ou couvrir ces fentes et ces ouvertures. En outre, il convient de ne jamais placer cet appareil sur ou à proximité d'un radiateur ou d'un accumulateur de chaleur, ou encore dans une installation intégrée, à moins qu'une ventilation adéquate soit assurée.
5. Ce produit ne doit fonctionner qu'avec le type d'alimentation indiqué sur l'étiquette de repérage. Veuillez consulter votre revendeur ou la société de distribution électrique locale pour connaître le type d'alimentation disponible dans votre région.
6. Veillez à ne jamais enfoncer d'objets de quelque sorte que ce soit dans les fentes ou les ouvertures de ce produit. Ces objets peuvent en effet entrer en contact avec des parties dangereuses à haute tension ou provoquer des coupe-circuits qui, à leur tour, peuvent entraîner un incendie ou une électrocution. Veillez également à ne jamais verser de liquide d'aucune sorte dans l'appareil.

Wichtiger Sicherheitshinweis

1. Befolgen Sie alle auf dem Produkt vorhandenen Warnungen und Anweisungen.



Precauzioni Importanti

1. Seguire tutte le istruzioni e precauzioni indicate sul prodotto.
2. Pericolo! Quando l'unità è aperta, c'è una radiazione laser invisibile. Evitare l'esposizione ai raggi laser.
3. Disinserire la spina del PC dalla presa di corrente prima di effettuare operazioni di pulizia sul prodotto. Quando lo si vuole pulire, non bisogna impiegare detergenti liquidi né spray, ma soltanto un panno umido.
4. Le fessure e aperture presenti sull'unità permettono la ventilazione necessaria a proteggerla da surriscaldamento; pertanto queste non devono essere bloccate né coperte. Inoltre, questo prodotto non dovrebbe essere mai posto vicino o sopra termosifoni o altre fonti di calore e neppure incorporato in altri contenitori a meno che non si provveda ad una opportuna ventilazione.
5. Questo prodotto dovrebbe esser fatto funzionare con l'alimentazione elettrica indicata sull'etichetta. Consultare il proprio rivenditore o la società elettrica locale per conoscere i tipi di alimentazione disponibili.
6. Mai introdurre o spingere oggetti di qualsiasi tipo attraverso le fessure e le aperture poiché potrebbero entrare in contatto con zone a voltaggio pericoloso oppure con parti di circuito che possono provocare incendi o scosse elettriche. Non rovesciare mai liquidi di alcun tipo sul prodotto.



1

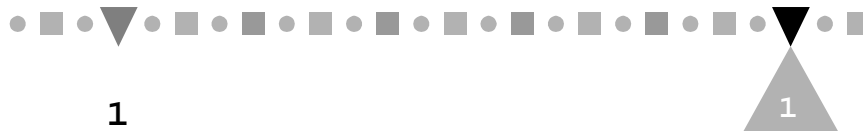
INTRODUCTION

Congratulations! You have just made a very important upgrade for your PC. With your new Philips 10X or 12X CD-ROM drive, you can now take advantage of the vast host of multimedia software available today at a higher performance than ever. Whether you are interested in the Encyclopedia Britannica, educational games, using your computer as a digital music studio or composing a business presentation with sound, graphics and animation, your new CD-ROM drive will be the tool to efficiently and effectively get all that information into your computer.

1.1 Features

This CD-ROM drive has the following key features:

- IDE/ATAPI interface
- Access time at 170 ms for PCA103CD and 150 ms for PCA123CD
- Data transfer rate at 1,500 KB/sec for PCA103CD and 1800 KB/sec for PCA123CD
- Built in 256 KB buffer
- Special design to ensure maximum readability of low-quality CDs
- Motorized tray for loading and unloading CDs
- Fits into a standard 5.25 inch half-height PC disk drive bay
- Manual ejection groove for emergency disc tray eject
- Automatic power-saving feature
- Compatibility with the following disc formats:
Audio-CD, Video-CD, CD-ROM/XA, CD-i/FMV (CD-i



movies), Karaoke-CD, CD Extra (CD+), I-trax CD and Photo-CD (both single and multi-session)

- Front-panel Stop/Eject, audio Play/Skip track control
- Compatibility with Windows 3.1, Windows 95 and OS/2

Note: *The use of the IDE/ATAPI interface means that you can use your PC's existing IDE interface to set up the drive without the need for an additional CD-ROM interface card.*

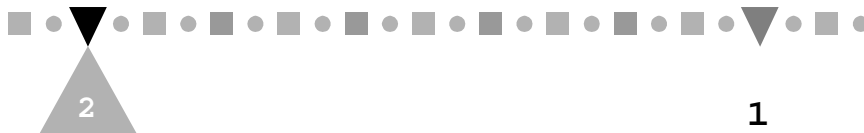
1.2 Package Contents

Your complete CD-ROM package contains the following items:

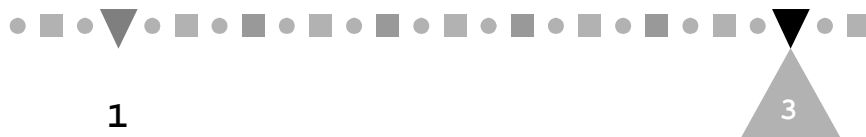
- CD-ROM drive
- Audio cable
- IDE cable
- software diskette
- Four screws
- This user's manual

1.3 System Requirements

- IBM PC or compatible, with 80286 CPU or higher (a 80386 or higher is recommended)
- 3.5" floppy drive
- One empty 5.25" *horizontally* oriented disk bay
- One free IDE interface connector
- MS-DOS 6.0 or later, Windows 3.1 or higher, *or* OS/2 Warp 3.0 or above



Please read this manual thoroughly before installing
or using your new CD-ROM drive.



INSTALLING YOUR DRIVE

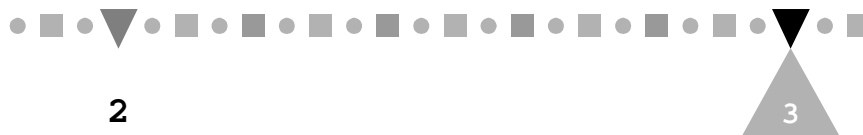
2

This chapter guides you through the installation of your new CD-ROM drive. To install the drive, your PC must have a free IDE interface connector, or you must buy an IDE controller card from a computer retailer. (An Enhanced IDE controller card is required if your PC already has a one-port IDE controller). See *Appendix A* for a brief introduction to IDE connections.

2.1 Installing the CD-ROM Drive

Here's how to install your CD-ROM drive:

1. Turn off your PC and remove its casing.
2. Adjust the Master/Slave jumpers on the back of the CD-ROM drive as necessary. (The factory default of the slave mode normally should not be changed. See *Appendix A*.)
3. Remove the 5.25" drive's drive guard as instructed by your PC manual.
4. Slide the CD-ROM drive into the drive bay.



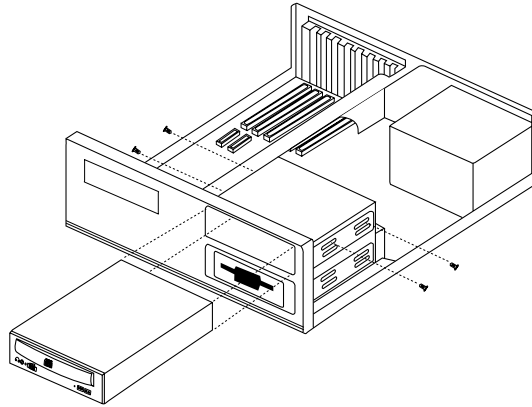


Figure 2-1 Inserting the CD-ROM Drive

- 5. Plug a free power connector inside your PC into the Powersocket on the back of the CD-ROM drive.

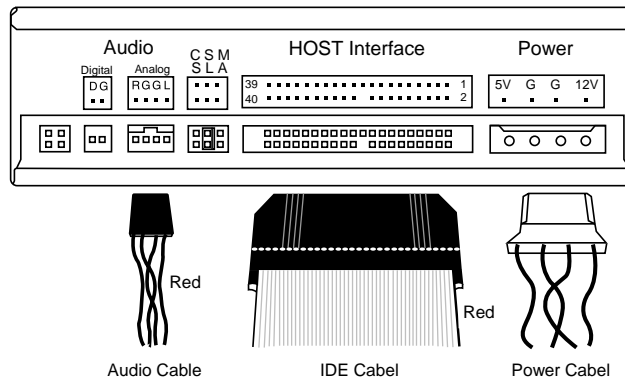


Figure 2-2 Back Panel Connections

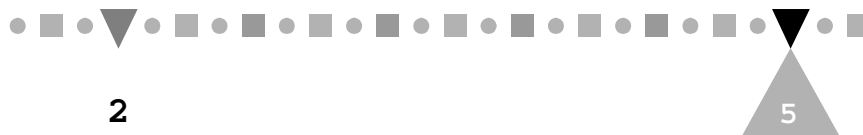
Note: Figure 2-2 shows the back panel of PCA123CD. PCA103CD looks slightly different. It has four additional jumpers to the right of the Power connector and has only one audio (analog

audio) connector, labeled "Audio." The unlabeled jumpers on both models are for factory testing only.

6. Plug a free IDE connector inside your PC into the drive's Host Interface socket. The cable's colored edge must be aligned with the Pin 1 position.

Note: *If you have a sound card that has an IDE port, you can either connect the CD-ROM drive to your PC or to the sound card. You must then disable the unused secondary IDE port. See Appendix A for what a secondary IDE port is and refer to your sound card, PC or IDE controller manual for the instructions on disabling the unused secondary IDE port.*

7. If you have a sound card with a 4-pin CD-ROM audio connector, use the supplied audio cable to connect it to the drive's "Audio-Analog" connector (the "Audio" connector on PCA103CD).



8. (Optional connection for *advanced PCA123CD users only*) Use an audio cable with two 2-pin Molex connectors to connect an audio output device that accepts digital audio input to the drive's "Audio-Digital" connector. The digital audio connector provides purer sound output than the analog audio connector.
9. Secure the drive with the supplied four screws.
10. Replace your PC's casing and reconnect the power supply.

This completes the hardware installation.

2.2 Letting Your System Recognize the Drive

For your system to recognize the new CD-ROM drive, you need an appropriate driver to act as the system's "eye opener." In normal cases, either Windows 95 or OS/2 Warp should have no problem recognizing the drive with the OS's built-in standard IDE CD-ROM driver. To use the drive in DOS and Windows 3.1, however, you need to install the supplied device driver.

2.2.1 If You Are a DOS or Windows 3.x User

Perform the following steps:

1. Boot your computer.
2. Identify the directory that contains the file MSCDEX.EXE.

Note: *MSCDEX.EXE comes with DOS 6.0 and above. For DOS 6.x, the file is typically located in your DOS directory. For DOS installed with Windows 95, it is typically located in your*



Windows 95 directory's COMMAND sub-directory. You can locate this file by using the File Manager's Search command in Windows 3.x or the Start menu's Find command in Windows 95. If the file is missing, contact your DOS or Windows 95 distributor for a copy of it.

3. Insert the Installation diskette into a 3.5" floppy drive.
4. Under DOS, change to the drive where the diskette is inserted and type `INSTALL <ENTER>`.

Note: *You must change to that drive before typing the "INSTALL" command. Simply typing `A:\INSTALL` or `B:\INSTALL` will not properly install the driver.*

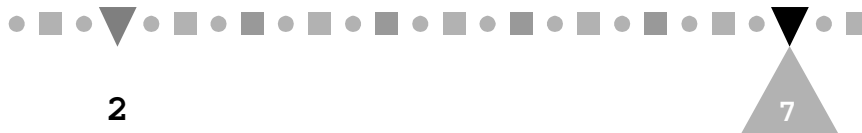
5. Change the destination directory `C:\CDROM` if necessary and press `<ENTER>`.
6. Change the name of the directory containing the `MSCDEX.EXE` file if necessary and press `<ENTER>`.
7. Reboot your computer.

If everything is okay, you can start using your CD-ROM drive right away. Otherwise, make sure that your CD-ROM drive has been correctly set as a master device or a slave device (see *Appendix A* for instructions). If this still does not solve the problem, contact your Philips distributor or representative.

2.2.2 If You Are a Windows 95 User

Perform the following steps:

1. Install Windows 95, if it is not already installed.
2. Boot your computer. Windows 95 automatically starts.



3. Double click the My Computer icon on the desktop and check whether the CD-ROM icon appears as in the following window:

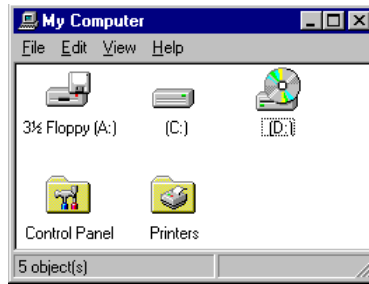


Figure 2-3 "My Computer" Peripherals

4. Double click the Control Panel folder in the same window. The Control Panel folder contents are displayed:



Figure 2-4 The "Control Panel" Folder Contents

5. Double click the System icon. The System Properties folder appears:



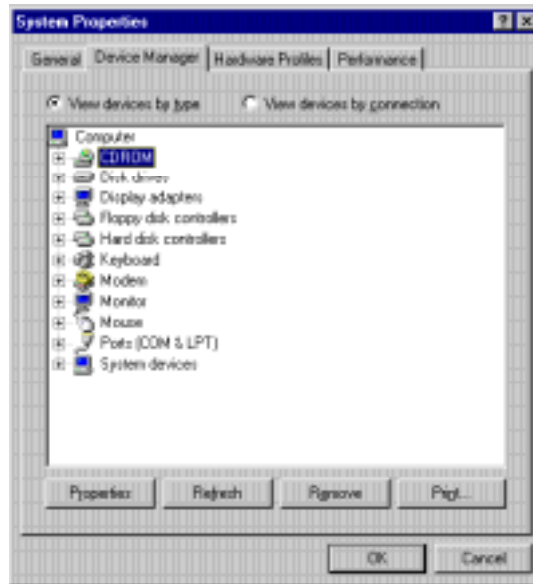


Figure 2-5 The "System Properties" Folder

6. Click the Device Manager tab and check whether the CD-ROM drive is listed.

If the CD-ROM icon is listed in both Step 3 and this step, you can stop here. Windows 95 has successfully recognized your new CD-ROM drive. Otherwise, proceed with Steps 7 and 8.

7. Install the supplied device driver under DOS by following the instructions given in *Section 2.2.1*.
8. Restart Windows 95 and repeat Step 3.

This time the CD-ROM icon should appear in My Computer's peripheral icon display (but not in the Device Manager's listing for reasons beyond this manual's purposes).

Note: *If you need to but cannot access the CD-ROM drive in one of the several available DOS modes, follow*



the instructions in Section 2.2.1 and install the supplied device driver under that DOS mode.



Why couldn't I install Windows 95 with its CD disc? Is my CD-ROM defective?



No. Your CD-ROM probably had nothing to do with that problem.

If you were making an upgrade from Windows 3.1 to Windows 95, you might have forgotten to complete the steps listed in Section 2.2.1 before performing the upgrade. Remember, without the CD-ROM driver, Windows 3.1 has no way to recognize your CD-ROM drive.

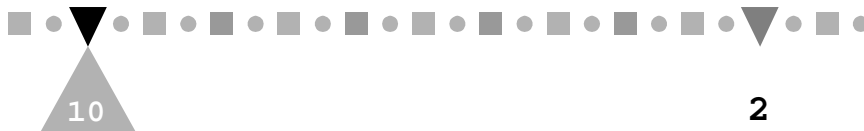
If you were installing Windows 95 from scratch, the standard IDE CD-ROM driver contained in the Windows 95 installation package might not be working properly with your IDE controller. Try the diskette version.

2.2.3 If You Are an OS/2 Warp User

Perform the following steps:

1. Install OS/2 Warp, or skip to Step 3 if you already have it installed.

In the former case, when the installation comes close to the end, the following dialog box pops up:



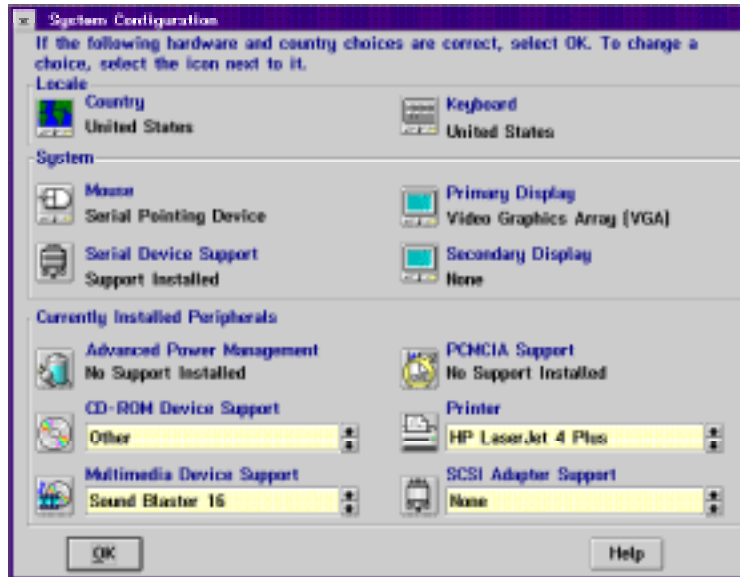


Figure 2-6 The "System Configuration" Dialog Box

2. Click the CD icon, select Other from the CD-ROM Device Support list box and click the OK button. Follow the screen instructions until the installation is completed.
3. Reboot your PC.
4. Double click the OS/2 System icon on the desktop to display the following window:

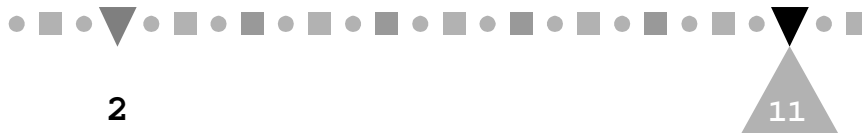




Figure 2-7 The "OS/2 System - Icon View" Window

5. Double click the Drives icon and check whether the CD-ROM icon (Drive D) appears as in the following list of available drives:



Figure 2-8 The "Drives - Icon View" Window

6. If it is listed, you can stop here. OS/2 Warp has successfully recognized your new CD-ROM drive. Otherwise, proceed with the remaining steps.
7. Close the window and double click the Command Prompts icon in the OS/2 System - Icon View window (see Figure 2-7). The following window appears:

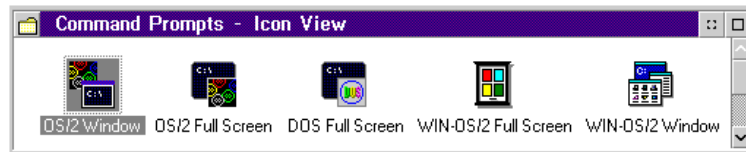


Figure 2-9 The "Command Prompts - Icon View" Window

8. Double click the OS/2 Window icon. An OS/2 window appears:

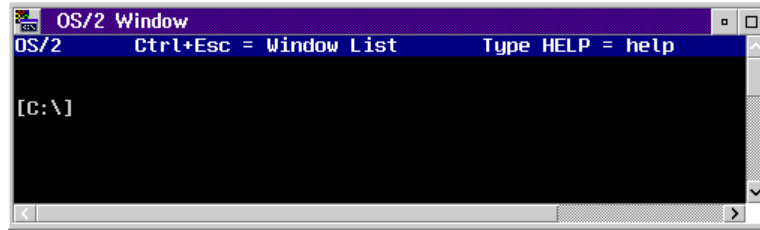


Figure 2-10 "OS/2 Window"

9. At the command prompt, type:
`E CONFIG.SYS`
10. At the end of the opened CONFIG.SYS file, add the following line:
`BASEDEV=IBMIDECD.FLT`
11. Close the file after saving it and reboot your PC.
12. Repeat Steps 4 and 5.
 This time the CD-ROM icon should appear as an available drive in the Drives-Icon View window.



Why couldn't I install OS/2 Warp with its CD disc? Is my CD-ROM defective?



No. Your CD-ROM probably had nothing to do with that problem.

Instead, the standard IDE CD-ROM driver contained in Diskette 1 of the OS/2 Warp installation package might not be

*working properly with your IDE
controller. Try the diskette version.*

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USING YOUR CD-ROM DRIVE

3

3.1 Drive Applications

There are two main ways in which you will use your new CD-ROM drive. The first way is as a typical disk drive (albeit read-only). Here, data such as program files, databases, sound clips, video images, etc. is read from the CD into your PC's CPU. The other way is as a CD player. You can use your CD-ROM drive to listen to music CDs.

3.2 Manually Controlling the Drive

Most of the time, you will use application software to control the CD-ROM drive. However, there are times manually controlling the drive can be more direct and even necessary. Figure 3-1 shows the drive's front panel components for manually controlling the drive:

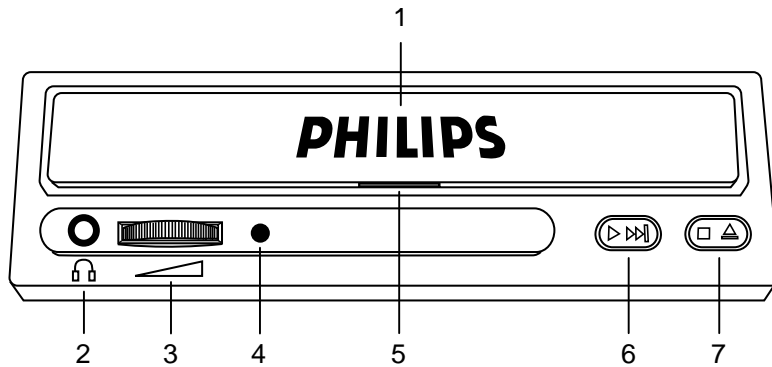


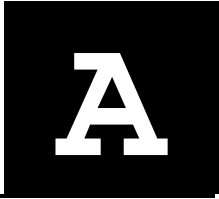
Figure 3-1 The Front Panel Lock

1. **Disc Tray** Opens or closes for disc loading and removal
2. **Headphone jack** For optional connection to headphones or self-amplified speakers.
3. **Headphone volume control** Adjusts the volume level of sound coming out from the headphone jack
4. **LED indicator** Lights up when disc is first put into the tray or ready for access; flashes during seek operation
5. **Emergency eject** Opens the disc tray when the power is off or when both the Stop/Eject button and the software control fail. Insert a hard bladed tool, e.g., a screw driver, into the groove and pry the disc tray open.

Note: *Use the emergency eject groove only when absolutely necessary. The procedure may damage the disc tray. In addition, turn off the power of your PC before manually prying the disc tray open.*
6. **Audio play/skip** Plays or skips a song of an audio CD
7. **Stop/Eject** Opens or closes the disc tray



A MASTER OR A SLAVE DEVICE?



Before sliding your CD-ROM drive into the 5.25" drive bay, you have to decide whether the drive is going to be a *master* or *slave* device by adjusting the MA and SL jumpers on its back. This appendix presents some basic concepts of IDE connections to help you make the decision and describes the way to set the jumpers.

A.1 IDE Connections

When you open your PC box, most likely you will see a wide ribbon cable with two 40-pin connectors stemming from a connector seat on the motherboard; each of the connectors may or may not have been connected to a peripheral device. Such a cable is called an IDE cable and the connector seat an IDE port. The functionality of the cable and port is determined by an "IDE controller", either built-in on your motherboard or in the form of an add-on card. This whole set of things acts as a data bridge between your CPU and devices that are designed for use with the IDE standards.

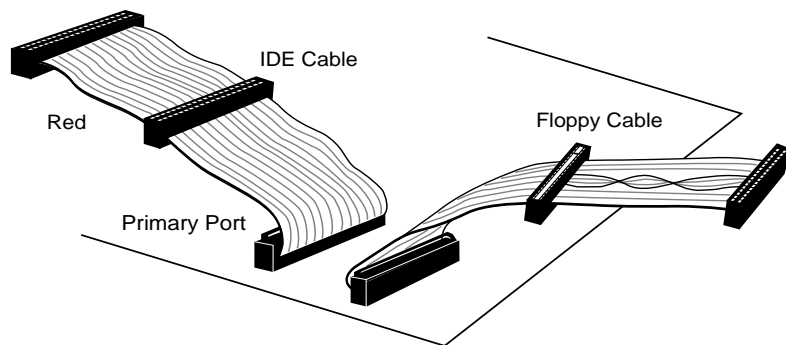


Figure A-1 IDE Port and Cable on Motherboard





IDE controllers may contain more than one port and hence contain more than one IDE cable. Such a controller is called an enhanced IDE controller. Its ports are called the primary port, secondary port, tertiary port, etc., usually labeled by the side of the ports. Currently, most enhanced IDE controllers contain two ports: the primary port and the secondary port. Any "bonus" port that comes with a peripheral device, for example, your sound card, is taken as a secondary port.

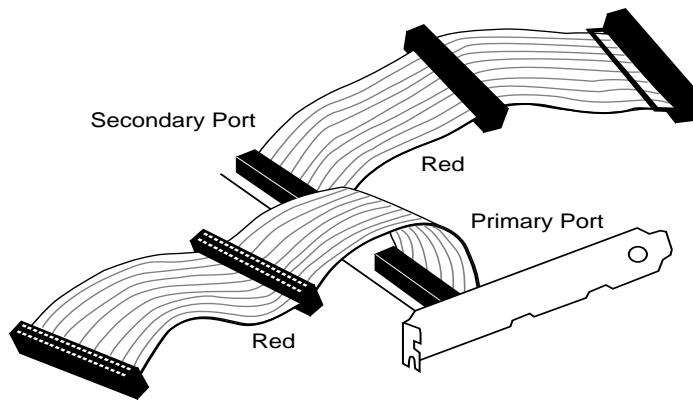


Figure A-2 Enhanced IDE Controller Card

Note: *Your PC system can have only one port of each kind at any time. If you add an enhanced IDE controller to the system, you must remove or disable the PC's original port(s). Similarly, if a "bonus" port is present, you must disable either this port or the PC's secondary port, if your PC already has a secondary port.*

Because each IDE port supports up to two devices, you need to tell your PC whether a device you are connecting is the master or the slave device of that

port. As a result, if you have more than one IDE device, their assignments may look similar to the following:



Device 1	Primary master (boot drive)
Device 2	Primary slave
Device 3	Secondary master
Device 4	Secondary slave
Device 5	Tertiary master
Device 6	Tertiary slave
⋮	⋮

Note that the primary master, if configured, must be a boot drive (normally a hard disk). Other than this, an IDE device can be configured to any IDE interface port and either as a master or a slave at your own choice. Here master and slave do not imply any operating precedence; they are just the "sub-IDs" of the devices that your computer needs to know about.

- Note:**
1. Currently, a CD-ROM drive cannot be used as a boot drive. Therefore, you cannot configure the CD-ROM drive as the primary master.
 2. If you are using OS/2 Warp and another device has already been configured as the primary slave, we highly recommend that you configure the CD-ROM drive as the master device of one of the rest available IDE ports.

A.2 Setting Master and Slave Jumpers

Whether your PC system regards your CD-ROM drive as a master device or a slave device depends on which of the "MA" (master) and "SL" (slave) jumpers on the back of the drive is capped.

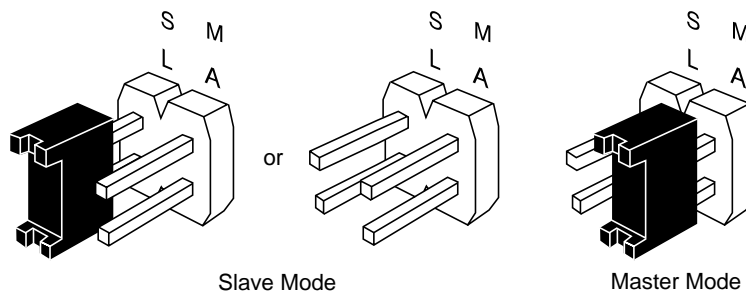


Figure A-3 Jumper Settings for Slave Mode and Master Mode

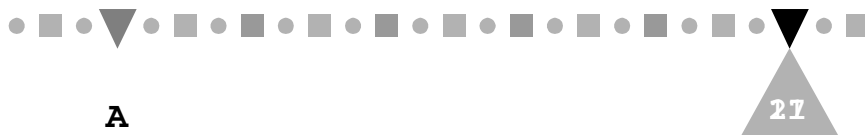
Your CD-ROM drive is shipped with the "SL" jumper capped. In spite of this, note from Figure A-3 that capping the "SL" jumper is optional for the slave mode.

To set your CD-ROM drive as a master device, simply remove the cap from the "SL" jumper and place it over the "MA" jumper.

- Note: 1.** The "MA" and "SL" jumpers cannot be both capped at the same time.
- 2.** A system halt will occur if the "MA" or "SL" jumper is set in conflict with the other device connected to the same IDE port. An IDE port cannot contain two master devices or two slave devices at any moment of time.



A MASTER OR A SLAVE DEVICE



B

SPECIFICATIONS

Interface

Drive interface type: ATAPI IDE (conforms to SFF8020 V1.2)

Disc formats: Audio-CD, CD-ROM (mode 1 and mode 2)
CD-ROM/XA (mode 2, form 1 and form 2)
Video-CD, CD-i/FMV (CD-i movies)
CD Extra (CD+), I-trax
Photo-CD (single and multisession)

Disc size: 80 and 120 mm

Performance

Data transfer rate: 1,500 KB/sec (10X), 1,800 KB/sec (12X)

Access time: 170 ms typical @ 1/3 stroke (10X)
150 ms typical @ 1/3 stroke (12X)

Buffer size: 256 KB

Audio Features

Sampling frequency: 44.1 KHz

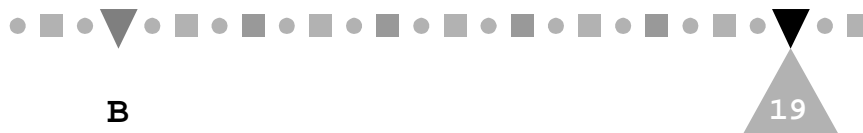
Output ports: 3.5 mm stereo headphone jack
4-pin stereo line out connector
2-pin stereo digital audio output connector (for PCA123CD only)

Reliability

MTBF: 50,000 POH (25% duty cycle at room temperature)

Environmental Tolerance

Operating Non-operating



Temperature: +5 °C ~ +45 °C -20 °C ~ +55 °C
+41 °F ~ +113 °F -4 °F ~ +131 °F

Humidity: 20% - 80% RH, 20% - 80% RH,

Physical Characteristics

Dimension: 149 x 42 x 196.5 mm (W x H x D)
typical

Weight: 0.85 Kg

Front panel: Stop/Eject button
Audio Play/Skip button
Emergency disc eject hole
Rotary volume control knob
Disc Ready/Data Seek LED indicator
Headphone jack

Rear Panel: Power supply connector
IDE interface connector
Master/Slave configuration jumpers
Audio line output
Digital audio output (PCA123CD only)
Testing jumper

