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## User's Guide

CLASS 1 LASER PRODUCT

**CAUTION:** INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.

APPAREIL A LASER CLASSE 1 PRODUIT LASER

**ATTENTION:** RADIATION DU FAISCEAU LASER INVISIBLE EN CAS D'OUVERTURE. EVITER TOUTE EXPOSITION AUX RAYONS.

LUOKAN 1 LASERLAITE LASER KLASSE 1

**VORSICHT:** UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHL AUSSETZEN.

PRODUCTO LÁSER DE LA CLASE 1

**ADVERTENCIA:** RADIACIÓN LASER INVISIBLE AL SER ABIERTO. EVITE EXPONERSE A LOS RAYOS.

**ADVARSEL:** LASERSTRÅLING VED ÅBNING SE IKKE IND I STRÅLEN.

VARO! AVATTAESSA OLET ALLTINA LASERSÄTEILYLLE

**WARNING:** LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD  
ÄLÄ TUIJOTA SÄTEESEEN  
STIRRA EJ IN I STRÅLEN

**WARNING:** LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD  
STIRRA EJ IN I STRÅLEN

**ADVARSEL:** LASERSTRÅLING NÅR DEKSEL ÅPNES  
STIRR IKKE INN I STRÅLEN

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## Specifications

<b>DRIVE PERFORMANCE</b>		
Disc Data Capacity: Mode 1 656 MB Mode 2 748 MB		
Maximum Playing Time 74 minutes and 42 seconds		
Data Transfer Rate (KB/s)	Mode 1	Mode 2
Normal speed	150	171
Data Buffer Size	128 KB	
Drive Reliability (MTBF)	50,000 POH (25% duty cycle at room temperature)	
<b>COMPACT DISC</b>		
Disc Type (data format)	CD-Audio, CD-ROM (modes 1 and 2), CD-ROM/XA (mode 2, form 1 and form 2), CD-EXTRA, CD-I, Photo-CD (single and multiple sessions), CD-WO, I-Trax CD, CD-RW	
Disc Size	80-mm and 120-mm discs	
<b>INTERFACE</b>		
Drive Interface Type	E-IDE (conforms to SFF8020 v1.2)	
<b>AUDIO</b>		
Analog Audio Output Ports	Headphone jack on front panel Line-out connector on the rear end of the drive (two stereo channels for each output port)	
Digital Audio Output Port	Two-pin line out connector on the rear end of the drive	
Audio Sampling Frequency	44.1 KHz	
Audio Quantization	16 bits	
<b>POWER REQUIREMENTS</b>		
Voltage	+5V, +12V	
<b>PHYSICAL CHARACTERISTICS</b>		
Front Panel	Load/Eject button, Play/Skip button, Power-on/Busy LED indicator, 3.5-mm stereo headphone jack, rotary volume control knob	
Rear Panel	Power-supply connector, IDE interface connector, master/slave jumper, analog audio output connector, digital audio output connector	

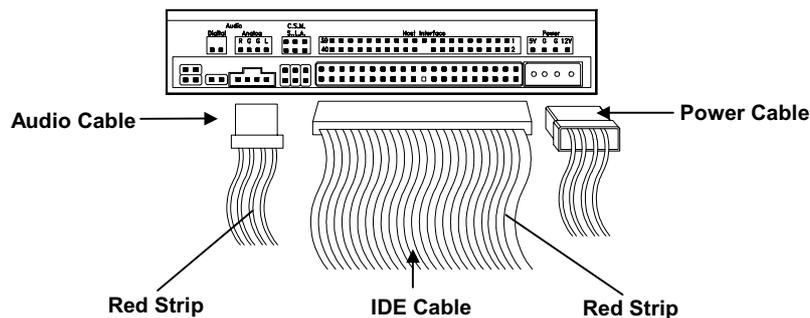
<b>PHYSICAL CHARACTERISTICS</b>	
Mount	Both vertical and horizontal
Dimensions	149 mm x 42 mm x 196.5 mm (5.9"x1.7"x7.7")
Weight	≤ 1.0 kg (2.2 lbs)
<b>ENVIRONMENTAL REQUIREMENTS</b>	
Temperature: Operating	+5°C ~ +45°C
Non-operating	-20°C ~ +55°C
Humidity: Operating	20% ~ 80% RH
Non-operating	20% ~ 80% RH
<b>LASER COMPONENT RADIATION DATA</b>	
Wavelength	285 ± 25nm
Emission light output power	Less than 0.3 mW
Pulse times	The time base is using 100s by requirement of IEC 825-1 <sup>-1993</sup> clause 9.3 (e)

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## 1 Installing the CD-ROM Drive

Before you begin, turn off the system power. Follow the steps below to install the CD-ROM drive:

1. Remove the cover from your system. Refer to your system user's manual.
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. Please refer to Section 4 for more information)
3. Insert the CD-ROM drive unit into a free 5.25-inch drive bay. Secure the CD-ROM drive to the drive bay rails with the mounting screws (included in the CD-ROM package). Refer to your system manual for instructions on how to install a drive.
4. Plug a free power connector inside your PC into the Power socket on the back of the CD-ROM drive.
5. Plug a free IDE connector inside your PC into the drive's IDE interface socket.



**NOTE:** The red edge of the IDE cable corresponds to pin 1 of the IDE interface on the CD-ROM drive.

If you have a sound card, you can also connect a 4-pin analog audio cable to the analog audio-out connector of your CD-ROM drive and the audio-in connector of the sound card.

If you have a digital audio device, you can also connect a 2-pin digital audio cable to the digital audio-out connector of your CD-ROM drive and the audio-in connector of your digital audio device.

6. Replace the cover and turn on the power.

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## 2 Installing the CD-ROM Drivers

The CD-ROM package comes with an installation utility. This utility installs the CD-ROM drivers needed by your CD-ROM drive to interact with your PC. The driver installation diskette includes the following files:

- ATAPICD.SYS
- INSTALL.EXE
- README.TXT

**NOTE:** The INSTALL.EXE file automatically detects the system language environment.

### For DOS and Windows 3.1

To install the driver in DOS or Windows 3.1:

1. Insert the installation diskette in your 3.5-inch diskette drive and make it the active drive.
2. At the DOS prompt, type:

```
INSTALL 
```

3. Follow the screen instructions to complete the installation.

The installation program creates a directory (C:\ ATAPI ) containing the CD-ROM drivers. It also updates your AUTOEXEC.BAT and CONFIG.SYS files as follows:

CONFIG.SYS

```
DEVICE=C:\ATAPI\ATAPICD.SYS /D:ATAPI_CD /Q  
LASTDRIVE=N
```

AUTOEXEC.BAT

```
C:\ATAPI\MSCDEX /V /D:ATAPI_CD /M:10
```

### Changing the Settings After Installation

To reconfigure the settings of the CD-ROM driver, use a text editor (such as EDIT.COM) to modify the DEVICE= and LASTDRIVE= command lines in the CONFIG.SYS and AUTOEXEC.BAT files. Then restart your computer.

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## Changing the CONFIG.SYS File and Enabling the DMA Function

Add the following line to your CONFIG.SYS:

```
DEVICE = <PATH>\ATAPICD.SYS /D:<DEVICE_NAME> [/zzzz]  
        [/P:xxx,yy]
```

The <DEVICE\_NAME> is the name of the MSCDEX file that will be used to find the device driver. The maximum length of the <DEVICE\_NAME> string is eight characters.

The option [/zzzz] in character form specifies the DMA function, the Ultra-DMA 33 function or Bus Master DMA function. Please refer to the README.TXT file for more details.

For example:

```
DEVICE=C:\ATAPI\ATAPICD.SYS /D:ATAPI_CD /DMA /P:1F0,14
```

If your system board supports the Bus Master DMA function, the option /DMA enables the Bus Master DMA function.

The option /P: specifies the I/O port address and IRQ level. The number xxx in hexadecimal form specifies the I/O port address (such as 1F0, 170, 1E8, or 168), and yy specifies the IRQ level (such as 14, 15, 11, or 10 in decimal).

**NOTE:** If you are not familiar with I/O Port or IRQ level settings, do not implement /P: option.

After changing the CONFIG.SYS, reboot the system.

Refer to the README.TXT file for the latest driver installation updates.

## For Windows 95 and Windows NT Environment

Windows 95 and Windows NT will automatically detect the new CD-ROM drive and load the appropriate device driver. However, there are times when Windows can not detect the CD-ROM drive. You will have to load the drivers manually.

To install the drivers manually:

1. Click the Control Panel Icon in My Computer and then click Add New Hardware. The Add New Hardware window appears.
2. The program will automatically search for your new CD-ROM Drive and load the appropriate driver.

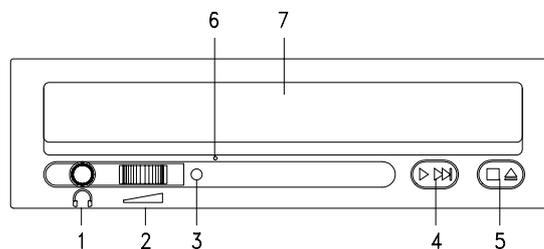
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### For OS/2 Warp

Under OS/2 Warp, select the non-listed CD-ROM option. This option supports the standard ATAPI CD-ROM drives. After selecting this option, OS/2 will auto-detect the CD-ROM drive.

## 3 Using the CD-ROM Drive

In most cases, software applications that utilize CD-ROM drives control the CD-ROM drive operations directly. However, you can control the drive manually using the front-panel controls.



- 1. Headphone Jack**  
The 3.5-mm stereo headphone jack allows you to listen to audio CDs via stereo headphones.
- 2. Volume Control**  
The volume control is a rotary knob that allows you to control the sound level from the headphone jack.
- 3. Power-on/Busy LED**  
The Power-on/Busy LED indicator lights up when the CD-ROM drive is being accessed. The LED blinks during a seek operation.
- 4. Play/Skip Button**  
The Play/Skip button allows you to play and skip tracks on an audio CD.
- 5. Load/Eject Button**  
The Load/Eject button opens the motorized CD tray for loading and removing CDs. When an audio CD is being played, pressing this button stops the playing of the CD.
- 6. Emergency-eject Hole**  
The emergency-eject hole allows the user to open the CD tray when the system has no power. (This function is only available with 326X speed CD-ROM and up)
- 7. Disc Tray**  
The disc tray opens and closes for the loading and removal of CDs.

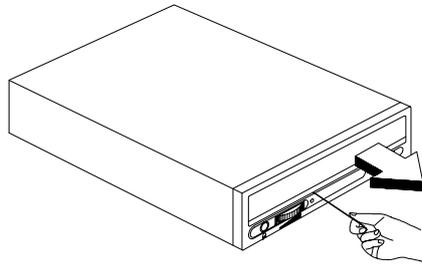
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## 4 Emergency-eject Option

The Emergency-eject option allows the user to manually open the CD tray during a power malfunction.

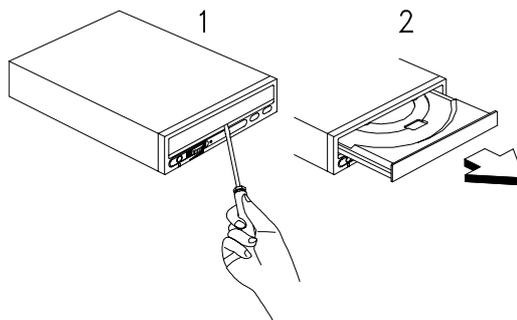
Follow these steps to manually open the disc tray:

1. Locate the tiny hole at the bottom of the disc tray. Gently poke the hole three times with a sharp needle or a clip.
2. When the disc tray opens, pull out the tray and remove the disc from the CD-ROM drive.



If your CD-ROM does not have an emergency-eject hole follow these steps:

1. Locate the bottom edge of the disc tray. Gently pry the disk tray open with a screwdriver.
2. When the disc tray opens, simply remove the disc from the CD-ROM drive.



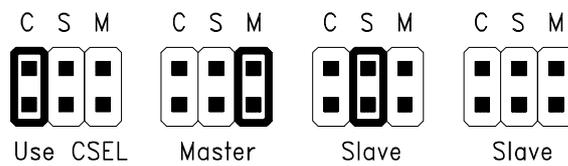
**NOTE:** Do not do this unless absolutely necessary. This procedure may damage the CD tray.

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## 5 Jumper Settings

This appendix explains the jumper settings on the drive and lists the pin configurations of each connector on the rear panel.

There is one jumper at the rear of the CD-ROM drive. This jumper determines how your CD-ROM drive functions. The figure and table below show the four possible jumper settings and their functions.



Jumper Setting	Function
C	Use CSEL
M	Master
S	Slave
None	Slave

The drive comes preset with the jumper at the S pin. This means that the drive is set as a slave. In this case, your hard disk drive would be the master drive. To change the jumper setting, remove the jumper cap and insert the pin for the desired function.

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## How to enable Ultra DMA/33 function on 36X CD-ROM Drive in Windows 95 operation system

1. Firstly, please check if your computer ( or motherboard) supports Ultra DMA/33 function. ( ex. Intel 430TX, 440LX chipset supports Ultra DMA/33).
2. If your computer ( or motherboard) supports Ultra DMA/33 function, then please enable the UDMA function in BIOS setting.
3. Please be sure to install the PCI IDE DRIVER (Win95 version) which supporting Ultra DMA/33 function that your computer ( or motherboard) supplier provided. Thus, you can enjoy the feature of Ultra DMA/33 function in your 36X CD-ROM Drive.
4. if your computer ( or motherboard) supplier didn't provide the PCI IDE DRIVER (Win95 version) which supporting Ultra DMA/33 function.  
  
Please ask your supplier to provide this driver.
5. Pleae do not use the DMA function of Win95 internally provided in the computer ( or motherboard) which supporting Ultra DMA/33 function. If you enable the DMA function of Win95 internally provided, it will cause your computer system hang up because Win95 only supports the Bus Master DMA function not Ultra DMA/33 function.
6. Unfortunately if your computer system hangs up, please restart your computer and go to BIOS setting to disable the UDMA function then start your computer again. Restore your default setting in win95.