



# CD-ROM DRIVE

**MODEL : GCR-8520B/GCR-8521B**

**OWNER'S MANUAL  
BEDIENUNGSHANDBUCH  
MODE D'EMPLOI  
MANUALE D'USO  
MANUAL DE USUARIO**

English

Deutsch

Français

Italiano

Spanish

To enjoy fully all the features and functions of your CD-ROM drive,  
please read this owner's manual carefully and completely.

website : <http://www.LGEService.com>  
e-mail : <http://www.LGEService.com/techsup.html>

**CAUTION :** The laser used in the CD-ROM drive can damage your eyes.  
Do not attempt to open the cover.  
To reduce the risk of electric shock, do not remove cover (or back).  
No user-serviceable parts inside.  
Refer servicing to qualified service personnel.

This unit uses CD-ROM discs  
marked with this symbol :



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



PRODUCT COMPLIES WITH DHHS  
RULES 21 C.F.R. SUB-CHAPTER J,  
IN EFFECT AT THE DATE OF MANUFACTURE.

**WARNING :** To reduce the risk of fire or electric shock,  
do not expose this appliance to rain or moisture.

#### Industry Canada requirement

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.

#### FCC COMPLIANCE STATEMENT

**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 Authorized Service Center for help.

#### • FCC WARNING

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

- This CD-ROM Drive is for use only with UL listed personal computers that have installation instructions detailing user installation of card cage accessory.

This product is manufactured to comply with the radio interference requirements of EEC DIRECTIVE 89/336/EEC, 93/68/EEC and 73/23/EEC.

## Features

---

### Features

- E-IDE interface
- 52X-speed Max 7800KB/sec data transfer rate
- 75ms random access time
- Intelligent 128KB data buffering system
- Small CPU bandwidth (MPC spec.)
- Motorized tray loading system
- Horizontal/Vertical mounting support
- Designed for internal mounting
- Emergency eject support
- Easy audio CD control button support
- Supports Windows 95, 98, 2000, ME & XP Plug-and-Play ATAPI protocol
- Multimedia PC MPC compliant
- Photo CD multisession support

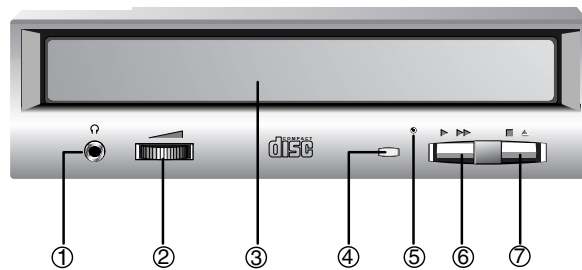
### System Requirement\*

- IBM PC AT or compatible, 486 SX 25 processor or higher (Pentium 133 Processor or higher recommended).
- 640 Kb memory (16Mb or higher recommended).
- A suitable free standard 5<sup>1</sup>/<sub>4</sub>" internal drive bay.
- MS-DOS version 3.1 or higher. (Windows 95 and above recommended).
- 3<sup>1</sup>/<sub>2</sub>" 1.44 Mb Floppy Drive.
- An existing IDE controller with an available cable connector or a new IDE controller (recommended with IDE PIO Mode 4 capability) that you will need to install.

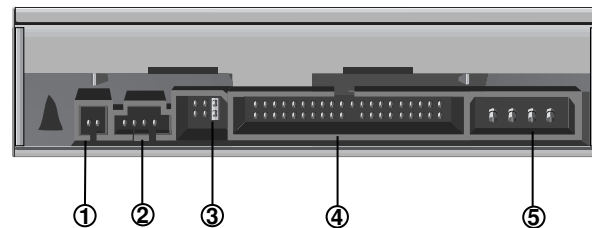
\* **Please note:** certain software (i.e. particularly those including Video playback) may require an considerably increased specification PC to give acceptable results.

## Location and Function of Controls

### Front View



### Back View



### Supplied Accessories

☒ Owner's Manual



☒ Audio Cable



---

## **Front View**

- 1. Headphone Jack**  
Standard 1/8" (3.5mm) stereo jack for listening to the audio signal from audio CDs.
- 2. Headphone Volume Control**  
Adjusts the headphone sound level.
- 3. Disc Drawer**  
Accepts a CD-ROM disc on its tray.
- 4. Busy Indicator**  
The Busy Indicator lights during initialization and data-read operations.
- 5. Emergency Eject Hole**  
Insert a paper clip here to eject the drawer manually or when there is no power.
- 6. Play/Skip Button**  
When an Audio CD is in the Disc Drawer, pressing this button will start playing audio CDs from the first track. If an audio CD is playing, pressing this button will skip to the next track.
- 7. Open/Close/Stop Button**  
This button is pressed to open or close the CD tray.  
If an audio CD is playing, pressing this button will stop it, and pressing it again will open the tray.

## **Back View**

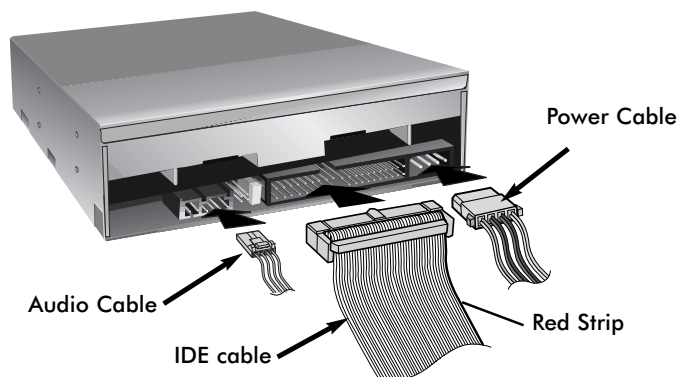
- 1. Digital Audio Output Connector**  
This is a digital audio output or Video CD output connector.  
You can connect this to a digital audio system or a Video CD Board.
- 2. Analog Audio Output Connector**  
The Audio Output Connector connects to a sound card.
- 3. Master/Slave/CSEL Jumper**  
These three jumpers are used to set the CD-ROM Drive to either a Master, Slave, or CSEL device.
- 4. Interface Connector**  
This 40-pin connector is used to transfer data and control signals between the CD-ROM Drive and your PC.
- 5. Power-in Connector**  
Attach a power cable from the computer to this connector.

## Installing the Drive

---

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

1. Remove the cover from your computer system. Refer to manual for the computer for details about removing the cover.
2. 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 (supplied).
3. Connect the 4-pin power cable and 40-pin IDE interface cable to the back of the CD-ROM drive.



**Notes:** If there is no spare power cable available in the computer, you will have to purchase a splitter cable of a suitable type.

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

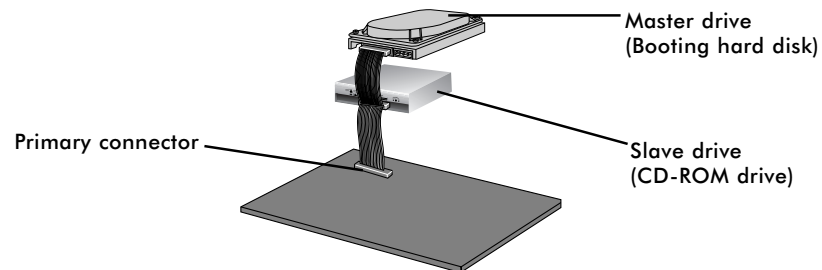
**Please Note:** an IDE cable is not supplied and may be required to be purchased separately.

If the computer is using a sound card, the drive is connected to the sound card with an audio cable. This CD-ROM drive is supplied with a Creative Labs SoundBlaster® compatible audio lead, if this is not suitable for your sound card, it may be necessary for you to purchase a suitable lead from your retailer. Refer to the manual for the sound card for detailed information regarding connection.

- 
4. Adjust the Master/Slave jumpers on the back of the CD-ROM drive as necessary.  
Connect the CD-ROM drive to the IDE ports of your motherboard. In general, the hard drive will be in Primary IDE port and Master device for booting the operating system. There are two possible alternate connection for CD-ROM drive installation.

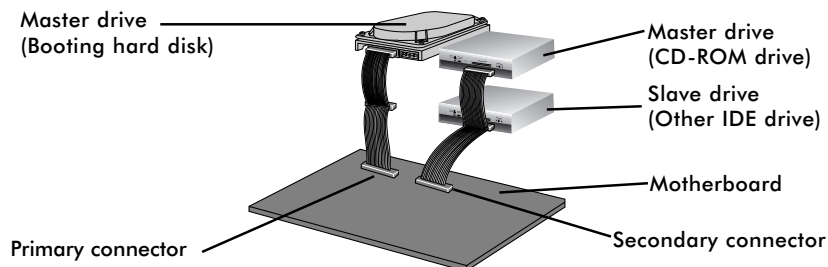
**A) When using a Primary IDE port**

If you need to connect your CD-ROM drive to the same Primary IDE port, the CD-ROM drive should be set to Slave position.



**B) When using a Secondary IDE port**

You can also connect CD-ROM drive to the Secondary IDE port and set to Master position.



5. When the installation of the drive unit is complete, replace the computer cover.  
6. Reconnect the computer power cord and turn on the computer.

## Device Drivers

---

**When using Windows 95/98/2000/ME/XP or Window NT Workstation Ver. 4.0, the installation of any software driver or special device is not required.**


The DOS and Windows 3.1 users can download the DOS Device drivers anytime via internet.

For your information, please consult the following internet sites:


<http://www.lge.com>

<http://www.lgeservice.com/drivers.html>

### For Windows 95/98/2000/ME/XP Users

- In order to ensure normal drive operation, please check the following:
  - The drive is displayed in
    - Windows 95/98/ME : [Control Panel]-[System]-[Device Manager]-[CD-ROM]
    - Windows 2000/XP : [Control Panel]-[System]-[Hardware]-[Device Manager]-[DVD/CD-ROM-Drive]
  - 32-bit is displayed in  
[control panel]-[system]-[performance]
- If the drive is not recognized by your computer, please check the following items.
  - If an  indicator is displayed on the IDE controller in [control panel]-[system]-[device manager]-[harddisk controller], you will need to contact your PC's manufacturer or the motherboard's manufacturer and get the appropriate IDE controller driver.
- Run ADD NEW HARDWARE in Control Panel to let PC search again for new device.

### For Windows NT Workstation Ver. 4.0 Users

- In order to ensure normal drive operation, please check the following:
  - The drive is displayed on the IDE controller in  
[control panel] - [SCSI adapter] - [devices]
- If the drive is not recognized by your computer, please check the following items.
  - If an  indicator is displayed on the IDE controller in [control panel]-[SCSI adapter]-[devices], you will need to contact your PC's manufacturer or the motherboard's manufacturer and get the appropriate IDE controller driver.



## Emergency Eject

---

This drive has a function that allows the CD to be ejected manually if necessary in an emergency, such as failure of the drive or a power outage. Follow this procedure in such a case.

**NOTE:** Don't use this feature **except** in an emergency.

- 1) Turn the power to OFF.
- 2) Poke a fine-tipped object (such as a straightened heavy duty paper clip) into the small hole at the front. The front door will pop open and the disk tray will come partway out.



- 3) Pull the front door to open it all the way, then grip the disc tray between thumb and forefinger and gently pull it straight out.

**NOTE:** This feature is a last measure to be used only in an emergency. Using it excessively will cause malfunction.

## Installation, Usage and Handling Precautions

---

### ■ Installation

Avoid placing the drive in a location subject to :

- high humidity
- high temperature
- mechanical vibration
- direct sunlight

### ■ Operation

- During operation, excessive vibration or a sudden jolt to the drive may cause a malfunction.
- Avoid exposing the drive to sudden changes in temperature. This may cause condensation to collect inside the drive.
- Do not use damaged, cracked, or warped discs.

### ■ Transportation

- Always remove the disc before moving the drive.

## Troubleshooting

---

- \* When the CD-ROM drive does not work with the hard disk drive in primary IDE channel.

### (SOLUTION)

1. Check the CD-ROM drive Master/Slave Jumper setting.  
The CD-ROM drive must be set to the Slave mode.
2. Check to be sure your hard disk Interface type is IDE type.
3. Check your hard disk Master/Slave Jumper setting.  
Some old-version IDE type hard disks were set to Master Only mode.  
In that case, contact your hard disk company and change your hard disk jumper setting to master mode.
4. If the CD-ROM drive does not work with above methods, you may need a secondary IDE card. If you use the secondary IDE card, you should set the CD-ROM drive jumper to the master mode if the CD-ROM drive is the first device you are connecting to the secondary IDE card.

- \* When the CD-ROM drive does not install in OS/2 warp.

### (SOLUTION)

1. Select *NON-LISTED IDE CD*.

- \* CD-ROM drive is not present in Windows 3.1 or 3.11 or DOSSHELL.

### (SOLUTION)

1. When the WIN or DOSSHELL command lines are present in your AUTOEXEC.BAT, make sure that the MSCDEX.EXE command line appears before the WIN or the DOSSHELL command lines.

## Specifications

### General

Data Capacity	553 Mbytes (mode 1), 635 Mbytes (mode 2)
Disc Diameter	12 cm/8 cm
Rotational Speed	Approx. 10,600 rpm (inner max speed)

### Performance

Interface	E-IDE
Supported System	IBM PC-AT or Compatible
Transfer rate	Sustained Data Transfer Rate=Max 7,800Kbytes/sec
Access Time	Random 75 ms Typical
MTBF	125,000 Power On Hours (Duty Cycle 10%)
Buffer size	128 Kbytes
Error Rate	
ECC on	1 block/10 <sup>15</sup> bits (52x)
ECC off	1 block/10 <sup>12</sup> bits (52x)
User Data/Block	2,048 bytes/block (Mode1 & Mode2 Form1)
	2,340, 2,336 bytes/block (Mode2)
	2,324 bytes/block (Mode2 Form2)
	2,352 bytes/block (CD-DA)
Supported Disc	CD-DA, CD-ROM, CD-ROM XA-READY, Photo-CD
	CD-Plus/CD-Extra, Mixed CD, CD-RW

### Audio Specifications

Frequency Response	20 Hz - 20 KHz $\pm$ 3 dB
S / N Ratio	80 dB
THD	0.05 % at 1 KHz
Channel Separation	80 dB at 1 KHz
Headphone Level	0.70 Vrms (33 $\Omega$ )
Line Output Level	0.70 Vrms $\pm$ 20% (47k $\Omega$ )
Line Output Jack	4-Pin terminal (Rear)
Headphone Jack	$\phi$ 3.5 mm (Front)

### Environment

Temperature	5 - 45 °C
-------------	-----------

### Power Requirements

12 V $\pm$ 5%	1.5A (Maximum)
Ripple < 100m Vpp	
5 V $\pm$ 5%	0.9A (Maximum)
Ripple < 100m Vpp	

**NOTE:** Specifications are subject to change without notice for improvement.

## CD-ROM DRIVE



CLASS 1	LASER PRODUCT
KLASSE 1	LASER PRODUKT
LUOKAN 1	LASER LAITE
KLASS 1	LASER APPARAT

Copyright © 2002 LG

LG Electronics U.S.A. Inc.  
1000 Sylvan Ave.  
Englewood Cliffs NJ 07632  
U. S. A.  
or <http://www.lgeus.com>

LG Electronics Canada Inc.  
235 Superior Blvd, Mississauga  
Ontario, Canada

LG Electronics Deutschland GMBH  
Jakob-Kaiser-Straße 12,  
D-47877 Willich, Germany

LG Electronics U. K. Ltd.  
LG House, 264 Bath Road,  
Slough Berkshire SL1 4DT  
United Kingdom

Goldstar France S.A.R.L  
Paris Nord II 22, Avenue des  
Nations-B.P.50372 VILLEPINTE 95945  
ROISSY CDG CEDEX LG France

LG Electronics Italia S.P.A.  
Centro Direzione "IL Quadrato" Via  
Modigliani, 20090 Segrate (MI) Italy

LG Electronics España  
Complejo Europa Empresariales  
(Edif.Bruselas) Ctra. N-VI 28230 Las  
Rozas Madrid Spain

LG Electronics Australia Pty Ltd.  
23, pike st Rydalmere NSW 2116  
or <http://www.lge.com.au>

©2002 by LG

P/NO : 3828HM1032J

### Caution!

The disc rotates at high speed in the drive unit.  
Use of worn, damaged, or non-standard CD-ROM discs  
can only adversely affect the drive and cause the disc to  
shatter or crush while in use.

Disc crush can only occur when you use a damaged  
CD-ROM disc in the drive. It is an extremely rare occurrence,  
but there are steps which can be taken to prevent it.

#### Always check your discs before inserting them into the drive.

1. Take care not to use worn, cracked, damaged,  
warped or poor quality CD-ROMs, as this may  
cause damage to your drive.
2. Check the clear plastic on the center of the disc,  
cracks here are the main cause of disc crush.
3. Do not play CD-ROMs which are a non-standard (i.e.  
non-circular) shape, such as heart shaped discs, or  
discs in the shape of a business card.

#### How can you keep your discs from becoming damaged?

1. When not in use, remove discs from the drive.
2. Keep discs in the packaging supplied with them  
and out of direct sunlight and away from heat  
sources.

Excessive vibration or a sudden jolt to the drive during  
operation may cause a malfunction.  
Avoid exposing the drive to sudden changes in temperature  
as it may cause condensation to collect inside the drive.

Printed in Korea