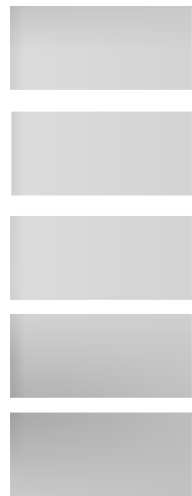# LG

DVD-ROM DRIVE

MODEL : GDR-8161B

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

To enjoy fully all the features and functions of your DVD-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 DVD-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 herein 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

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

E-2

E-3

Features

Features

- E-IDE interface
- Data transfer rate (DVD-ROM max-16X-speed: 22,100KB/sec, CD-ROM max-48X-speed : 7,200KB/sec)
- Access time (DVD-ROM: 120ms Random access-Typical, CD-ROM: 100ms Random access-Typical)
- Intelligent 256KB data buffering system
- Small CPU bandwidth (MPC spec.)
- Motorized tray loading system
- Horizontal/Vertical mounting support
- Designed for internal mounting
- Emergency eject support
- Supports Windows 95, 98, 2000, ME & XP Plug-and-Play ATAPI protocol
- Read compatible for DVD-R, DVD+RW, DVD-RW & DVD-RAM discs
- Photo CD multisession support
- Supports Region playback control Phase II

System Requirements*

- IBM PC AT or compatible, Pentium-266MHz processor or higher (higher recommended).
- A minimum of 16MB memory (higher recommended).
- A suitable free standard 5¼" internal drive bay.
- MS-DOS version 3.1 or higher. (Windows 95 and above recommended).
- 3½" 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 a considerably increased specification PC to give acceptable results. While this DVD-ROM drive can read DVD-video discs, decoding them to display on your pc's monitor requires separate MPEG decoding that is done by separate hardware (either an MPEG decoder card or MPEG decoding done by your video card), or separate software that you install to do MPEG decoding. These items are separate and are not included with this DVD-ROM drive.

Location and Function of Controls

Front View

Back View
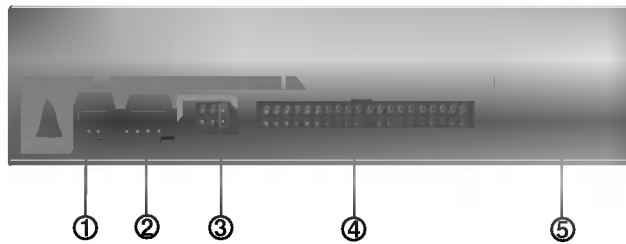
Supplied Accessories

☑Owner's Manual   ☑Screw (4 pieces)   ☑Audio Cable

Front View

1. Headphone Jack
Standard ⅛″ (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/DVD-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. Open/Close/Stop Button
This button is pressed to open or close the CD tray.

Back View

1. Digital Audio Output Connector
This connector is not supported.

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 DVD-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 DVD-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 DVD-ROM drive:

1. Remove the cover from your computer system. Refer to manual for the computer for details about removing the cover.
2. Adjust the Master/Slave jumpers on the back of the DVD-ROM drive as necessary. Connect the DVD-ROM drive to the IDE port 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 connections for DVD-ROM drive installation.
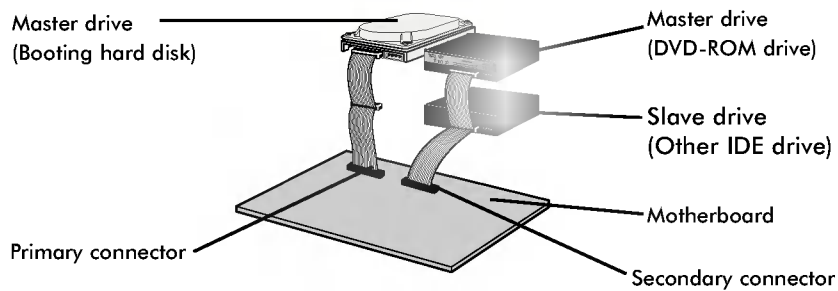
A) When using a Primary IDE port
If you need to connect your DVD-ROM drive to the same Primary IDE port, the DVD-ROM drive should be set to Slave position.

Primary connector

Master drive
(Booting hard disk)

Slave drive
(DVD-ROM drive)
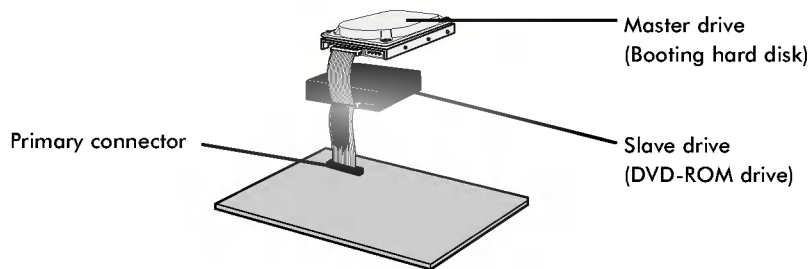
### B) When using a Secondary IDE port
You can also connect DVD-ROM drive to the Secondary IDE port and set to Master position.

Master drive
(Booting hard disk)

Primary connector

Master drive
(DVD-ROM drive)

Slave drive
(Other IDE drive)

Motherboard

Secondary connector

E-7

3. Insert the DVD-ROM drive unit into a free 5.25-inch drive bay. Secure the DVD-ROM drive to the drive bay rails with the mounting screws (supplied).
4. Connect the 4-pin power cable and 40-pin IDE interface cable to the back of the DVD-ROM drive.

Power Cable

Audio Cable

IDE cable

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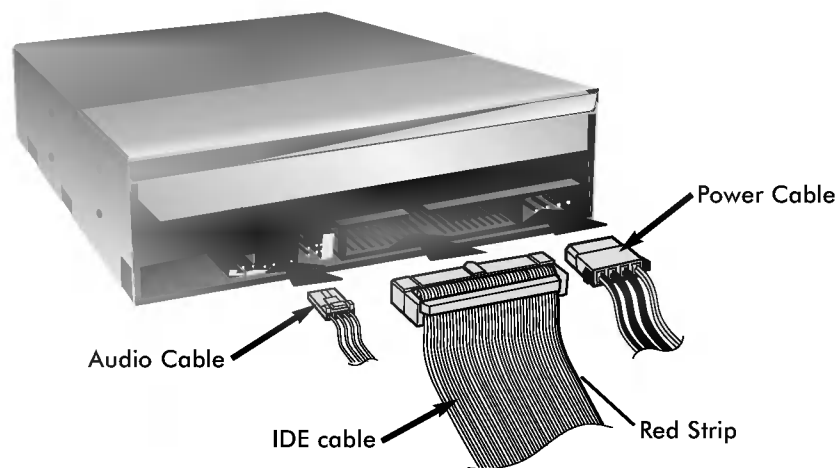
Notes: If there is no spare power cable available in the computer, you will have to purchase a splitter cable of a suitable type.

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

Please Note: an IDE cable is not supplied and may need 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 DVD-ROM drive is supplied with a Creative Labs SoundBlaster© compatible audio lead, if this is not suitable for your sound card, it maybe necessary for you to purchase a suitable lead from your retailer. Refer to the manual for the sound card for detailed information regarding connection.

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.

DOS and Windows 3.1 users can download the DOS Device drivers anytime via the internet. For your information, please consult the following internet sites:
  http://www.lge.com
  http://www.lgservice.com

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 Panels]-[System]-[Device Manager]-[CD-ROM]
    Windows 2000/XP : [Control Panels]-[System]-[Hardware]-[Device Manager]-[DVD/CD-ROM-Drive]
  • 32-bit is displayed in
    [control panels]-[system]-[performance]
■ If the drive is not recognized by your computer, please check the following items.
  • If a ⓘ indicator is displayed on the IDE controller in [control panels]-[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 panels] - [SCSI adapter] - [devices]
■ If the drive is not recognized by your computer, please check the following items.
  • If a ⓘ indicator is displayed on the IDE controller in [control panels]-[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 this becomes 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 play a CD having other shape than a circular disc, such as heart shaped disc, or malfunction may occur.
- Do not use damaged, cracked, or warped discs. If they break inside the unit, they may damage the optics. The disc in the drive unit rotates at high speed.
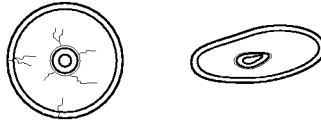
- Do not use non-standard discs as these may adversely influence this unit and other equipment.

■ **Transportation**
- Always remove the disc before moving the drive.

■ **Notes on CD-RW/DVD-RW discs**
This product can read CD-RW/DVD-RW disc data. Note the following:
- A little longer time is needed to sense a CD-RW/DVD-RW disc when the operation starts, compared with standard CD-ROM/DVD-ROM discs.
- Since playback signal level of CD-RW/DVD-RW is lower than the replicated CD/DVD discs, reading speed of those discs is lower than that of the replicated discs to ensure data reading.
- Blank discs, discs that you failed to write data, or discs that session close processing has not been made, cannot be used.
- Operation may not start, or the data may not be read under the following conditions:
  The quality of the recorded signal has deteriorated due to the dirt or scratches on the disc, or frequently rewritten discs. If the drive fails to read the disc, open the disc drawer, check the data side of the disc (side opposite the label side) for dust or scratches, and reinsert the disc and close the drawer to try to read the disc again.

E-11

Troubleshooting

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

(SOLUTION)

1. Check the DVD-ROM drive Master/Slave Jumper setting.
   The DVD-ROM drive should be set to the Slave mode if it is on the same IDE cable as your Hard Drive that is set to the Primary Master 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 DVD-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 DVD-ROM drive jumper to the master mode if the DVD-ROM drive is the first device you are connecting to the secondary IDE card.

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

(SOLUTION)

1. Select NON-*LISTED IDE CD.*

* DVD-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.

Please Note: Since this product supports Region Playback Control Phase II, a certain MPEG decoder card or Software without regional code setting may cause this drive not to read DVD-ROM discs. This DVD-ROM Drive enables you to change the regional code up to 5 times.

Specifications

Items		CD-ROM	DVD-ROM
General	Data Capacity (User Data/Block)	Yellow Book: 2048 bytes/block (Mode1 & Mode2 Form1) 2340, 2336 bytes/block (Mode2) 2332 bytes/block (Mode2 Form2) 2352 bytes/block (CD-DA)	Book A,B: 2048 bytes/block
	Rotational Speed	21X~48X (CAV) Approx. 10,130 rpm	6.7X~16X (CAV) Approx. 9,420 rpm (single layer) 5X~12X (CAV) Approx. 7,780 rpm (dual layer)
	Disc Diameter	12cm/8cm	
	Supported Disc	DVD-ROM, DVD-R, DVD+R, DVD-RW, DVD+RW, DVD-RAM, CD-Digital Audio & CD Extra, CD-ROM, CD-ROM XA-Ready, CD-I FMV, CD-R, CD-RW, CD-DA, Photo-CD (Single & Multi-Session), Video CD	
Performance	Access Time (Random Access)	100ms Typical (48X max random Access)	120ms Typical (16X max-random Access)
	Transfer Rate * Sustained	Outer side:Approx 7,200 Kbytes/sec Inner side:Approx 3,300 Kbytes/sec	Outer side:Approx 22,100 Kbytes/sec Inner side:Approx 9,200 Kbytes/sec
	* Burst (ATAPI)	16.67 Mbytes/sec (PIO Mode4) 16.67 Mbytes/sec (Multiword DMA Mode2) 33.3 Mbytes/sec (Ultra DMA)	
	Interface	ATAPI/E-IDE	
	MTBF	125,000 Power On Hours (Duty Cycle 20%)	
	Buffer size	256 Kbytes	
Audio	Frequency Response Line Output Level Headphone Level Line Out Jack Headphone Jack	20Hz ~ 20 KHz $\pm$ 3dB (Line Output) 0.7 Vrms $\pm$ 20% (47KΩ) TYP 0.65 Vrms 4-Pin terminal (Rear) ø 3.5 mm (Front)	
Environment	Temperature	5° ~ 45 °C (41 °F ~ 113 °F)	
Power Requirements	12V $\pm$ 10% Ripple<300m Vpp	1.4A (Rating)	
	5V $\pm$ 5% Ripple<100m Vpp	0.9A (Rating)	

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

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, 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.