

# **DVD ± R/RW Writer**

**User's Manual**

CLASS 1 LASER PRODUCT  
APPAREIL A LASER DE CLASSE 1  
LASER KLASSE 1  
LUOKAN 1 LASERLAITE  
PRODUIT LASER  
CATEGORIE 1

**DANGER** INVISIBLE LASER RADIATION WHEN OPEN AVOID DIRECT EXPOSURE TO BEAM  
**VORSICHT** INSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET NICHT  
DEM STRAHL AUSSETZEN  
**ATTENTION** RADIATION DU FAISCEAU LASER INVISIBLE EN CAS D'OUVERTURE.  
EVITER TOUTE EXPOSITION AUX RAYONS.

### Copyright Statement

It is a criminal offence, under applicable copyright laws, to make unauthorised copies of copyright-protected material, including computer programs, films, broadcasts and sound recordings. This equipment should not be used for such purposes.

## **FCC Compliance Statement**

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.

## **FCC Warning Statement**

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 emit radio frequency energy and, if not installed or used in accordance with the instructions, may cause interference to radio communications. However, television reception interference can be determined by turning the equipment off and on. The user is encouraged 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 the receiver
- Connect the equipment into an outlet different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

## **CAUTION**

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

## **FOR EUROPE**



“The drive is in conformity with the EMC directive and low-voltage directive.”

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## **INTRODUCTION**

Welcome to a multimedia world of ReWritable technology with DVD burning capabilities. This multiformat recordable drive presents you more backup choices other than acting as a CD-R/RW drive and as a DVD-ROM reader. The drive supports DVD Forum's DVD-R/-RW standard as well as the one of DVD+RW Alliance's DVD+R/+RW enabling excellent compatibility, simple, quick recording of both CD/DVD formats, huge capacity storage, and theater-quality playback.

The bundled package of mastering software offers the creation fun of video, photos, and music editing in addition to basic data backup. You can record up to 4.7 GB, 3 hours of TV shows or movies with high-quality MPEG2 video/AC-3 sound effect, and even more appealing, author your own DVD movies – from capture to editing and burning.

Handy, easy to use with rich function, this DVD±R/RW Writer is an ideal model to enjoy the fascinating digital entertainment on your desktop and here are some more important features:

- ◆ 4X DVD+/-R, 2X DVD+/-RW Write/Rewrite speed, 12X DVD-ROM Read speed
- ◆ 40X CD-R, 24X CD-RW Write/Rewrite speed, 40X CD-ROM Read speed
- ◆ Adopts "MTKSuperLink" to prevent Buffer Underrun errors for CD & DVD writing
- ◆ Supports writing modes of TAO, DAO, SAO and packet writing for CD-R/RW, Random Access Write, Sequential Write for DVD+/-R, DVD+/-RW
- ◆ Compatible with most existing DVD-ROM drives and DVD video players
- ◆ Bundled with an extensive software package

## **System Requirements**

For IBM compatible PCs, the system requirements recommended are as follows:

- ◆ Pentium III, 600MHz or above with at least 128MB of memory
- ◆ Fast and sufficient hard disk space (minimum 650MB for installation)
- ◆ IDE host interface supporting ATAPI MMC command
- ◆ Operating system: Microsoft Windows 98SE/ME/2000/XP

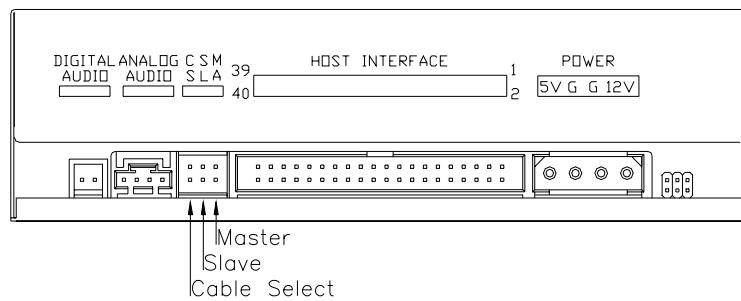
## **Package Contents**

- ◆ DVD±R/RW Writer (this drive)
- ◆ Audio cable
- ◆ Application software disc
- ◆ 4pcs of screws/bag

## INSTALLATION

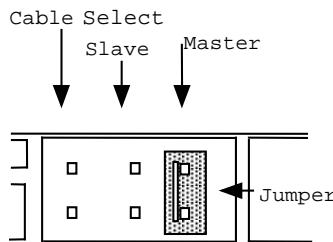
### Host Interface Connections

Most current mainboards have two IDE ports (primary and secondary), which can connect two IDE cables. Two IDE cables allow you to connect up to four devices, but it is recommended that you separate IDE ports for your hard drive and this writer. This will ensure that your hard drive's performance and speed won't be affected by having the writer on the same cable.



If you connect only one device on the cable, you can set the jumper as "MASTER" or "SLAVE".

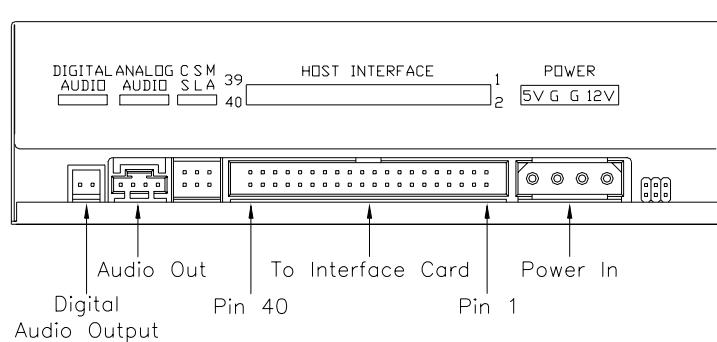
If you connect two devices (e.g. CD-ROM & CD-RW) on the same cable, set different jumpers for each device (CD-ROM as "MASTER", CD-RW as "SLAVE", and vice versa.) The same rule applies to the connection of having your hard disk and another device on the same cable.



## Hardware Installation

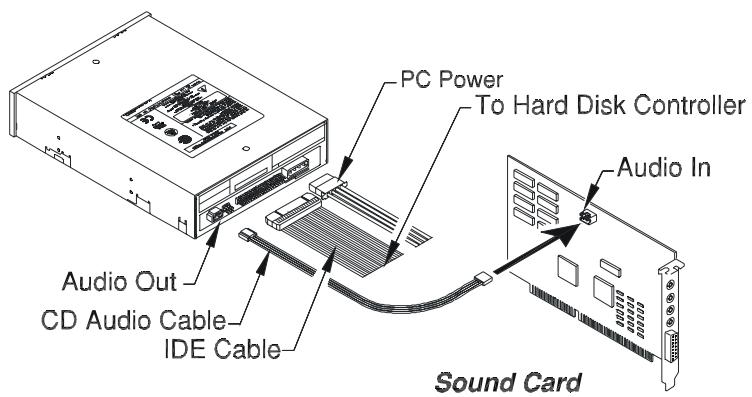
1. Turn off the power to the computer system.
2. Disconnect all cables from the back of your computer, and then remove the cover from the computer.
3. Insert the writer into one of the vacant 5.25" drive bays and secure it with screws to your PC.

*☞ In order to prevent interference between the writer and the computer, please mount the writer using all four mounting screws.*
4. Connect the 40-pin IDE cable from one of the IDE ports on the mainboard to the 40-pin connector of your writer. Also, connect the power supply cable to the back of the writer.



*☞ Make sure to align and connect the red-edge of the IDE Cable to Pin 1 on the drive.*

5. If you have a sound card that can be connected to this writer, you can connect the drive (as Audio-out) and the sound card (as Audio-in) with a 4-pin audio cable.



If your mainboard is integrated with built-in sound system, plug the 4-pin audio cable into the CD-IN connector on the mainboard as Audio-in.

6. Re-attach the cover of your computer, and reconnect the power cord.

## Driver Installation

### Windows Environment

This DVD±R/RW Writer is a Plug & Play device and there is no need to install driver. Windows 98SE/ME/2000/XP can **automatically detect** the drive and load the appropriate driver.

## **Software Package**

The bundled package combines software for **1)** DVD/CD recording **2)** DVDs/VCDs authoring **3)** Packet Writing **4)** DVD playback, which gives you the complete solution for making audio/data CDs/DVDs of different formats, editing video and authoring DVD movies. The user-friendly interface simplifies the recording process and guides you through the creation in an easy and innovative way. No matter you are a novice or an experienced user; this is your best recording tools with the writer.

## **Installation Under Windows Environment**

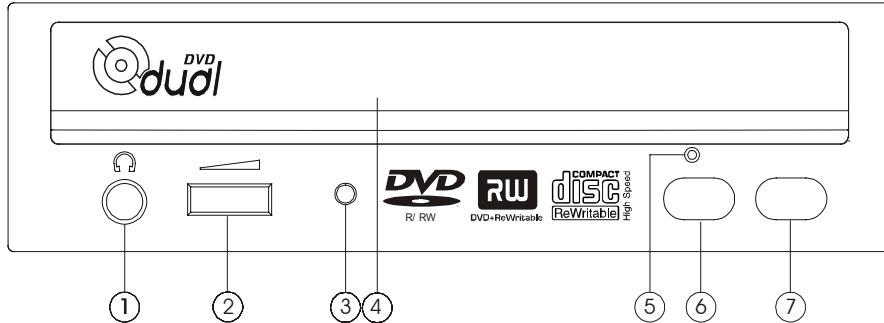
1. Insert the application CD and the installation program will run automatically. Then follow the on-screen procedures.

Or

2. Run:**\setup.exe** on the application CD.

## CONNECTION & OPERATION

### Front Panel



#### 1. Headphone Plug

By plugging in the headphone jack here, you can listen to an audio CD (CD-DA disc) directly playing from the writer.

#### 2. Headphone Volume Control

This knob adjusts the audio output level. Turn the wheel to the right/left for the volume of your headphone.

#### 3. LED Indicator (dual color)

Flashes "green" while verifying or reading a disc.

Flashes "amber" while writing discs.

#### 4. Disc Tray

Place the disc in the tray here, and then press the Open/Close button or lightly push the tray to close it.

#### 5. Emergency Eject Hole

If the Open/Close button doesn't work properly and the disc tray can't be opened, you can insert a paper clip or a small rod into this hole for manual ejection.

Please make sure to power off the system before you do that.

#### 6. Play/Skip button

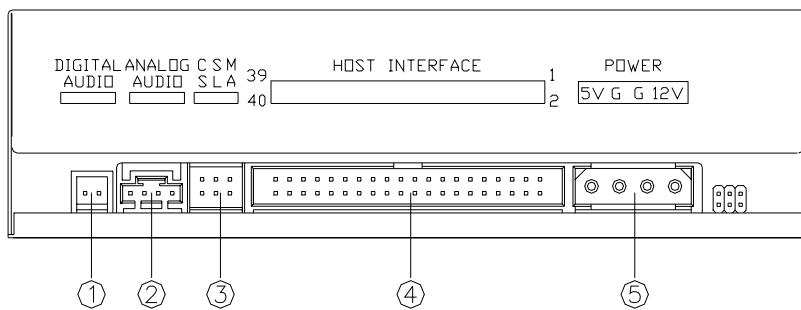
Press this button to play tracks or skip to next track during the playing state.

#### 7. Open/Close button

This button opens and closes the disc tray. If the tray is closed, pressing the button will eject it. If the drive is playing an audio disc, pressing this button will stop it.

**NOTE: The front panel is subject to change without notice.**

### Rear View



#### 1. Digital Audio Output Connector

If your sound card has a digital audio IEC958 format connector, you can connect it to this digital audio output connector with a 2-pin audio cable.

#### 2. Analog Audio Output Connector

This connector allows you to connect the drive to your sound card with a 4-pin audio cable.

#### 3. Device Configuration Jumper

Set the jumper to Master, Slave or Cable Select according to your system configuration.

**4. IDE Interface Connector**

Plug one end of the 40-pin IDE cable here to join the 40-pin IDE connector on the motherboard. The red-edge of the IDE cable must be connected to Pin 1 of each connector.

**5. Power Supply Connector**

By plugging the computer's power supply cable here, you can connect the drive and your computer system.

## DVD REGION CODING

### Region Playback Control Management

All DVD Video Playback systems have “Region Playback Control” (RPC) which is required by Hollywood movie industry and defined by DVD Forum. You can only play DVD-Video discs with the same region code as your DVD-Video Playback system.

As for DVD-ROM drives, one kind of the DVD-Video Playback system, there are 2 types:

**RPC Phase 1 (as RPC1):** RPC1 drives do not have built-in hardware support for region management. DVD-ROM drives of this kind don't play a part in controlling the playback region. It solely depends on the decoder.

**RPC Phase 2 (as RPC2):** RPC2 drives maintain the region change count information in hardware, and in general, the region code of such drives can be changed up to 5 times by end users under some software decoder. (e.g. PowerDVD)

### Region Codes

**Region 1:** Canada, U.S.

**Region 2:** Japan, Europe, South Africa, and Middle East, Egypt

**Region 3:** Southeast Asia and East Asia

**Region 4:** Australia, New Zealand, Pacific Islands, Central America, Mexico, South America, and the Caribbean

**Region 5:** Eastern Europe, Indian subcontinent, Africa, North Korea, and Mongolia

**Region 6:** China

## **About This Drive**

This DVD±R/RW Writer is also a PRC2 DVD-ROM drive and the first region code will depend on the DVD title you play. You are allowed to modify the region code 5 times (including the initial one). After the fifth alteration, the region code will be locked and only those DVD titles of the same region code could be played afterwards, so set the code carefully.

## TECHNICAL DATA

Interface	E-IDE/ATAPI
Disc Data Capacity	<b>DVD+/-R, DVD+/-RW:</b> Single layer 4.7GB <b>CD-R/RW:</b> 74min/650MB, 80min/700MB
Media supported for Writing	DVD+R, DVD-R, DVD+RW, DVD-RW, CD-R, CD-RW
Writing Formats	<b>DVD+/-R, DVD+/-RW:</b> DVD-ROM, DVD- Video <b>CD:</b> CD-DA, CD-ROM, CD-ROM XA, CD- Extra, CD-I, Mixed-Mode CD, Video CD, Photo CD, CD-Text, Bootable CD, Multi- Session
Writing modes	<b>DVD+/-R, DVD+/-RW:</b> Random Access Write, Sequential Write <b>CD-R/RW:</b> Track at Once, Disc at Once, Session at Once, Multi-session, Incremental Packet Writing
Writing Speed	<b>DVD+/-R:</b> 1X, 2X, 4X <b>DVD+/-RW:</b> 1X, 2X <b>CD-R:</b> 16X, 24X, 32X, 40X <b>CD-RW:</b> 4X, 10X, 16X, 24X
Reading Compatibility	CD Audio, CD-Extra, CD-ROM/XA, CD-I, Photo CD, Video CD, CD-Text, DVD-ROM, DVD+/-R, DVD+/-RW
Reading Speed	<b>DVD+/-R, DVD+/-RW:</b> max. 6X <b>CD-R:</b> max. 40X, <b>CD-RW:</b> max.32X <b>CD-ROM:</b> max. 40X, <b>DVD-ROM:</b> max. 12X

Data Transfer Rate	<b>CD -- Read</b> CD-ROM/CD-R: 6000KB/sec (up to 40X) CD-RW: 4800KB/sec (up to 32X)
	<b>CD -- Write</b> CD-R: 6000KB/sec (up to 40X) CD-RW: 3600KB/sec (up to 24X)
	<b>DVD -- Read</b> DVD-ROM: 16224KB/sec (up to 12X)
	<b>DVD -- Write</b> DVD+/-R: 5408KB/sec (up to 4X) DVD+/-RW: 2704KB/sec (up to 2X)
Access time	<b>DVD:</b> 130ms (12X) <b>CD:</b> 130ms (40X)
Data buffer	2MB
Disc loading	Tray (motorized)
Dimensions (WxHxD)	148.6 x 41.8 x 193.3 mm
Weight	1 kg
Mounting Method	Horizontal
Temperature	
Operating	5°C to 45°C
Non-operating	-20°C to 60°C
Humidity	
Operating	8% ~ 80%RH
Non-operating	5% ~ 95%RH

## **APPENDIX**

### **DVD Forum**

The DVD Forum is an international organization made up of companies using or manufacturing digital versatile disc (DVD)-related products. The Forum was created in 1995 when ten companies (Hitachi, Matsushita, Mitsubishi, Philips, Pioneer, Sony, Thomson Multimedia, Time Warner, Toshiba Corporation, and Victor) joined for the common purpose of promoting DVD worldwide and establishing standardized formats of each DVD application for the marketplace.

### **DVD+RW Alliance**

The DVD+RW Alliance is a voluntary group of industry-leading personal computing manufacturers, optical storage and electronics manufacturers including Dell, Hewlett-Packard Company, MCC/Verbatim, Philips Electronics, Ricoh Company Ltd., Sony Corporation, Thomson multimedia and Yamaha Corporation. The group seeks to develop and promote a universally compatible, rewritable DVD format to enable true convergence between personal computing and consumer electronics products.

### **DVD FLLC (Format, Logo, Licensing, Corporation)**

DVD Format/Logo Licensing Corp (DVD FLLC) was established in 2000 to handle issuing of the DVD specifications, granting licenses to manufacturers and policing the use of the DVD logos. All manufacturers of hardware, discs and related DVD products must be licensed and first products verified to ensure that all players will play all discs. The correct logos must be used for the appropriate products in the appropriate way.

## **DVD Formats**

### **DVD Video**

Popular format for viewing movies and other visual entertainment with high quality MPEG2 video & digital surround sound. Enables multi-language, multi-subtitling and other advanced user features.

### **DVD Audio**

This audio-only storage format doubles the fidelity of sound effect comparing with a standard CD as well as longer playing times, copy protection and anti-piracy measures...etc.

### **DVD-ROM (DVD Read Only Memory)**

Read-only DVD discs used for storing data and interactive sequences as well as audio and video.

### **DVD-R (DVD Recordable)**

A write-once format used to master DVD Video and DVD-ROM discs. Good for archiving data and recording home movie discs.

### **DVD-RW (DVD ReWritable)**

The DVD Forum's format with a read-write capacity of 4.7GB per side. It can be re-written up to 1000 times. Suitable for backups, DVRs, and movies.

### **DVD+R (DVD Recordable)**

A write-once format. Good for archiving data and recording DVD movies.

### **DVD+RW (DVD ReWritable)**

The DVD+RW Alliance's fast, 1000-times-rewritable format. Excellent for backups, good for movies, real-time video recording & random data burning

### **DVD-RAM (DVD Random Access Memory)**

The DVD Forum's 100,000-times-rewritable format. Suitable for backups and DVRs.

## **Reference**

For more related information about the organizations and formats definition of DVD, please refer to the following web sites:

*<http://www.dvdrw.com>*  
*<http://www.dvdforum.org>*  
*<http://www.licensing.philips.com>*  
*<http://www.discronics.co.uk>*  
*<http://www.dvdfllc.co.jp>*

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