

16X DVD±R/RW Writer

±R 16X/+R DL 4X/ +RW 8X /-RW 4X

USB 2.0 External Drive

User's Manual

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

CAUTION

CLASS 3B VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN.
AVOID DIRECT EXPOSURE TO BEAM.

VORSICHT

KLASSE 3B SICHTBARE UND UNSICHTBARE LASERSTRAHLUNG WENN
GEOFFNET. NICHT IN DEN STRAHL SEHEN.

ATTENTION

RADIATION DU FAISCEAU LASER VISIBLES ET INVISIBLES DE CLASSE 3B
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 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 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 on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help.

WEEE LOGO

Disposal of Old Electrical & Electronic Equipment (Applicable in the European Union and other European countries with separate collection systems)

This symbol on the product or on its packaging indicates that this product shall not be treated as household waste. Instead it shall be handed over to the applicable collection point for the recycling of electrical and electronic equipment. By ensuring this product is disposed of correctly, you will help prevent potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling of this product. The recycling of materials will help to conserve natural resources. For more detailed information about recycling of this product, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

CAUTION

Any 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.”

Table of Contents

INTRODUCTION	1
ABOUT USB	2
SYSTEM REQUIREMENTS	3
PACKAGE CONTENTS	3
INSTALLATION	4
HARDWARE INSTALLATION	4
DRIVER INSTALLATION	5
SOFTWARE PACKAGE	5
DVD REGION CODING	6
ABOUT THIS DRIVE	7
OPERATION & CONNECTION	8
FRONT PANEL	8
REAR VIEW	9
TECHNICAL DATA	10
APPENDIX	13

INTRODUCTION

Accompanying the new DVD storage technology, we are honored to present you a compact and multiformat external drive of USB 2.0 interface: 8X DVD±R/RW Writer.

This 16X DVD±R/RW Writer frees up precious bay space and offers more backup choices other than acting as a CD-R/RW drive and as a DVD-ROM reader. It supports dual formats of DVD+R/RW and 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. You can either record up to 8.5GB, 4 hours of TV shows or movies into high-quality DVD video, or author your own DVD movies – from capture to editing and burning, which both are playable in most DVD players and DVD-ROM drives.

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

- ◆ USB 2.0 interface, easy to connect to USB 2.0 port in PC
- ◆ 16X DVD±R Write, 4X DVD+R Double Layer Write, 8X DVD+RW, 4X DVD-RW Rewrite speed, 16X DVD-ROM Read speed
- ◆ 48X CD-R, 24X CD-RW Write/Rewrite speed, 48X CD-ROM Read speed
- ◆ Adopts “MTKSuperLink” to prevent Buffer Underrun errors of CD & DVD writing
- ◆ Supports writing modes of TAO, DAO, SAO and packet writing
- ◆ Supports MultiRead function
- ◆ Serves as RPC-2 DVD-ROM Drive

-
- ◆ Smooth DVD playback
 - ◆ Compatible with most existing DVD-ROM drives and DVD video players
 - ◆ Bundled with an extensive software package

About USB

USB (Universal Serial Bus), a means of attaching devices to your computer, is basically a standardized intelligent serial connection which provides an expandable, hot-pluggable*¹ interface. Devices suitable for USB range from simple items like mice and keyboards to more complicated devices like printers, MP3 players, and storage devices. One other benefit of USB is plug_and_play. That is, when you plug the USB device in, it is automatically detected, drivers installed and then ready for operation.

USB 2.0 supports data transfer at up to 480Mbps for high-speed devices. It is backward compatible with USB1.1*² software and peripherals. If your computer doesn't have a built-in USB 2.0 port, you need to install a USB 2.0 PCI host card in your pc for the drive to run at USB 2.0 speed. Otherwise, this drive will run at standard USB speed.

*¹ You can connect and disconnect devices while the computer is running.

*² USB 1.1 can transfer data at rates up to 12Mb/s.

System Requirements

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

- ◆ Pentium III, 800MHz or above with at least 256MB of memory
- ◆ Minimum 2GB free Hard Disk space
- ◆ Operating system: Microsoft Windows 98SE/ME/2000/XP
- ◆ USB 2.0 PCI host card (If there's no USB 2.0 built-in port on board.)

Package Contents

- ◆ USB 2.0 external DVD±R/RW Writer
- ◆ Power adapter
- ◆ AC power cable
- ◆ USB 2.0 cable
- ◆ Application Disc1and Disc 2

INSTALLATION

Hardware Installation

1. Plug the power cable into the power outlet and the back of your external USB 2.0 drive separately.



2. Connect the USB cable to the USB port on your controller or your computer's USB port.



3. Then connect the other end of the USB cable to the back of your external USB 2.0 drive.



4. Power ON the drive by pressing the power switch on the back.



5. Windows will detect your new external USB 2.0 drive and assign it a new drive letter.



Note:

- ◆ Be sure to use the USB 2.0 cable packed with the drive.
- ◆ Never plug or unplug in any other USB device while the drive is transferring data. It's likely to loss data.
- ◆ It's advisable not to disconnect the drive or unplug the power to the drive while the application disc is inserted.
- ◆ Don't connect more than two CD-RW drives of USB connection to a single computer.

Driver Installation

Windows Environment

This DVD±R/RW Writer is a PnP (Plug and Play) device, and Windows ME/2000/XP can automatically detect the drive and load the appropriate driver. For the users who run Windows 98SE, please install the driver in the disc 2 via below path: D: \USB2.0\ External Driver\Set up," where D is your drive letter, and then restart the computer.

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 disc and the installation program will run automatically. Then follow the on-screen procedures.
Or
2. Run: **setup.exe** on the application disc.

DVD Region Coding

Region Playback Control Management

All DVD Video Playback systems have “Region Playback Control” management (RPC) which is required by Hollywood movie industry and defined by DVD Forum. This includes DVD-Video players and PC systems with DVD-Video capability. 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 of such drives can be changed up to 5 times by the end users under some software decoder (e.g. Power DVD).

And referring to the region codes, there are 6 regions worldwide, and normally, there is a region code mark on the package of DVD titles. :

Region 1: Canada, US

Region 2: Japan, Europe, South Africa, and Middle East (including Egypt)

Region 3: Southeast Asia and East Asia (including Hong Kong)

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

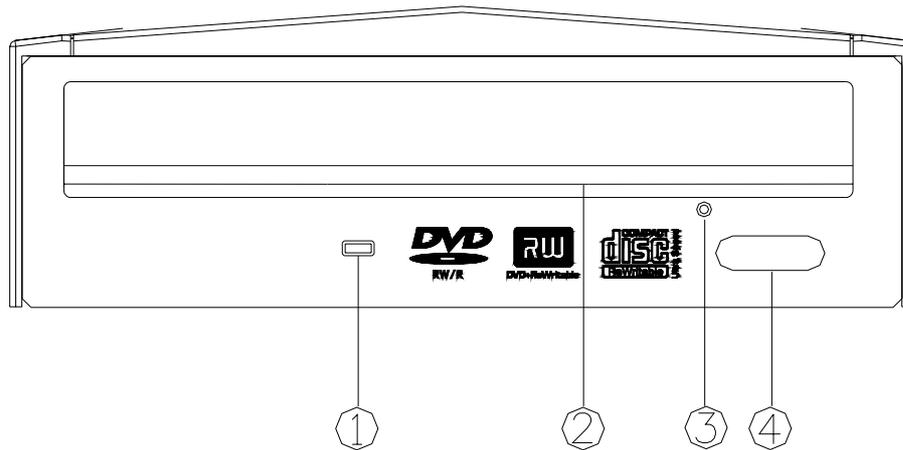
Region 6: China

About This Drive

This DVD±R/RW Writer is also a RPC2 DVD-ROM drive and according to DVD-Forum, PC chip must be designed into DVD-ROM drives to record how many times a user has changed the region code. The first region code will depend on the DVD title you play and 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.

OPERATION & CONNECTION

Front Panel



1. LED Indicator (dual color)

Flashes “green” while verifying or reading a disc.

Flashes “amber” while writing discs.

2. Disc Tray

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

3. Emergency Eject Hole

If the Close/Eject 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.

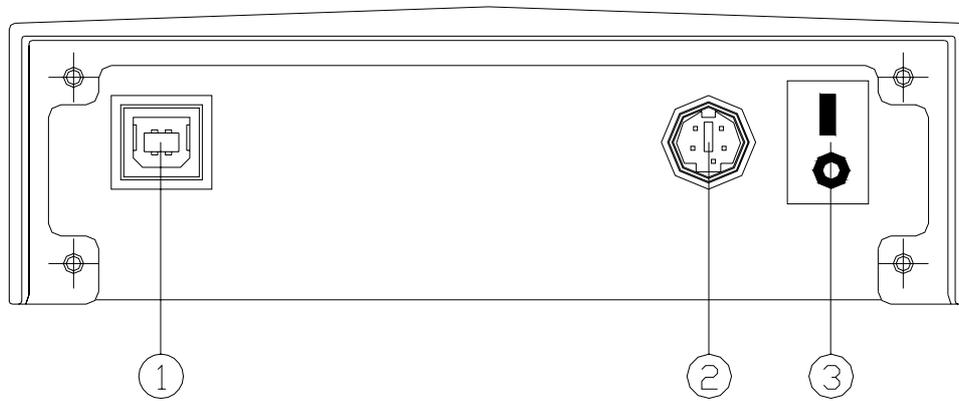
Please make sure to power off the system before you do that.

4. Close/Eject button

This button opens and closes the disc tray. If the tray is closed, pressing the button will eject it.

Note: The design of front panel is subject to change without notice.

Rear View



- 1. USB Connector**
- 2. D.C. Power Connector**
- 3. Power (On/Off) Switch**

TECHNICAL DATA

Interface	USB 2.0
Disc Data Capacity	DVD+/-R, DVD+/-RW: Single layer 4.7GB Double layer 8.5GB CD-R/RW: 74min/650MB, 80min/700MB
Media supported for Writing	DVD+R, DVD+ R DL, DVD-R, DVD+RW, DVD-RW, CD-R, CD-RW
Writing Formats	DVD+/-R, DVD+/-RW, DVD+R DL, DVD- ROM, DVD-Video 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	Track at Once, Disc at Once, Session at Once, Multi-Session, Packet Writing, Multi- track Reservation
Writing Speed	DVD+/-R: max. 16X DVD+ R DL: max. 4X DVD+RW: max. 8X DVD-RW: max. 4X CD-R: max. 48X CD-RW: max. 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	DVD+/-R: max. 8X, DVD+/-RW: max. 8X DVD+R DL: max. 6X CD-R: max. 48X CD-RW: max. 32X CD-ROM: max. 48X, DVD-ROM: max. 16X

Data Transfer Rate	<p>CD -- Read CD-ROM/CD-R: 7200KB/sec (up to 48X) CD-RW: 4800KB/sec (up to 32X)</p> <p>CD -- Write CD-R: 7200 KB/sec (up to 48X) CD-RW: 3600 KB/sec (up to 24X)</p> <p>DVD -- Read DVD-ROM: 21632 KB/sec (up to 16X)</p> <p>DVD -- Write DVD+/-R: 21632 KB/sec (up to 16X) DVD+R DL: 5408 KB/sec (up to 4X) DVD+RW: 10816 KB/sec (up to 8X) DVD-RW: 5408KB/sec (up to 4X)</p> <p>Maximum transfer rate is limited by PC system or interface speed.</p>
Access time	<p>DVD: 160ms (12X) CD: 130ms (48X)</p>
Data buffer	2MB
Disc loading	Tray (motorized)
Dimensions	<p>Height 57.17 ± 0.5 mm Width 162.68± 0.5 mm Depth 237.36 ± 0.5 mm</p>
Weight	1378 g
Mounting Method	Horizontal
Power Requirement	AC 100~240V, 50/60Hz

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.



3100552386
Version 1.0
July 2005