8X DDS DVD±R/RW Drive

Dual Digital Storage
7 in 1 card reader compatibility

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

Copyright Statement

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.

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

CE "The drive is in conformity with the EMC directive and low-voltage directive."

Table of Contents

INTRODUCTION

Accompanying the new DVD storage technology, we are honored to present you a compact and multiformat drive, 8X DDS DVD±R/RW Drive, with more to get: memory card capability!

This drive serves as an IDE CD/DVD writer (DVD-Dual Drive) and a USB-connected card reader. Besides the basic backup of CD-R/RW recording and DVD-ROM reading, it supports dual formats of DVD+R/RW and DVD-R/RW enabling excellent compatibility and gigabytes of data storage on one single DVD.

The bundled package of mastering software offers the creation fun of video, photos, and music editing. You can either record up to 4.7GB, 3 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.

And that isn't all, the built-in 7 in 1 card reader which offers read-write ability of 7 memory card types simplifies the process of exchanging data between Digital cameras, camcorders, voice recorders, PDAs, MP3s… and your computer. You can view, archive, or write the files/photos/video/music of the memory card directly from the drive and enjoy the fascinating digital/DVD entertainment on your desktop.

Here are some important features:

- Easy installation with the DVD-Dual drive of IDE and card reader of USB 2.0 interface (on board connection)
- 8X DVD+R, 4X DVD-R Write, 4X DVD+RW, 2X DVD-RW 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
- Smooth DVD playback of high resolution
- Compatible with most existing DVD-ROM drives and DVD video players
- Four-slot integration of the card reader works with CompactFlash, MicroDrive, Memory Stick, Memory Stick Pro, MultiMediaCard, Secure Digital, and SmartMedia
- Convenient connection with A-Type USB Extension Port on the front panel

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
- IDE host interface supporting ATAPI MMC command & USB host interface (if you don't have USB on-board connection)
- Microsoft Windows 98SE/2000/ME/XP

Package Contents

The package contains the following items:

- 8X DDS DVD±R/RW Drive
- Audio cable
- Application software discs x 2
- Quick Installation Guide

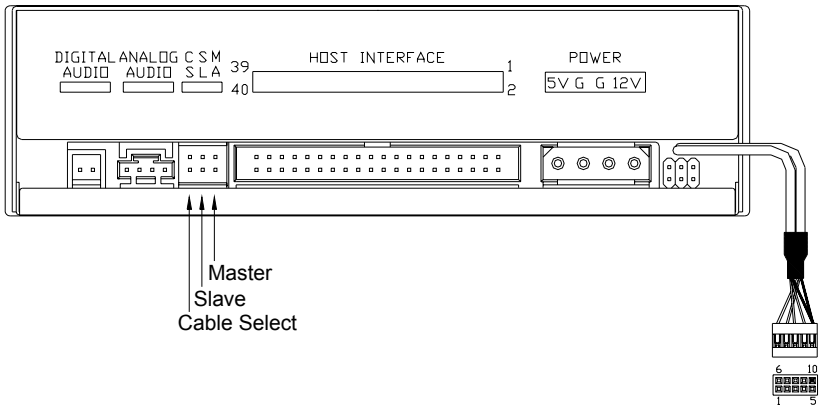
INSTALLATION

Host Interface Connections

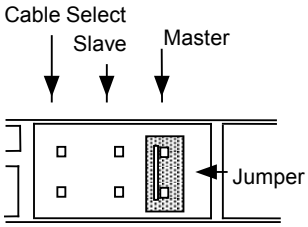
Most current motherboard models have two IDE ports (primary and secondary), which can connect two IDE cables. Two IDE cables allow you to connect up to four devices, but it is recommended that you separate IDE ports for your hard disk and your Dual Digital Storage Drive. This will ensure that your hard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

Jumper Setting

On the rear panel of this drive, you will find three pairs of jumpers: CS (CSEL), SL (Slave) and MA (Master). Use the jumper cap to set the device to CS, SL or MA mode corresponding to your PC configuration. If you connect only one device on the IDE cable, you can set the jumper as "MASTER" or "SLAVE".



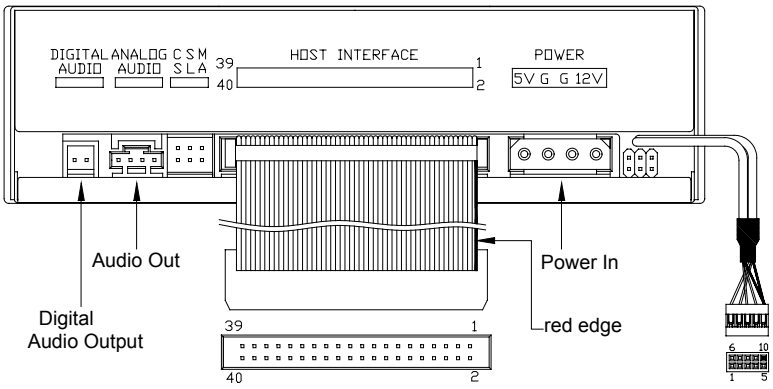
If you connect two devices on the same cable, set different jumper for each device (one as "MASTER", and the other one as "SLAVE"). The same rule applies to the connection of having your hard disk and another device on the same cable.



The system might not detect the drive if there is conflict or mistake with the jumper setting.

Hardware Installation

1. Turn off the power to your computer system.
2. Disconnect the power cord and all cables from the back of your computer, and then remove the cover of the computer.
3. Insert the drive into one of the vacant 5.25" drive bays and secure it to your PC with all four mounting screws.
4. Connect one end of the 40-pin IDE cable to the IDE connector of this drive and the other end to the IDE port on your motherboard. Also, connect the power supply cable to the back of the drive.



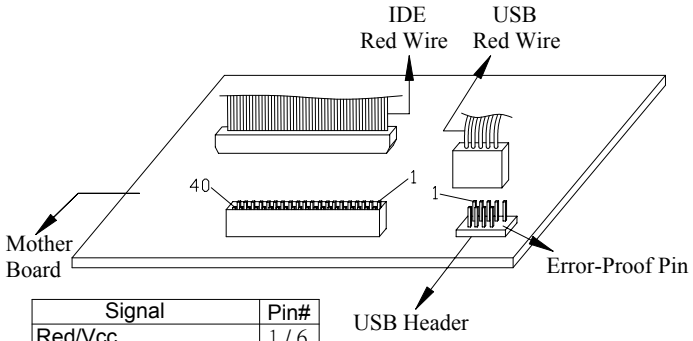
☞ *Make sure to align and connect the red-edge of the IDE Cable to Pin 1 on the drive.*

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

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

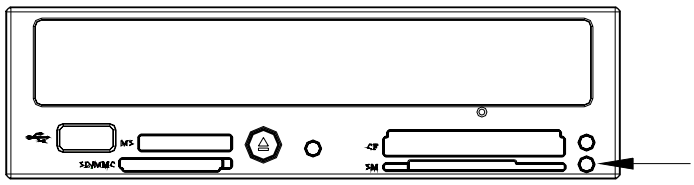
6. Connect the USB cable at the back of the drive to the USB header on the computer's motherboard. The red wire of the cable needs to be plugged into Pin 1 on the board. I

   ☞ *This drive supports USB 2.0 and if you connect to USB 1.1 connector, only transfer rate of USB 1.1 will be available.*



Signal	Pin#
Red/Vcc	1 / 6
White/D-	2 / 7
Green/D+	3 / 8
Black/Ground	4 / 9
Braided Shield Ground	5
Error-Proof Pin	10

   If the connection is correct, the lower right LED on the front panel will light **green**.



7. Re-attach the cover of the computer, and reconnect the power cord and all cables to the computer.

Software Installation

Burning Software

The bundled recording software gives you the complete solution for making audio/data CD/DVDs. With the user-friendly interface, it guides you through the creation and backup of files/photos/video/music from your computer to a recordable disc. Combining with the card reader capabilities, no matter you are a novice or an experienced user; you can enrich your digital life with this best recording tool.

DVD Playback Software

The DVD playback software comes with leading video and audio technologies to deliver the highest sound and visual effect possible on the PC. Meanwhile, it offers feature-rich navigation controls for an interactive and tailored DVD movie viewing experience. You can enjoy the wide range of educational and entertaining DVD titles with theater quality.

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.

DVD Region Code

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. PowerDVD).

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

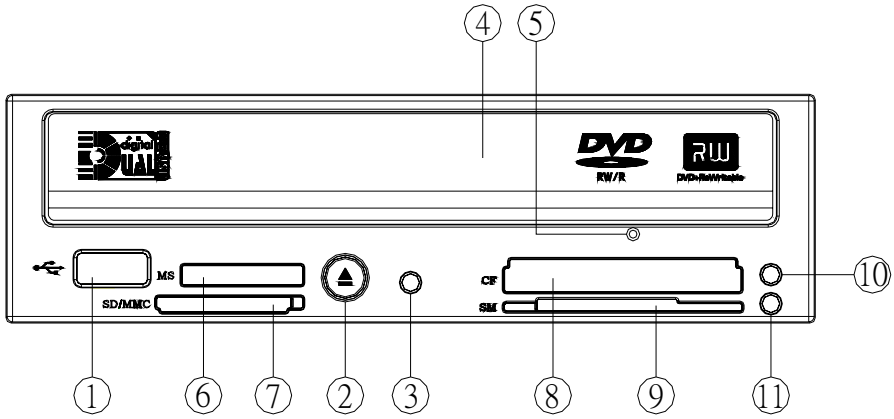
Region **6**: China

About This Dual Digital Storage Drive

This drive 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. A-Type USB Extension Port

This USB port is Plug-and-Play Ready. Just plug your USB device and the computer will detect automatically.

2. Close/Eject Button

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

3. Led Indicator (DVD-Dual Drive)

While the tray goes in/out, the LED flashes **green** and it's off when the drive is ready.

The LED flashes "**green**" while verifying or reading a disc and flashes "**amber**" while writing discs.

4. Disc Tray

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

5. Emergency Eject Hole

When 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.

6. Slot for Memory Stick (MS)/Memory Stick Pro (MS Pro)

7. Slot for Secure Digital (SD)/MultiMediaCard (MMC)

8. Slot for Compact Flash (CF) Type I, II/MicroDrive

9. Slot for Smart Media

10. LED Indicator (Card Reader)

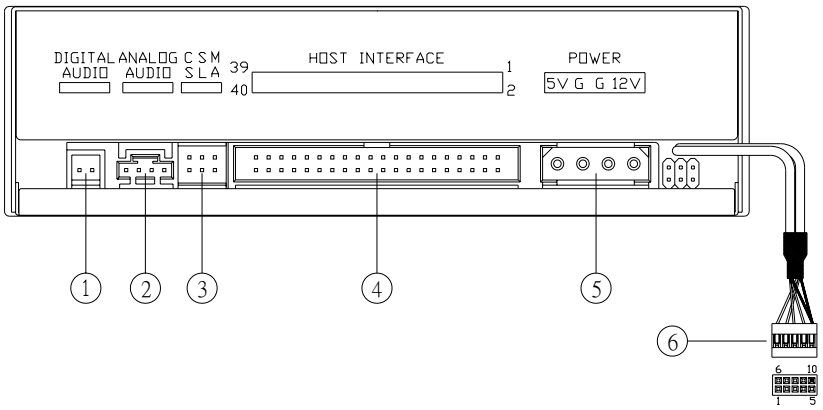
When the data of memory cards is being accessed, the LED flashes **red**.

11. LED Indicator (Card Reader)

Once the USB cable is correctly connected, this LED will light **green**, which means the card slots are ready to use.

☞ ***Note:*** *The design of 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.

6. USB Cable

Connect the USB cable to the USB header on the motherboard. The red wire of the cable needs to be plugged into Pin 1 on the board.

TECHNICAL DATA

Interface	DVD-Dual Drive: EIDE Card Reader: USB 2.0
Form factor	5.25" Half Height
Data Transfer rate	
DVD-Dual Drive	**CD** -- **Read** CD-ROM/CD-R: 6000KB/sec (up to 40X) CD-RW: 4800KB/sec (up to 32X) **CD** -- **Write** CD-R: 6000KB/sec (up to 40X) CD-RW: 3600KB/sec (up to 24X) **DVD** -- **Read** DVD-ROM: 16224KB/sec (up to 12X) **DVD** -- **Write** DVD+R: 10816KB/sec (up to 8X) DVD-R: 5408KB/sec (up to 4X) DVD+RW: 5408KB/sec (up to 4X) DVD-RW: 2704KB/sec (up to 2X)
Card Reader	480Mb/s (USB 2.0)
Access time (⅓ stroke)	**DVD:** 160ms (12X) **CD:** 130ms (40X)
Media supported for Writing	DVD+R, DVD-R, DVD+RW, DVD-RW, CD-R, and CD-RW
Writing modes	TAO (Track at once), DAO (Disc At Once), SAO (Session at once), Multi-session, Packet Writing

Writing speed	**DVD+R:**	1X, 2X, 4X, 6X, 8X
	DVD-R:	1X, 2X, 4X
	DVD+RW:	1X, 2X, 4X
	DVD-RW:	1X, 2X
	CD-R:	16X, 24X, 32X, 40X
	CD-RW:	4X, 10X, 16X, 24X
Writing Formats	**DVD+/-R, DVD+/-RW:** DVD-ROM, DVD-Video **CD:** CD-DA, CD-ROM, CD-ROM XA, CD-Extra, CD-I, Mixed-Mode CD, Video CD, Photo CD, CD-Text, Bootable CD, Multi-Session	
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. 6X **CD-R:** max. 40X, **CD-RW:** max.32X **CD-ROM:** max. 40X, **DVD-ROM:** max. 12X	
Digital Media	CompactFlash, MicroDrive, Memory Stick, Memory Stick Pro, SmartMedia, MultiMediaCard, and Secure Digital	
Disc Data Capacity	**DVD+/-R, DVD+/-RW:** Single layer 4.7GB **CD-R/RW:** 74min/650MB, 80min/700MB	
Data buffer	2MB	
Disc loading	Tray (motorised), Dust Sealed	
Mounting Method	Horizontal	
RMS Output Voltage	Line out = 0.6 ± 10%Vrms	

Power	5 VDC & 12VDC Card Reader power directly from computer power supply through USB connection
Dimensions	
Height	41.8 ± 0.2 mm
Width	148.6 ± 0.2 mm
Depth	193.3 ± 0.3mm
Weight	1 kg

Environment

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.disctronics.co.uk

http://www.dvdfllc.co.jp

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