

BCE 4012IM

CD-ReWritable Drive

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

BCE 4012IM is a half-height CD-ReWritable drive of standard IDE interface. It supports maximum 40x speed writing ability on CD-R discs, 12x speed on CD-RW discs and 48x speed reading performance. The drive backs up all writing modes and different CD formats and it automatically recognizes the media placed in the drive, whether a CD, a CD-R or a CD-RW. With the bundled CD-RW mastering software, BCE 4012IM is an ideal model for creating customized audio and data CDs, and for archiving or distributing big files to achieve data interchange and backup. Here are some important features of BCE 4012IM CD-ReWritable drive:

- ◆ 8X, 16X, 20X, 24X, 32X and 40X writing speed on CD-R media
- ◆ 4X, 8X, 10X and 12X writing speed on CD-RW media
- ◆ Adopts Buffer Underrun Prevention technology
- ◆ Supports MultiRead function
- ◆ Supports writing modes of TAO, DAO, SAO and packet writing
- ◆ Large internal buffer: 2MB
- ◆ Advanced dust-sealed design
- ◆ Low power consumption
- ◆ Firmware upgrade possibility via Flash Memory

System Requirements

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

- ◆ PC sufficient to run Windows 95/98/ME or WindowsNT/2000/XP
- ◆ Pentium II 300MHz above with at least 64MB of memory

- ◆ Fast and sufficient hard disk space (minimum 150MB for installation, 1GB or more is recommended.)
- ◆ IDE host interface supporting ATAPI MMC command
- ◆ Operating system: Microsoft Windows 95/98/ME or Windows NT/2000/XP

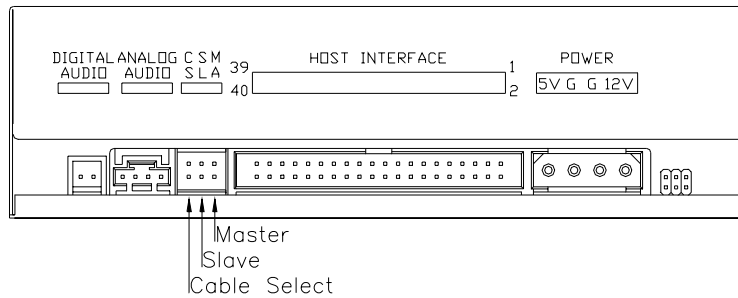
Package Contents

- ◆ BCE 4012IM CD-ReWritable drive
- ◆ Audio cable
- ◆ Data cable
- ◆ Application software disc (optional)
- ◆ CD-RW blank disc (optional)

INSTALLATION

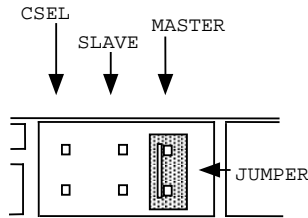
Host Interface Connections

Most current mainboard 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 drive and your CD-ReWritable drive. This will ensure that your hard drive's performance and speed won't be affected by having the CD-RW drive 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 jumper for each device (CD-ROM as "master", CD-RW as "slave" and vice versa.) The same rule goes for the connection of having your hard disk and one other device on the same cable.



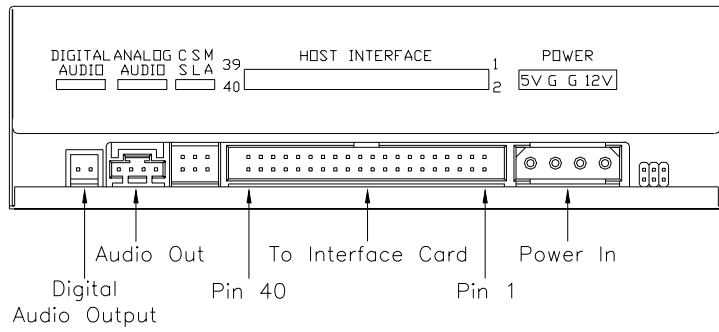
You may consider one of the two ways recommended below to connect your drive.

- ◆ To get the most stable performance for the CD-RW drive to write:
 - Primary IDE Master: Hard Disk
 - Primary IDE Slave: CD-ROM Drive
 - Secondary IDE Master: CD-RW drive

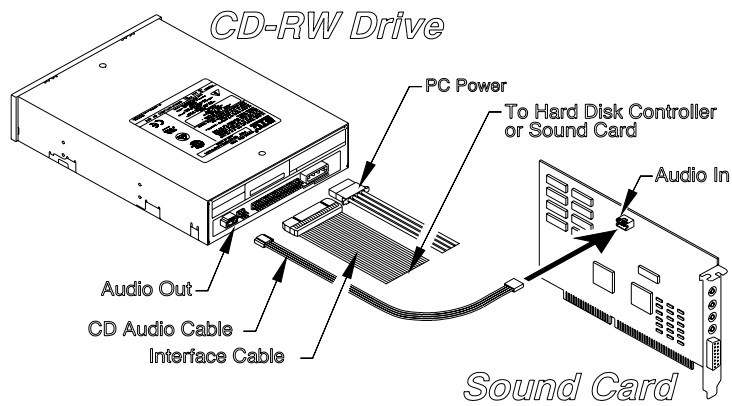
- ◆ For best hard disk performance:
 - Primary IDE Master: Hard Disk
 - Secondary IDE Master: CD-ROM drive
 - Secondary IDE Slave: CD-RW drive

Hardware Installation

1. Turn off the power to the computer system and all peripheral devices.
2. Disconnect all cables and connectors from the back of your computer, then remove the cover from the computer.
3. Insert the CD-ReWritable drive into one of the vacant 5.25" drive bays and secure it with screws to your PC.
 - ☞ *In order to prevent interference between the CD-ReWritable drive and the computer, please make sure to mount the drive 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 CD-ReWritable drive. Also, connect the power supply cable to the back of the CD-ReWritable drive.



☞ *The red-edge of the IDE Cable must be connected to Pin 1 on the CD-ReWritable drive.*



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

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. Reinstall the cover of your computer, and reconnect the power supply.

Driver Installation

Windows Environment

BCE 4012IM is a PnP device, and Windows 95/98/ME and Windows NT/2000/XP can **automatically detect** the drive and load the appropriate driver. If Windows cannot detect the drive, you can operate manually:

1. Click the **Control Panel** icon in **My Computer** and then click **Add New Hardware**. The Add New Hardware window appears.
2. The program will automatically search for your new drive and load the appropriate driver.

DOS Mode

If you need the device driver for DOS, please access the following web sites to download:

Taiwan – <http://www.btc.com.tw>

U.S.A. – <http://www.btcusa.com>

Europe – <http://www.btceurope.nl>

Software Installation

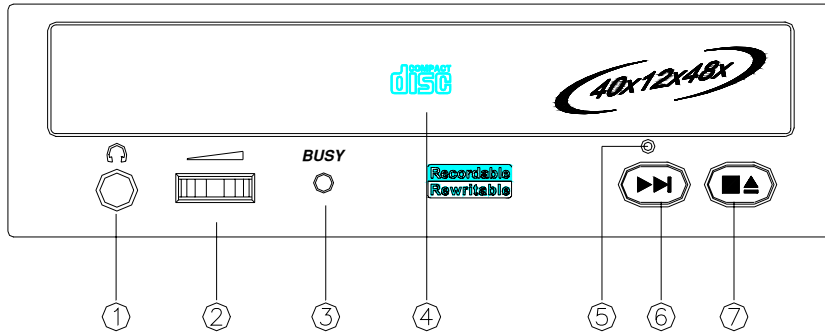
The bundled mastering software gives you the complete solution for making audio/data CDs right from your desktop. It allows you to copy files from your computer to a recordable compact disc. In addition, the audio CDs you create can be played in your home or car CD player. For the CD-RW media, you can write and erase data on the CD as you do with a floppy disk.

Windows Environment

- (1) Run **install.exe** or **setup.exe**
or
- (2) Refer to the **manual** in the software disc.

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 CD-ReWritable drive.

2. Headphone Volume Control

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

3. LED Indicator (dual color)

Flashes "green" while verifying or reading a disc.
Flashes "amber" while writing a CD-R/CD-RW disc.

4. Disc Tray

This is the tray for the disc. Place the disc in the tray, then press the Close/Eject button or lightly push the tray to close it.

5. Emergency Eject Hole

When the Close/Eject button can'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

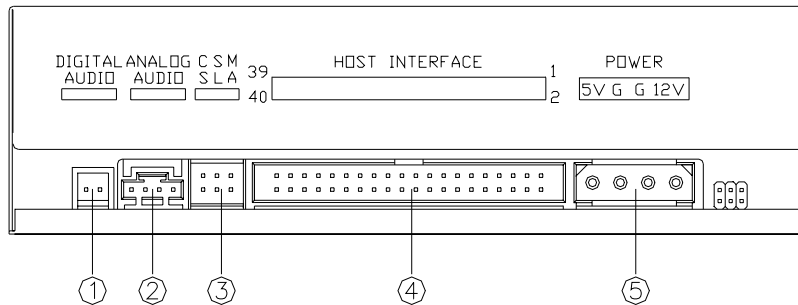
Press this button to play tracks or skip to next track during the playing state.

7. Close/Eject 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, 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 CD-RW drive and your computer system.

TECHNICAL DATA

Performance

Transfer rate	Read: 7200kb/s (up to 48X) Write: CD-R 6000kb/s (up to 40X) CD-RW 1800kb/s (up to 12X)
Access time (1/3 stroke) (full stroke)	100ms 200ms
Data buffer	2MB
CD format support	CD-Audio, CD-EXTRA, CD-ROM, CD-ROM XA, CD-I, Video CD, Photo CD, CD-Text
Writing modes	TAO (Track at once), DAO (Disc Once), SAO (Session at once), Multi-session, Incremental Packet Writing (fixed and variable packet size)
Writing speed	CD-R: 8X/16X/20X/24X/32X/40X CD-RW: 4X/8X/10X/12X

Specification

Interface	IDE
Form factor	5.25" Half Height
Disc loading	Tray (motorised)
Audio output level	Line out = 0.6 ± 10%Vrms Headphone out = 0.6± 10%Vrms

Power	5 VDC & 12VDC
Dimensions	
Height	41.8 ± 0.2 mm
Width	148.6 ± 0.3 mm
Depth	193.3 ± 0.5 mm
Weight	1 kg

Disc Specification

Capacity

120mm disc:	63min	553Mbytes	Mode-1
	74min	656MBytes	Mode-1
	80min	703MBytes	Mode-1
80mm disc:	18min	158Mbytes	Mode-1
	21min	184MBytes	Mode-1

Disc Type	CD-Recordable media (Orange Book Part II), CD-ReWritable media (Orange Book Part III)
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Environment

Temperature

Operating temperature	5°C to 45°C
Non-operating temperature	-20°C to 60°C

Humidity

Operating humidity 8% ~ 80%RH

Non-operating humidity 5% ~ 95%RH

TROUBLESHOOTING

To help you get more familiar with BCE 4012IM, the following FAQ lists some common problems you might encounter. Please read it for reference before you request RMA support from your dealer.

Q1. BCE 4012IM cannot be recognized.

- (1) The drive might not be connected properly. Please check whether the IDE cable and power connector are tightly connected.
- (2) Check if there is jumper conflict. Normally, if 2 drives connected with one IDE cable, the jumper has to separate one to MASTER & the other to SLAVE.
- (3) If Windows can't detect BCE 4012IM, click on the "Add New Hardware" in the Control Panel. Windows will start detecting.

Q2. The external speaker doesn't have sound when playing music CD.

- (1) Please check if the audio cable is connected to the audio connector properly.
- (2) Check both rear side of the CD-RW drive and sound card on M/B (If Audio chipset is on board). If they are well connected, check if the sound card is working.

Q3. The drive can't read former session(s) of the CD-R disc which has been written twice or more times.

Before writing CD-R discs with data copy, remember to choose "Import session" so as to read the former sessions.

Q4. There is noise while reading.

If the disc is eccentric or the label sticks on the disc surface, it will cause noise.

Q5. BCE 4012IM doesn't have power.

Please check if the power cord is connected securely.

Q6. The tray cannot be ejected.

There are two possible reasons:

- (1) Need to be ejected by the application.
Some of the burning or playing application will lock the drive. You have to eject by application and close it so as to restore the use of panel buttons.
- (2) The CD is inserted incorrectly.
Please insert a paper clip or small rod into the emergency hole on the front panel for manual ejection.

Q7. The CD-RW drive cannot read some general discs.

Please check if the disc has deep scratches, fingerprints, or other contaminants on the discs surface. Clean the disc if it's necessary.

Q8. BCE 4012IM drive cannot write.

We suggest as follows:

- (1) Use the burning software which is provided by original supplier and bundled with this CD-ReWritable drive or download the update file from internet.
- (2) More capacity of hard disk is needed if using hard disk as temporary buffer.
- (3) Place the disc correctly.
- (4) The blank disc needs full format first if using packet writing software.

Q9. "Buffer underrun" always occurs while writing discs.

Here are some suggestions:

- (1) Close the screen saver & TSR (Terminate and Stay Resident).
- (2) Quit other redundant application when burning.

- (3) Select good quality and high-speed supported blank discs.
- (4) Increase main memory capacity.
- (5) Select other burning software.
- (6) De-fragment the hard disk.
- (7) Keep the source & destination discs clean. (no scratches, fingerprints or contamination.)
- (8) Copy data as image file to hard drive to avoid buffer underrun.
- (9) Keep the system clean. Do not install redundant driver or application to reduce system loading as well as confliction.
- (10) Enable Buffer Underrun Protection mode if your software supports it.

Q10. Should I update BCE 4012IM with the latest version of firmware?

It is not definitely necessary to update the firmware unless your computer does encounter problems.

Q11. Does this CD-RW drive support over-burning?

Yes, but please use burning software which supports this function.

Q12. What burning software supports this CD-RW drive?

Software such as Adaptec EasyCD Creator, Ahead Nero-Burning ROM, NTI CDMaker...etc.

Q13. Does BCE 4012IM support CD-Text & SAO (Session At Once) function?

Yes, it does support CD-Text & SAO function and you may edit the title or content into your music CD.

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