

SAFETY INSTRUCTIONS

1. Please read these safety instructions carefully.
2. Please keep this User's Manual for your reference.
3. Please disconnect the equipment from your AC outlet before cleaning.
Do not use liquid or sprayed detergent for cleaning.
Use moist sheet or cloth for cleaning.
4. For pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.
5. Please keep this equipment away from humid areas.
6. Install this equipment on a reliable surface. If the equipment is not on a reliable surface, it may drop and cause injury.
7. The openings on the enclosure are for air convection. Please protect the equipment from overheating . DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source is appropriate when connecting the equipment to the power outlet.
9. Place the power cord where people will not step or trip on it. Do not place objects over the power cord.
10. All Cautions and Warnings on the equipment should be noted.
11. If the equipment is not in use for several days, disconnect the equipment from the power outlets to avoid damage by transient power surges.
12. Never pour any liquids into the openings, this could cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should only be opened by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by a qualified service personnel:
 - (a) The power cord or plug is damaged.
 - (b) Liquid has penetrated into the equipment.
 - (c) The equipment has been exposed to moisture.
 - (d) The equipment has not worked well or you can not get it to work according to the user's manual.
 - (e) The equipment was dropped and damaged.
 - (f) If the equipment has obvious signs of damage.
15. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT UNCONDITIONED; STORAGE TEMPERATURE ABOVE 60°C (140°F), IT MAY DAMAGE THE EQUIPMENT. The sound pressure level at the operators position according to IEC704-1:1982 is equal or less than 70dB(A)
16. DANGER: Invisible laser radiation when opened. Avoid direct exposure to beam. Complies with FDA radiation performance standards, 21 CFR, subchapter J.
Laser power: Wave Length: 783±3nm
Emission power: 0.7mW
Laser diode: class 3b

PRECAUTIONS

!! Do not attempt to open the drive and service it. Removing the cover may cause exposure to harmful laser beams and electrical voltage. User is recommended to get service by returning the defective drive back to the original vendor where the drive was purchased.

- Use the original package for transporting the drive or sending back for service. The original packing was designed and tested to protect your drive under rough conditions.
- Do not put this drive in direct sunlight, on heating units, or near electrical appliances which draw large amounts of current.
- Use a soft, dust-free cloth for cleaning your drive. Keep your drive away from moisture or liquids including water, cleaning-fluids, or solvents.
- Keep your CD-R/RW disc clean. Using a soft, dust-free cloth to clean the surface of the CD-R/RW disc before recording will improve the burning data integrity.
- Do not drop or jolt the drive.
- Keep the area around the drive clean from dust, smoke, and other contaminants.
- The copyright law of each country governs the reproduction of copyrighted works. The person using the drives may be liable for its use to make unauthorized copies of copyrighted works.
- It will increase the success rate for copying the data from HDD, instead of copying the data by "copy on the fly mode". Therefore we recommend the user reserving sufficient buffer space (at least 800 MB).

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INTRODUCTION

Thank you for purchasing this COMBO drive, a reliable, high-performance CD rewriter, CD recorder and CD/DVD reader. Please read this manual carefully and keep it handy for easy reference. Use the manual for installation, operation and troubleshooting for this drive.

What the COMBO Drive Does

The COMBO drive is a CD-ReWritable drive that provides professional quality CD performance for writing, rewriting and reading. It also reads Digital Versatile Discs (DVDs) formatted for movies and data. This versatile and remarkable drive can:

- Write to CD-R (recordable CD) media.
- Write to ultra-speed CD-RW (rewritable CD) media.
- Read all CD-ROM and CD-R media.
- Read DVD-ROM discs.

(NOTE: The drive's maximum Writing, ReWriting, & Reading speeds are printed on the original box.)

The COMBO drive supports Running OPC (ROPC) and is compatible with Windows Plug & Play. Flash memory allows upgrading the COMBO drive to the latest firmware revision (available from the web site) without opening the drive. Buffer Underrun Proof technology eliminates buffer underrun errors, therefore you can safely use your computer for other things while you're writing to a CD-R or CD-RW disc.

Format Compatibility

This COMBO drive is a versatile optical disk drive. For write function, it is capable to write data, which conform to Orange Book Part2/ part3 volume2: high speed / part3 volume3: ultra speed, into CD-R/RW disk in combination with write application software. For read function, it is a DVD-Multi compatible drive which is capable to read all of the following file formats of media: DVD single/dual layer (PTP, OPT), DVD-R, DVD+R, DVD-RW, DVD+RW, DVD-RAM (Optional). Besides, it reads all of CD formats and media: CD-DA, CD-ROM, CD-ROM/XA, Photo-CD, Multi-session, Karaoke-CD, Video CD, CD-I FMV, CD Extra, CD Plus, CD-R, and CD-RW.

Recording Modes

Track at Once

Data can be recorded to a disc, one track at a time. New tracks can be added later. Music CDs can not be played in a CD player or CD-ROM until the disc is closed.

Disc at Once

Data can be recorded to an entire disc in one pass. In this mode, new data added later is not allowed.

Session at Once

Data can be recorded to disc one session at a time. New sessions can be written later in this mode. More disc space can be used because there is no gap between tracks.

Multi session

Data can be recorded to disc in one session. New sessions can be written later in this mode. Less disc space can be used because a gap is created between sessions.

Packet Writing

This is useful for data back up. Data can be added directly to tracks on CD-R/RW media or can be deleted directly from tracks only on CD-RW media. To use this mode, your software must support Packet writing function.

What You Can Do with the COMBO Drive

- Record data or audio onto recordable or rewritable CD media.
- Play music CDs.
- Play VCD & DVD movies.
- Access interactive reference materials stored on DVD.
- Save photos and other images on recordable or rewritable CDs.
- Archive images and video to CD.
- Master new software programs on CD.

SYSTEM CONFIGURATION

System Requirements

To ensure stable read/write/rewrite performance, an IBM compatible PC system with the following features is recommended.

CPU	Pentium 166 MHz or higher
OS	Microsoft Windows 95/98/ME/2000/XP/NT4.0
Memory	Must meet recommended RAM requirements for your operating system. (minimum 128MB is recommended)
Hard Drive	Average seek time 20ms or less Transmission rate 2MB/sec or more Minimum 100MB available capacity (Do not enable HDD thermal calibration during operation)
Interface	Vacant IDE interface connector

NOTE:

Some high-speed hard drives are equipped with an "Auto Thermal Re-calibration" function. Please disable it in the BIOS setup to avoid writing errors (Buffer Underrun).

FEATURES AND CONTROLS

Front View

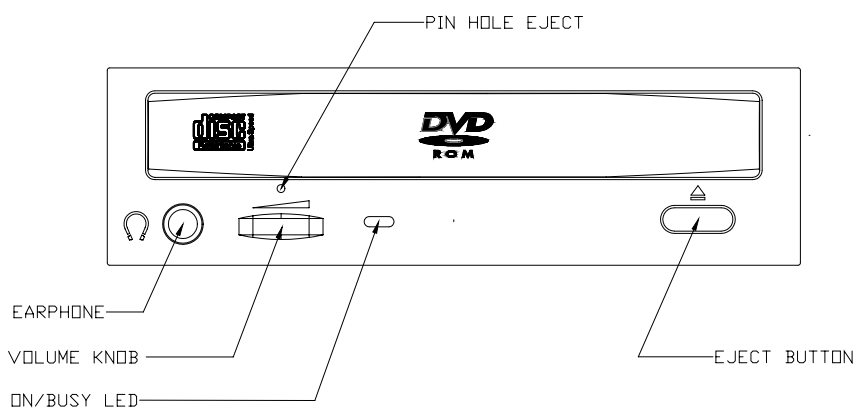


Figure: Front view of COMBO drive

A	Eject/Close Button	Push button to eject/close the tray.
B	Busy / Write LED	Indication of drive's operation status. The light lit stands for Busy; the light blinking stands for Write/Rewrite.
C	Volume Knob	Control volume of earphone jack. This control has no effect on rear panel audio output.
D	Earphone Jack	Stereo mini-jack for headphones and powered speakers.
E	Emergency Eject Hole	In case the Eject button isn't working, insert a small stick or paper clip into this hole to eject the tray. <i>Note: Turn off the power before doing this manual ejection.</i>

Rear View

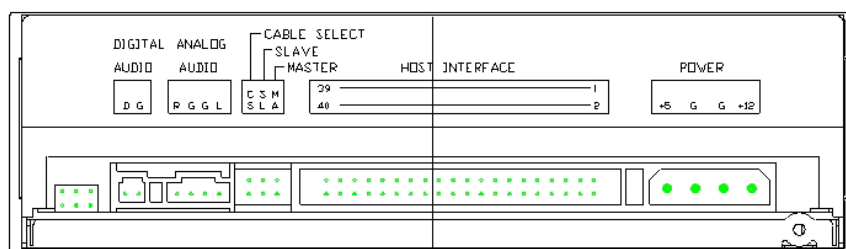


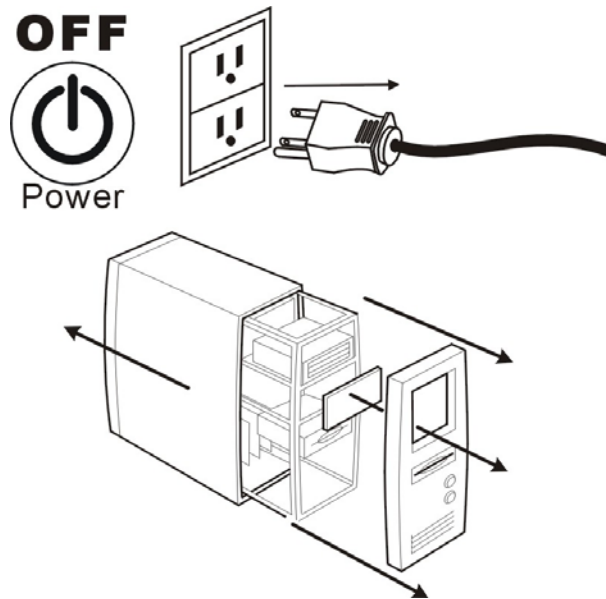
Figure: Rear view of COMBO drive

A	Power Connector	Four-pin connector for DC power input.
B	Host IDE Interface Connector	40-pin connector for E-IDE interface.
C	Device Configuration Jumper	Six-pin jumper for selecting drive mode as an IDE master, slave, or cable select.
D	Analog Audio Output Connector	Four-pin connector for analog audio output. Use to connect to sound board or audio amplifier.
E	Digital Audio Output Connector	Two-pin connector for digital audio data. For connecting to a sound board that support Sony/Philips digital interface (SPDIF) or Digital-In.

INSTALLING THE COMBO DRIVE

This chapter explains how to physically install your COMBO drive in your computer. The steps you will need to do are as follows:

1. Turn off your computer system and unplug from power outlet.
2. Remove the computer cover.



3. Set the Master/Slave jumper on the rear panel of the COMBO drive. (To get the best operation results of your Hard Disk Drive and the COMBO Drive, we strongly suggest you connection the COMBO drive to the *Secondary IDE* port as the *MASTER* device.)

◆ IDE Drive Configurations:

- (A) Hard Disk connected as Master device on the Primary IDE port; nothing connected to the Secondary IDE port.
- ➔ Set the COMBO's jumper to **MASTER**, and connect the COMBO as Master to the Secondary IDE port.

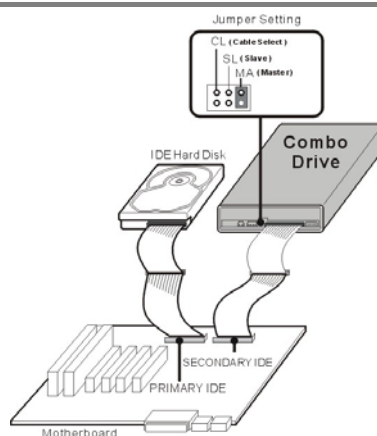


Figure: Configuration (A)

- (B) Hard Disk connected as Master device and CD-ROM or DVD-ROM connected as Slave on the Primary IDE port; nothing connected to the Secondary IDE port.
- ➔ Set the COMBO's jumper to **MASTER**, and connect the COMBO as Master to the Secondary IDE port. (If you are looking for a way of "FAST COPY/On the Fly Copy", this setting will bring you with a best result of copying speed.)
 - ➔ Remove the CD-ROM or DVD-ROM, change it to **SLAVE** and re-connect it to the Secondary IDE port. Set the COMBO's jumper to **MASTER**, and connect the COMBO as Master to the Secondary IDE port. (This setting will bring you the best result for usage of your Hard Disk. Thus, the access speed of the Hard Disk will not be dragged down while the CD-ROM is working at the same time.)

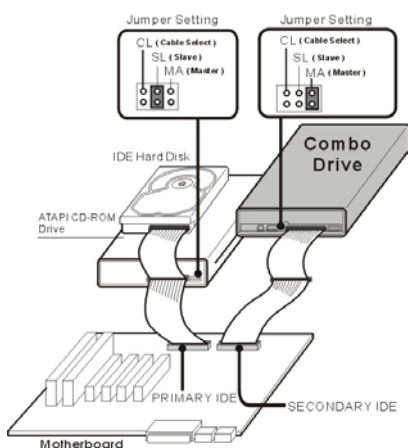


Figure: Configuration (B-1)

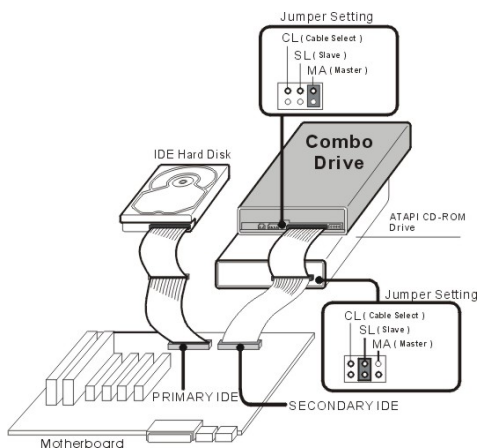


Figure: Configuration (B-2)

- (C) Hard Disks connected as Master and Slave devices on the Primary IDE port; CD-ROM or DVD-ROM connected as Master on the Secondary IDE port.
- Change the CD-ROM or DVD-ROM jumper to **SLAVE** and re-connect it to the Secondary IDE port. Set the COMBO Drive's jumper to **MASTER**, and connect the COMBO Drive as Master to the Secondary IDE port.

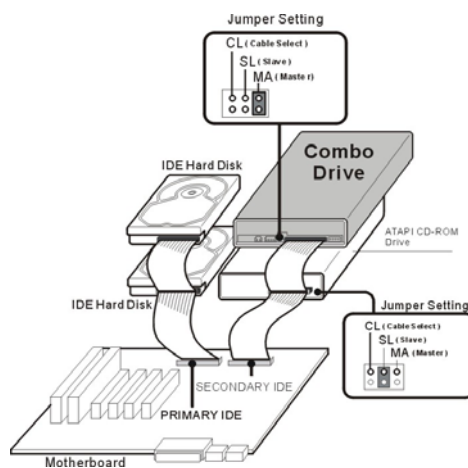


Figure: Configuration (C)

◆ Changing the Jumper:

The Master/Slave jumper can be used to set the COMBO drive to Master or Slave device. The following figure is the illustration of jumper setting.

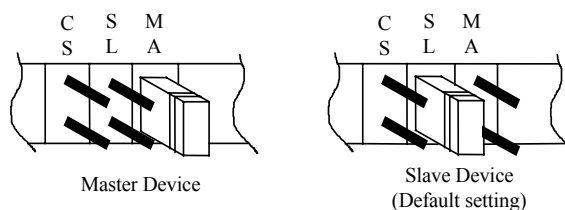


Figure: The setting of Master or Slave device.

NOTE: Do not use two jumpers to set MA and SL simultaneously.

CS (CSEL)

If you choose the CS setting, the Master/Slave setting will be made automatically depending on your hardware configuration.

4. Connect the necessary cables to your COMBO drive.

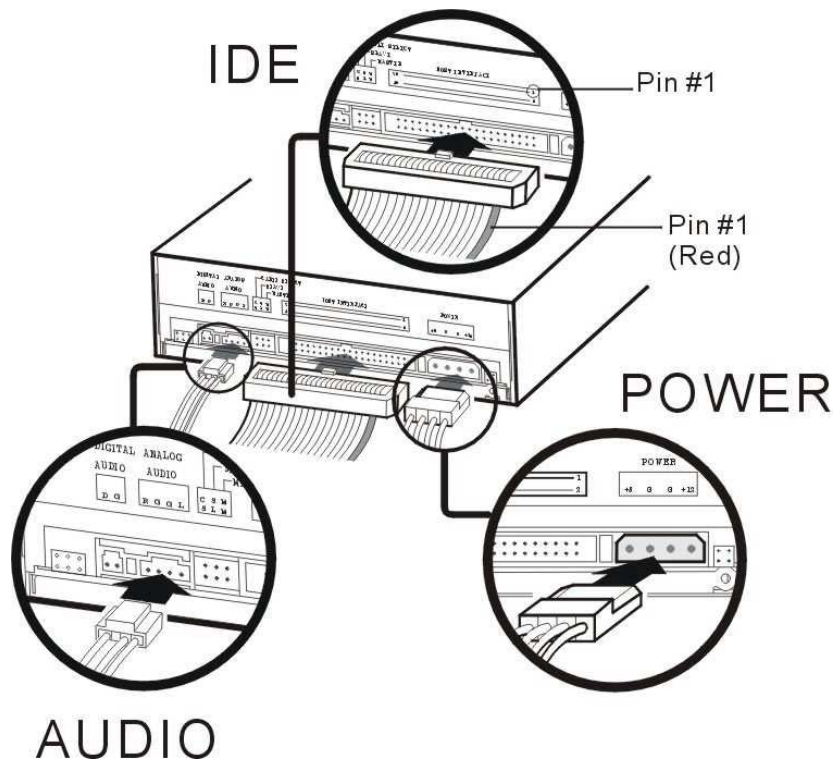
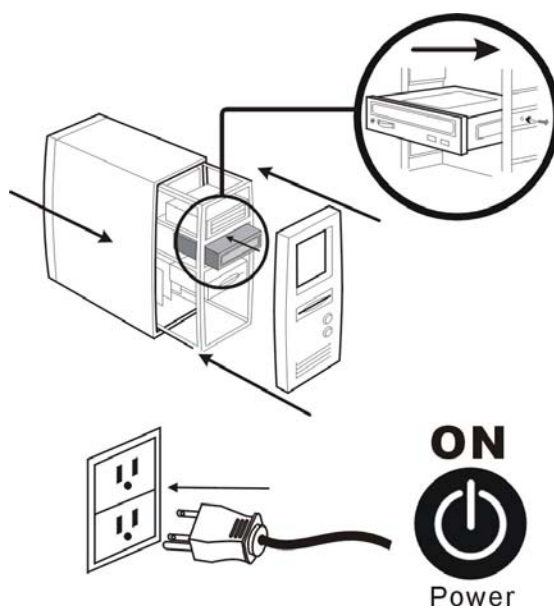


Figure: Connecting Cables

- (A) IDE Cable: Plug one connector of the IDE cable into the IDE connector on the rear panel of the drive before you insert the drive into your computer. Then thread the cable through the front of the open bay and back toward the motherboard.
- (B) Power Cable: Connect a power cable from the computer to the POWER connector of the drive. In most computers, you will find free power connectors that are ready for you to use.
- (C) Audio Cables (Optional)
You may connect the analog audio cable if you want to use a sound board in your system. This cable runs from the four-pin analog audio output connector on the rear panel of your drive to your sound board. Or you may connect a digital audio cable if your sound board is equipped with the Sony/Philips digital interface (SPDIF) or Digital-In, and you wish to use the digital audio output from your drive.

5. Carefully slide the COMBO drive horizontally into the empty bay and mount it. Then replace the computer cover.
6. Plug your computer back to power outlet and then turn the power on.



OPERATION

Installing Necessary Device Drivers

In Windows, the COMBO drive acts as a “CD-ROM Drive” for purpose of installation and setup. In some cases, you will need to install additional software to make use of all the features of the COMBO drive.

To use the COMBO drive on a computer:

- ◆ **As a CD-ROM drive:** Most Windows Operating Systems (Windows XP, Windows ME, Windows 2000, Windows 98, and Windows 95) supply a generic CD-ROM device driver that allows the COMBO drive to function as a standard CD-ROM drive. You do not need to install anything else.
- ◆ **As a DVD-ROM drive:** The computer’s operating system (excluding Windows 95) also allows the COMBO drive to function as a DVD-ROM drive. You do not need to install anything else to play DVDs. (In Windows 95, you will need additional software to play DVD media, which will be included with the COMBO drive software CD kit.)
- ◆ **As a CD-R/CD-RW drive:** In order to write to CD-R or CD-RW media, you will need additional software. The Recording software kit included with the package will offer you function like mastering CDs, backing up your hard disk or files, capturing audio, duplicating CDs, and more.

Loading and Unloading the Tray

- (1) While the COMBO drive is powered up, push the Eject button on the front panel. The tray drawer slides out in a few seconds.
- (2) Lay a disc with the label facing up in the depression of the tray. The disc should lie flat in the tray.

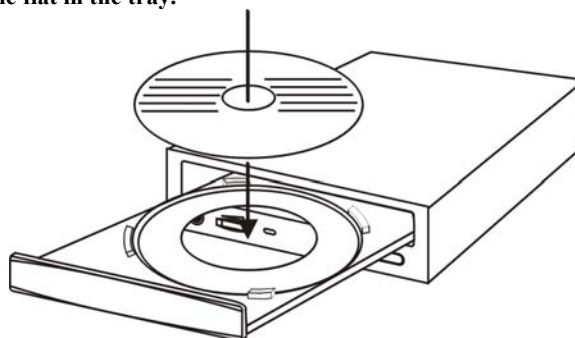


Figure: Loading the Tray

- (3) Press the Eject button again and the tray will slide shut within seconds.

RECORDING CDs

Before you start, please make sure you have installed the proper software for Recording CDs and Playing DVDs. The Recording software and the DVD Playback software are in different CD kits included in the package.

Recording Software & Manuals

The included Recording software is to give you the best result with ease of use. The detailed user's manual for the recording software will be automatically installed into your computer when you install the recording software. Please refer to the user's manual for the detailed operation procedures.

Discs

You may use conventional Read-only discs or CD-R/RW discs with your rewriter.

Recommended CD-R/RW Media

Some CD-R/RW media may not be possible to write on, due to differences in the manufacturing quality. We recommend you use CD-R/RW media from the following manufacturers that have been proven satisfactory with our drive.

CD-R Media:		4M, Acer, CMC, Csita, Delphi, Ever Media, Fornet, Fujifilm, GigaSto, Infodisc, KingPro, LeadData, MAXWELL, Mitsubishi BAGDAD, MIRAGE, Mitsumi, Moser Baer(India), MPO, NanYa, Plasmon, Postech, Princo, Prodisc, RA Media, Ricoh, Ritek, SAST, SKC(Korea), SKY Media(Switzerland), Sony, Taroko, TDK, TY, Wing Li Holding(HK)
Low Speed CD-RW Media:		AMT, CdBoss, CMC, CompUSA, DataStone, Ever Media, Gigadata, GigaStor, LeadData, Maxell, MCW, Mitsubishi, Philips, PONY, PRINCO, Ricoh, Ritek, SONY, TetaSys, Verbatim, Winner
High Speed CD-RW Media:		AMT, CMC, COMPUSA, Fornet, INFODISC, MEMOREX, NanYa, PLEXTOR, POSTECH, Princo, PRODISC, Ritek, SKC(Korea), TDK
Ultra Speed CD-RW Media:		CMC, Mitsubishi, Ricoh, Ritek

NOTE: *Subject to change without further notice.*

PLAYING CDs & DVDs

Playback Software

You must install the DVD playback software to your computer first. If you do not have any DVD playback software installed in your computer, the included DVD playback software in the CD kit will bring you the best playback result.

You can immediately play Audio CDs and pre-recorded DVD discs, including movies and other DVDs. To play a CD or a Digital Video Disc (DVD), insert the disc with the label up (for CDs). This COMBO drive plays both single-layer and dual-layer DVDs.

Playing Audio CDs

In order to listen to an audio CD, connect an audio cable to the analog audio connector on the rear of the drive and connect the other end to your sound board.

There are two types of audio you may encounter:

- (1) **CD-Audio:** This comes from audio discs (like the ones you use in your home stereo) that are translated directly by your COMBO drive into sound. Although, in most cases a sound board and speakers are used to hear this audio, you can also listen to it by plugging a set of headphones or powered speakers into the earphone jack on the front of your drive. You can control audio playback through software, and adjust the volume with the front panel volume control.



Figure: Using the Earphone Jack for Playing Audio

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- (2) **Sound Board Audio:** This comes from data files that may be present on a disc, such as a WAV, WMA, or MP3 files, that are transferred from the CD to your computer via the IDE interface. The sound board translates the data from the digital files into analog sound. If you do not have a sound board, you will not be able to hear this form of audio from your COMBO drive.

To listen to music through the computer's sound board, you can control volume with the volume control on the Windows Media Player or CD Player Taskbar. You can also mute the sound on your sound board and listen to music through headphones or self-powered speakers.

Playing DVDs for the First Time

A code on some DVDs allows them to be played only in a certain regional area, such as North America, Europe, etc. When the COMBO drive ships, there is no region code set. The first time a DVD that has a region setting is inserted into the COMBO drive, the act of inserting the DVD sets the drive to that region code.

If you later insert a DVD with a different region code, you are prompted to either accept changing the region code or not. If you do not accept the change, then that DVD will not play. If you do accept the change, then the COMBO drive's region code setting is changed. **But advised that you may change the COMBO drive's region code only 5 times. After that, you will not be able to change your drive's code setting.**

TROUBLESHOOTING

If you meet any trouble during installation or normal use of your COMBO drive, please refer to the following information.

Read Problems

Symptom	Possible Causes	Solutions
No operation.	No power.	Check if the power cord is connected securely to the connector.
	IDE cable isn't connected properly.	Ensure that the IDE cable and connectors are not damaged.
No COMBO drive recognition.	Power is not switched on.	Check if LED of your COMBO drive is lit. If not, there is no power.
	IDE cable is not connected properly between the computer IDE port and COMBO drive.	Ensure that both connectors of the IDE cable is properly connected to the IDE ports on the computer and the COMBO drive.
Excessive noise when reading.	Eccentric disc loaded.	Replace it with another one.
	Seal attached on the surface	Detach the seal very carefully. Don't make any scratches.
Cannot open the tray (Eject).	Eject locked by software.	Stop the applying software and try the eject button to open the tray.
	CD set incorrectly.	Insert a small stick or paper clip into this hole to eject the tray.
- Cannot read the former session of the CD-RW disc which has been written at least twice. - Read error occurs.	"Load Contents" or "Import Session" was NOT clicked on the Software.	If recorded without checked "Load Contents" or "Import Session", it is impossible to read. But when using utility software such as "Session Selection" from Adaptec, the former session can be read.
	Defective disc.	Deep scratches, fingerprints or other contaminants on the discs surface can disable the drive from reading data. Always keep it clean.
	Music CD inserted.	Because audio compact discs do not have computer data, typing computer commands while an audio CD is in your drive will result in an error message.
	Disc inserted upside down.	Remove the disc from tray and reinsert it with the label side up.

Write Problems

Symptom	Possible Causes	Solutions
Cannot write.	Using other authoring software which does not support your COMBO drive.	Use the authoring software provided with the COMBO drive. When using other software, ensure your COMBO drive is supported by contacting the software supplier.
	Disc inserted upside down.	Reinsert the disc with label side up.
	Short of Hard Disk capacity.	Generally 1.2 to 2 times the size of the write data is required. This may vary according to the write method.
	No power.	Check if the power cord is securely connected to the connector.
	IDE cable isn't connected properly.	Ensure that the IDE cable and connectors are not damaged, bent or dented. Check especially the pins.
Writing errors occur (Buffer Underruns).	- Network used. - Mouse moved or window screen saver activated while writing. - Other application running.	- When running mouse, screen saver moving or other applications or writing in a network environment, errors may occur due to lack of CPU resources in PC. - Rewrite after log-off from the network. - Deactivate the screen saver or power saving mode. - Quit all applications other than the authoring software.
	Short of PC memory.	- Due to shortage of main memory in PC, swapping of hard disc space may have occurred. If swapped, data from the hard disc may cut off causing buffer under-runs. - Increase main memory capacity.
	"Auto thermal re-calibration" triggered.	- Disable "Auto thermal re-calibration" in the BIOS setup. - Use another Hard Disk if can not disable it.
	Defective CD-R/RW media.	CD-R/RW media may be dirty, scratched or damaged. Rewrite on another CD-R/RW media.
	Short of Hard Disk capacity.	Generally 1.2 to 2 times the size of the write data is required. This may vary according to the write method.
No drive recognition.	IDE cable is not connected properly between the computer IDE port and COMBO drive.	Ensure that both connectors of the IDE cable is properly connected to the IDE ports on the computer and the COMBO drive.

Symptom	Possible Causes	Solutions
	Using authoring software which does not support your COMBO drive.	Use the authoring software provided with your COMBO drive. When using other software, ensure your COMBO drive is supported by contacting the software supplier.
Can not write at highest speed.	CD-R/RW media not compatible with highest speed.	Use the highest speed compatible discs or write with lower speed.
	Buffer under-run occurs.	Refer to the "Buffer Underrun" item.
	Defective CD-R/RW media.	CD-R/RW media may be dirty, scratched or damaged. Rewrite on another CD-R/RW media.
	Using authoring software not packaged with your COMBO drive.	Use the authoring software provided with your COMBO drive. When using other software, ensure your COMBO drive is supported by contacting the software supplier.