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Important Safety Precautions

The TEAC CD-C68E CD-ROM Changer is a high-precision electronic device. Do not use it in any manner other than as specified in this manual. Please read the following safety precautions before you begin the installation procedure.

Warnings



Use of controls, adjustments, or performance of procedures other than those specified herein may result in hazardous radiation exposure.



To prevent fire or shock, do not expose the unit to moisture or rain.



To prevent electrical shock, do not open the cabinet. Refer servicing only to authorized personnel.



Do not change or modify the unit or operating procedures specified herein without express written approval by the manufacturer or you will void your authority to operate the equipment.

Handling Precautions

- ❑ Use only standard size 12 cm (approx. 5.75 inches) discs in the CD-C68E. **Never insert discs in the smaller, 8-cm (approx. 3.25 inches) "CD-Single" format**, even with a CD-Single adapter, into the CD-C68E. They may become irretrievably lodged in the unit.
- ❑ Do not apply excessive force when inserting discs.
- ❑ Do not forcibly stop the loading/unloading mechanism by pushing or pulling on the disc.
- ❑ Allow 12 cm (approx. 5.75 inches) of space in front of the CD-C68E to permit discs to be ejected unimpeded.
- ❑ Do not use irregular, deformed, cracked, or flawed discs, or discs on which tape or a label has been affixed, or you may damage the disc, be unable to eject the disc from the CD-C68E, or cause other malfunction.
- ❑ Do not insert a disc laden with dust or foreign particles into the CD-C68E.
- ❑ Do not raise the volume level output to headphones too high or you may damage your hearing.

FCC Radio Frequency Interference Regulations

Warning: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions contained in this manual, may cause harmful interference to radio and television communications. This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Subpart J of Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. To ensure compliance with FCC rules, the cable that connects the unit to the computer must be a shielded interface cable.

Note: Connecting this device to peripheral devices that do not comply with Class B requirements or using an unshielded peripheral cable could result in interference to radio or television reception. To ensure that the use of this product does not contribute to interference, use a shielded interface cable.

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 may try to correct the interference by one of more of the following measures:

- Reorient or relocate the receiving antenna
- Move the device and the receiver further apart
- Connect the equipment to an electrical outlet on a circuit different from that of the receiver
- Consult the dealer or an experienced audio television technician

Also, the following booklet may prove helpful: How to Identify and Resolve Radio-TV Interference Problems. It is available from the U.S. Government Printing Office, Washington, D.C. 20402, stock number 004-000-00345-4.

The user is cautioned that any changes or modifications to this equipment not expressly approved by TEAC America, Inc. could void the user's warranty.

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Introduction

Thank you for purchasing the TEAC CD-C68E CD-ROM Changer. The CD-C68E can read CD-ROM discs at 8X speed. It is designed for use in IBM PC or compatible computers.

The CD-C68E features a 5.25-inch standard chassis and an innovative loading mechanism that enables you to load up to six discs into the unit at the same time, without the aid of a magazine or cartridge.

You can use the CD-C68E in two different modes: Single Drive Letter mode and Multiple Drive Letter mode. In Single Drive Letter mode, the CD-C68E is assigned only one drive letter, regardless of the number of discs installed. In Multiple Drive Letter mode, the CD-C68E treats each of the six disc slots as an individual drive, each with its own drive letter.

The CD-C68E also features utility software that enables you to switch the currently-selected disc slot, program playback of audio CDs, and display information about installed discs. Please read this manual in its entirety before you begin the installation procedure.

Recommended System Requirements

- ☐ IBM PC-compatible computer, Pentium 133MHz or higher
- ☐ Intel Triton or compatible chipset with PIO mode 4 or DMA mode 1 settings
- ☐ 1 MB of available hard disk capacity for driver and utility software
- ☐ DOS version 6.0 or higher and Microsoft Windows 3.1, Windows 95, or Windows NT
- ☐ IDE sound card or available IDE interface connector
- ☐ 16MB of RAM

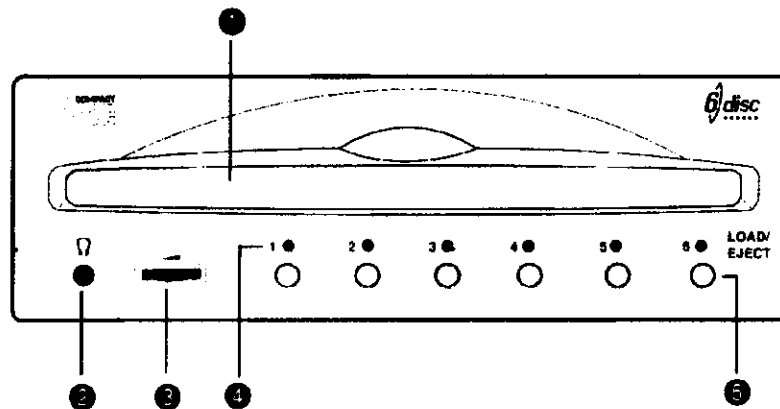
Unpacking Your CD-ROM Changer

Your TEAC CD-ROM Changer and accessories are packaged in a sturdy shipping container.

Please verify that the following items are included in the package. If any item is missing, contact the dealer from whom you purchased the drive.

- ☐ TEAC CD-C68E internal CD-ROM changer
- ☐ IDE interface cable (40 pin)
- ☐ Mounting screws (x4)
- ☐ Audio cable
- ☐ Device driver and utility floppy disks for DOS/Windows 3.x and Windows 95 (x2)
- ☐ Publications (x3) (Quick Reference Card, Hardware Installation Guide, Software Installation Guide)

Front Panel



— Figure A —

- 1 **Dust door:** The dust door prevents dust from entering the drive chassis. It opens and closes in an interlocked movement with the disc during loading and unloading.

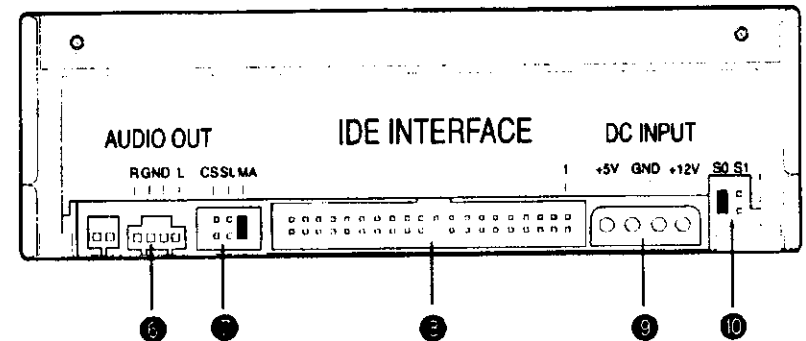
Caution: Do not use your fingers to open or close the dust door or you may damage the unit or cause it to fail.

- 2 **Headphone jack:** You can connect headphones or external speakers to this 3.5 mm stereo mini-jack. See "Connecting to Audio Equipment" on page 7 for more information.
- 3 **Volume control:** Use the volume control to adjust the volume. Turning the control to the right increases the volume.

Caution: Do not raise the volume level output to headphones too high or you may damage your hearing.

- 4 **Busy indicators (1-6):** The six indicator LED lights indicate the status of the drive. A constantly lit amber LED indicates that an audio CD is loaded. A constantly lit green LED indicates that a non-audio CD is loaded. For more information, see "Busy LED Indicator Status" on page 10.
- 5 **LOAD/EJECT buttons (1-6):** These six buttons enable you to load or eject a disc, and play and skip tracks on audio CDs (for more information, see "Loading and Ejecting a Disc" on page 8). The LOAD/EJECT buttons also enable you to select the currently activated CD in Single Drive mode (for more information, see the *CD-C68E Software Installation Guide*).

Rear Panel

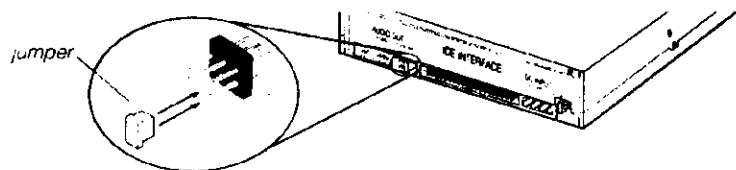


— Figure B —

- 6 **Audio output connector:** Use this connector to connect the sound card or interface card via the audio cable to drive external speakers. (See Step 7 of "Installing the CD-C68E" on page 5 for information on connecting the audio cable.)
- 7 **Device configuration jumpers:** The CD-C68E features three pairs of jumper pins that allow you to set the CD-C68E to Master, Slave, or CSEL settings. (See "Setting the Master, Slave, CSEL Jumper" on page 4.)
- 8 **Interface connector:** Use the 40-pin interface ribbon cable to connect the drive to the host computer's IDE interface. (See Step 8 of "Installing the CD-C68E" on page 6 for information on connecting the interface cable.)
- 9 **Power connector:** Connect the power connector to the +5V and +12VDC power sources. (See Step 9 of "Installing the CD-C68E" on page 6 for information on connecting the power cable.)
- 10 **Eject prevention jumper:** Factory use only. The default setting is S0.

Setting the Master, Slave, CSEL Jumper

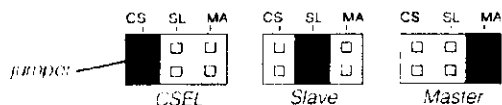
The CD-C68E features three pairs of jumper pins that allow you to set the drive to Master, Slave, or CSEL settings. Depending on how you plan to configure the CD-C68E in your computer, you may need to adjust the position of the jumper on the rear panel of the drive.



— Figure C —

If you are connecting the CD-C68E directly to an IDE interface card, set this jumper to Master. If you are making a daisy chain connection to a hard disk, be sure to change the jumper to the Slave position and connect the CD-C68E to the middle connector in your existing hard drive interface cable.

With the jumper on the CSEL position, the CD-C68E can be configured as either Master or Slave using software commands.

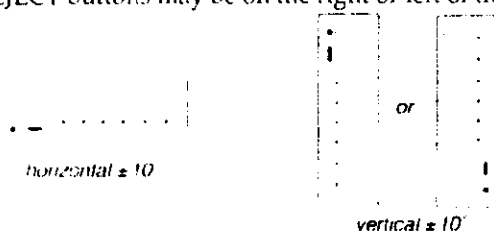


— Figure D —

Mounting Orientation

The TEAC CD-C68E drive should be mounted in your personal computer in one of two orientations:

- **Horizontal:** The drive must be installed within 10° of horizontal; the LOAD/EJECT buttons should be on the lower right of the unit.
- **Vertical:** The drive must be installed within 10° of vertical; the LOAD/EJECT buttons may be on the right or left of the unit.



— Figure E —

Installation and Connections

This section explains how to install the CD-C68E into an IBM PC or compatible personal computer.

Installing the CD-C68E

Follow the steps below and refer to your computer documentation for information specific to your system.

1. **Turn off the power to the computer and all connected devices.**
2. **Set the jumpers on the rear panel of the CD-C68E to specify Master, Slave, or CSEL status, and eject prevention status.**
(For more information, refer to "Setting the Master, Slave, CSEL Jumper" on page 4.)
3. **Remove your computer's cover, faceplate, or bay cover, as well as mounting clips, screws, and retaining bracket.**
If you are replacing an existing CD-ROM drive with the CD-C68E, remove the old drive. Refer to your computer documentation for more information.
4. **Locate the secondary IDE connector on the system's mother board and connect the interface cable. Go to Step 6.**
5. **If you need to install a new IDE card, install one in an appropriate bus slot (IDE card not included).**
6. **Slide the CD-C68E into the drive bay. Secure it using the included 3x5mm mounting screws.**

Warning: Do not use mounting screws longer than the included 3x5mm screws to secure the CD-C68E or you may damage the unit.

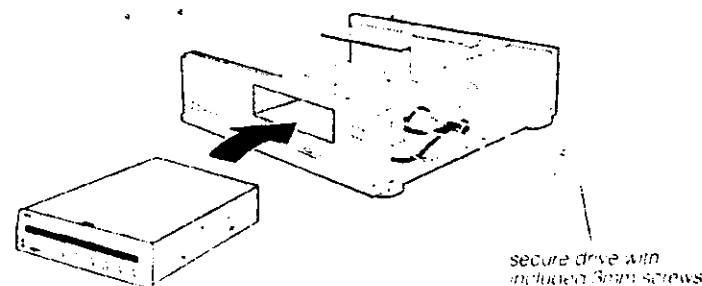
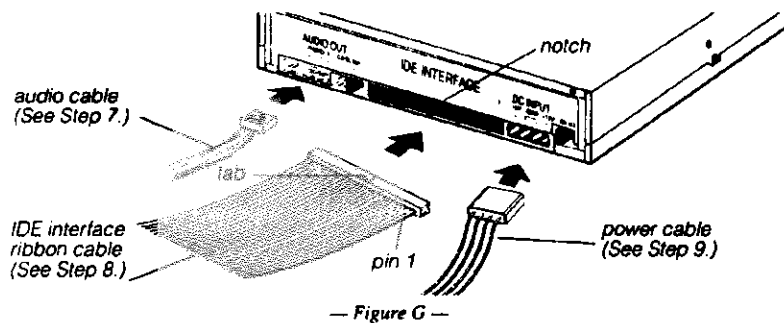
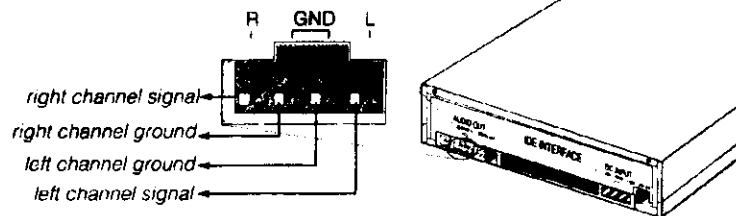


Figure F

7. **Connect the audio cable to the audio connector on the rear panel. Refer to Figure G.**



Audio pin assignments are described in the following diagram:



8. **Connect the interface ribbon cable to the interface connector on the rear panel of the CD-C68E.**

Be certain to connect pin 1 on the CD-C68E to pin 1 on the IDE interface. (Pin 1 on the interface cable is usually designated by a color stripe along one edge of the cable. Also, the interface ribbon cable connector may feature a tab on one side. Insert the cable so that the tab aligns with the notch in the interface connector. Refer to Figure G on page 6.)

9. **Connect the power cable to the power connector on the rear panel of the CD-C68E.**

Be certain to insert the power cable plug in the correct orientation into the power connector. (The plug is shaped so that it can be easily inserted in only one orientation; do not force the plug into the connector.) The +5V terminal is on the left as you face the rear panel; the +12VDC terminal is on the right. The two center terminals are ground terminals.

10. **Re-install your computer's cover, faceplate, or bay cover.**

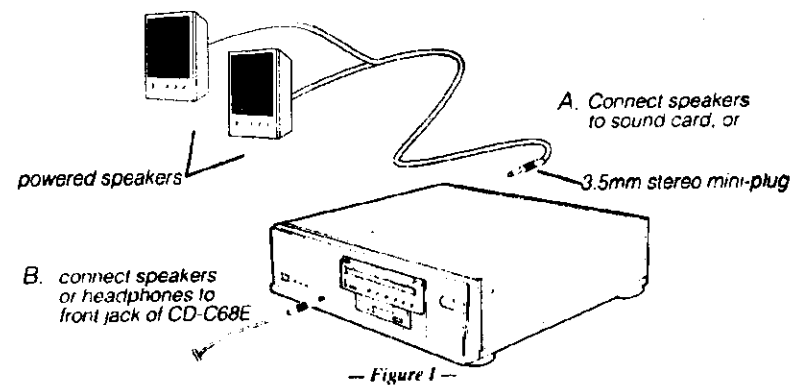
Connecting to Audio Equipment

The CD-C68E outputs line-level audio signals from the headphone jack on the front panel. You can connect headphones or external powered speakers here. The headphone jack accepts a 3.5 mm stereo mini-plug. For external powered speakers, connect a stereo adapter to split the output into separate leads for the left and right channels. Such adapters convert a male stereo mini-jack to two female phono jacks.

Alternately, if you are using a sound card in your PC, you can connect external powered speakers to the audio connectors on the rear panel of the PC.

Note: If you plan to connect the CD-C68E to an IDE interface card or sound card, be sure to read the documentation for those cards before connecting the CD-C68E.

Note: If you connect external powered speakers to the sound card (on the rear panel of the PC), monitoring sound via headphones connected to the headphone jack on the front panel will be disabled. In this case, connect the headphones to the speaker.



Installing the Device Driver and Utility Software

Note: Before you can operate the CD-C68E CD-ROM Changer, you must first install the device driver and utility software onto your computer's hard disk. Refer to the CD-C68E Software Installation Guide for more information.

Handling Discs

- ┌ Handle compact discs only by their edges to avoid getting fingerprints on the surface. Do not touch the disc's data surface (non-label side).
- ┌ Do not place discs in direct sunlight, or in locations subject to high humidity, high temperatures, or dusty conditions.
- ┌ If cleaning the disc becomes necessary (erratic operation or visible dust or smudges), gently wipe the surface of the disc from the surface to the outside edge. Do not use benzene, alcohol, thinner, or other solvents.

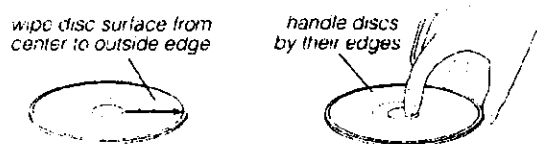


Figure J

Loading and Ejecting a Disc

Warning: Do not load 8 cm (approx. 3.25 inches) discs into the CD-C68E.

Loading a Disc

1. Press one of the six LOAD/EJECT buttons (1 ~ 6) to load a disc.

The dust door will open automatically, and the LED indicator next to the button you pressed will flash in green and amber alternately.

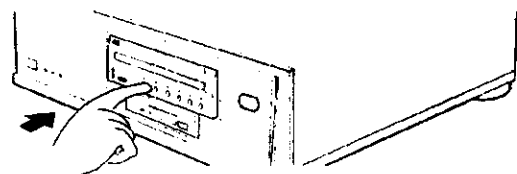


Figure K

2. Insert a CD-ROM or audio CD into the drive with the disc label facing up, while pushing it gently holding its edge.

The dust door will close. Once the disc has been loaded successfully, the LED will become lit in amber if it is an audio CD, or green if it is a CD-ROM.

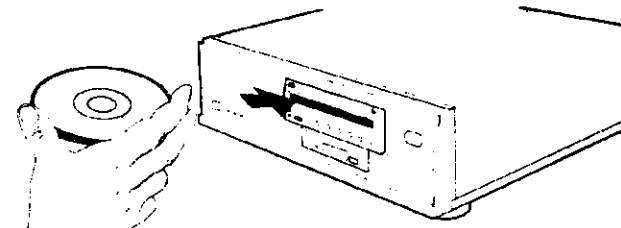


Figure L

Note: If you are inserting discs into multiple slots, make sure that the LED indicator has become lit before you press the next LOAD/EJECT button.

Ejecting a Disc

1. To eject a disc, press and quickly release the LOAD/EJECT button for the appropriate slot (release within one second).

The dust cover will open and the corresponding disc will be ejected.

2. Remove the disc and press the LOAD/EJECT button again.

The dust cover will close and the LED will turn off.

Note: Some CD-ROM titles may disable manual eject buttons and rely on software commands to eject a disc. Refer to the documentation for these titles.

Controlling an Audio CD with the LOAD/EJECT Buttons

- ❑ To play an audio disc, insert a disc, press and hold the LOAD/EJECT button for the appropriate slot for more than one second. During play, the LED of the corresponding slot will flash slowly in amber.
- ❑ To skip to the next track, while audio playback is in progress, press and hold the button again for more than a second.
- ❑ To stop playback, press and quickly release within one second. The flashing LED will become lit continuously.

Selecting an Active Slot in Single Drive Letter Mode

- ❑ In Single Drive Letter mode, press and hold a LOAD/EJECT button while inserting a disc to set the currently-selected drive slot. (For more information, see "Single Drive Letter Mode" in the CD-C68E Software Installation Guide.)

Busy LED Indicator Status

The status of each loaded disc slot is indicated on the front panel by the corresponding LED indicator, as shown in the following table:

Indicator Status	Meaning
Green (continuously lit)	A non-audio (CD-ROM) disc is loaded.*
Amber (continuously lit)	An audio disc is loaded.
Alternately flashing green and amber at an interval of 0.8 seconds	A disc is being loaded.
Flashing amber at an interval of 1.6 seconds	Audio playback is in progress.
Alternately flashing green and amber at an interval of 0.4 seconds	The shutter is opening or the disc is being ejected.
Flashing amber at an interval of 2 seconds	A disc error occurred. The indicator will turn off when you eject the disc. -or- A system error occurred. The indicator will turn off if you turn the power to the CD-C68E off, then on, and reset system.
Flashing rapidly at irregular intervals	Host lead command/seek command is executing.
All indicators off	Power off.

**Note: If you press the LOAD/EJECT button or issue a software command while the CD-C68E is checking a disc, the corresponding indicator may initially light in green. Repeating the action will generate an amber indication.*

Specifications

Model	CD-C68E
Interface	IDE/ATAPI
Data Transfer Rate	Sustained: 1.2MB/sec Burst: 16.6MB/sec (PIO Mode-3, DMA Mode-1)
Access Time	190 msec (1/3 stroke)
Data Buffer Capacity	128KB
Optical pickup	
Laser	Semiconductor laser
Slide mechanism	Gear motor
Spindle motor	Brushless motor
Error rate	Mode-1: 1 block/10 ¹² bits, Mode-2: 1 block/10 ⁹ bits
Formats	CD-ROM Mode-1, CD-DA, CD-ROM XA Mode-2 Form-1, Form-2, Photo CD, Multi-session, CD-I, VideoCD, Enhanced CD
Disc Loading	Direct disc slot loading (no cartridges or magazines required)
Spindle Motor	Brushless
Front Panel	
Buttons	LOAD/EJECT button x 6
LED Indicator lights	Double-color indicator x 6
Headphone output	Stereo mini-jack (3.5mm diameter stereo mini-headphone jack) 5mW+5mW or more at 32 Ω
Volume control	Thumb-wheel knob
Rear Panel	
Required power	+5VDC, 0.5A, +12VDC, 0.35A (average). Cable-side mating housing: 8981-4P Molex. Cable-side mating terminal: 8980-3L Molex
Interface connector	ATAPI. Cable-side connector Molex 5320-40AGSI or equivalent
Audio output	Line out 0.85Vrms +/- 3dB. Use Molex 70066 "C" or "G" or equivalent connectors.
Strap switch	Device configuration strap
MTBF	50,000 POH (Duty 10%)
Disc loading mechanism	10,000 times
Dimensions	146(W) x 42(H) x 215(D) mm (excluding front bezel)
Weight	1050 grams
Disc Rotational Speed	4240 rpm (innermost tracks), 1600 rpm (outermost tracks)
Factory Presets	MA: Master, SC: Disc eject enabled
Audio Output Level	1.0 +/- 0.3Vrms (1kHz, ATT 0db)
Installation	Horizontal or vertical, plus or minus 10 degrees
Operating Temperature	5° to 45°C
Operating Humidity	20% to 80% (non-condensing)

Specifications and features subject to change without notice or obligation.

Technical Support

For technical support, please contact the TEAC Service and Support Center nearest you:

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TEAC America, Inc. (USA)

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