

SCOPE

This hardware specification applies to the TEAC CD-W54E CD-RW drive (hereinafter referred to as the unit or drive).

GENERAL

(1) General specifications

Table 2-1 shows the general specifications of this drive.

General specifications

Model name	CD-W54E
TEAC P/N	19770570-02
Applicable safety standards	UL, CSA, TÜV
Data transfer rate	16.6M bytes/s Max.
Data capacity	650MB
Average access time	85ms typ., by TEAC standards
Disc rotational speed (32X CAV speed mode)	6,850min ⁻¹ (Approx.)
Signal interface	IDE (ATAPI)
Power supplies	+5VDC, +12VDC
Loading mechanism	Disc tray
Starting time	11sec or less (Avg), by TEAC standards
Applicable disc format	CD-DA, CD-ROM Mode 1, CD-ROM XA Mode 2 (Form 1, Form 2), Multi-session Photo CD, CD-I, Video CD, CD PLUS
Write methods	Disc at once, Track at once, Session at once, Paket write
Recordable disc	CD-R/RW disc (Refer to item 4.6)
Readable disc	Press CD, Recorded CD-R/RW
Front bezel and escutcheon	PS2 color
Eject button	PS2 color
Tray	PS2 color
LED indicator color	Green (Left LED), Green (Right LED)
Audio headphone Line-out	0.65 ±0.3V at 32Ω 0.78 ±0.3V at 47kΩ
Factory-preset strap settings	Master
Laser Class	Class 1 Laser Product

(2) Care of the drive

What is stated in this specification must be observed for the user to get the most out of the drive.

Especially, the following precautions must be observed for quality of recording.

(a) Be careful about the use of the disc

What is stated by the disc manufacturer must be observed for the usage.

(b) Don't let the disc and the tray become dirty.

- Check to see that the disc is bereft of scratch, dust, fingerprint or any other dirt.
- Check to see that the disc tray is clean. If the disc tray becomes dirty, clean it.

- If the disc becomes dirty, clean it as recommended by the disc manufacturer. The disc surface is apt to be damaged, so it must be cleaned only as per instructions.
- (c) Avoid vibration or impact.
- During recording or playing, don't subject the drive to vibration or impact. Vibration or impact especially during recording can result in poor recording. The following problems also can occasionally result:
- The disc becomes defective because of faulty recording, and cannot be played back.
 - Additional recording cannot be made because of faulty previous recording.
- (d) Data protection
- Recording may not be completed normally in some cases due to a malfunction of the drive, a defective medium, etc. Therefore, use the following precautions.
- Be sure to confirm the recording status by playing back the newly recorded data after completing the recording operation.
 - Be sure to store the source file from which the data is recorded until the recording is confirmed.
 - Do not repair the drive or replace a part of the drive under circumstances other than the designated assurance conditions.

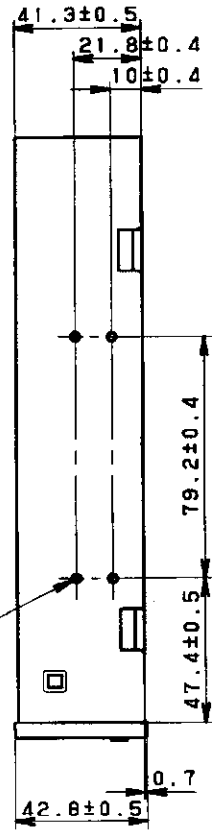
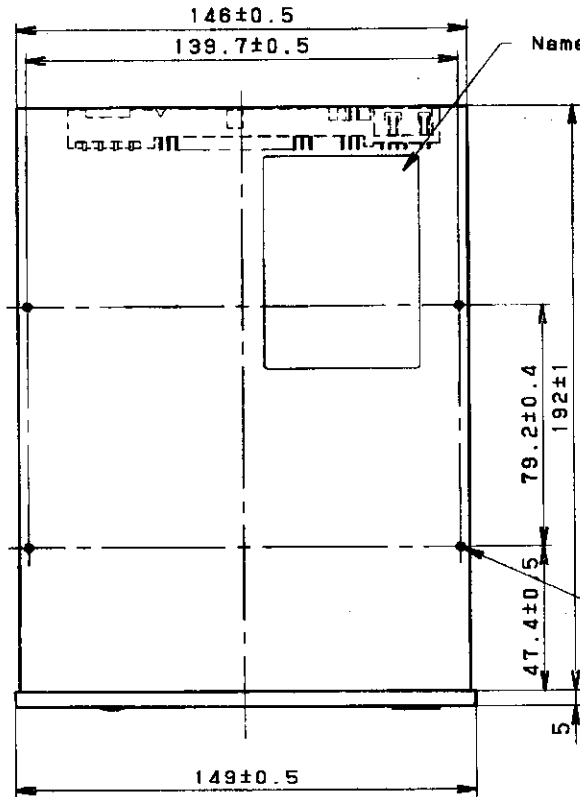
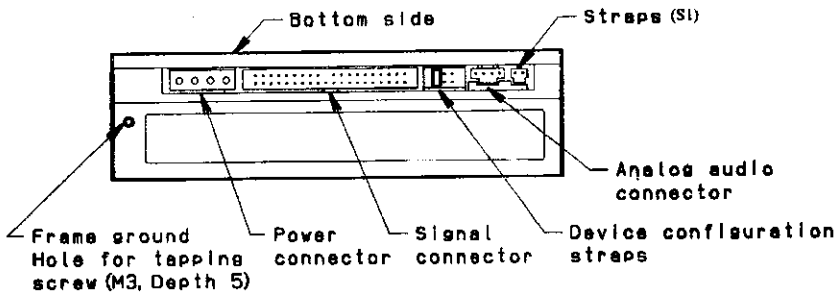
STRUCTURE

External Structure

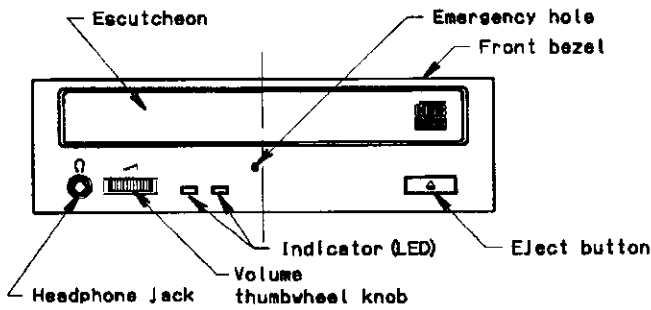
- (1) Dimensions
- (a) Height : 41.3mm (1.63 *in*), Typ.
 - (b) Width : 146mm (5.75 *in*), Typ.
 - (c) Depth : 192mm (7.56 *in*), Typ.
- Note: With (a) to (c), the front bezel is not included.
- (2) Weight : 1,200g (2.65lbs), Typ.
- (3) External view : Refer to Fig.3.2-1.

Installation

- (1) Installation direction : Should be the following two.
- (a) Direction in which the disc is horizontal.
Direction in which the indicator on the front panel should come to **the right**. Tolerance of parallelism should be within 10 degree in all directions.
 - (b) Direction in which the disc is vertical (Both directions)
Tolerance of parallelism should be within 10 degree in all directions.
- (2) Installation method : Use the fixing holes in the sides or bottom of the drive (refer to Fig.3.2-1).
- (3) Tightening torque : 3 to 8 kg-cm



12-M3 tapped holes for installation (Depth 5) (Bottom x4, each side x4)



External view of the unit

(Units:mm)

DISC SPECIFICATION

Applicable Disc Format

- CD-DA
- CD-ROM Mode 1
- CD-ROM XA Mode 2 (Form 1, Form 2)
- Multi-session Photo CD
- CD-I
- Video CD
- CD PLUS

Rotational Speed

Refer to Table 4.2-1 for the rotational speed.

Rotational speed

32X Speed (CAV)	CD-ROM Mode 1 CD-ROM XA Mode 2 Form 1
10X Speed (CAV)	CD-RW
8X Speed (CLV)	CD-ROM XA Mode 2 Form 2 CD-DA (DAE)
4X Speed (CLV)	CD-DA

Data Capacity

- 650MB : CD-ROM Mode 1
- : CD-ROM XA Mode 2 Form 1
- 738MB : CD-ROM XA Mode 2 Form 2
- 74min : CD-DA

Write methods

Disc at once, Track at once, Session at once, and Packet write

Readable disc

Press CD, Recorded CD-R/RW

Recordable Disc (Recording Speed)

Recommended as the recordable disc to be used in this drive is a 74-minute disc for 8X speed manufactured by Taiyo Yuden Co., Ltd. (TEAC Part No.: T0004290, CD-R74-BULK). The use of other recordable discs is conditional on mutual understanding between TEAC and specific users.

With the recommended type of discs, the following speeds of recording are available:

Single speed (normal speed), 2X speed and 4X speed

ENVIRONMENTAL CONDITIONS

The environmental conditions described in this section are for the drive without a disc. The environmental conditions of the disc should comply with the standards specified for the applicable disc.

- (1) Ambient temperature
 - (a) Operating : 5 ~ 40°C (41 ~ 104°F)
 - (b) Storage : -30 ~ 60°C (-22 ~ 140°F)
 - (c) Transportation : -40 ~ 65°C (-40 ~ 149°F)
- (2) Temperature gradient
 - (a) Operating : 12°C (53.6°F) or less per hour (non-condensing)
 - (b) Storage and transportation : 25°C (77°F) or less per hour (non-condensing)
- (3) Relative humidity
 - (a) Operating : 20 ~ 80% (non-condensing)
Max. wet bulb temperature; 29°C (84.2°F) or less
 - (b) Storage : 10 ~ 80% (non-condensing)
 - (c) Transportation (packed) : 5 ~ 90% (non-condensing)
Max. wet bulb temperature; 32°C (89.6°F) or less
- (4) Vibrations
 - (a) Operating : 2.94m/s² (0.3G) or less (5 ~ 500Hz), excepting recording mode
 - (b) Storage : 19.6m/s² (2G) or less (5 ~ 100Hz)
 - (c) Transportation (packed) : 7.35m/s² (0.75G) or less (JIS Z 0200)
- (5) Shock
 - (a) Operating : 98m/s² (10G) or less (half-sine wave, 3ms)
excepting recording mode and CD-DA play mode
No read error under retry operation.
An interval between shocks ; 10 sec or more
 - (b) Storage : 490m/s² (50G) or less (half-sine wave, 11ms)
 - (c) Transportation (packed) : 490m/s² (50G) or less
- (6) Acoustic noise
 - (a) Operating : 45dBA or less (at distance of 0.5m)
(excepting at eject and loading operations)
- (7) The transportation conditions should comply with JIS-Z0200 appropriate transport packaging test method level II when the specified packaging box is used.
- (8) Dust
Should be as in an ordinary office environment.
- (9) Cleaning
The wet-type lens cleaner should not be used as it may cause damage.

RELIABILITY

- (1) Mean time between failures (MTBF)
 - : TBD
- (2) Mean time to repair (MTTR) : TBD
- (3) Error rate
 - (a) Data read error rate : Block/ 10^{12} bit (MODE 1 and MODE 2 Form 1)
Block/ 10^9 bit (MODE 2 Form 2 and CD-DA)
- (4) Designed life : 5 years
- (5) Safety standards
 - (a) Approved by the UL standards.
 - (b) Approved by the CSA standards.
 - (c) Approved by the TÜV standards.

INDICATORS AND STRAP FUNCTIONS

Indicators

Position

The indicators are on the front bezel and are located on two places at the lower left side of the disc insertion opening.

Functions of indicators

Refer to Table 8.1.2-1 for the indicator functions of each LED.

Functions of indicators

Operation	Left LED	Right LED
At tray loading	OFF	Green LED flashes (0.25s interval)
At tray eject	OFF	Green LED flashes (0.25s interval)
During write	Green LED flashes (1.5s interval)	OFF
During Audio Play	OFF	Green LED flashes (1.5s interval)
During Seek/Data Transfer	OFF	Green LED lights
At start	OFF	Green LED flashes (0.5s interval)
Self-diagnosis error/ Start error	OFF	Green LED flashes (0.25s interval)

Straps

For the strap positions and configuration, refer to Fig. 10.2-1.

Reserved (S1)

CSEL bypass (S2), Slave (S3), Master (S4)

Strap setting

S2	S3	S4	Details
Short	Open	Open	Master or Slave drive is set by using CSEL terminal.
Open	Short	Open	Slave
Open	Open	Short	Master

FRAME GROUND

The frame of the CD-RW drive is electrically connected to 0VDC.

POWER INTERFACE

Power Supply Used

The following specifications apply to the power interface connector of the CD-RW drive.

(1) DC +12V

- (a) Operating voltage range : $\pm 5\%$ (11.4 ~ 12.6V)
- (b) Allowable ripple voltage : 100mVp-p or less (including spike noise)
- (c) Current consumption : Refer to Table 10.1-1. (excluding 10ms or less)

Current consumption

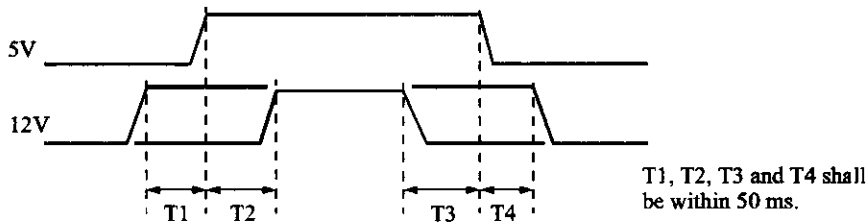
	12V	5V
Standby	10mA	300mA
Read	1.0A	1.4A
Start	1.7A	1.2A
Seek	2.3A	1.4A
Write	500mA	900mA

(2) DC +5V

- (a) Operating voltage range : $\pm 5\%$ (4.75 ~ 5.25V)
- (b) Allowable ripple voltage : 100mVp-p or less (including spike noise)
- (c) Current consumption : Refer to Table 10.1-1. (excluding 10ms or less)

(3) Power sequence

The sequence shall be as shown below.



Power Interface Connector and Cable

(1) Power interface connector

- (a) CD-RW drive side connector : 53109-0410 MOLEX or equivalent
- (b) Number of pins : 4
- (c) Protection method for mis-connection: Mechanical protection by the shape of the connector's housing.
- (d) Connector pin diagram : Refer to Fig.10.2-1.
- (e) Connector layout : Refer to Fig.10.2-1.
- (f) Pin number chart : Refer to Table 10.2-1.
- (g) Cable side matched connector: 8981-4P MOLEX
Matched pin : 8980-3L MOLEX or equivalent.

**CD-Rewritable Drive
(CD-RW)
User's Manual**

4X4X32

TEAC

Safety Precautions

TEAC CD Rewritable (CD-RW) Drives are high-precision electronic devices. Do not use them in any manner other than as specified in this manual. Please read this manual in its entirety before you begin the installation procedure. 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 attempt to disassemble the CD-RW Drive. Refer servicing to authorized personnel.

The CD-RW Drive utilizes a laser beam that can be harmful to the eyes. Do not disassemble the cabinet or unit. Do not attempt to look through the front panel or into the unit while the power is turned on.

A user who changes or modifies the unit or operating procedures specified herein without express written approval by the manufacturer will void user authority to operate the equipment.

Specifications and features subject to change without notice or obligation.

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 different circuit than 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 not expressly approved by TEAC America, Inc. could void the user's warranty.

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Table of Contents

Safety Precautions	i
FCC Radio Frequency Interference Regulations	ii
Copyright and Trademark Information	ii
Table of Contents	iii
List of Figures	iv
Chapter 1. Introduction	1
Recommended System Requirements	1
About This Manual	1
CD-RW Package Contents	2
Front Panel	3
Rear Panel	5
Chapter 2. Configuring and Installing the CD-RW Drive	7
Configuring the CD-RW Drive	7
Setting the Master, Slave, CSEL Jumper	7
Drive Orientation	8
Installation and Connections	8
Connecting to Audio Equipment	12
Chapter 3. Installing Software	13
Installing Easy CD Creator, DirectCD, and Take Two Software	13
About the Reference Guides, ReadMe Files, and Help Files	20
Starting Easy CD Creator	21
Using Easy CD Creator	21
Starting DirectCD	22
Using DirectCD	22
Starting Take Two	23
Using Take Two	23
Installing Other Included Programs	24
Uninstalling Programs	24
Appendix A. About CD-R and CD-RW Discs	25
Handling Discs	25
Recommended Media	25
Disc Formats	26
Loading and Ejecting Discs	27
Appendix B. Specifications	28
Appendix C. Technical Support	29

List of Figures

Figure 1. CD-RW Drive Kit Package Contents	2
Figure 2. Front Panel of the CD-RW Drive	3
Figure 3. Rear Panel of the CD-RW Drive	5
Figure 4. Jumper Pins on Rear Panel	7
Figure 5. CSEL, Slave, and Master Jumper Pin Settings	8
Figure 6. Installing the CD-RW Drive in a Computer	9
Figure 7. Cable Connections	10
Figure 8. Analog Audio Pin Assignments	11
Figure 9. Connecting Analog Audio Speakers or Headphones	12
Figure 10. TEAC Adaptec CD-RW Software Suite CD-ROM	14
Figure 11. Adaptec Easy CD Creator/DirectCD/Take Two Main Installation Panel	14
Figure 12. InstallShield Wizard Panel	15
Figure 13. Welcome Panel	15
Figure 14. Software License Agreement Panel	16
Figure 15. Destination Location Panel	16
Figure 16. Installation-in-Progress Panel	17
Figure 17. Install Update Diskette Panel	17
Figure 18. Setup Complete Panel	18
Figure 19. Main Installation Panel	18
Figure 20. Reboot System Request Panel	19
Figure 21. Easy CD Creator Welcome Panel	21
Figure 22. DirectCD Wizard	22
Figure 23. Take Two Main Panel	23
Figure 24. Liquid Music Player	24
Figure 25. How to Handle Compact Discs (CD-R and CD-RW)	25
Figure 26. Ejecting the Disc Tray	27

Chapter 1. Introduction

Thank you for purchasing a TEAC CD-RW Drive kit.

The TEAC CD-RW Drive can write to CD-R or CD-RW discs at a maximum of 4X speed and can read CD-ROM discs at 32X speed. (It is also capable of operating at slower speeds, if preferred.)

CD-R discs enable you to create audio or data discs for permanent archival storage. They cannot be overwritten. You can overwrite CD-Rewritable (CD-RW) discs, typically up to 1,000 times.

The TEAC CD-RW Drive is designed for use in IBM PC or compatible computers. It features a 5.25-inch standard chassis and a powered tray for convenient disc loading. Please refer to "Appendix B. Specifications" on page 28 for detailed information.

Recommended System Requirements

- IBM PC-compatible computer, Pentium 133MHz or higher
- 16MB of RAM
- A hard drive that meets or exceeds the following minimum specifications:
 - 1GB hard disk space (or more)
 - 1.2MB/second data transfer rate (or faster)
 - 12ms average access time (or less)
- Sufficient hard disk space for software installation (see the documentation for the recording software)
- Windows 95/98 or Windows NT 4.0 or higher

About This Manual

This *Teac CD-Rewritable (CD-RW) Drive User's Manual* explains how to install and operate the TEAC CD-RW Drive. It is divided into the following main sections:

Chapter 1. Introduction: This chapter introduces the CD-RW Drive and describes shipping package contents and recommended system requirements.

Chapter 2. Configuring and Installing the CD-RW Drive: This chapter explains how to configure the CD-RW drive's CSEL/Slave/Master setting by positioning a jumper pin. It also explains how to install the CD-RW Drive in your computer and make the appropriate hardware connections.

Chapter 3. Installing the Recording Software: This chapter explains how to install the pre-mastering and other software included on the *TEAC CDR Software Suite* CD-ROM.

Appendix A. About CD-R and CD-RW Discs: This appendix contains information about media, formats, and loading and ejecting discs.

Appendix B. Specifications: This appendix provides technical specifications for TEAC CD-RW Drives.

Appendix C. Technical Support: This appendix provides technical support listings for TEAC in North America, Europe, Australia, and Asia.

CD-RW Package Contents

The CD-RW Drive kit includes the following items (see Figure 1).

- TEAC CD-Rewritable (CD-RW) Drive
- CD-ROM containing Adaptec software, including:
 - Adaptec Easy CD Creator premastering software (Version 4)
 - Adaptec Direct CD drag & drop software (Version 3)
 - Take Two backup software
- One blank CD-R disc
- One blank CD-RW disc
- Interface cable (ribbon cable)
- Audio cable (to connect internally to your PC)
- Mounting screws (not shown)
- TEAC CD-Rewritable (CD-RW) Drive User's Manual* (this booklet)

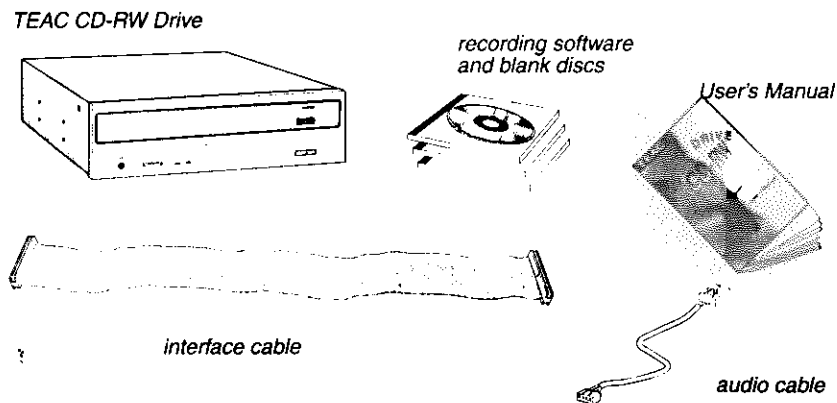


Figure 1. CD-RW Drive Kit Package Contents

Front Panel

Figure 2 illustrates the front panel of the CD-RW Drive.

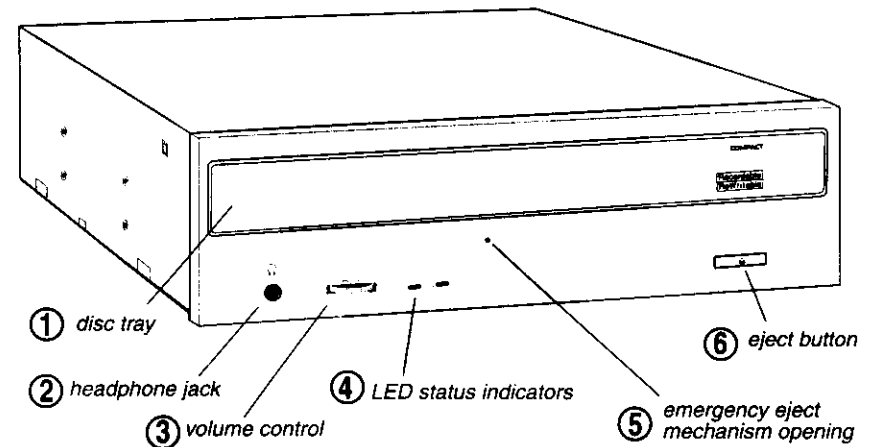


Figure 2. Front Panel of the CD-RW Drive

- ① disc tray:** Use the disc tray to load CDs into the drive. You can open the tray by pressing the eject button or by using the emergency eject mechanism. You can close the tray with a gentle push or by pressing the eject button.
- ② headphone jack:** You can connect headphones or external speakers to this jack. Use a 3.5 mm stereo mini-plug. For external speakers, connect a stereo adapter to split the output into separate cables for the left and right channels. Such adapters convert a male stereo mini-jack to two female phono jacks.
- ③ volume control:** Use the volume control to adjust the volume. Turning the control to the right increases the volume. (Lower the volume before you start a CD-ROM audio program to protect your hearing and the audio speakers.)

- ④ **LED indicators:** The drive features two LED indicator lights on the front panel. Various operations are indicated as per the following table:

Operation	LED 1	LED 2
At tray loading	green LED flashes	off
At tray eject	green LED flashes	off
During write	off	green LED flashes
During audio play	green LED flashes	off
During seek/data transfer	green LED lights	off

- ⑤ **emergency eject mechanism:** If the eject button fails, you can turn off the power to the CD-RW drive and insert a small, thin rod (such as a straightened paper clip) into the emergency eject mechanism opening and press firmly to eject the disc.

Caution: Do not attempt to use the emergency eject mechanism when either the Power or Busy indicator is lit or you may seriously damage the disc or the CD-RW Drive.

- ⑥ **eject button:** Press this button to open or close the disc tray. (Some CD-ROM titles disable the manual eject button and rely on software commands to eject the disc. Refer to the documentation for these titles for more information.)

Rear Panel

Figure 3 illustrates the rear panel of the CD-RW Drive.

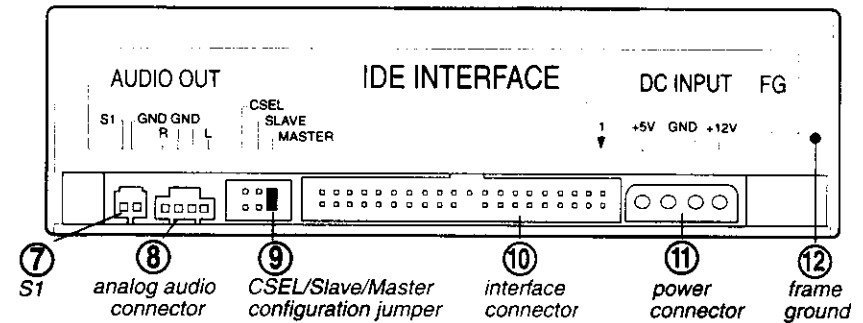


Figure 3. Rear Panel of the CD-RW Drive

- ⑦ **S1:** Reserved for factory use only.
- ⑧ **analog audio output connector:** Connect this connector to the audio input connector on a sound card. Pin assignments are described in the following table:
- | | |
|---|--------------|
| 1 | Left signal |
| 2 | Ground |
| 3 | Ground |
| 4 | Right signal |
- ⑨ **CSEL/Slave/Master configuration jumper:** The CD-RW Drive includes three pairs of jumper pins on the rear panel that allow you to set the drive to CSEL, Slave, or Master mode. (For more information, see “Configuring the CD-RW Drive” on page 7).
- ⑩ **interface connector:** Use the included IDE interface ribbon cable to connect the CD-RW drive to an IDE interface in your computer. (For more information, see “Installation and Connections” on page 8).
- ⑪ **power connector:** Connect the power connector to the +5VDC and +12VDC power sources. The +5VDC 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. (For more information, see “Installation and Connections” on page 8).
- ⑫ **FG:** Frame ground. This is a ground connection for the CD-RW Drive.

Chapter 2. Configuring and Installing the CD-RW Drive

This chapter explains how to configure and install the TEAC CD-RW Drive in your computer.

Configuring the CD-RW Drive

Before you can install and operate your TEAC CD-RW Drive, you must set the CSEL/Slave/Master jumper.

Setting the Master, Slave, CSEL Jumper

The CD-RW Drive features three pairs of jumper pins on the rear panel. By placing the jumper on the appropriate pair of pins, you can set the drive to Master, Slave, or CSEL mode.

Depending on how you plan to configure the CD-RW Drive in your computer system, you may need to adjust the position of this jumper on the rear panel of the drive.

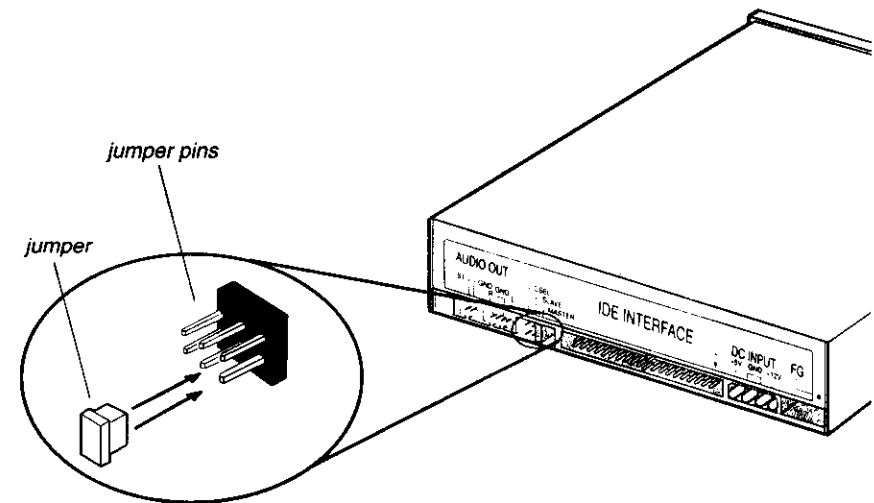


Figure 4. Jumper Pins on Rear Panel

If you are connecting the CD-RW Drive directly to an IDE interface card, set this jumper to Master (the default position). If you are making a daisy chain connection to a hard disk, move the jumper to the Slave position and connect the CD-RW Drive to the vacant connector in your existing hard drive interface cable.

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

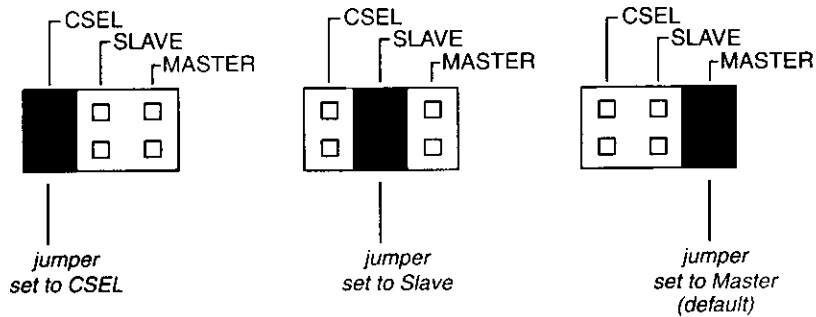


Figure 5. CSEL, Slave, and Master Jumper Pin Settings

Drive Orientation

Install the CD-RW Drive in your personal computer in a horizontal orientation (within $\pm 10^\circ$ of horizontal). The eject button should be located on the right side of the unit.

Installation and Connections

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

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 jumper on the rear panel of the CD-RW Drive to specify Master, Slave, or CSEL mode.**
(For more information, refer to "Configuring the CD-RW Drive" on page 7.)
3. **Touch the exposed metal frame of the computer to ground yourself.**
This will prevent damage to the computer or CD-RW drive that may be caused by a discharge of static electricity.
4. **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-RW Drive, remove the old drive. Refer to your computer documentation for more information.
5. **Locate the secondary IDE connector on the system's mother board and connect the interface cable. Proceed to Step 6.**

6. **If you need to install a new IDE card, install one in an appropriate bus slot (IDE card not included).**

Follow the instructions in the IDE card documentation.

7. **Slide the CD-RW Drive into the drive bay. Secure the drive using the included 3x5mm mounting screws.**

Warning: Do not use mounting screws longer than the included 3.5mm screws to secure the CD-RW Drive or you may damage the unit.

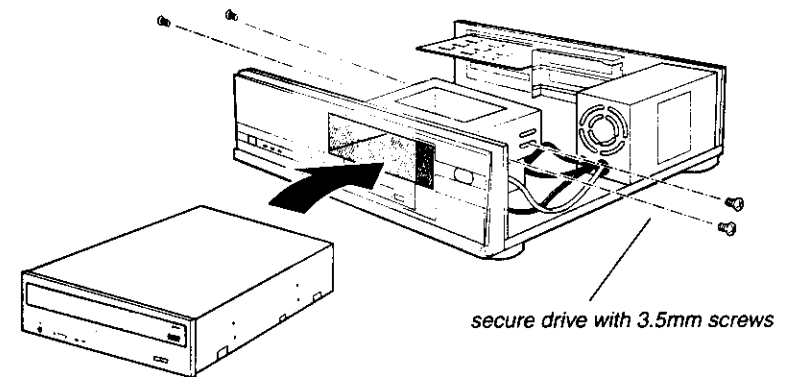


Figure 6. Installing the CD-RW Drive in a Computer

8. Connect the included analog audio cable to the analog audio connector on the rear panel (see Figure 7).

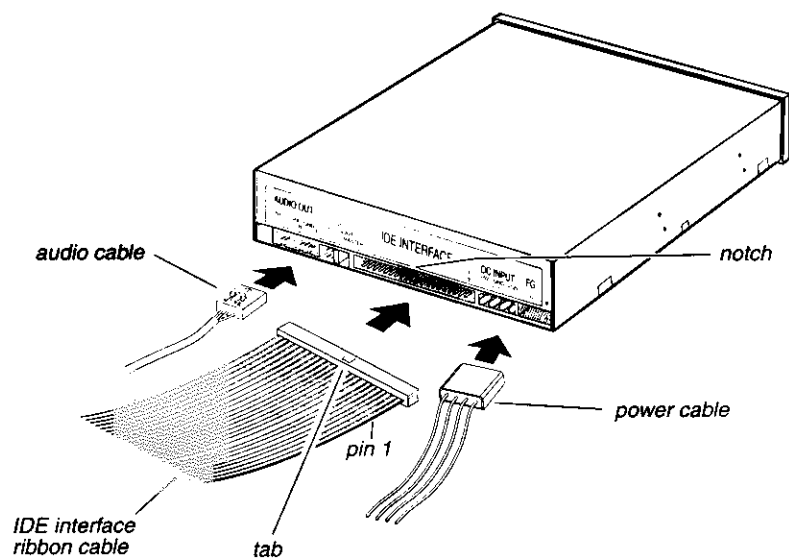


Figure 7. Cable Connections

The following illustration shows the audio pin assignments:

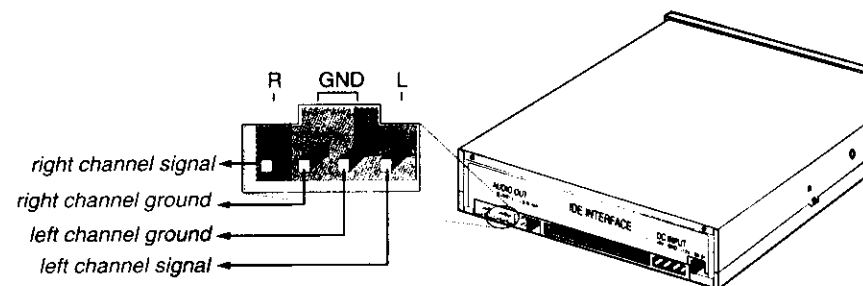


Figure 8. Analog Audio Pin Assignments

9. Connect the interface ribbon cable to the interface connector on the rear panel of the CD-RW Drive.

Be certain to connect pin 1 on the CD-RW Drive 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. Do not use excessive force while trying to insert the cable into position. For more information, refer to Figure 7 on page 10.)

10. Connect the power cable to the power connector on the rear panel of the CD-RW Drive.

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.

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

Connecting to Audio Equipment

The CD-RW Drive 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-RW Drive to an IDE interface card or sound card, be sure to read the documentation for those cards before connecting the CD-RW Drive.

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.

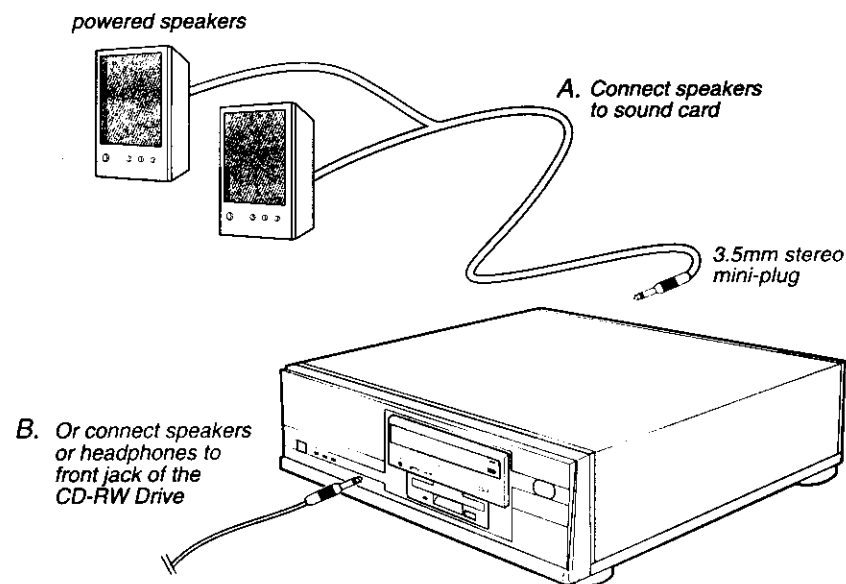


Figure 9. Connecting Analog Audio Speakers or Headphones

Chapter 3. Installing Software

Before you can record data onto CD-R or CD-RW discs using your TEAC CD-RW Drive, you must first install Adaptec CD-R/CD-RW software onto your computer's hard disk.

TEAC CD-RW kits include a CD-ROM that contains the following recording software applications for Windows 95/98 and Windows NT systems:

Adaptec Easy CD Creator, Version 4.0 or higher

Easy CD Creator is a full-featured mastering software application that enables you to create audio CDs and data CDs.

Adaptec DirectCD, Version 3.0 or higher

DirectCD is a "drag & drop" software application that allows you to read and write to your CD-RW as if it were a standard floppy or removable hard drive. It also provides the tools necessary to format the media.

Take Two

Take Two backup software is a disaster recovery utility for use with your CD-RW drive.

An installation procedure for these three applications is provided in "Installing Easy CD Creator, DirectCD, and Take Two Software" on page 14.

In addition to the above programs, which you can install from the main installation screen, the CD-ROM also includes other applications that you may explore. For more information, refer to "Installing Other Included Programs" on page 24.

Installing Easy CD Creator, DirectCD, and Take Two Software

Follow the steps below to install Easy CD Creator, DirectCD, and Take Two software on your computer's hard disk. The installation procedure for each application is nearly identical.

1. Insert the TEAC CD-RW software suite CD-ROM (Figure 10) into your computer's CD-ROM drive or into the TEAC CD-RW drive.

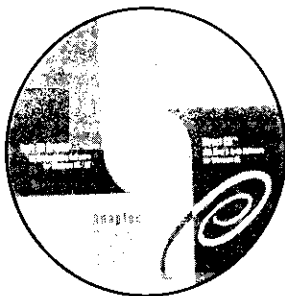
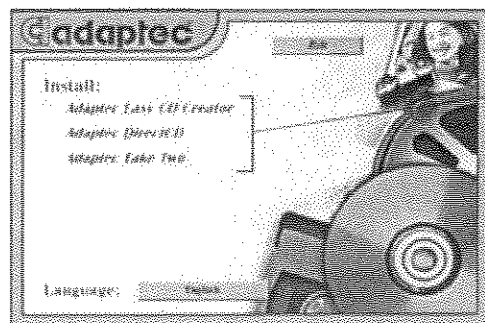


Figure 10. TEAC Adaptec CD-RW Software Suite CD-ROM

If the Autoplay function is enabled, the main installation panel (Figure 11) should appear on your desktop.

If the main installation panel does not appear on your desktop, double-click the My Computer icon, then double-click the icon for the CD-ROM drive.

The system displays the Adaptec Easy CD Creator/DirectCD/TakeTwo main installation panel (Figure 11).



Select the program you wish to install using the left mouse button or press the E, D, or T key.

Figure 11. Adaptec Easy CD Creator/DirectCD/Take Two Main Installation Panel

2. If you would like to select a language other than English for the installation procedure, click the Language: English button.

You can select one of the following languages: Chinese (Taiwan), Chinese (PRC), Dutch, English, French, German, Italian, Japanese, Korean, Portuguese, Spanish, or Swedish. Click the OK button to return to the installation process.

3. On the main installation panel (Figure 11 on page 14), click the left mouse button on the name of the application program you wish to install:

Select Easy CD Creator, DirectCD, or Take Two backup software. (Alternatively, you can press the E, D, or T key to install the respective program.)

The system begins to install the software and displays the following panel:

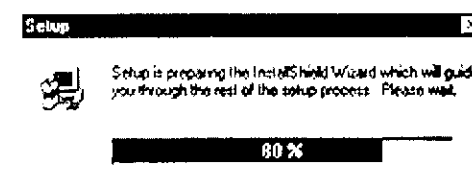


Figure 12. InstallShield Wizard Panel

The system then displays a Welcome panel (Figure 13) specific to the application you are installing:

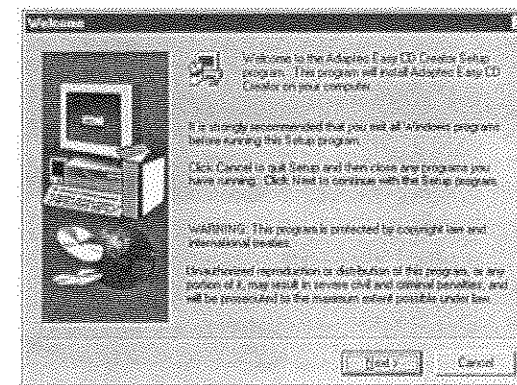


Figure 13. Welcome Panel

4. **Exit all Windows programs, then click the Next button.**

The system displays the Software License Agreement (Figure 14).

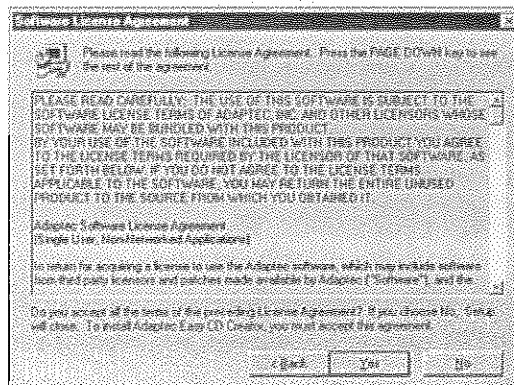


Figure 14. Software License Agreement Panel

5. **Please read the License Agreement and click Yes if you agree to its terms.**

The system displays the following panel, which lets you specify a directory in which to install the application by first clicking the Browse button. Or, you can accept the default directory.

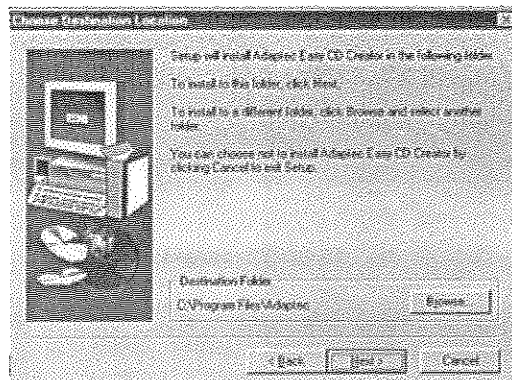
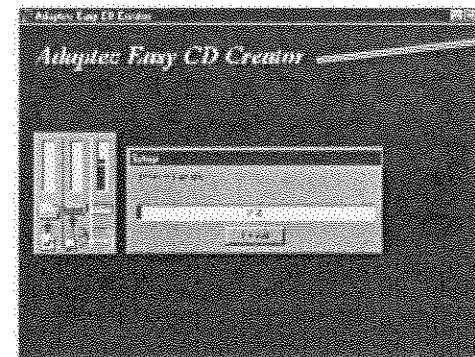


Figure 15. Destination Location Panel

6. **Click Next.**

The system continues to install the application and very briefly displays a panel similar to the following:



(will read "DirectCD" or "Take Two" when you install those applications)

Figure 16. Installation-in-Progress Panel

The system then displays the Install Update Diskette panel (Figure 17).

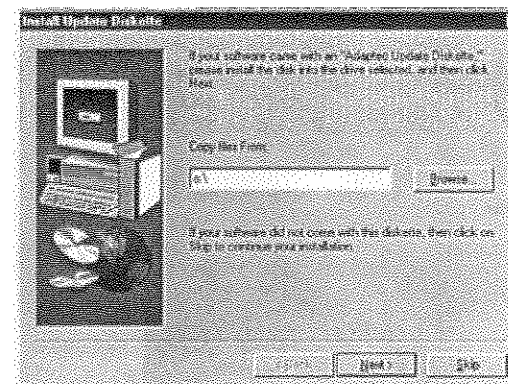


Figure 17. Install Update Diskette Panel

- If your software came with an *Adaptec Update Diskette*, insert the diskette into the selected drive, then click the Next button. Follow the instructions on-screen.
- If your software did not come with an *Adaptec Update Diskette*, click the Skip button to continue the installation.

The system quickly displays a sequence of panels as the installation proceeds, pausing at the Setup Complete panel (Figure 18 on page 18):

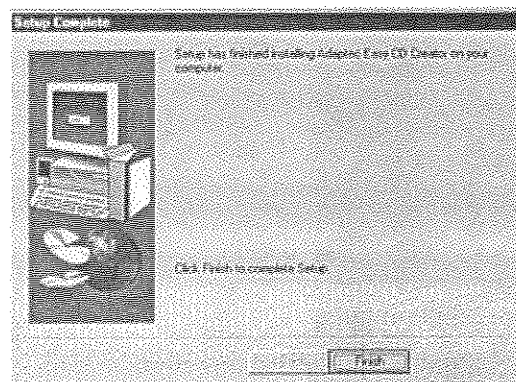


Figure 18. Setup Complete Panel

7. Click the Finish button to conclude the setup.

The system again displays the main installation panel (Figure 19 on page 18).

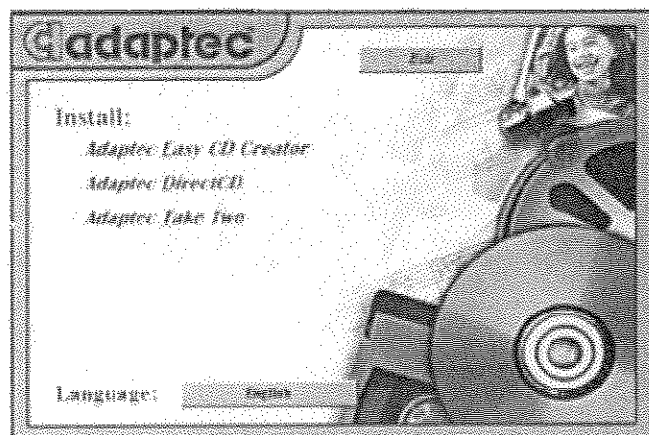


Figure 19. Main Installation Panel

8. Do one of the following:

- If you wish to continue and install another program (e.g., Easy CD Creator, DirectCD, or Take Two), return to Step 3.
- If you have installed all three programs, or if you wish to use the program you just installed immediately, click the Exit button.

The system displays a reboot request panel:

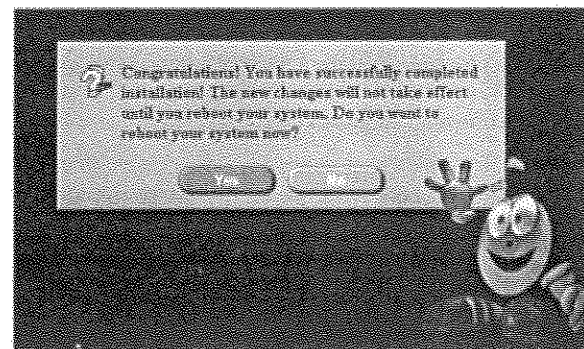


Figure 20. Reboot System Request Panel

9. Click the Yes button to restart your system.

Once the system reboots, the application(s) you installed will be ready for use.

About the Reference Guides, ReadMe Files, and Help Files

For detailed information on Easy CD Creator and DirectCD, refer to the Reference Guides (Acrobat PDF files) included on the CD-RW software suite CD-ROM.

(Adobe Acrobat Reader 4.0 is also included on the CD-ROM and loads automatically.)

Also, be certain to review the ReadMe files for Easy CD Creator and Take Two, and the Help files for DirectCD and Take Two.

These PDF files comprise the user documentation for the applications. The files are titled:

- *Adaptec Easy CD Creator Quick Reference Guide (16 pages)*

You can open this guide by selecting:

Start-->Programs-->Adaptec Easy CD Creator 4-->Quick Reference Guide

You can access the ReadMe file by selecting:

Start-->Programs-->Adaptec Easy CD Creator 4-->ReadMe

- *Adaptec DirectCD Reference Guide (12 pages)*

You can open this guide by selecting:

Start-->Programs-->Adaptec DirectCD -->Reference Guide

You can access the Help file by selecting:

Start-->Programs-->Adaptec DirectCD -->DirectCD Help

- *Adaptec Take Two Overview (1 page)*

You can open this overview by selecting:

Start-->Programs-->Adaptec Take Two -->ReadMe

You can access the Help file by selecting:

Start-->Programs-->Adaptec Take Two -->Take Two Help

Starting Easy CD Creator

To start Easy CD Creator, follow these steps:

1. **Click the left mouse button on the Windows Start icon, and select from the pop-up menu: Programs-->Adaptec Easy CD Creator 4-->CreateCD.**

The system displays the Welcome panel for the Easy CD Creator (Figure 21), which enables you to create audio or data discs, as well as other related functions.

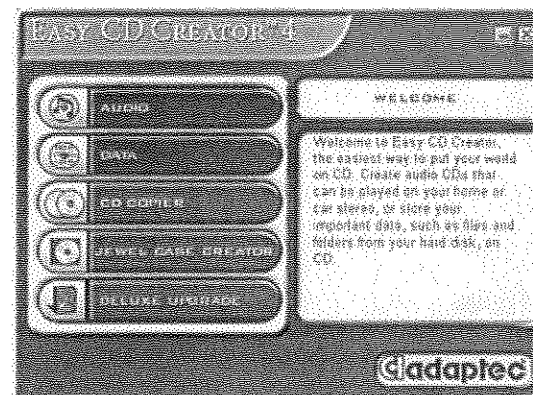


Figure 21. Easy CD Creator Welcome Panel

Using Easy CD Creator

The Welcome panel for Easy CD Creator enables you to:

- Create audio discs
- Create data discs
- Use CD Copier to copy discs (additional CD-ROM or DVD-ROM drive required)
- Use Jewel Case Creator to help you design and print jewel case cover art
- Upgrade to a deluxe version of Easy CD Creator

For information on using Easy CD Creator, refer to the Quick Reference Guide in PDF format on the CD-ROM or to the ReadMe file (for more information, see “About the Reference Guides, ReadMe Files, and Help Files” on page 20).

Starting DirectCD

To start DirectCD, follow these steps:

1. **Click the left mouse button on the Windows Start icon, and select from the pop-up menu: Programs-->Adaptec DirectCD-->Adaptec DirectCD Wizard.**

The system displays an introductory screen for DirectCD Wizard (Figure 22), which will guide you through:

- Checking the status of a disc in the CD-RW drive
- Preparing a CD-R or CD-RW disc for reading or writing
- Managing the final data when ejecting a DirectCD disc.

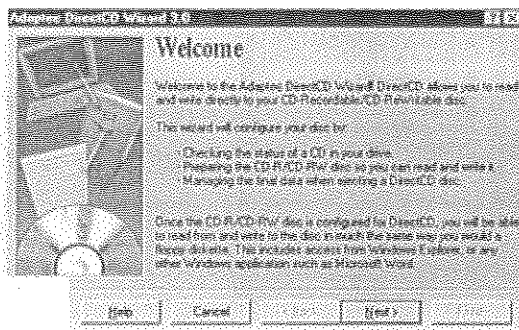


Figure 22. DirectCD Wizard

Using DirectCD

For information on using DirectCD, refer to the user documentation in PDF format on the CD-ROM or to the Help file (see "About the Reference Guides, ReadMe Files, and Help Files" on page 20).

You may also access Help information by clicking the Help button on the DirectCD Wizard Panel (Figure 22).

Starting Take Two

To start Take Two, follow these steps:

1. **Click the left mouse button on the Windows Start icon, and select from the pop-up menu: Programs-->Adaptec Take Two-->Adaptec Take Two.**

The system displays an introductory screen for Take Two (Figure 23), which enables you to:

- Select a backup source
- Select a backup destination
- Start a backup procedure.

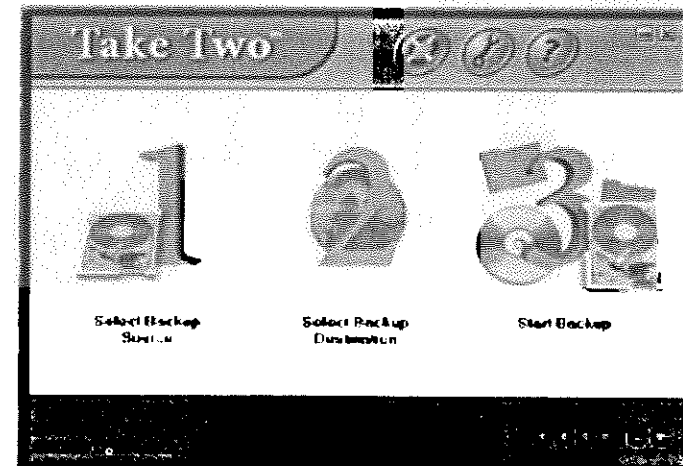


Figure 23. Take Two Main Panel

Using Take Two

For information on using Take Two, refer to ReadMe and Help files (see "About the Reference Guides, ReadMe Files, and Help Files" on page 20).

Installing Other Included Programs

The TEAC CD-RW software suite CD-ROM also includes Liquid Music Player software. To install this program, run the setup program Disk 1/Funstuff/Liquid/Setup.

The Liquid Music Player will appear on screen (Figure 24). For information on using the software, refer to the program's Help file.



Figure 24. Liquid Music Player

Uninstalling Programs

- To uninstall Easy CD Creator, select:
Start-->Programs-->Adaptec Easy CD Creator 4-->Uninstall.
- To uninstall Easy CD Creator, select:
Start-->Programs-->Adaptec DirectCD-->Uninstall DirectCD.
- To uninstall Take Two, use the Windows Uninstall utility. Select:
Start-->Settings-->Control Panel
The system displays the Control Panels window. Use the Add/Remove Programs utility. For additional information, refer to your Windows documentation.

Appendix A. About CD-R and CD-RW Discs

This appendix explains how to handle, load, and eject CD-R and CD-RW discs. It also lists recommended media and supported disc formats.

Handling Discs

- Handle compact discs only by their edges to avoid getting fingerprints on the surface. Do not touch the disc's data surface (unlabeled 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.

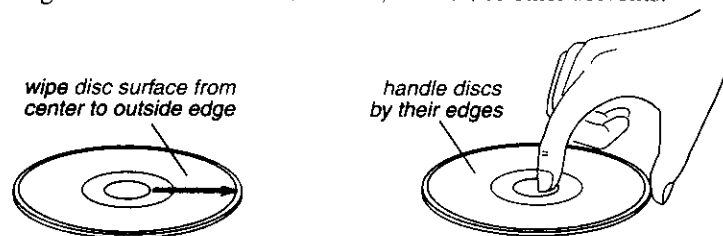


Figure 25. How to Handle Compact Discs (CD-R and CD-RW)

Recommended Media

One blank TEAC CD-R disc and one blank TEAC CD-RW rewritable disc are included in the package with your CD-RW.

Use only 74-minute blank CD-R and CD-RW media from TEAC or the following manufacturers:

CD-R	Taiyo Yuden
	Mitsui Toatsu Chemical
	Mitsubishi (Verbatim)
	Ricoh
	TDK Electronics
	Kodak
	Fuji Film
	Hitachi (Maxell)
	Pioneer
CD-RW	Mitsubishi (Verbatim)
	Ricoh

Disc Formats

The TEAC CD-RW drive supports the following disc formats:

Disc Form	Capacity
CD-DA	74 minutes
CD-ROM Mode 1	650MB
CD-ROM XA Mode 2 (Form 1)	650MB
CD-ROM XA Mode 2 (Form 2)	738MB
CD-R	650MB
CD-RW	650MB
CD-I	650MB
Video-CD	650MB
CD Extra/CD-Plus	650MB
CD-TEXT	650MB
Multi-session Photo CD	650MB

Loading and Ejecting Discs

To load a disc, first open the disc tray by pressing the eject button on the front of the drive. Place the disc on the disc tray with its label side facing up. Then press the eject button again to retract the disc tray back into the drive.

To eject a disc, press the eject button on the front of the drive to extend the disc tray (refer to Figure 26). Remove the disc from the disc tray and place it in its protective case. Then press the eject button again to retract the disc tray back into the drive.

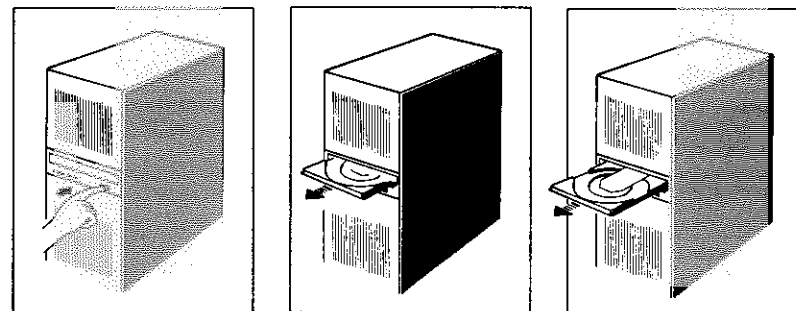


Figure 26. Ejecting the Disc Tray

Appendix B. Specifications

The following table lists the product specifications for TEAC CD-RW drive.

Model	CD-W54E
Interface	IDE/ATAPI
Transfer Rate	Read: 32X maximum (4,800KBps) Record: 4X (600KBps) Rewrite: 4X speed (600KBps)
Digital Audio Extraction	8X max. (1,200KBps)
Access Time	85 msec (1/3 Stroke)
Buffer Size	2MB
Write Methods	Track at Once; Disk at Once; Multi-Session; Incremental
Disc Types	8cm/12cm; Audio CD; CD-ROM Mode-1; Mode-2 (Form1, Form2); CD-ROM XA; CD-R; CD-RW; Video-CD; CD Extra/CD-Plus; CD-I; CD-DA; CD-ROM; CD-TEXT.
Write Verification	Running Optimum Power Control to dynamically adjust laser write power
Logical Recording Format	IS9660; UDF & CDR-FS Packet Write
Disc Loading	Power Tray (caddy not required)
Front Panel	Built-in Headphone Jack, Volume Control Knob, and Power Eject Button
MTBF	100,000 POH
Dimensions	5.75"(W) x 1.6"(H) x 7.56"(D)
Weight	2.64 lbs
Power Supplies	+5VDC, +12VDC
Analog Audio Headphone Line-Out	0.65 ± 0.3Vrms at 32Ω 0.78 ± 0.3Vrms at 47KΩ
Headphone Jack	3.5mm diameter stereo mini-headphone jack
Connection	IDE/ATAPI interface connector
Installation	Horizontal, plus or minus 10°
Operating Temperature	5° C to 40° C (41° F to 104° F)
Storage Temperature	-30° C to 60° C (-22° F to 140° F)
Operating Humidity	20% to 80% (non-condensing)
Storage Humidity	10% to 80% (non-condensing)
Safety Standards	UL, CSA, TUV

Appendix C. Technical Support

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

North America:

TEAC America, Inc. (USA)
Technical Support
Telephone: (323) 727-4860 • Fax: (323) 869-8751
Monday - Friday 8:00 a.m. - 5:00 pm
<http://www.teac.com>
E-mail: dspdtsg@teac.com

Europe:

TEAC Deutschland GmbH ICP Division (Germany)
Bahnstraße 12
D-65205 Wiesbaden-Erbenheim
Germany
Telephone: (611) 71-580 • Fax: (611) 71-5892 • BBS: (611) 71-5851
<http://www.teac.de>

TEAC UK Ltd.

5 Marlin House
Croxley Business Park
Watford, Hertfordshire WD1 8YA
Telephone: 923-225235 • Fax 923-236290

TEAC France S.A.

17, rue Alexis de Tocqueville
CE 005 - 92182 ANTONY CEDEX
Telephone: (1) 42-37-01-02
Fax: (1) 42-37-65-45

Japan, Asia, Middle East:

TEAC Corporation, 3-7-3 Nakacho,
Musashino-shi, Tokyo 180-0006 Japan
Field Service and Technical Support Section
Data Storage Products Sales and Marketing Division
Telephone: (0422) 52-5048
Fax-on-Demand (24 hours): (0422) 55-2554
BBS: (0429) 62-7498
(8 bit; 1 stop bit; no parity. Downloaded files compressed by LHA.)
<http://www.teac.co.jp>

TEAC Australia PTY LTD

A.C.N 005 408 462
106 Bay Street, Port Melbourne
Victoria 3207, Australia
Telephone: (03) 9644-2442
Fax: (03) 9646-9187
<http://www.teac.com.au>