Adaptec Easy CD Creator

Standard Edition

User's Guide

adaptec®

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1

Introduction

Make CDs Right on Your Desktop

Using Easy CD Creator®, you can copy files from your computer to a recordable compact disc (CD). Using a special write-once media, Easy CD Creator allows you to permanently store data in a format that is readable on virtually all CD-Recordable (CD-R) and Compact Disc-Read Only Memory (CD-ROM) drives. In addition, the audio CDs you create with your CD recorder are readable in your home or car CD player. If you are using a CD-ReWritable (CD-RW) drive, you can also use a special erasable media that allows you to rewrite information on a CD (see *About CD-Recordable and CD-ReWritable Technology* on page 1-5). You can use Easy CD Creator to:

- Compile CDs of your favorite music
- Archive data
- Back up your hard drive
- Disseminate information to field offices
- Distribute databases
- Create a test copy of a multimedia CD
- Make a master CD for disc duplication
- Duplicate a CD
- Erase and rewrite the contents on a CD
- Make a custom jewel case insert

Deluxe Edition Features

You are using Easy CD Creator Standard Edition. If you want to upgrade to the Deluxe Edition, you can purchase it from a retail store (see http://www.adaptec.com to locate a retailer near you) or directly from Adaptec.

Easy CD Creator Deluxe Edition comes with advanced applications that expand your CD-R capabilities. These advanced features include the following:

- CD Spin Doctor™—allows you to make audio CDs from traditional music sources including LPs and cassette tapes and to clean up the sound quality before recording songs to CD.
- Picture CD Creator—allows you to make CDs containing your favorite photographs.
- Video CD Creator—allows you to make CDs containing videos or still images.
- Sound Editor—allows you to make changes to sound files on your hard drive before recording them to CD.
- Session Selector—allows you to view any previous session of a multisession CD, not just the last session.

System Requirements

The following is a list of the Easy CD Creator system requirements:

- Personal Computer (PC) running Windows 95® or Windows NT™ v.4.0
- CD Recorder

Supported Formats

Easy CD Creator supports the following CD-R formats which are used to make data and audio CDs:

■ CD-ROM *Data CDs*	This is the standard for recording data CDs.
■ CD-ROM XA *Data CDs*	XA stands for Extended Architecture. CD-ROM XA is based on CD-ROM but adds better audio and video capabilities so CD-ROMs can more easily be used for multimedia applications.
■ CD-DA *Audio CDs*	Compact Disc-Digital Audio. This is the original compact disc standard and is used to record music CDs.
■ CD Extra *Audio and Data CDs*	This format allows you to combine audio and data on a CD. The audio tracks are recorded in the first session and one CD-ROM XA data track is recorded in the second session to make a multisession CD. The audio tracks on CD Extra discs can be played on home or car CD players.
■ Mixed-Mode *Data and Audio CDs*	This format allows you to combine data and audio on a CD. Mixed-Mode differs from CD Extra in that the data is recorded in the first track followed by one or more audio tracks, and both the data and audio tracks are combined in a single session. Mixed-Mode CDs should be used on CD-ROM or CD-R drives only.

File System Options

Easy CD Creator allows you to select different file system options depending on how you plan to use your CD. They include:

- ISO 9660—An international standard that specifies how data is physically recorded onto the CD (sector-by-sector) into a directory tree (up to eight levels of directories). CD-ROMs made according to the ISO 9660 Level 1 specifications can be read on multiple operating systems such as Macintosh, DOS, Windows 3.x, Windows 95, and Windows NT.
- Joliet—A standard developed by Microsoft for Windows 95 that allows CDs to be recorded using long filenames. Joliet allows you to use file names up to 64 characters in length, including spaces, and also allows you to use Unicode characters for better international support. Joliet records the associated DOS standard filename (8 + 3 characters) for each file so that the CD can be read on DOS systems or earlier versions of Windows.

About CD-Recordable and CD-ReWritable Technology

If you have a CD-RW drive, you can use two types of discs to make your own CDs:

- CD-Recordable (CD-R) discs
- CD-ReWritable (CD-RW) discs

CD-RW is a new technology and like CD-R, it allows you to record information to a CD. What is new is that with CD-RW you can also erase the contents of a CD and rewrite new information to it. Depending on how you want to use your CD, each disc type offers unique advantages.

CD-R Advantages

- Good for permanent data storage
- Less expensive per CD than CD-RW discs
- Readable on virtually all CD-ROM and CD-R drives

CD-RW Advantages

- Allows you to erase the data and rewrite new information (for example, updating files)
- Allows you to make a practice CD or to test the contents of a CD before making a permanent one
- More cost effective for near-line data storage requirements than CD-R

Note: Only CD-RW drives can read and write data to CD-RW discs.

Getting Help

Read this user's guide for background information about CD-R technology and instructions for recording CDs using Easy CD Creator. In this user's guide, the term *CD-Recordable* includes both CD-Recordable and CD-ReWritable technology. Technical terms are defined in a *Glossary* in the back of this user's guide.

Additional information is available online:

- Select **Help Topics** from the Help menu
- Use context-sensitive help in the active window

Refer to Chapter 11, *Troubleshooting*, for technical support and suggestions for resolving problems.

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Getting Started

The following sections explain how to install and open Easy CD Creator, explain how to use the Wizard to make an audio or data CD, describe the Easy CD Creator main window, and explain how to directly access Windows Explorer.

Installing Easy CD Creator

To install Easy CD Creator, follow these steps:

1. Insert the Adaptec Easy CD Creator CD into your CD-R, CD-RW, or CD-ROM drive.

   The Easy CD Creator installation window appears.

2. Select from one of the following:

   - Easy CD Creator—to install the Easy CD Creator Standard Edition software on your computer.
   - MGI PhotoSuite (if the MGI software is included)—to install MGI PhotoSuite so you can view picture CD images.
   - CD Catalog—to install an electronic catalog of CD recordable related products.

   If the main menu does not appear automatically, click on the **Start** button on the task bar, select **Run**, type D:\SETUP (where D: is your CD drive's letter), then click on **OK**.

3. Follow the on-screen installation instructions.

Opening Easy CD Creator

To open Easy CD Creator so you can begin creating your own CDs, follow these steps:

1. In Windows 95, click the **Start** button located on the left side of the taskbar.
2. Select **Programs,** point to **Adaptec Easy CD Creator**, and select **Easy CD Creator.**

The Adaptec Easy CD Creator Wizard Screen appears.

Using the Wizard to Make a CD

The easiest way to make a CD is to use the Easy CD Creator Wizard. The Wizard guides you step-by-step to make a simple audio or data CD. If you are new to CD-R technology, the Wizard is an excellent way to become familiar with the CD recording process and make an audio or data CD.

If you want to use advanced features (such as making a CD Extra disc), refer to the appropriate chapters in this user's guide.

To use the Wizard, follow these steps:

1. Select the type of CD you want to make: **Data CD** or **Audio CD.**
2. Follow the on-screen instructions in the Wizard windows.

To see a list of the files and folders or audio tracks you are adding to your CD, move the Adaptec Easy CD Creator Wizard screen to view the main Easy CD Creator window.

To move the Wizard window:

1. Click the Adaptec Easy CD Creator Wizard title bar.
2. Drag the Wizard window to the right side until you see the *Untitled - Easy CD Creator* window.

A list of the folders you selected is displayed below the icon.

For a description of the window, see *About the Easy CD Creator Window* on page 2-4.

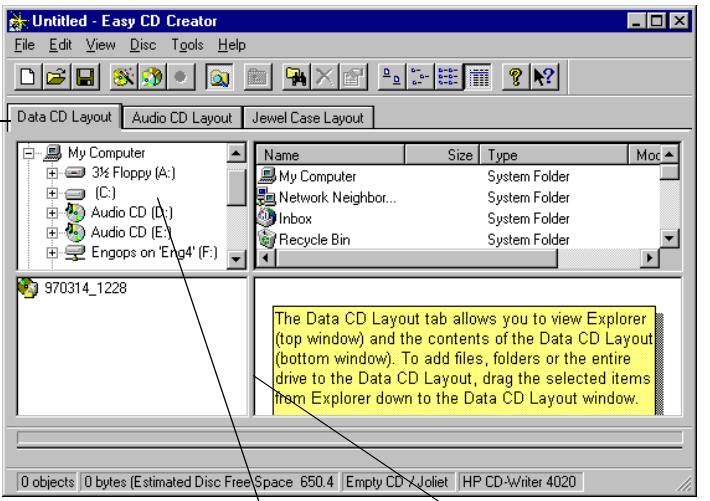
If you need help, click **Help** to open the Online Help, or refer to the Audio or Data chapters in this user's guide.

If you want to make a CD without using the Wizard:

- Click **Cancel** in the Easy CD Creator Wizard Welcome window and follow the instructions in the following chapters for the type of CD you want to make.

About the Easy CD Creator Window

The Easy CD Creator window appears when you click **Cancel** in the Wizard or when you disable the Wizard option (see *Setting General Options* on page B-9). The following graphic shows the different parts of the Easy CD Creator window:



Direct Access to Windows Explorer

Easy CD Creator includes direct access to Windows Explorer so you can display Windows Explorer while using Easy CD Creator instead of switching back and forth between the two applications. This feature allows you to easily select and arrange files and folders you want to record. You can also use standard Windows Explorer commands to move files and folders around. Refer to the Microsoft Windows 95 Online Help for information about how to work with files and folders.

To hide Windows Explorer in the Easy CD Creator window:

- Select **Hide Windows Explorer** from the View menu.

Obtaining Blank CDs

You can obtain blank CDs where you purchased your CD-R or CD-RW drive or at local computer retailers. Refer to your CD recorder's manufacturer for recommended CD brands.

Also, if you are planning to use CD-RW discs, please see *About CD-Recordable and CD-ReWritable Technology* on page 1-5 for information about CD-RW discs.

Care and Handling of Recordable CDs

Follow these general guidelines when handling CD-Recordable and CD-ReWritable discs:

- *Do not* expose CDs to sun or other strong light for long periods. Also try to avoid high heat and humidity.
- Handle CDs carefully to avoid scratching them, especially on the top (label) side which has only a thin layer of lacquer protecting the writing surface.
- *Do not* use alcohol-based pens to write on CDs—the ink may eventually eat through the top lacquer-surface and damage your data.
- *Do not* use ball point pens to write on CDs— you may scratch through the lacquer and damage your data.
- Use felt-tip pens to write on CDs
- Use only CD labels that are expressly designed for recordable CDs.
- Store and ship CDs in their jewel cases or other protective containers.
- *Do not* stack CDs together—they may stick to each other, causing parts of the reflective surface to peel off.

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Making an Audio CD

An audio CD is a compact disc (CD) containing digital audio tracks recorded in the Compact Disc-Digital Audio (CD-DA) format.

Audio CDs can store up to 74 minutes of music and may contain up to 99 tracks, each usually representing a separate piece of music. Audio CDs can be played back from a home or car CD player or from a CD-ROM drive through speakers or headphones attached to the drive's output jack.

Using Easy CD Creator, you can:

- Compile audio CDs of your favorite music
- Make CDs from Wave files on your hard drive

How to Make an Audio CD

To make an audio CD, you can record songs from:

- *Tracks* on an existing CD
- *Wave* files stored on your hard drive (*.wav, a standard Windows format for sound files.)
- A combination of Wave files and tracks

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The following sections explain how to add songs to a CD layout so you can record them to a blank CD using the menu bar. If you want the help of the Wizard, see *Using the Wizard to Make a CD* on page 2-2.

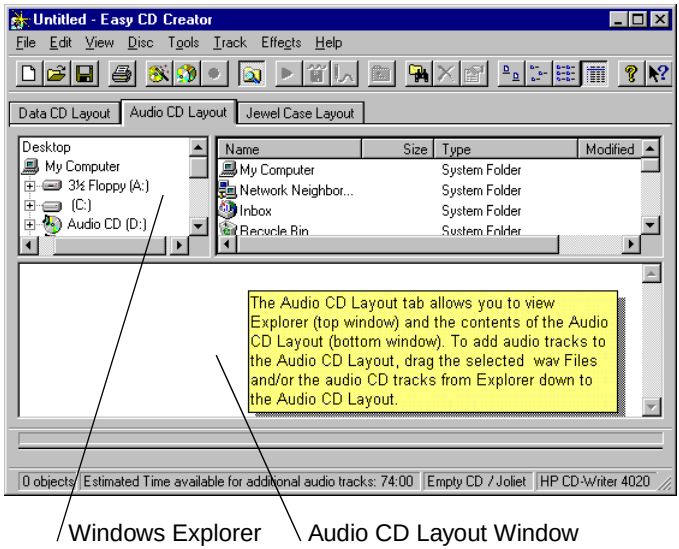
For helpful pointers when recording music CDs, see *CD-DA Recording Tips* on page 3-10.

Recording Audio Tracks from an Existing Music CD

To record songs (audio tracks) from an existing music CD, you need to first create a *CD layout*— a file that contains the list of songs and the order in which they will be recorded—then record the layout to a blank CD. To do so, follow these steps:

1. Select **New CD Layout** from the File menu or open an existing CD layout.

2 Click the **Audio CD Layout** tab.



The top part of the window is Windows Explorer, where you can select the songs you want to record. The bottom part is the Audio CD Layout window, which allows you to view the contents of the CD layout. To make changes to the list of tracks in the Audio CD Layout tab, see *Changing the Order of Your Songs* on page 3-7.

3 Insert the source CD, which contains the songs you want to record, into your CD recorder.

Note: You can record directly from a CD-ROM drive *only* if it supports digital audio extraction. See *Recording from a CD-ROM Drive* on page 3-10.

4 In the Explorer section of the window, select the drive where the source CD is located to view the list of songs on the CD.

5 Drag the songs that you want to record from Explorer to the Audio CD Layout window.

To change the name of a song, see *Renaming Songs in Your CD Layout* on page 3-7.

6 Repeat steps 3-5 for each existing music CD from which you want to record songs.

7 Select **Create CD** from the File menu when you have placed all of the songs that you want to record into the Audio CD Layout window.

The CD Creation Setup box appears.

8 Make changes, if any, to the CD Creation Setup settings (see *CD Creation Setup Settings* on page B-1 for descriptions) and click **OK**.

Easy CD Creator begins recording your CD layout to a blank CD. Insert a blank CD when prompted.

When the CD is finished, a final message box appears notifying you that the recording is complete.

Note: To make a sleeve that lists the artist, CD title, and songs, see Chapter 10, *Making a Custom Jewel Case Insert*.

Recording Wave Files Stored on Your Hard Drive

To record an audio CD using Wave files (*.*wav*), the Wave files must be stored on your hard drive at 11, 22, 44.1 KHz, 8- or 16-bit, mono or stereo. To make a Wave file from an existing CD, see *Pre-recording Audio Tracks to Wave Files* on page 3-5.

To record Wave files stored on your hard drive to a blank CD, follow these steps:

1 Insert a blank CD into your CD recorder.

2 Select **New CD Layout** from the File menu or open an existing layout.

3 Click the **Audio CD Layout** tab.

4 Select the Wave files you want to record from Explorer and drag them to the Audio CD Layout window.

To change the name of the song(s) see *Renaming Songs in Your CD Layout* on page 3-7.

5 Select **Create CD** from the File menu when you have finished adding all of the songs you want to record to your CD layout.

The CD Creation Setup box appears.

6 Make changes, if any, to the CD Creation Setup settings (see *CD Creation Setup Settings* on page B-1 for descriptions) and click **OK**.

Easy CD Creator begins recording your CD layout to a blank CD. When the CD is finished, a final message box appears notifying you that the recording is complete.

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Note: To make a sleeve that lists the artist, CD title, and songs, see Chapter 10, *Making a Custom Jewel Case Insert*.

Pre-recording Audio Tracks to Wave Files

Pre-recording audio tracks to Wave files on your hard drive is a way to:

- Minimize swapping CDs in and out of your drive if you want to make more than one copy
- Improve the sound quality if your CD recording system is less than optimal

You can pre-record one Wave file at a time. To pre-record a Wave file from an existing CD, follow these steps:

1 Insert the source CD, which contains the song you want to pre-record to your hard drive, into your CD recorder.

2 Click the **Audio CD Layout** tab.

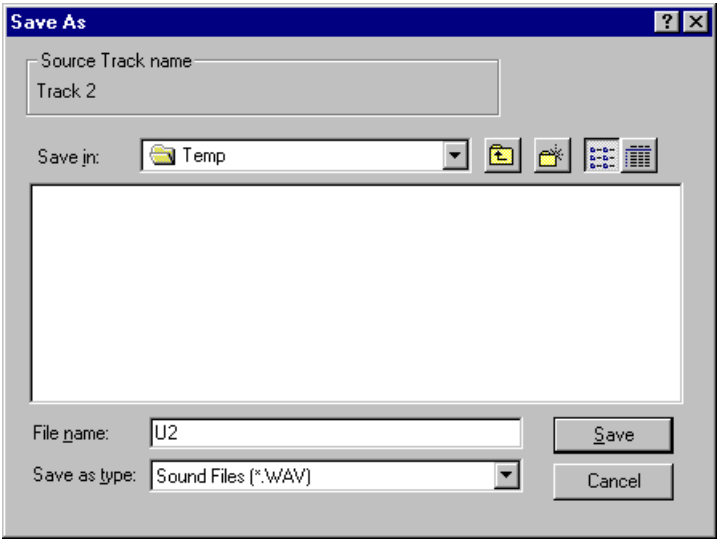
3 Select the audio track you want to pre-record from Explorer and drag it into the Audio CD Layout window.

4 Highlight the audio track in the Audio CD Layout window.

5 Select **Pre-record to WAV file** from the Track menu.

Pre-recording audio tracks to Wave files requires approximately 10MB of space on your hard drive for one minute of music.

6 Type in a file name for the Wave file and choose a different location on your hard drive if you do not want to record your Wave file to your Temp directory.



7 Click **Save.**

Easy CD Creator pre-records your Wave file to your hard drive. A final message box notifies you when the recording is complete.

Combining Both Audio Tracks and Wave Files

You can make a music CD that contains songs both from pre-recorded Wave files stored on your hard drive and from audio tracks on an existing music CD. To do so, follow the steps outlined in *Recording Audio Tracks from an Existing Music CD* on page 3-2 and *Recording Wave Files Stored on Your Hard Drive* on page 3-4, depending on the type of songs you want to record. Once you have added all of the audio tracks and Wave files you want to record to your CD layout, select **Create CD** from the File menu.

Modifying Your CD Layout

The following sections describe how to make changes to your CD layout.

Changing the Order of Your Songs

Once you have added more than one song to your CD layout, you can change the order of the songs at any time before creating the CD. For example, you can move the track that is listed as the third song in the Audio CD Layout window to the top of the list.

To change the order of the songs, follow these steps:

1. Select the song whose order you want to change in the CD layout.
2. Drag it to the position you want it to appear in the Audio CD Layout window.

Removing Songs from Your CD Layout

You can remove any song you have added to a CD layout at any time before you create a CD. To remove a song from your CD layout, follow these steps:

1. Select the song you want to remove in the Audio CD Layout window.
2. Select **Cut** from the Edit menu.

Renaming Songs in Your CD Layout

To rename a song listed in your CD Layout, follow these steps:

1. Select the song you want to rename in the Audio CD Layout window.
2. Select **Rename** in the Track menu.
3. Type in the new name in the text box.

Merging (Composite) Tracks

Easy CD Creator features an option that allows you to make a *composite track*, a single track that is made up of two or more separate tracks. Composite tracks are useful when you want to make a single song from several Wave files.

To make a composite track, follow these steps:

1. Select two or more songs you want to merge into a single track.
2. Select **Merge Tracks** from the Effects menu.

The tracks appear as a single track in the Audio CD Layout window.

Note: Merged tracks are treated as a single song when played in a CD player.

Splitting Composite Tracks

To separate a composite track—a single track that is made up of two or more separate tracks, follow these steps:

1. Select the composite track you want to separate.
2. Select **Split Tracks** from the Effects menu.

The composite track appears as multiple tracks in the Audio CD Layout window.

Only tracks that have been merged can be split.

Saving a CD Layout

You can create a CD layout, save it, then use it to record a CD later. To save a CD layout, follow these steps:

1. Select **Save As** from the File menu.
2. Type in the File name.
3. Select the location where you want to store the file.

Opening an Existing CD Layout

To open a CD layout you have previously saved:

- Select **Open CD Layout** from the File menu.

Easy CD Creator displays the contents of the layout.

Closing an Audio CD

By default, Easy CD Creator closes the session so you can listen to your audio CD on a home or car stereo. However, if you selected *Leave Session Open* in the Advanced tab (see *CD Creation Setup Advanced Tab* on page B-3) and you have added all the songs you want to record, you must close the session before you can listen to the CD on a home or car CD player. To close the session, follow these steps:

1. Select **Disc Information** from the Disc menu.

   The Disc Information tab appears.

2. Click **Close Session.**

3. Click **OK.**

Easy CD Creator closes the session.

Note: You can add more sessions to the CD, but only the first session on an audio CD can be played back on home or car CD players, as long as it is closed.

Playing an Audio CD

Use the Windows 95 CD player to listen to the audio CD.

CD-DA Recording Tips

Read the following section for useful information when recording audio CDs.

Using Easy CD Creator Wizard

The easiest way to make an audio CD is with the help of the Easy CD Creator Wizard. The Wizard appears when you first open Easy CD Creator and guides you step-by-step in the creation of a simple data or audio CD.

To make an audio CD with the assistance of the Wizard, see *Using the Wizard to Make a CD* on page 2-2.

Using CD Copier

If you want to copy an entire audio CD from start to finish, use the Easy CD Creator CD Copier feature. See Chapter 9, *Making a Copy of a CD* for instructions.

Minutes on a CD

ACD's capacity is measured in minutes. Recordable CDs are available in 21-, 63-, and 74-minute sizes. See *Obtaining Blank CDs* on page 2-5.

Recording Time

Recording times vary based on the read and write speeds of your CD recorder and whether you are recording tracks from existing music CDs or Wave files.

Recording from a CD-ROM Drive

If you have a CD-ROM drive that can read (not just play) audio CDs digitally—meaning that it supports digital audio extraction—you can use it as your source drive to record songs from an existing CD. This means that you would not have to swap CDs in and out for each song you want to record from a single music CD. Not all CD-ROM drives support digital audio extraction. To determine if your CD-ROM does, see *Testing Your System Configuration* on page 11-1.

Eliminating the Two-Second Gap Between Tracks

To prevent a two-second gap from occurring between audio tracks, you can record Wave files stored on your hard drive to a blank CD using the Disc-at-Once option. See *Disc-at-Once*, under the *CD Creation Setup Advanced Tab* on page B-3.

Using a Disc Image to Record Your CD

If your CD-R system is less than optimal and you have enough space on your hard drive, you can create an audio CD from a disc image to increase your chances for a successful recording. Using a disc image is also useful when you are creating multiple copies of the same CD. See Chapter 8, *Making a CD from a Disc Image*.

Leaving the Session Open

If you want to record a few tracks at a time, you can choose to *Leave the Session Open* (see *CD Creation Setup Settings* on page B-1). When you have recorded all the tracks you want on the CD, you can then close the session to listen to the CD on a home or car CD player. See *Closing an Audio CD* on page 3-9.

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Making a Data CD

A data CD (also known as a CD-ROM), is a compact disc used to store computer data. Data is written on the CD in a continuous spiral running from the center of the CD to its outside rim. All the bits in a file are written one after the other from beginning to end, then the next file is written, and so on.

A logical format (or file system) structures the raw bits on the CD in a virtual *tree* of directories and files, which makes it easier for both humans and computers to use the information. ISO 9660 is a worldwide standard specifying the logical format for files and directories on a CD-ROM.

Typical uses for CD-ROMs include:

- Archiving data
- Backing up a hard drive or other media
- Creating a test copy of a CD before having it factory-duplicated
- Disseminating information to field offices

How to Make a Data CD

For helpful pointers when creating data CDs, see *CD-ROM Writing Tips* on page 4-11.

To make a data CD, there are three overall procedures:

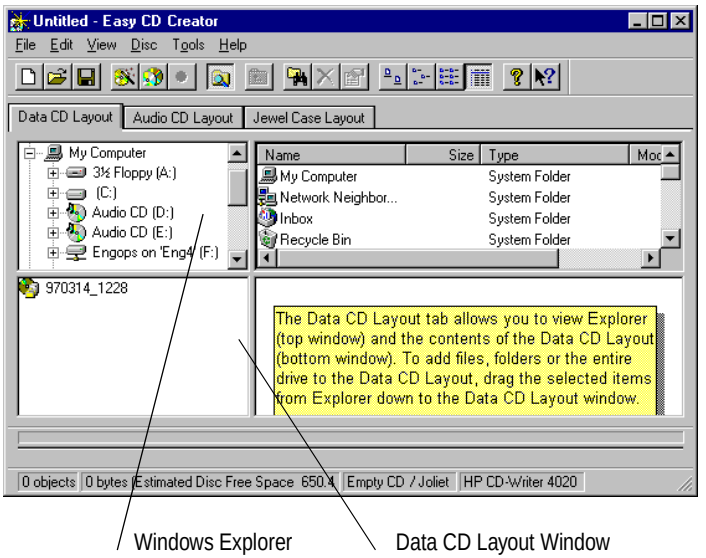
- Add files and folders to a *CD layout*—a file that contains the list of files and folders and the order in which they will be written
- Define the CD Layout Properties which specify your file system preference (optional)
- Create the CD

The following sections explain how to define the CD layout properties, add files and folders to your CD layout, and create the CD.

Adding Files and Folders to Your CD Layout

To add files and folders to your CD layout, follow these steps:

1. Select **New CD Layout** from the File menu or open an existing layout.
2. Click the **Data CD Layout** tab.



The top part of the window is Windows Explorer where you can select the files and folders you want to write to CD. The bottom part is the Data CD Layout window which allows you to view the contents of your CD layout.

3 Select the files and folders you want to add to your CD from Explorer and drag them into the Data CD Layout window.

To make changes to the list of files and folders in the Data CD Layout tab, see *Modifying Your CD Layout* on page 4-5.

WARNING: If the Data CD Layout window includes identically-named folders from two different sources (such as from two different hard drives), the two folders are merged on the CD. If there are identically-named files in the two different folders, the files that are added to the Data CD Layout window last are the ones that are recorded to the CD. To avoid this problem, rename one of the folders. See *Renaming Files and Folders* on page 4-6.

Defining CD Layout Properties (Optional)

Easy CD Creator allows you to specify the CD layout properties for your CD—meaning that you can customize your CD depending on how you want to use it. You do not need to define the CD layout properties if you want to make a CD using the default Joliet file system setting. See *CD Layout Properties* on page B-5.

If you do want to change the file system option to the ISO 9960 format, you must define the disc properties before adding files and folders to your CD layout. To do so, follow these steps:

1 Select **CD Layout Properties** from the File menu.

2 Click the **Data Settings** tab.

3 Select one of the two File System options depending on how you want to use your CD:

- **ISO 9600** Select this option if you want to be able to read the CD on different platforms including DOS, Macintosh, OS/2, Windows, and UNIX. Files and directories recorded to CD based on the ISO 9660 Level One standard must meet the following (8+3) requirements:

  — A file name may not contain more than eight alphanumeric characters and the underscore symbol [_].

  — A file name extension may not contain more than three alphanumeric characters.

  — A directory name may not contain more than eight alphanumeric characters and the underscore symbol [_].

  See *File System Properties* on page B-8 for information about the ISO 9660 file system properties settings.

- **Joliet** Select this option to use long file names. Joliet allows you to use file names of up to 64 characters in length, including spaces. Joliet also records the associated DOS-standard name (8+3 characters) for each file so that the CD may be read on DOS systems or earlier versions of Windows.

  See *File System Properties* on page B-8 for information about the Joliet file system properties settings.

4 Click the File System **Properties** button and type in any volume descriptors information in the General tab (see *File System Properties* on page B-8 for descriptions).

5 Click **OK** to return to the Data Settings tab.

6 Make changes, if any, to the CD Layout Properties settings (see page B-5 for descriptions) and click **OK.**

Creating the CD

1. Insert a blank CD into your CD recorder.
2. Select **Create CD** from the File menu or click the icon.
3. Make changes, if any, to the CD Creation Setup settings (see *CD Creation Setup Settings* on page B-1) and click **OK.**

Easy CD Creator begins writing the files and folders listed in your CD layout to a blank CD. A final message box notifies you when the recording is complete.

Note: To make a sleeve that lists the CD title and files, see Chapter 10, *Making a Custom Jewel Case Insert*.

Modifying Your CD Layout

The followings sections describe how to make changes to the files and folders listed in your CD layout.

Creating New Folders

You can create a new folder in your CD layout and then add files and folders to that new folder.

To create a new folder:

- Select **New Folder** from the Edit menu.

Changing the Order of Files and Folders

You can change the order of the files and folders to your CD layout at any time before you create the CD. For example, you can move a folder that appears at the end of the Data CD Layout window to the top of the list.

Note: Changing the order of the files and folders in your CD layout affects only their physical position on the CD. Moving files and folders in the CD layout does not change their original location on your computer.

To change the order of the files and folders, follow these steps:

1. Select the file or folder you want to move in the Data CD Layout window.
2. Drag it to the position you want it to appear in the Data CD Layout window.

Removing Files and Folders

You can remove files and folders (including everything within the folder) at any time before you create the CD. Removing a file or folder from your CD layout does not affect the original items on your hard drive.

To remove a file or folder from your CD layout, follow these steps:

1. Select the file and/or folder that you want to remove in the Data CD Layout window.
2. Select **Remove** from the Edit menu.

Renaming Files and Folders

You can change the name of files and folders listed in the Data CD Layout window at any time before you create the CD. Renaming a file or folder in the Data CD Layout window does not change the original name of the file or folder on your hard drive.

To rename a file or folder, follow these steps:

1. Select the file or folder you want to rename in the Data CD Layout window.
2. Select **Rename** from the Edit menu.
3. Type in the new name you want to call the file or folder.

Finding Files

To find a file in your CD layout, follow these steps.

1. Make sure the CD layout is the active window.
2. Select **Find** from the Tools menu.
3. Type in the name of the file you are looking for.

Saving a CD Layout

You can create a CD layout, save it, then use it at a later time to add more files and create your CD.

To save a CD layout, follow these steps:

1. Select **Save As** from the File menu.
2. Type in a file name for the CD layout.
3. Select the location where you want to store the CD layout and click **Save.**

Opening an Existing CD Layout

To open a CD layout you have previously saved:

- Select **Open CD Layout** from the File menu.

Easy CD Creator displays the contents of the CD layout. You can make further modifications to the CD layout, or create the CD from the layout. See *Defining CD Layout Properties (Optional)* on page 4-3.

Advanced Options

The following sections describe the advanced options available in Easy CD Creator.

Using File Ordering Priorities

Easy CD Creator allows you to specify the *file ordering priorities*—the order in which files are physically written to the CD. To optimize CD access, you may want to specify that some files be written to the CD before other files. This does not affect the logical directory structure, but may improve the access time when reading the CD.

The three different default file ordering options are:

- Normal—files are recorded in the order in which they appear in the CD layout (this is the default setting)
- Faster Access—specifies that files are written to CD before files that are assigned a Normal priority
- Fastest Access—specifies that files are written to CD first, before Normal and Faster Access files, to optimize CD access

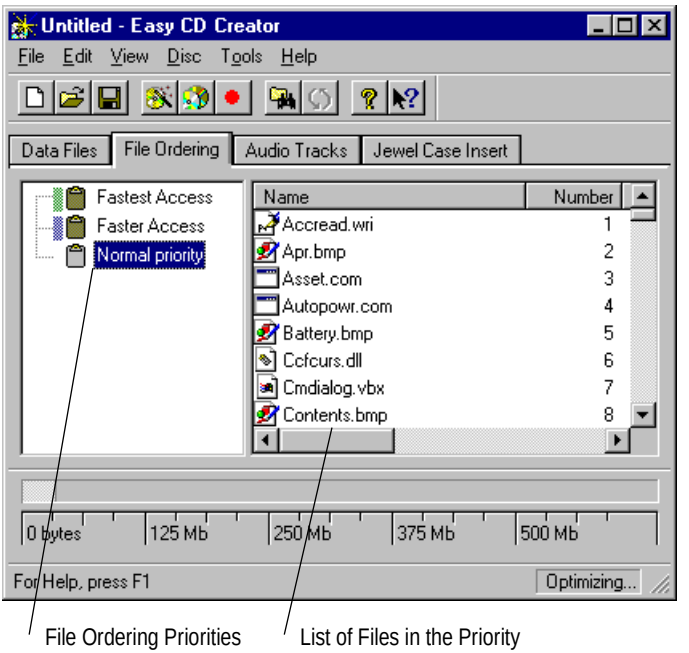
You can also create your own file ordering priorities. See *Adding New Priorities* on page 4-9.

Note: A file's priority is relative to other files on the CD. For example, if you assign a high priority to all of the files in the CD layout, Easy CD Creator records the files in the same order as if they were left in the Normal priority.

Viewing File Ordering Priorities

To view the file ordering priorities, follow these steps:

1. Select **Options** from the Tools menu.
2. Select **Show File Ordering Tab** in the View options and click **OK.**
3. Click the **File Ordering** tab.



Assigning File Ordering Priorities

Easy CD Creator assigns all files to the Normal priority. To change the priority of a file(s) from Normal to a higher value such as *Faster Access* or *Fastest Access*, follow these steps:

1. Select the file(s) in the right side of the File Ordering window.
2. Drag the file(s) to a different file ordering priority listed in the left side of the File Ordering window.

Easy CD Creator changes the file ordering priority level for the file(s) accordingly.

Adding New Priorities

You can create file ordering priorities above and below the Normal priorities, and you can specify the order of the files within a given priority. There is no limit to the number of priorities you can create; however, no more than two or three priorities should be required.

To add file priorities, follow these steps:

1. Select **New Priority** from the Edit menu.
2. Type a name in the Name text box.
3. Select a color to identify the priority in the Color drop-down list box.
4. Click the **Move Up** or **Move Down** buttons to position the priority in the list.
5. Click **OK.**

The new priority appears in the left side of the File Ordering window.

Deleting Priorities

To delete a priority, follow these steps:

1. Select the priority you want to delete in the File Ordering window.
2. Select **Delete Priority** from the Edit menu.

Easy CD Creator removes the priority from the list.

Changing the Order of Files Within Priorities

There are two ways to determine the order in which files within a given priority are written to CD:

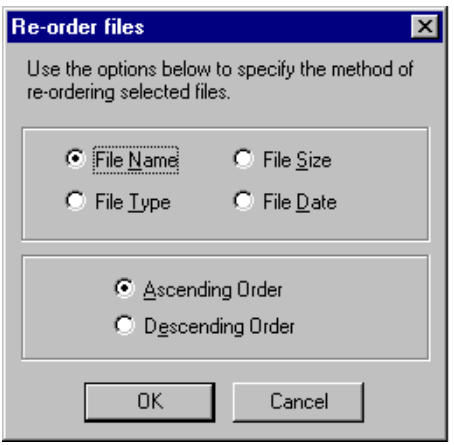
Note: You can only change the order of files within a priority if you have selected *Preserve normal file ordering* under the Optimization settings. See *Data Settings* on page B-6.

Manually

- Select and drag the file(s) to the desired location in the files list.

Using File Proprieties

1. Select the files in right side of the File Ordering window.
2. Select **Re-order Files** from the Edit menu.



The Re-order files dialog box appears.

3. Select the option for which you want to re-order the files and click **OK**.

Finding Files Within File Ordering Priorities

To search for files that are grouped in a given priority, follow these steps:

1. Select **Find Files** from the Edit menu.
2. Type the name of the file in the Named text box.
3. Select the Priority you want to search in the Look in drop-down list box and click **Find Now.**

Displaying Priority Properties

To view and make changes to the properties of a given priority, follow these steps:

1. Right-click on the priority.
2. Select **Properties.**
3. Make changes, if any, in the Edit Priority window and click **OK.**

CD-ROM Writing Tips

Read the following sections for useful information when writing data CDs.

Using Easy CD Creator Wizard

The easiest way to make a data CD is with the help of the Easy CD Creator Wizard. The Wizard appears when you first open Easy CD Creator and guides you step-by-step in the creation of a data or audio CD.

To make a data CD using the Wizard, see *Using the Wizard to Make a CD* on page 2-2.

CD-ROM Formats

CDs used for data storage can be written in one of two physical formats:

- CD-ROM (Mode 1)
- CD-ROM XA (Mode 2)

Easy CD Creator uses CD-ROM XA as the default format, but you can choose to use CD-ROM. See *Deciding Which Format to Use: CD-ROM or CD-ROM XA* on page 5-4

Using a Disc Image to Make Your CD-ROM Disc

If you have enough space on your hard drive, you can create a data CD from a *disc image*—a file that contains all of the information necessary to record the CD. Using a disc image to create a CD offers unique advantages over writing a CD layout directly to a disc. To learn more about using a disc image, see Chapter 8, *Making a CD from a Disc Image*.

Using CD Copier Deluxe

To make a backup copy of an entire CD from start to finish, use CD Copier Deluxe. See Chapter 9, *Making a Copy of a CD* for instructions.

Making a Bootable CD

To make a data CD from which you can boot your system, see Chapter 6, *Making a Bootable CD*.

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Making a Multisession CD

A multisession CD is an ISO 9660 CD (see *Glossary*) to which data is added incrementally in more than one session, allowing you to periodically add and update files and folders to your CD.

Uses for multisession CDs include periodically:

- Backing up large quantities of data
- Distributing data updates

Most CD-ROM drives can read multisession CDs.

How to Make a Multisession CD

For helpful pointers when creating multisession CDs, see *Multisession CD Writing Tips* on page 5-4.

Making a multisession CD involves essentially the same steps as making a data CD. See *How to Make a Data CD* on page 4-2 for specific instructions on making a data CD.

To make a multisession CD, follow these steps:

1. To write the first session, add the files and folders to a CD layout.
2. Select **CD Layout Properties** from the File menu.
3. Click the **Data Settings** tab and select one of the two File System options depending on how you want to use your CD: **ISO 9660** or **Joliet.** See *Data Settings* on page B-6.
4. Click the **Properties** button and select either **Mode 1: CD-ROM** or **Mode 2: CD-ROM XA** in the General tab. See *Deciding Which Format to Use: CD-ROM or CD-ROM XA* on page 5-4.
5. Insert a blank CD into your CD recorder and select **Create CD** from the File menu.
6. To add another session, insert your data CD into your CD recorder.
7. Follow steps 1-4 above. Be sure to select the same file system properties used in the previous session on the CD.
8. Easy CD Creator automatically imports the previous session on the CD to the new session (This is the default setting. See *Importing Previous Sessions* on page 5-3). If you want to import a different session, follow the instructions in *Importing a Specific Session* on page 5-3.
9. Select **Create CD** from the File menu.

The CD now contains two sessions on the CD. You can continue to add more sessions to the CD until the CD is full. Just be sure to import previous sessions (the default setting) so you can read all of the data on the CD.

Importing Previous Sessions

With multisession CDs, you must import information written in a previous session to the new session you are adding to the CD. Otherwise, you can view only the files in the most recent session. Importing a session means the most recent session contains the new information you are adding as well the file system information that points to the files written in the previous session on the CD.

To import the previous session to the new session you are adding, follow these steps:

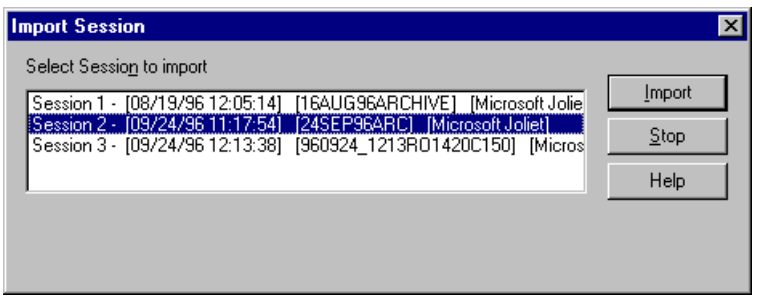
1. Follow steps 1-4 in *How to Make a Multisession CD* on page 5-2.
2. In the Data Settings tab of the CD Layout Properties, select **Automatically import previous session** (default setting).
3. Click **OK** and continue creating your CD.

If you do not import previous sessions to a multisession CD and you want to access files written in previous sessions, see Chapter 14, *Using the Session Selector*.

Importing a Specific Session

To import a specific session on the CD, not necessarily the previous session written, follow these steps:

1. Follow steps 1-4 in *How to Make a Multisession CD* on page 5-2.
2. Select **Import Session** from the Disc menu.



The Import Session dialog box appears and lists all of the sessions on the CD.

3. Select the session you want to import and click **Import** to continue creating your CD.

Multisession CD Writing Tips

Read the following sections for useful information related to making multisession CDs.

Deciding Which Format to Use: CD-ROM or CD-ROM XA

You can turn a single-session CD into a multisession CD at any time by adding another session. However, it's best to decide in advance whether or not your CD will be multisession, so that you can decide whether to record the first session in CD-ROM format (also known as Mode 1; see *Glossary*) or CD-ROM XA format (also known as Mode 2). Regardless of which format you use, the second session must be the same format as the first session.

If you see only the first session when you attempt to read back the second or subsequent session on a multisession CD it may be because:

1. The CD-ROM drive you are using does not read multisession at all (this is most likely the case if the drive is very old).
2. The CD-ROM drive you are using recognizes a CD as multisession only if it is written in the CD-ROM XA format. This problem is less likely with the newest generation of CD-ROM drives, but is common with some older models.

Multisession CDs are recorded according to the Orange Book Part II standard (see *Glossary*). Under this standard, when any CD is inserted in a multisession CD-ROM drive, the drive by default looks at the last session on the CD, no matter what format the CD is recorded in.

However, inconsistencies in the application of the standard may result in a multisession CD being read as if it were a single-session CD and you see only the data in the first session.

To ensure the best possible multisession compatibility, record multisession CDs in the CD-ROM XA Mode 2 format.

Note: *Do not* combine CD-ROM and CD-ROM XA formats on the same multisession CD.

Testing Your Multisession CD

If you need to distribute data on multisession CDs—for example, you send CDs out to clients or colleagues, they send them back to be updated, and then you send them out again—you should test your multisession CD to make sure all the interested parties can read the data. A simple test is to make a multisession CD (as described in *How to Make a Multisession CD* on page 5-2) with directories named A through M in the first session and directories N through Z in a second session. Send that CD to whoever needs to read your data; if they can see all the directories from A to Z, then they can read your multisession CD.

Importing Sessions

Easy CD Creator allows you to import either the previous session or a specific session on the CD to the new session you are writing. Only by importing a session to the new session you are adding to the CD can you view the contents written during a previous session. To see all of the sessions written on the CD, use the Automatically Import Previous Session option (see *Importing Previous Sessions* on page 5-3) for each session you write. This ensures that all previously written sessions are continually imported to the most recent session on the CD. For example, if you are writing session 2, automatically link it to session 1 to view the contents of sessions 1 and 2. When you are writing session 3, import session 2 to view the contents of sessions 2 and 1, and so on.

Accessing Different Sessions

If the multisession CD was not linked to previous sessions (see *Importing Previous Sessions* and *Importing a Specific Session* on page 5-3), you can use the Session Selector to access more than just the last session written. See Chapter 14, *Using the Session Selector*.

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Making a Bootable CD

A bootable CD is a disc that contains a *bootable image*—an ISO 9660 file that is an exact representation of a floppy or hard drive from which you can boot your system.

Easy CD Creator implements the El Torito standard which was developed by Phoenix Technologies and IBM and specifies a bootable CD-ROM format.

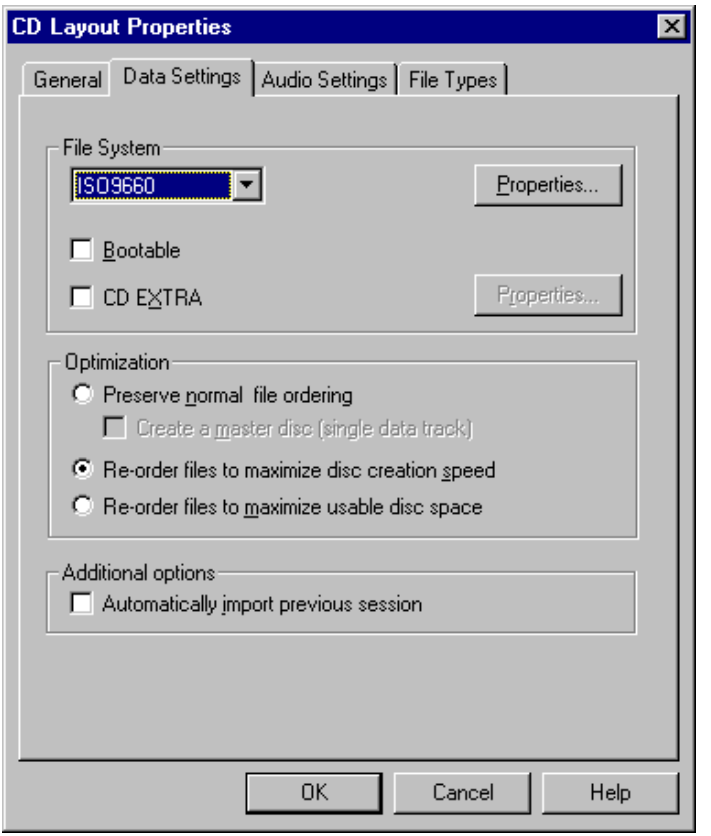
Bootable CDs are useful for making a backup copy of your customized system configuration and using that CD to re-create your system if necessary.

How to Make a Bootable CD

For helpful pointers when creating bootable CDs, see *Tips for Making a Bootable CD* on page 6-3.

To make a bootable CD, follow these steps:

1. Insert the source bootable floppy diskette into your floppy diskette drive.
2. Select **CD Layout Properties** from the File menu.
3. Click the **Data Settings** tab.



4. Select the **ISO 9660** File System option. See *Data Settings* on page B-6.
5. Select **Bootable** and click **OK**.

6 Follow the steps in *How to Make a Data CD* on page 4-2.

When Easy CD Creator begins writing files and folders to your blank CD, two files are written to the root directory of your CD layout: *bootcat.cin* and *bootimg.bim*.

Note: To make a sleeve that lists the CD title and files, see Chapter 10, *Making a Custom Jewel Case Insert*.

Tips for Making a Bootable CD

You create a bootable CD the same way as you create a bootable floppy diskette for your working environment. Easy CD Creator reads boot information from a floppy diskette and writes that information to a *bootimg.bin* file on the CD. Easy CD Creator supports the following floppy diskette formats:

- 1.2 MB
- 1.44 MB
- 2.88 MB

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Combining Data And Audio on a CD

There are many reasons to combine data and audio on a CD. These include the ability to:

- Make an audio CD and add Word files of the songs' lyrics or custom graphics for the jewel case insert
- Use the CD to store data files and later add songs to the same CD
- Make a multimedia CD (see *Multimedia CDs* on page 7-6)

You can combine both audio and data on a single CD using Mixed-Mode or CD Extra. The difference between the two methods is the way in which data and audio are recorded.

What is a Mixed-Mode CD?

A Mixed-Mode disc is a CD that includes both data and audio tracks in a *single session*. The data is written in CD-ROM or CD-ROM XA format in the first track on the CD followed by one or more audio tracks in CD-DA format.

What is a CD Extra Disc?

A CD Extra disc (also known as CD Plus or Enhanced CD) is a *multi-session CD*. The first session contains one or more audio tracks in CD-DA format followed by a second session that contains data tracks written in CD-ROM XA format.

How to Make a Mixed-Mode CD

For helpful pointers when creating Mixed-Mode CDs, see *Mixed-Mode and CD Extra Writing Tips* on page 7-4.

To write a Mixed-Mode CD, follow these steps:

1. Prepare the data portion of your CD. See *How to Make a Data CD* on page 4-2 or use an authoring software application outside of Easy CD Creator to make a multimedia CD.
2. Insert a blank CD into your CD recorder.
3. Select **New CD Layout** from the File menu.
4. Click the **Data CD Layout** tab.
5. Select the data files you want to add listed in Explorer and drag them into the Data Files window.
6. Click the **Audio CD Layout** tab.
7. Select the songs you want to record listed in Explorer and drag them into the Audio CD Layout window.
8. Select **Create CD** from the File menu.

   The CD Creation Setup box appears.
9. Make changes, if any, to the CD Creation Setup settings (see *CD Creation Setup Settings* on page B-1) and click **OK**.

Easy CD Creator begins creating your Mixed-Mode CD. It records the files listed in the Data Files tab in the first track, then records the songs listed in the Audio Tracks tab in the following tracks. All tracks (data and audio) are recorded in a single session.

A final message box notifies you when the recording is complete.

Note: To make a sleeve that lists the CD title and files, see Chapter 10, *Making a Custom Jewel Case Insert*.

How to Make a CD Extra Disc

For helpful pointers when creating CD Extra discs, see *Mixed-Mode and CD Extra Writing Tips* on page 7-4.

To write a CD Extra disc, follow these steps:

1. Follow steps 1-7 in *How to Make a Mixed-Mode CD* on page 7-2 to add your audio tracks and data files to your CD layout.
2. Select **CD Layout Properties** from the File menu.
3. Click the **Data Settings** tab.
4. Select **CD EXTRA**.

   When you select the CD EXTRA option, Easy CD Creator records the audio tracks listed in your layout in the first session and the data files in the second session.
5. Click the **Properties** button next to the CD Extra option.
6. Type in the information in the General tab (See *CD Extra Disc Properties General Tab* on page 7-4) and click **OK**.
7. Click **OK** again to return to the Data CD Layout tab.
8. Select **Create CD** from the File menu.

   The CD Creation Setup box appears.
9. Make changes, if any, to the CD Creation Setup settings and click **OK**. See *CD Creation Setup Settings* on page B-1

Easy CD Creator begins creating your CD Extra disc. A final message box notifies you when the recording is complete.

Note: To make a sleeve that lists the CD title and files, see Chapter 10, *Making a Custom Jewel Case Insert*.

CD Extra Disc Properties General Tab

The following table lists the settings in the CD Extra Disc Properties General tab and describes the kind of information to type in each field:

Setting	Description
Album Title	The name of the CD.
Artist Name	The name of the artist for this CD.
Publisher	The publisher of this CD.
Copyright	The applicable copyright date for this CD.
UPC	The UPC number assigned to this CD.
ISBN	The ISBN number assigned to this CD.
Creation Date	The date this CD was created.
Publishing Date	The date this CD will be published.

Mixed-Mode and CD Extra Writing Tips

When combining data and audio on a single CD, consider the system on which the CD will be played to determine which method to use. The following sections describe when to use each method, and when to select one instead of the other when combining both audio and data on a single CD.

When to Use Mixed-Mode

Mixed-Mode CDs can be read back on any standard CD-ROM drive, including older CD-ROM drives that cannot read multisession CDs. Because the audio and data are both recorded in a single session, you do not need a multisession CD-ROM drive.

WARNING: Home and car CD players may attempt to play back the data tracks of a Mixed-Mode CD with disastrous results —the data is *played* as a very loud and grating noise that can damage speakers. Some newer CD players detect a data track and either skip or mute it, but older ones do not.

When to Use CD Extra

Unlike Mixed-Mode, a CD Extra disc contains two sessions in which the first session contains audio and the second data. Home or car CD players play the tracks in the first session (the audio), but will never read beyond the first session, so the data track is never played.

Also, most current generation CD-ROM drives support multisession—meaning that they read the last session on a CD first, so it finds the data track. The application can then be used to play back the audio that is in the first session.

Some additional features of CD Extra are defined under the Blue Book standard (see *Glossary*). However, these features are not necessary to create a CD that performs as described above on multisession CD-ROM drives.

Note: Only multisession CD-ROM drives can read the data portion of CD Extra discs.

Differences Between the Two Methods

The following table summarizes the major differences between the two methods for combining data and audio on a single CD.

Method	Data	Audio	Number of Sessions	Limitations
Mixed-Mode	First track; CD-ROM or CD-ROM XA format	Second and subsequent tracks	One	Not recommended for home or car CD players.
CD Extra	Second session; CD-ROM XA format	One or more tracks in the first session	Two (multisession)	Multisession CD-ROM drive required to read the data track.

Multimedia CDs

One reason for combining data and audio is to create multimedia CDs. *Multimedia* means the combination of text, graphics, and sound in an interactive application. Typical uses for multimedia CDs include:

- Informational—such as multimedia presentations or product brochures
- Educational—such as interactive software learning applications
- Entertainment—such as computer software games

One feature of combining audio and data is that you can create an application to run on a computer using a standard CD-ROM drive, and to ensure that everyone can hear the audio, record it to CD in the standard CD-DA format (the same one used for audio CDs). You do not need to install and configure a sound card in the computer; you can use headphones or external speakers to listen to the sound. Because the audio tracks are recorded in CD-DA format, they can be played back on home or car stereos, independent of the application they are associated with.

There are many ways to make a multimedia CD. Easy CD Creator provides two methods for creating a multimedia CD depending on the system on which you want to play back the CD. See *When to Use Mixed-Mode* on page 7-4 and *When to Use CD Extra* on page 7-5 to help you decide which method to use.

Using a Multimedia Authoring Program

To make a multimedia CD, you need an authoring program, such as Macromedia Director™ to combine text, graphics, and sound into a multimedia application. When the authoring process is finished, you should have a set of executable and data files to put into your CD layout, and one or more Wave files to be recorded as CD-DA tracks.

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Making a CD from a Disc Image

A *disc image* is also known as an image, CD-ROM image, or image file. It is a single large file that is a representation of the whole set of data and programs as it will appear on a CD. A disc image refers to both content and logical format.

You can use disc images to:

- Write the disc image to hard drive once, then record it multiple times to different CDs to save processing time.
- Add audio tracks to your CD using the Mixed-Mode or CD Extra option.
- Create a disc image file to be written to CD on another system.
- Write your data to the hard drive first then record it to CD for maximum security to avoid a buffer underrun.

How to Make a Disc Image

For helpful pointers when creating disc images, see *Disc Image Writing Tips* on page 8-3.

To make a CD from a disc image, there are two overall procedures:

- Create the disc image
- Create the CD from the disc image

Creating the Disc Image

To make a disc image, follow these steps:

1. Add your data and/or audio files to a CD layout (see the specific chapters in this user's guide for the type of CD you want to make).
2. Select **Create Disc Image** from the File menu.
3. Select the location on your hard drive where you want to save the disc image.

Note: You will need enough space on your hard drive to store the image file.

4. Type in the name of the file and click **Save.**

Easy CD Creator saves your disc image file to your hard drive.

Creating the CD from a Disc Image

When creating a CD from a disc image, you must use a blank CD or a multisession CD. Otherwise, previous sessions recorded to the CD would become inaccessible because the TOC is not updated to include previous sessions when writing from a disc image.

To create a CD using a previously prepared disc image, follow these steps:

1. Select **Create CD from Disc Image** from the File menu.
2. Select the image file (**.cif*) you want to make into a CD and click **OK.**

   The CD Creation Setup dialog box appears.

3 Make changes, if any, to the CD Creation Setup settings (see *CD Creation Setup Settings* on page B-1) and click **OK.**

Easy CD Creator begins creating your CD from the disc image. When the CD is finished, a final message box appears notifying you that the recording is complete.

Note: To make a sleeve that lists the CD title and files or songs, see Chapter 10, *Making a Custom Jewel Case Insert*.

Disc Image Writing Tips

When making a disc image, make sure you have enough space on your hard drive to store the image file. A blank CD can hold up to 650 MB of data.

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Making a Copy of a CD

The most common use for making a copy of a CD is to create a working copy of a CD and archive the original in a safe place.

Note: Easy CD Creator is designed to assist you in reproducing material in which you own the copyright or have obtained permission to copy from the copyright owner. Unless you own the copyright or have permission to copy from the copyright owner, you may be violating copyright law and be subject to payment of damages and other remedies. If you are uncertain about your rights, contact your legal advisor.

What Kinds of CDs Can I Copy?

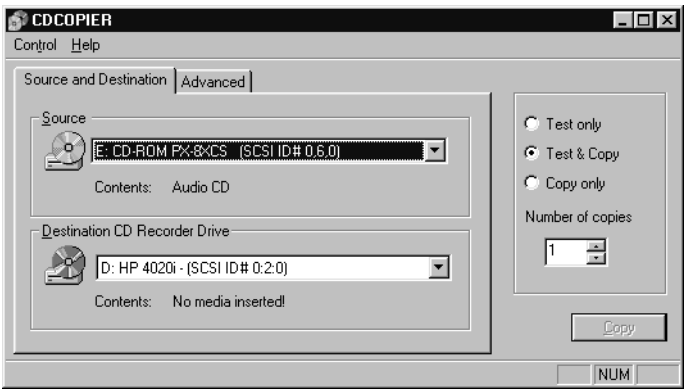
Using the CD Copier Deluxe, you can make backup copies of almost any type of CD. The following table lists the types of CDs that can be copied and some notes about making backup copies:

Type of CD	Notes
Audio	If you are using a drive other than CD-R or CD-RW drive, a source CD-ROM drive capable of reading audio digitally is required. Not all drives support digital audio extraction. See *Testing Your System Configuration* on page 11-1. (Easy CD Creator tests your drive to determine its capabilities when the source CD is inserted.)
Mixed-Mode	Mixed results. Some CDs copy perfectly; others do not, possibly because the CD is formatted to circumvent copying or because there are many variations of the standard and some CDs do not follow the specifications properly.
CD Extra	Some audio may be lost if there is less than a two-second gap on the source CD.
DirectCD Discs	Some CD-ROM drives may not be able to read a DirectCD disc. If you have a CD-ROM drive that is multiread capable, there should be no problems.
Photo CD	Requires a source CD-ROM drive capable of reading CD-ROM XA. Most current CD-ROM drives support this.
Video CD	Requires a source CD-ROM drive capable of reading CD-ROM XA. Most current drives support this.

Opening CD Copier Deluxe

You can access CD Copier from the Easy CD Creator Tool menu or from the Start button in the Windows 95 taskbar. To access CD Copier from the taskbar follow these steps:

1. In Windows 95, click the **Start** button located on the left side of the taskbar.
2. Select **Programs**, point to **Adaptec Easy CD Creator**, and select **CD Copier Deluxe.**



The CD Copier Source and Destination tab appears.

How to Make a Copy of a CD

For helpful pointers when creating a backup copy of a CD, see *CD Copier Tips* on page 9-5.

To make a backup copy of a CD, follow these steps:

1. Select the source drive from which you want to copy the CD. This can be your CD-R, CD-RW, or CD-ROM drive. See *Source CD-ROM Drives for CD-to-CD Copying* on page 9-5 to copy directly from a CD-ROM drive.

   To make a copy of a CD from a disc image, select **Source, image file** from the Control menu. See *CD Copier Advanced Tab Settings* on page 9-5 for information about making disc copies from image files.

2 Select the destination drive that contains the blank CD. This is your CD-R or CD-RW drive.

3 Make changes, if any, in the Advanced tab settings. See *CD Copier Advanced Tab Settings* on page 9-5.

4 Select one of the following options:

- Test—Select this option to perform a test in which the files to be recorded are passed to the CD recorder. No information is recorded to the CD. Use this option if you have made any changes to your CD recorder setup.
- Test & Copy—Select this option to perform a test in which the files to be recorded are passed to the CD recorder. Recording begins after a successful test.
- Copy—Select this option when you do not want to perform the test. Use this option if you have successfully recorded a number of similar CDs and you have not made any changes to your CD recorder setup.

5 Select the number of copies you want to make.

6 Click **Copy** to begin recording a copy of your CD.

7 Follow the on-screen instructions and insert a blank CD when prompted.

CD Copier begins copying the files and folders from your source to a blank CD. A final message box notifies you when the copying is complete.

Note: To make a sleeve that lists the CD title and files, see Chapter 10, *Making a Custom Jewel Case Insert*.

CD Copier Advanced Tab Settings

Setting	Description
Current CD Recorder Speed	Select the speed at which you want to create the backup copy of the CD. For greater certainty, record at 1x.
Disc Copy	Select this option to copy the source CD to your hard drive first to speed up the recording process if you are making more than one copy of a CD. Once the source has been copied to your hard drive, CD Copier records the disc copy to the CD.
Select Location	To make a disc copy, type in a different location to store the image file if you do not want to use the Temp directory.

CD Copier Tips

The following sections provide useful information related to making backup copies of CDs using CD Copier.

Testing Your CD Copier Setup

Due to technical limitations of CD-ROM, CD-R, and CD-RW drives, not every kind of CD can be copied perfectly. Problems can arise from both the source CD-ROM drive and the source CD.

We recommend that you always select **Test & Copy** (in the Source and Destination tab) when copying CDs; however it is possible to make an unusable copy of a CD without getting any error messages. This might happen, for instance, if your source CD had data between the tracks or other copy protection features.

Source CD-ROM Drives for CD-to-CD Copying

To copy directly from a source CD in a CD-ROM drive to a blank CD in your CD recorder, you must have either a supported SCSI 2 CD-ROM drive (see the drive's guide for information) or a supported ATAPI drive to use as your source.

However, not all CD-ROM drives are equal. When you insert a CD into your source drive and select the drive in the Source and Destination tab, Easy CD Creator tests both the drive and the CD. The tests determine whether the selected drive can successfully read the selected CD. If not, an error message is displayed.

Using the CD Recorder for CD-to-CD Copying

If you are using only your CD recorder to copy a CD and you have enough space on your hard drive, you can speed up the recording process by making a disc copy of the CD. See *CD Copier Advanced Tab Settings* on page 9-5 for information on how to make a disc copy. Making a disc copy eliminates the need to swap the source and blank CD in and out of your CD recorder.

Copying Audio and Mixed-Mode

Although most CD-ROM drives can play back music from an audio CD, not all are capable of reading and copying audio tracks in digital format. If you are not sure whether your drive supports digital audio extraction, see *Testing Your System Configuration* on page 11-1.

Making Multiple Copies

If you want to make more than one copy of a CD and you have enough space on your hard drive, you can speed up the recording process by making a disc copy of the CD. See *CD Copier Advanced Tab Settings* on page 9-5 for information on how to make a disc copy.

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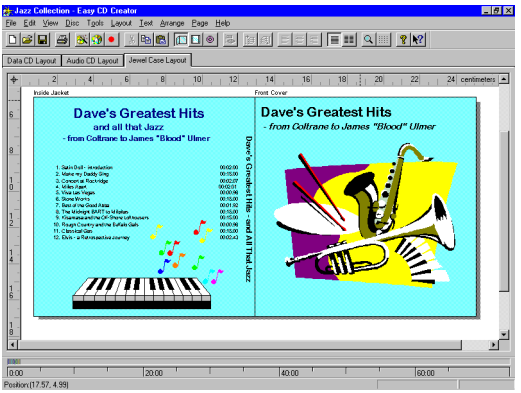
Making a Custom Jewel Case Insert

A jewel case insert is a cover you can print and insert in the CD's *jewel case*—the plastic case that holds the CD—to indicate the title and contents of your CD.

The cover is printed on one side of a sheet of paper and then folded. One side lists the files or tracks and the other side shows the title and may also contain graphics.



Easy CD Creator allows you to customize your own jewel case insert. Once you have edited the jewel case insert, you can preview it, print it, cut it to size, and insert it in the case.

You can also design and print a label for the top of the CD. You can use a standard printer if you use special paper designed for disc labels.

How to Make a Jewel Case Insert

When you make a CD, Easy CD Creator uses the CD layout information to create a basic jewel case insert, including the CD title, artist name, and list of files or songs. You can then click the Jewel Case Layout tab to modify and customize that information, such as changing font styles and adding graphics.

Creating custom jewel case inserts involves three basic procedures:

- Editing inserts
- Adding text and graphics
- Printing

The following sections explain how to view and edit inserts, add text and graphics, and print jewel case inserts.

Editing Inserts

The following sections describe the different ways you can view and edit jewel case inserts before printing them.

Viewing Inserts

To view the different parts (pages) of the jewel case insert, follow these steps:

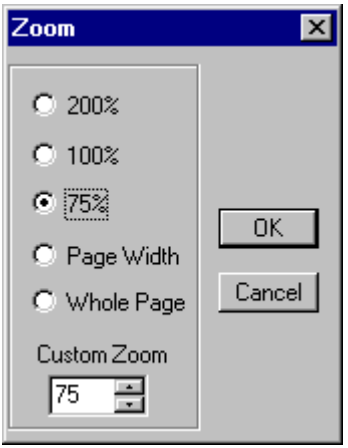
1. Click the **Jewel Case Layout** tab.
2. From the Page menu, select the part of the insert you want to view:
   - **Jewel Front**—to view the Inside Jacket and Front Cover
   - **Jewel Back**—to view the Back Cover
   - **Disc Printer**—to view the Compact Disc label

Easy CD Creator displays the view.

Zooming

To view a section of an insert page in greater detail, you can magnify the view. To change the magnification of the page, follow these steps:

1 Select **Zoom** from the Page menu.



2 Select the zoom level you want to apply.

3 Click **OK.**

Easy CD Creator changes the magnification level.

Using Rulers and Grids

You can use rulers and grids to position text and graphics on your jewel case insert. See *Setting Insert Layout Options* on page 10-13 to define your preferences.

The following sections describe how to use rulers and grids.

Using Rulers

Rulers are displayed along the perimeter of the Jewel Case Layout window and help you to measure the insert and its objects.

To display or hide the rulers, do the following:

- Select the **Ruler** option from the View menu to view rulers.
- Deselect the **Ruler** option from the View menu to hide rulers.

Using Grids

Grids help you to more precisely position objects on the insert with respect to other objects and the physical page.

To snap objects to a grid—meaning the objects are automatically moved to the grid line—do the following:

1. Select **Grid** from the Layout menu.
2. Select **Snap to Grid** from the Layout menu.

The objects snap to the nearest grid marker when you move them around on the page.

To display or hide the grids, do the following:

- Select the **Grid** option from the Layout menu to view grids.
- Deselect the **Grid** option from the Layout menu to hide grids.

Positioning Inserts

You can position the insert at any location on the physical page. For an approximate position, use the box at the intersection of the two rulers.

To position the insert , follow these steps:

- Drag the box at the intersection of the ruler to the position on the page where you want the upper left corner of the insert to be located.

For more precise control over the position of the insert, use the Origin settings in the preferences. See *Setting Insert Layout Options* on page 10-13.

Note: To avoid cutting off the insert when it is printed, *do not* move the insert off of the physical page.

Adding Text and Graphics

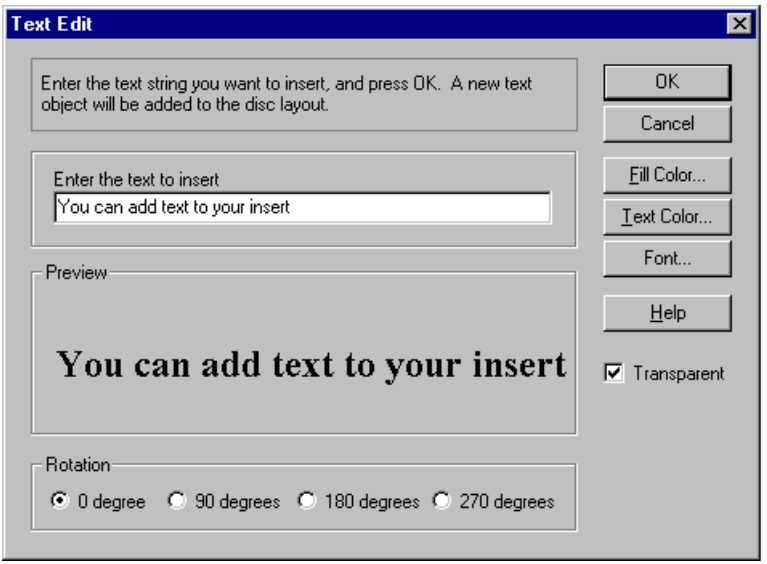
The following sections describe how to add and edit text and graphics in your jewel case insert.

Adding Text

You can add as much text as you like to the jewel case insert. When you add text, you can define some attributes, such as font style, color, and background fill color.

To add text, follow these steps:

1. Select **Insert Text** from the Edit menu.



2. Type the text in the Text box.

3 Select the text attributes you want to use:

Attribute	Description
Fill Color	Select the color you want surrounding the text. **Note**: When text is marked Transparent—meaning that you can see the background behind the text— you can not define a fill color.
Text Color	Select the color of the text.
Font	Select the font, style, and size of the text.

4 Click **OK.**

The text is added where the cursor is located on the Jewel Case Layout window.

Editing Text Objects

To change the attributes of any text object in the jewel case layout, follow these steps:

1 Double-click the text object you want to edit.

2 Select the text attributes you want to change. See *Adding Text* on page 10-5.

3 Click **OK.**

Adding Graphics

The graphics used in Easy CD Creator are called OLE objects. OLE is a Windows feature that maintains associations with objects across different applications. For example, if you add OLE objects to inserts, you can double-click the object to open the associated application so you can edit the object.

Creating and Inserting OLE Objects

To create and insert an OLE object, follow these steps:

1 Select **Insert New Object** from the Edit menu.

2 Select the **Create New** option.

3 Select the application in which you want to create the object in the Object Type drop-down list box.

4 Click **OK.**

The graphic appears in the Jewel Case Layout window.

Inserting Existing OLE Objects

To insert an existing OLE object, follow these steps:

1. Select **Insert New Object** from the Edit menu.
2. Select the **Create from File** option.
3. Select the location where the file is stored.
4. Click **OK.**

The graphic appears in the Jewel Case Layout window.

Editing OLE Objects

For objects added to the jewel case layout from OLE-compliant applications, you can open the application from within Easy CD Creator. The application automatically displays the selected object, and you can make changes to it.

To edit OLE objects, follow these steps:

1. Double-click the object you want to edit.
2. Make the changes you want to apply to the object.
3. Click outside the object.

The revised object appears in the Jewel Case Layout window.

Removing Objects

You can delete objects from the insert by removing them.

To remove objects, follow these steps:

1. Select the object(s) you want to remove.
2. Select **Remove** from the Edit menu.

The object(s) is removed from the jewel case layout.

Unremoving Objects

Unremoving objects is similar to using an undo command for objects that you have removed from the jewel case layout.

To unremove objects, follow these steps:

- Select **Unremove** from the Edit menu.

The last object removed appears in the Jewel Case Layout window.

Resizing Objects

You can change the size of an object using the resize handles of the bounding box.

To resize an object, follow these steps:

1. Select the object(s) you want to resize.
2. Select the resize handles of the bounding box.
3. Move the resize handles until the object is the size you want.

If you select more than one object, one bounding box encloses all the selected objects. While you are resizing the bounding box, the cursor changes to a double-headed arrow.

Moving Objects

To move objects to different locations on the insert, follow these steps:

1. Select the object(s) you want to move.
2. Drag the object(s) to the desired location on the layout.

While moving the object(s), the cursor (or pointer) changes to a cross.

Cutting, Copying, and Pasting Objects

You can cut and copy objects to the clipboard. When you cut or copy other objects, they replace the current contents of the clipboard. You can:

- Paste the contents of the clipboard into the current jewel case layout or into another jewel case layout
- Copy objects from another application and paste them into a jewel case layout
- Paste objects from the clipboard as many times as you like
- Use standard Microsoft Windows commands to select multiple objects

To cut, copy, and paste objects:

1. Select the object(s) you want to cut, copy, or paste.
2. Select **Cut**, **Copy,** or **Paste** from the Edit menu.

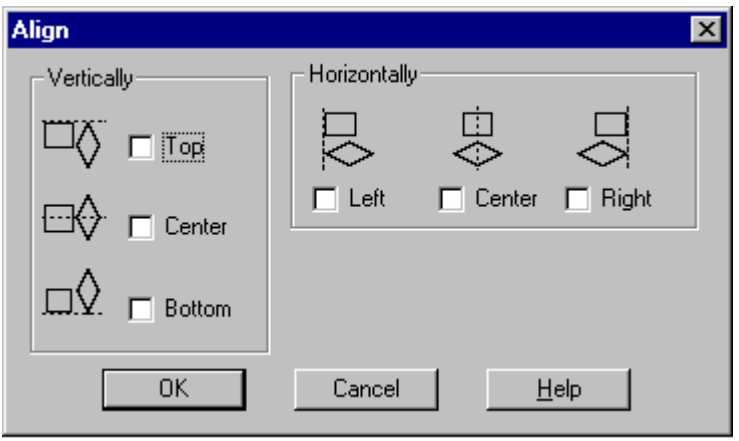
If you cut or copy objects from an OLE-compliant application and then paste the objects into a jewel case layout, an association with the source application is maintained. Similarly, if you copy or cut OLE objects in a jewel case layout and then paste the objects into another layout, the objects in the second jewel case layout are also associated with the source application.

Aligning Objects

You can vertically and horizontally align two or more objects relative to each other. For example, you can select three objects and align them horizontally with the left-most selected object.

To align objects, follow these steps:

1. Select two or more objects you want to align.
2. Select **Align** from the Arrange menu.
3. Select the align option you want to use:



4. Click **OK.**

Justifying Objects

You can left, center, or right justify one or more objects on the jewel case layout. For example, if you left justify all the tracks and names on the inside jacket, these objects are moved to the left border of the page. If you justify objects on different pages, the select objects move to the left, center, or right on their respective pages.

To justify objects, follow these steps:

1. Select one or more objects you want to justify.
2. From the Arrange menu, select the justify option you want to use: **Left**, **Center**, or **Right**.

Note: Select the text and resize the borders and nodes that surround the text to eliminate any extra space.

Changing the Order of Objects

You can create layered effects using two or more objects on the layout. For example, you can stack objects and then move individual elements of the stack forward and backward.

To change the order of objects, follow these steps:

1. Select the object you want to move up or down the stack.
2. Select **Order** from the Arrange menu.
3. Select the order option you want to use:
   - **To Front**—to move the selected object to the top of the stack.
   - **To Back**—to move the selected object to the bottom of the stack.
   - **Forward One**—to move the selected object up one in the stack.
   - **Backward One**—to move the selected object back one in the stack.

Arranging Track Titles

Information about tracks listed in the Audio CD Layout is automatically added to the Jewel Case Layout window. If you delete, merge, or split tracks while making an audio CD, the associated information is automatically updated in the Jewel Case Layout tab.

Deleting and merging tracks while making an audio CD may cause blank rows to appear in the tracks list of the Jewel Case Layout tab. Therefore, if you make changes to the track list that affect the position of the tracks on the Jewel Case Layout window, Easy CD Creator asks if you want the tracks automatically repositioned.

The Jewel Case Layout tab provides some commands that are only available when you are making an audio CD. These commands let you create columns of track information, display the length and number of each track, and automatically position tracks on the layout for better positioning.

The following sections describe different ways you can arrange the tracks in the jewel case layout.

Creating Track Column Lists

You can arrange the track information boxes:

- Randomly by dragging them to new positions in the Jewel Case Layout window, or
- In a linear list with one or two columns.

To create a track list:

- Select **One Column** or **Two Column** from the Text menu.

Displaying Track Numbers and Duration Times

Easy CD Creator includes the track number and duration time for each audio track. The track number indicates the order in which the audio tracks are recorded. The duration time is shown in minutes and seconds.

To display the track numbers:

- Select **Display Track Number** from the Text menu.

To display track duration times:

- Select **Display Track Time** from the Text menu.

Fitting Tracks on a Page

Fitting tracks means all the track information is centered on each page and aligned along the first character of each track.

You can move track titles from the inside jacket and the back cover to the front cover. However, Best Fit will move tracks back to their original location.

To fit the tracks on the page as described above:

- Select **Best Fit** from the Arrange menu.

Printing Jewel Case Inserts

You can print a jewel case insert while the Jewel Case Layout tab is open. The commands/options viable for printing depend on the type of printer that is connected to your computer. For information about these options, see your printer's guide.

To print a jewel case insert or a disc label, follow these steps:

1. Select **Print** from the File menu.
2. Click **OK.**

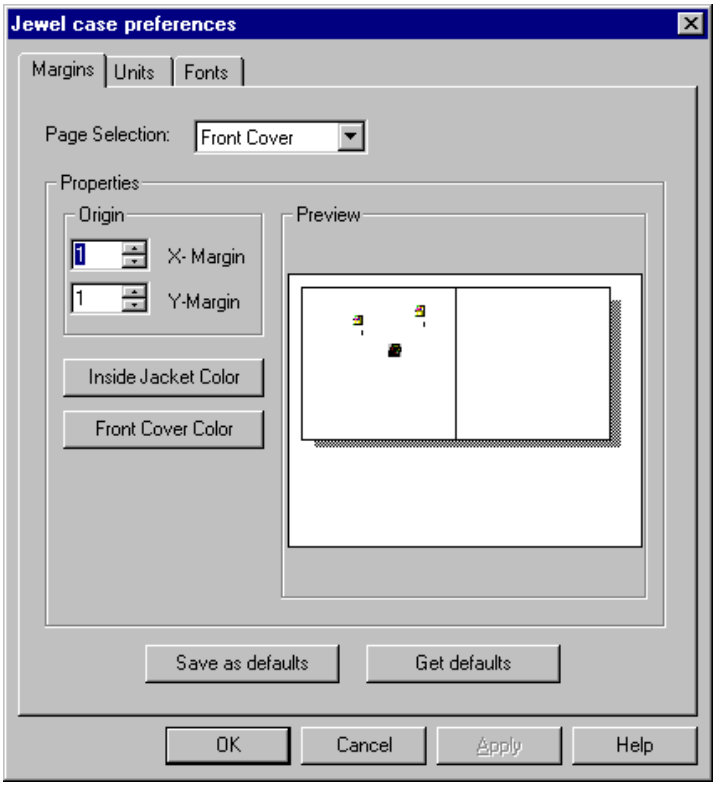
To preview an insert before printing it:

1. Select **Print Preview** from the File menu.
2. Click **OK.**

Setting Insert Layout Options

You can set different options to customize the layout of the jewel case insert. To do so, follow these steps:

1 Select **Options** from the Layout menu.



The Jewel Case Preferences tabs appear.

2 Make your selections based on the information in the following tables.

3 Click **OK.**

Margins Tab

You can set the margins for each page of the insert.

Setting	Description
Page Selection	Select the page view for which you want to set the margins.
Origin	Select the X- and Y-Margins to determine the orientation of the selected page in the insert.
Color	Select the color of the selected page.
Disc Radius	**Note**: This option applies to the Disc Printer page only. Select from the drop-down list box the numbers to define the inner and outer radiuses of the disc label: —Outer radius is half the width of the entire CD, measured at the widest point. —Inner radius is half the width of the circle inside the CD, measured at the widest point.

Units Tab

The Units tab determines the units of measurement used throughout the jewel case layout for rulers, margin settings, and so on.

Setting	Description
Units	Select the units of measurement to use from the drop-down list box.
Grid Frequency	Select the horizontal and vertical intervals of the dots that appear in the grid.
Show Grid	Select this option to display the grids.
Snap to Grid	Select this option if you want the objects in the jewel case layout to automatically move to the nearest grid line.

Fonts Tab

You can change the default fonts used for the artist, disc, track names, and the box edge text.

Setting	Description
Artists Font	This is the font used for the name of the artist.
Title Font	This is the font used for the title of the CD.
Track Font	This is the font used for the track titles.
Edge Font	This is the font used around the edge of the insert.

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11

Troubleshooting

This chapter provides the information on the following topics:

- Testing Your System Configuration
- Resolving Common Problems
- Finding Error Message Descriptions
- Using the Online Help
- Getting Technical Support

Testing Your System Configuration

Easy CD Creator comes with a variety of system tests that check different parts of your system for compatibility with Easy CD Creator. This helps to make sure your system is configured for optimal performance with Easy CD Creator and improves the likelihood of successfully making a CD.

When to Test

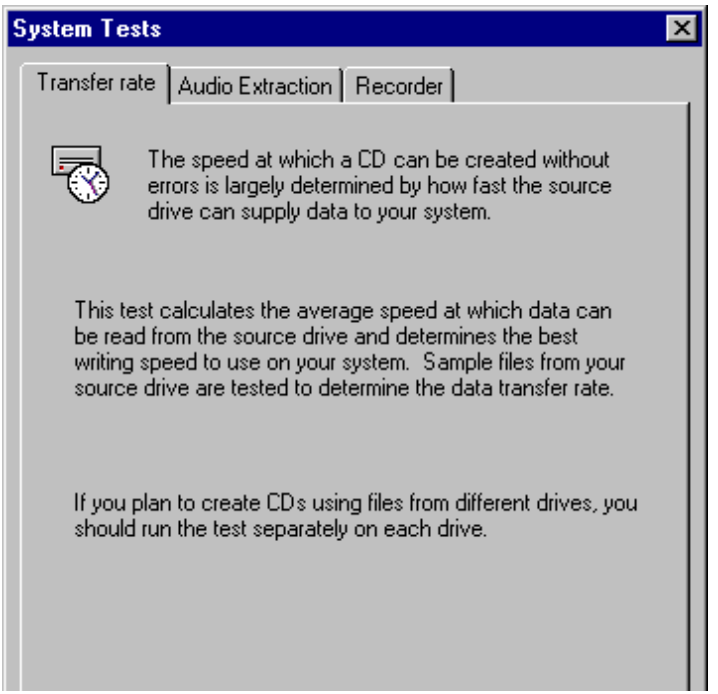
You should perform the system tests:

- Before making your first CD
- After making changes to any of the following:
  - Location of your temporary files
  - Selected devices (such as using a different CD recorder)
  - Adding devices (such as hard drives, zip drives, CD-ROM drives and so on)
  - Configuration settings

How to Run the System Tests

To run the Systems Test, do the following:

1 Select **System Tests** from the Tools menu.



The Systems Test screen appears

2 Select from one of the following options:

- **Transfer rate**—determines the best writing speed to use on your system when recording CDs.
- **Audio Extraction**—checks to make sure the necessary software drivers are installed on your system and also checks if your CD-ROM drive supports digital audio extraction.
- **Recorder**—checks to make sure that a CD recorder can be seen on your system and that all of the necessary software is installed and available.

3 Click **Do Test** to perform the test.

Resolving Common Problems

The following sections describes common problems you may encounter, along with some suggestions for resolving them. If you need further assistance, see *Getting Technical Support* on page 11-5.

Problems Reading Recordable CDs

If you have successfully written a CD but have problems reading it, there are a number of possible reasons:

- If the CD can be read on the CD-R or CD-RW drive but *not* on a standard CD-ROM drive, check in Disc Info and Tools to make sure that the session containing the data you just wrote is closed. CD-ROM drives cannot read data from a session that is not closed. If the CD session is not closed, go ahead and do so.
- If your CD is ejected, you receive an error message, or you have random problems accessing files from the CD, your CD-ROM drive may not be well-calibrated to read recordable CDs.

Problems Reading Multisession CDs

If you can see only data recorded in the first session but not in subsequent sessions, it may be that:

- You recorded the CD in CD-ROM (Mode 1) format, while your multisession CD-ROM drive recognizes only CD-ROM XA (Mode 2) multisession CDs. See Chapter 5, *Making a Multisession CD*.

  or,

- Your CD-ROM drive does not support multisession at all.

If you can see only data recorded in the last session, you may have forgotten to link your new data with data previously recorded on the CD. Make sure to link your new session to an existing session before recording. See *How to Make a Multisession CD* on page 5-2.

CD-ROM Drive Incompatibility with Recordable CDs

Sometimes, it appears that you wrote a CD without trouble and can read it on your CD recorder; however, when you put it in a standard CD-ROM drive, one of the following happens:

- The CD is ejected
- You get error messages such as no CD-ROM or not ready reading
- You have random problems accessing some files or directories.

The problems may vanish completely when you use the disc on different CD-ROM drive.

The lasers of some CD-ROM drives, especially older ones, are not calibrated to read recordable CDs because their surface is different from that of factory-pressed CDs. If your CD-ROM drive reads mass-produced (silver) CDs but not recordable CDs, check with the CD-ROM drive manufacturer to determine if this is the problem. In some cases, an upgrade may be available to resolve the problem.

The combination of CD brand and CD recorder can make a difference. See the manufacturer's documentation for recommended CD brands.

Finding Error Message Descriptions

See the Online Help for a list of common error messages, along with descriptions and suggestions for resolving them. To access the Online Help.

- Select **Help Topics** from the Help menu.

Using the Online Help

You will find most of the information you need to use Easy CD Creator in the Windows 95 online help. To access,

- Select **Help Topics** from the Help menu.

Getting Technical Support

Technical support for Easy CD Creator Standard Edition is provided by the manufacturer of the CD recorder from which you bought the drive. Please contact the manufacturer for assistance. Contact information for many CD recorder manufacturers can be found on Adaptec's World Wide Web (WWW) site at http://www.adaptec.com.

Electronic Support

Technical information, including product literature, answers to commonly asked questions, information on software upgrades and other topics is available electronically through the following:

- Adaptec World Wide Web (WWW) site at http://www.adaptec.com/cdrec.
- The Adaptec CDR internet mailing list is a moderated forum where users of Adaptec CD-R software help each other with technical and general CD-R questions. For details about the list and how to subscribe, see http://www.adaptec.com/support/cdrlist/policies.html.

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A

Command Reference

The Easy CD Creator Main Toolbar

The Toolbar offers shortcuts for Easy CD Creator's most important functions. The following table provides descriptions on the commands found in the main Easy CD Creator window. Additional buttons are displayed when the Audio CD and Jewel Case Layout windows are active. See *Additional Audio CD Layout Toolbar Icons* and *Additional Jewel Case Layout Toolbar Icons* on page A-3.

Button	Command	Description
	New	Start a new CD layout without the Wizard.
	Open	Open an existing CD layout. Easy CD Creator displays the Open dialog box in which you can locate and open the desired file.
	Save	Save the current CD layout with its current name. If you have not named the CD layout, Easy CD Creator displays the Save As dialog box.
	Print	Print the contents of a CD Layout or Jewel Case Layout.
	Wizard	Easy CD Creator opens the Wizard which guides you step-by-step in the creation of a data or audio CD.
	Create CD	Record the CD layout to a CD.

Button	Command	Description
	Hide/Show Windows Explorer	Use this command to hide or show Windows Explorer directly in Easy CD Creator.
	Up One Level	Move up one directory level.
	Find Files	Use this command to find a file or folder on the CD.
	Remove	Remove selected items from the list.
	Properties	Display the properties of a selected item.
	Large Icons	Display the large icons representing the contents of the CD layout.
	Small Icons	Display the small icons representing the contents of the CD layout.
	List	Display the names of the files and folders listed in the CD layout.
	Details	Display the details of the files and folders listed in the CD layout, including file size and the date last modified.
	Help Topics	Open the Easy CD Creator online help topics.
	Context Help	Activate context-sensitive help. Click on this button, then click on the item you have a question about.

Additional Audio CD Layout Toolbar Icons

Additional buttons are found on the Toolbar when the Audio CD Layout window is active. They include:.

Button	Command	Description
	Play	Listen to an audio track listed in the audio CD layout.
	Pre-record	Pre-record an audio track listed in the audio CD layout to a Wave file stored on your hard drive.
	Edit Audio	Edit a Wave file in the audio CD layout.

Additional Jewel Case Layout Toolbar Icons

Additional buttons are found on the Toolbar when the Jewel Case Layout window is active. They include:.

Button	Command	Description
	Cut	Remove the selected object and place it on the Clipboard.
	Copy	Make a copy of the selected object(s) and place it on the Clipboard.
	Paste	Place an object that is on the Clipboard and place it in the jewel case layout.
	Front Cover	View the front cover of the jewel case layout.
	Back Cover	View the back cover of the jewel case layout.
	Disc Printer	View the disc printer section of the jewel case layout.

Button	Command	Description
	Align	Align to or more objects. You can vertically and horizontally align two or more objects relative to each other. For example, you can choose three objects and align them horizontally with the left most select object.
	To Front	Change the order of layered objects by moving the selected object to the top of the stack
	To Back	Change the order of layered objects by moving the selected object to the back of the stack
	Left	Left justify one or more objects on the jewel case layout.
	Center	Center justify one or more objects on the jewel case layout.
	Right	Right justify one or more objects on the jewel case layout.
	One Column	Arrange the track information boxes in a single column.
	Two Columns	Arrange the track information boxes in two columns.
	Zoom	View a section of an insert page in greater detail.
	Grid	View grids in the layout. Grids help you to more precisely position objects on the insert with respect to other objects and the physical page.

The File Menu

The following table lists the commands under the File menu.

Command	Description
New CD Layout	Create a new CD layout in the main window. You can open an existing CD layout with the Open command. If you are preparing a CD layout and use the New command without having saved it, a dialog box will appear prompting you to do so. A CD layout includes all the settings you have made for this recording session, as well as all the files listed under the Data or Audio CD Layout tabs and all of their settings. When you re-open a CD layout, you will find everything set up exactly as it was before.
Open CD Layout	Open an existing CD layout. If you already have one open and have modified it since it was opened, you will be asked if you want to save it before opening a new one. If you answer NO, all changes will be lost. You can create a new CD layout with the New command. In the dialog box, type or select the project filename you want to open. This box lists only files with the extension *.cl3*; you cannot open any other type of file using this command.
Save	Save the opened CD layout with its current name and location. When you save a CD layout for the first time, the Save As dialog box appears so you can name the file. If you want to save an existing project under a different name or location, use **Save As.**
Save As	Save the open CD layout under a different name or location. To save a CD layout with its existing name, use the Save command**.**
Wizard	Easy CD Creator opens the Wizard which guides you step-by-step in the creation of a data or audio CD.
Properties	Displays property settings and options about volume descriptors, data and audio settings, as well as file types.
CD Layout Properties	Displays property settings and options about volume descriptors, data and audio settings, as well as file types.
Create CD	Write the items listed in the CD layout to CD.
Create Disc Image	Write the items listed in the CD layout to a file on the hard drive.
Create CD from Disc Image	Write the items contained in a file on the hard drive to CD.
Print	Print the items listed in the jewel case layout.
Print Preview	Preview the jewel case insert for your CD before printing.

Command	Description
Print Setup	Preview the printer setup options before printing the jewel case layout.
Recent CD Layout	Open the most recent CD layout.
Exit	Use this command to end your Easy CD Creator session. You can also use the Close command on the application Control menu. Easy CD Creator prompts you to save CD layouts with unsaved changes.

The Edit Menu

The following table lists the commands under the Edit menu.

Command	Description
New Folder	Create a new folder.
Cut	Remove the selected item and place it on the Clipboard.
Copy	Make a copy of the selected item(s) and place it on the Clipboard.
Paste	You can use the Copy command in the Windows Explorer or a desktop window to select one or more items to paste to the Clipboard. Then use Paste in Easy CD Creator to insert the items into the Data or Audio Tracks list.
Paste Special	Jewel case layout only. You can paste a link to an object in another document. See Microsoft Windows 95 Online Help for information about linking information between documents.
Rename	Change the name of a file, folder, or audio track.
Remove	Remove selected file, folder, or audio track from the CD layout.
Unremove	Jewel case layout only. You can undo a remove command to place a previously removed object back into the jewel case layout.
Change Priority	Change the file ordering priority of a file or folder.
Select All	Select all of the items in the layout.
Select	Jewel case layout only. Select items listed in the jewel case layout. Options include: All, All Tracks, All Disc Info, and All Objects.
Insert Text	Jewel case layout only. Insert text to the jewel case layout.
Insert New Object	Jewel case layout only. Insert a new object to the Jewel Case Layout.
Object	Jewel Case Insert Only. If there is an object in the jewel case layout, you can Edit, Open, or Convert the object to a different format.

The View Menu

The following table lists the commands under the View menu.

Command	Description
Data CD Layout	Display the Data CD Layout window.
File Ordering	Display the File Ordering window.
Audio CD Layout	Display the Audio CD Layout window.
Jewel Case Layout	Display the Jewel Case Layout window.
Toolbar	Display or hide the Toolbar, which includes buttons for some of them most common commands in Easy CD Creator, such as Open**.** A check mark appears next to the menu item when the Toolbar is displayed.
Status Bar	Display or hide the Status Bar. The Status Bar displays information about the CD layout and is located on the bottom of the Easy CD Creator window.
Disc Info Bar	Display the amount of space written on the current CD and the amount of free space available. The Disc Info Bar appears at the bottom of the Easy CD Creator window.
Ruler	Jewel case layout only. Display or hide the ruler on the top part of the Jewel Case Insert window.
Large Icons	View the large icons representing the contents of the CD layout.
Small Icons	View the small icons representing the contents of the CD layout.
List	View the names of the files and folders listed in the CD layout.
Details	View the details of the files and folders listed in the CD layout, including file size and the date last modified.
Arrange Icons	Sort the icons listed in the CD layout in the order that you specify.
Hide/Show Windows Explorer	Hide or show Windows Explorer directly in Easy CD Creator.
Split	Separate the Easy CD Creator layout windows to left-right or up-down orientation.
Refresh	Update the contents of the current window.

The Disc Menu

The following table lists the commands under the Disc menu.

Command	Description
Eject/Tray	Click to open or close the CD recorder's tray/caddy.
Erase Disc	Use this command to erase the contents of a CD-RW disc. **Note**: You must use a CD-RW disc in a CD-RW drive to erase the contents of a CD.
Import Session	Use this command to import a specific session of a multisession CD to the current session you are writing.
Disc Information	Use this command to display information about the CD, including the type of CD, the number of sessions, and the number of tracks on the CD. Also, use this command to close a session or close the disc (which write protects the CD).

The Tools Menu

The following table lists the commands under the Tools menu.

Command	Description
Find	Find a file or folder on the CD.
System Tests	Opens the Easy CD Creator Systems Tests so you can choose the type of test you want to run on your system.
CD-Recorder Properties	Displays information about the CD recorder connected to your computer.
Options	Select the View and Temporary Files options you want to use.

The Help Menu

The following table lists the commands under the Help menu.

Command	Description
Help Topics	Opens help for Easy CD Creator.
About Easy CD Creator	Opens the About dialog box for Easy CD Creator.

The Track Menu

The following table lists the commands under the Track menu when the Audio CD Layout window is active.

Command	Description
Play	Preview a track listed in the audio CD layout.
Pre-record to WAV file	Record an audio track to your hard drive.
Edit WAV file	Make modifications to a Wave file.
Unlink Pre-recorded WAV file	Unlinks references to a Wave file that you want to delete from your hard drive. You must unlink the Wave file or audio track before deleting it.
Rename	Change the name of an audio track listed in the Audio CD Layout window.
Remove	Remove audio track from the Audio CD Layout window.
CD EXTRA Info	Display information about a CD Extra disc.
Properties	Display the properties associated with a track.

The Effects Menu

The following table lists the commands under the Effects menu when the Audio CD Layout window is active.

Command	Description
Split Tracks	Use this command to separate a composite track—a single track that is made up of two or more separate tracks—into multiple tracks.
Merge Tracks	Use this command to make a composite track—a single track that is made up of two or more separate tracks. Composite tracks are useful when you want to make a single song from several Wave files.

The Layout Menu

The following table lists the commands under the Layout menu when the Jewel Case Layout window is active.

Command	Description
Keep Aspect	Retain the original proportions of an object when you resize the object. Displays the grids to help you more precisely position objects on the insert with respect to other objects and the physical page.
Grid	Display the grids to help you more precisely position objects on the insert with respect to other objects and the physical page.
Snap to Grid	Automatically move objects to the grid line.
Options	Display the jewel case preference options so you can customize the layout of the jewel case insert: —Margins —Units —Fonts

The Text Menu

The following table lists the commands under the Text menu when the Jewel Case Layout window is active.

Command	Description
Fonts	Display the font selection options for the jewel case text.
One Column	Arrange the track information boxes into a single column.
Two Columns	Arrange the track information boxes into two columns.
Display Track Number	Display the track number which indicates the order that the audio tracks are recorded to a CD.
Display Track Time	Display the duration time which is shown in minutes and seconds.

The Arrange Menu

The following table lists the commands under the Arrange menu when the Jewel Case Layout window is active.

Command	Description
Align	Vertically or horizontally align two or more objects relative to each other.
Best Fit	Center all the tracks on each page and aligned along the first character of each track.
Left Justify	Move all the tracks and names to the left border of the page. If you justify objects on different pages, the selected objects move to the left on their respective pages.
Right Justify	Move all the tracks and names to the right border of the page. If you justify objects on different pages, the selected objects move to the right on their respective pages.
Center	Move all the tracks and names to the center of the page. If you center objects on different pages, the selected objects move to the center on their respective pages.
Order	You can create layered effects using two or more objects on the insert. For example, you can stack objects and then move individual elements of the stack forward and backward. The order options include: **To Front**—to move the selected object to the top of the stack **To Back**—to move the selected object to the bottom of the stack **Forward One**—to move the selected object up one in the stack **Backward One**—to move the selected object back one in the stack

The Page Menu

The following table lists the commands under the Page menu when the Jewel Case Layout window is active.

Command	Description
Zoom	Change the magnification level of a page.
Jewel Front	View the inside jacket and front cover of the jewel case layout.
Jewel Back	View the back cover of the jewel case layout.
Disc Printer	View Compact Disc label of the jewel case layout.

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B

Setting Options and Properties

CD Creation Setup Settings

When you are ready to record and select **Create CD** from the File menu, Easy CD Creator displays the CD Creation Setup tabs. The following tables list the settings available in each of the tabs and describes options for customizing your CD.

CD Creation Setup General Tab

The following table list the settings available in the General tab.

Setting	Description
CD-Recorder	Shows the selected CD recorder. If more than one CD-R or CD-RW drive is connected to your system, you can change the target recorder in the drop-down list box.
Write Speed	Shows the speed at which the recording will be done. Change this setting if you want to create the CD at a different speed. To improve recording performance, you can reduce the write speed.
Number of Copies	Shows the number of copies to make from the CD layout you are about to record. If you want more than one copy, type in the number of copies.
Options:	
— Test Only	Select this option to perform a test in which the files to be recorded are passed to the CD recorder. No actual information is recorded to the CD. Use this option if you have made any changes to your CD recorder setup.
— Test and Create CD	Select this option to perform a test in which the files to be recorded are passed to the CD recorder. No actual information is recorded to the CD during the test. Recording begins after a successful test. This setting is the default option. Each time you create a CD and you do not want to perform the test, select **Create CD.**
— Create CD	Select this option when you do not want to perform the test. This option begins the recording process immediately. Use this option if you have successfully recorded a number of CDs and you have not made any changes to your CD recorder setup.

CD Creation Setup Advanced Tab

The Advanced tab displays additional options you can apply to your CD:

Setting	Description
Track-at-Once Options:	
— Leave Session Open	When making audio CDs, this option allows you to add more songs to the CD at a later time. By keeping the session open, you can record additional songs to the first session at different times. Once you have added all the songs you want to the CD, you must close the session if you want to listen to it on a home or car CD player. See *Closing an Audio CD* on page 3-9.
— Close Session and Leave Disc Open	This option is the default setting and is applicable for most CD recording purposes. This option closes the session so that audio tracks (if in the first session) can be played back in home or car CD players. Because the disc remains open, you can continue to record additional data sessions to the CD until it is full.
— Close Disc	Select this option to write protect the CD. When this option is selected, no more data can be recorded to the CD. To close a disc that you have already recorded to, see *Closing an Audio CD* on page 3-9.
Disc-at-Once	Select this option to write and close a CD in one operation without turning the writing laser ON and OFF between tracks. This option requires a blank CD and write protects the CD. If you are making an audio CD, this eliminates the two-second gap between tracks, but you must use Wave files stored on your hard drive.

CD Creation Setup Summary Tab

The Summary tab displays information about the type of CD you are creating, including:

Setting	Description
Disc Type	This is the type of CD you are creating, such as Data, Audio, or Mixed-Mode.
Number of tracks	The number of tracks that will be written to the CD.
User data to be recorded	The amount of information, in blocks, that will be written to CD.
Temporary space required	The amount of space required on your hard drive to store temporary files.
Layout optimization	Specifies the file ordering settings.
Create a master disc	Whether or not the CD will be created for use as a master disc. If Yes, then all of the files are written to the CD in a single track using Disc-at-Once.
File system type	The file system option used for this CD: Joliet or ISO 9660.
Long file names	Whether or not long file naming conventions will be used for this CD.
Data mode	If you are making a data CD, specifies which mode will be used for this CD: Mode 1 - CD-ROM or Mode 2 - CD-ROM XA.
Logical block size	A logical block is the smallest addressable space on a CD. Each logical block is identified by a unique Logical Block Number (LBN), assigned in order starting from 0 at the beginning of the CD. Under the ISO 9660 standard, all data on a CD is addressed in terms of LBNs. At present, CD recording is supported at one logical block per logical sector.

CD Layout Properties

You can customize your CD and apply advanced features by changing some of the settings in the CD Layout Properties. The following tables list the settings available in each of the tabs and describes options for customizing your CD.

CD Layout Properties General Tab

The following table lists information displayed in the General tab:

Setting	Description
Volume Label	The name of the CD. You can change the name by selecting the name listed in the Text box and typing in a new name.
Type	The type of CD you are creating: data CD, audio CD, multisession CD, CD Extra, and so on.
Used space	The amount of space that has already been written to on the CD.
Free space	The amount of space available on the CD.
Contains	The number of files, folders, and tracks currently on the CD.
Capacity	The total amount of space (free and used) on the CD.

Data Settings

The following describes the settings available under the CD Layout Properties Data Settings tab:

Setting	Description
File System:	
— ISO 9660	Select this option to be able to read the CD on different platforms including DOS, Macintosh, OS/2, Windows, and UNIX. Files and directories recorded to CD based on the ISO 9660 standard must meet the following (8.3) requirements: — A file name may not contain more than eight alphanumeric characters and the underscore symbol [_]. — A file name extension may not contain more than three alphanumeric characters. — A directory name may not contain more than eight alphanumeric characters and the underscore symbol [_]. See *File System Properties* on page B-8.
— Joliet	This option allows you to use file names that contain up to 64 characters in length, including spaces. Joliet also records the associated DOS-standard name (8.3 characters) for each file so that the CD may be read on DOS systems or earlier versions of Windows. See *File System Properties* on page B-8.
Bootable	This option allows you to make a data CD that you can boot your system from. See Chapter 6, *Making a Bootable CD*.
CD EXTRA	This option allows you to make a CD Extra disc. See *Combining Data And Audio on a CD* on page 7-1.
Optimization:	
— Preserve normal file ordering	This options specifies to create the CD in the order in which they appear in your CD layout.
—Create a master disc (single track)	Select this option if you are creating a master CD for duplication. All of the files are written to the CD in a single track.
— Re-order files to maximize disc creation speed	This option allows you to change the physical order of the files on the CD to speed up the recording process. The logical order of the files on the CD appear in the same order as in your CD layout.

Setting	Description
— Re-order files to maximize usable disc space	This option allows you to change the physical order of the files on the CD to maximize the available space on the CD.
Additional options:	
— Automatically import previous session	Select this option if you are making a multisession CD and you want to link the new session to the last session written to the CD.

Audio Settings

The following table describes the settings available under the CD Layout Properties Audio Settings tab:

Setting	Description
Disc Title	Type in the name you want to call the CD.
Artist Name	Type in the name of the artist.
Automatically save artist/title/ track names after recording	Select this option if you want this information stored in the *cdplayer.ini* file. When this information is added to the file, Windows CD Player recognizes and displays the name of the artist, CD title, and songs titles each time you use CD Player to listen to the CD.

File Types

The following table describes the settings available under the CD Layout Properties File Types tab:

Setting	Description
Add all Files	Select this option to have Easy CD Creator add all of the files listed in your CD layout to the CD.
Do not Add Files of the following Types	Select this option to exclude certain types of files listed in you CD layout. For example, if you type in BMP, Easy CD Creator will not record any bitmap files (*.*bmp*) listed in your CD layout to CD.
Do not add Hidden Files	Select this option to exclude hidden files listed in your CD layout from your CD.
Do not add System Files	Select this option to exclude system files listed in your CD layout from your CD.

File System Properties

The following table describes the settings found in the File System Properties tab for both ISO 9660 and Joliet file system formats:

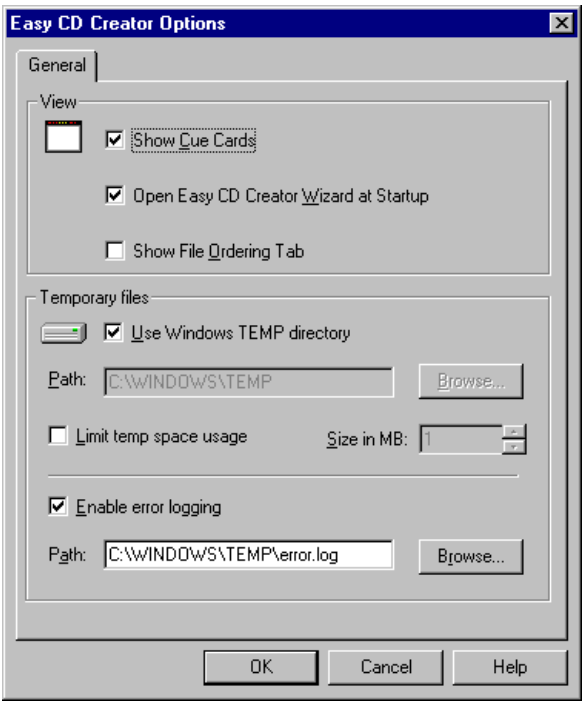
Setting	Description
Volume Label	Type in the name you want to call the CD. This name is used by the system to identify the CD.
Publisher Name	This field allows you to enter information in one of two ways: 1. Type in the name of the publisher using up to 128 characters, or 2. If you need more space, enter a file name of a text file you created that provides the name, address, and telephone number of the publisher. The file must begin with an underscore symbol [_], meet 8.3 requirements, and it must be located in the root directory of the CD layout. For example *_publish.txt*.
Prepared By	This field allows you to enter information in one of to ways: 1. Type in the name of the preparer using up to 128 characters, or 2. Enter a file name of a text file you created that provides information about the person who created the CD. The file must begin with an underscore symbol [_], meet 8.3 requirements, and it must be located in the root directory of the CD layout. For example *_prepare.txt*.
Copyright	This field allows you to type in the copyright information about the CD, using up to 128 characters.
Abstract	This field allows you to type in information that describes the contents of the CD, using up to 128 characters.
Bibliography	This field allows you to type in bibliographic information about the CD, using up to 128 characters.
Use Original File Date	This option means that the items are written to the CD using the date and time stamp shown in the CD layout.
Use date when disc is written	This option means that the items are written to the CD using the date and time that the CD was created.
Use Specific date	This option means that the items are written to the CD using the date and time that you type in here.
ISO 9660 8.3 character file names	Applies to ISO 9660 file system format only. Specifies the use of the ISO 9660 file naming option for your CD.
Any MS-DOS 8.3 character file names	Applies to ISO 9660 file system format only. Specifies the use of any MS-DOS 8.3 character file naming option for your CD.
Long file names.	Applies to ISO 9660 file system format only. Specifies the use of the long file names file naming option for your CD.

Setting	Description
Mode 1: CD-ROM	Select this option to write only one session to your CD. See *Deciding Which Format to Use: CD-ROM or CD-ROM XA* on page 5-4.
Mode 2: CD-ROM XA	Select this option to make a multisession CD-ROM. See *Deciding Which Format to Use: CD-ROM or CD-ROM XA* on page 5-4.
Save As Default	You can make your own custom default settings. Make your selections in this General tab and click this button to save these settings and use them for future CDs that you create.

Setting General Options

Easy CD Creator allows you to customize general system options. To make changes to General Preferences, follow these steps:

1 Select **Options** in the Tools menu.



The General Options tab appears.

2 Make your selections based on the information in the following table.

Option	Description
View	Select the types of windows you want to appear while you are using Easy CD Creator.
Temporary files	You can specify a different location other than the Windows Temp directory to store Easy CD Creator's temporary files.
Enable error logging	Select this option if you want to keep a record of error messages that may occur for future reference and troubleshooting.

3 Click **OK**.

Easy CD Creator changes your configuration settings accordingly.

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Glossary

A

a-characters
Capital A to Z, digits 0 to 9, and the following symbols: (space)! % & ' ()=*+,-./:;<?>_

A-Time
Absolute-time. In CD-DA, the time elapsed since the beginning of the disc. Can be used in determining the start and stop times of sound segments for programming an application on a mixed-mode CD, measuring from the very beginning of the data area (including the computer data in Track 1).

Access Time
The time it takes to retrieve a piece of information. With hard disks or CDs, maximum access time is measured as the time it takes to move from one end of the CD to the other, find a piece of information, and transfer that information to RAM.

ASPI
Advanced SCSI Programmer's Interface. A language the Easy CD Creator software uses to communicate through the SCSI host adapter with the CD recorder.

Authoring
Authoring is what you do to create an application *before* you are ready to write to CD. For example, if you wish to create a multimedia game or presentation, you will need authoring software that allows you to combine sound, graphics, and text into an application.

When you have created your application with authoring software, you can use Easy CD Creator to write it to CD.

B

Barcode
A unique code for a compact disc. With recordable CDs, this number is often printed in the clear inner ring of the disc.

Blue Book
The Philips/Sony standard for CD Extra.

Buffer
An amount of memory that temporarily stores data to help compensate for differences in the transfer rate of data from one device to another. For example, the CD recorder's buffer stores data as it arrives from your hard drive to help protect against buffer underruns when the flow of data from hard drive is slowed down or interrupted.

Buffer Underrun
The error that occurs when CD recorder's buffer is emptied during recording. It usually means a ruined CD.

C

Cache
A portion of RAM used for temporary storage of data that must be accessed very quickly. In applications that run from CD-ROMs, the cache is typically used to store directory files.

Caddy
The plastic and metal carrier into which a CD must be inserted before it is loaded into some CD-ROM drives or CD recorders.

CD Plus (aka CD Extra or Enhanced CD-ROM)
A multisession disc containing one or more audio tracks in the first session, and one CD-ROM XA data track in the second session. Additional characteristics are defined in the Blue Book standard.

CD-DA
Compact Disc-Digital Audio. CD-DA discs are recorded according to the Red Book standard, which was developed by Philips and Sony.

In CD-DA, sound files are written at a frequency of 44.1 KHz and a sample size of 16 bits, and in stereo; this results in a storage size of approximately 10 MB of memory per minute of sound. CD-DA discs can be played back from a home or car CD player, or from a CD-ROM drive through speakers or headphones attached to the drive's output jack.

A CD-DA disc may contain up to 99 tracks, each usually representing a separate piece of music.

CD-I
Compact Disc-Interactive, a CD format designed to allow interactive multimedia applications to be played through a small computer/disc player on a home television screen. Especially good for real-time animation, video, and sound. The CD-I standard is the Green Book.

CD-I Bridge
A set of specifications defining a way of recording CD-I information on a CD-ROM XA disc. Used for photo CD and video CD.

CD Layout
A CD layout includes all the settings you have made for a writing session as well as the Data Track or Audio Tracks list. When you re-open the layout, all the settings remain as before. This allows you to easily make another identical CD.

CD-R
Compact Disc-Recordable.

CD-ROM
Compact Disc-Read Only Memory. A standard for CDs used as a digital memory medium for personal computers. Jointly developed by Sony and Philips and launched in 1985, the specifications for CD-ROM were first defined in the Yellow Book.

CD-ROM Drive
A peripheral device attached to a computer for reading CD-ROM discs.

CD-ROM XA
XA stands for Extended Architecture. CD-ROM XA is an exten-

sion of the Yellow Book standard, generally consistent with the ISO 9660 logical format but designed to add better audio and video capabilities (taken from the CD-I standard) so that CD-ROM can more easily be used for multimedia applications. CD-ROM XA is the physical format for photo CDs and can also be used for simple data storage.

CD-RW
Compact Disc-ReWritable. Using special erasable media in a CD-RW drive, you can erase the contents of a CD-RW disc and write new information to it.

CIRC
Cross-Interleaved Reed-Solomon Code. The first level of error correction used in every CD, and the only one used for audio CDs. It consists of two Reed-Solomon codes interleaved crosswise.

Close Disc
To close (or finalize) a recordable CD so that no further data can be written to it. This is done when the last session's lead-in is written, so a session must be closed to close the CD.

It is *not* necessary to close a CD to read it in a standard CD-ROM drive; however, you must close an audio CD to play it in a car or home CD player.

Close Session
When a session is closed, information about its contents is written into the CD's Table of Contents, and a lead-in and lead-out are written to prepare the CD for a subsequent session. It *is* necessary to close a session in order to read its contents on an standard CD-ROM drive, or to play back an audio CD.

D

d-characters
Capital A to Z, digits 0 to 9, and the underscore symbol (_).

Data Area
In ISO 9660, the space on a CD-ROM where the user data is written. It begins at the address 00:02:16.

Digital Audio Extraction
The process of copying CD-DA audio tracks digitally, from your CD-R or another CD-ROM drive to your hard drive or to a recordable CD.

Disc-at-Once
A method of writing more than one track on a CD without turning off the recording laser between tracks, so that no run-in-run-out blocks are written. It is preferable to record in Disc-at-Once mode if you are making an audio CD to be replicated at a disc factory.

E

ECC
Error Correction Code. A system of scrambling data and recording redundant data onto CD as it is premastered. When the CD is read back, this redundant information helps to detect and correct errors that arise during data transmission.

EDC
Error Detection Code. There are 32 bits in each sector used to detect errors in the sector data.

F

File System
A data structure that translates the physical (sector) view of a CD into a logical structure (files and directories), so the application and users can easily locate files. See also *Logical Format*.

G

Gold Disc
The recordable CD used in CD-R systems. The blank CD is made of a layer of polycarbonate, stamped with a preformed track spiral which the recording laser beam follows when writing information onto the CD. A translucent layer of recordable material (green, yellow-green, or blue) is laid on top of the polycarbonate, followed by a reflective layer of gold or silver. Then a layer of lacquer and a label are applied.

Green Book
The Philips/Sony specification for CD-I.

H

Header
The 4-bytes recorded at the beginning of each sector that tells the address of the sector (expressed as a logical block number) and the mode in which the sector is recorded.

HFS
Hierarchical File System. The file system used by the Macintosh operating system to organize data on hard drives and floppy diskettes. Can also be used for CD-ROMs. This software does not support recording in the HFS format.

High Sierra Format
The standard logical format for CD-ROM originally proposed by the High Sierra Group, on which the ISO 9660 standard is based; essentially identical to ISO 9660, it no longer exists as a separate standard.

Hybrid
A CD containing both DOS/Windows and Macintosh software. On a DOS/Windows platform, it is seen as a normal ISO 9660 CD, while on a Macintosh it appears as an HFS CD. This software does not support recording hybrid CDs.

I

Insert
To install a CD so that the computer can recognize it and read data from it.

ISO 9660
An international standard which specifies how data is arranged (its logical format) on a CD-ROM.

ISO 9660 Interchange Levels
There are three methods of recording and naming files on CD under the ISO 9660 standard. They are organized in three nested, downward-compatible levels.

Level 1 (the most restrictive):

- Each file must be written on CD as a single, continuous stream of bytes -- files may not be fragmented or interleaved.
- A filename may not contain more than eight d-characters.
- A filename extension may not contain more than three d-characters.
- A directory name may not contain more than eight d-characters.

Level 2:

Again, each file must be written on CD as a single, continuous stream of bytes.

Level 3:

There are no restrictions.

ISO 9660 Image
Also known as an image, CD-ROM image, disc image, or real ISO image. A single large file which is an exact representation of the whole set of data and programs as it will appear on a CD, in terms of both content and logical format.

ISRC
International Standard Recording Code. The code consists of: Country Code (2 ASCII characters), Owner Code (3 ASCII characters), Year of Recording (2 digits), Serial Number (5 digits).

J

Joliet
A standard developed by Microsoft for Windows 95 that allow CDs to be recorded using long filenames (it also allows for using the Unicode international character set). For files recorded to CD, Joliet allows you to use filenames up to 64 characters in length, including spaces. Joliet also records the associated DOS-standard name (8 + 3 characters) for each file so that the CD may be read on DOS systems or earlier versions of Windows.

WARNING:

Only versions of Windows NT 4.0 or later can read Joliet CDs.

L

Lead-In
An area at the beginning of each session on a recordable CD that is left blank for the session's Table of Contents. The lead-in is written when a session is closed, and takes up 4500 sectors on CD (= 1 minute, or roughly 9 MB). The lead-in also indicates whether the CD is multisession, and if the CD is not closed, the next writable address on the CD.

Lead-Out
The area at the end of a session that indicates that the end of the data has been reached; there is no data written in the lead-out. The first lead-out on a CD is 6750 sectors (= 1.5 minutes, about 13 MB) long; any subsequent lead-

outs are 2250 sectors (= .5 minute, about 4 MB).

Linked Multisession
A CD containing more than one session. All of the data in the various sessions on CD can be seen as if it had all been recorded in one single, large session.

Logical Block
The smallest addressable space on a CD. Each logical block is identified by a unique Logical Block Number (LBN), assigned in order starting from 0 at the beginning of the CD. Under the ISO 9660 standard, all data on a CD is addressed in terms of LBNs. At present, CD recording is supported at one logical block per logical sector.

Logical Format

A logical file format, such as ISO 9660 translates the sector-by-sector view of a CD into a virtual tree of directories and files. This makes it easier for applications and users to use the information on the CD.

M

Mastering
The process of creating a glass master from which CDs are reproduced in quantity. Data is read from a tape or recordable CD to a powerful modulated laser beam that engraves the corresponding pits into a photoresistant surface. In desktop recordable CD systems, mastering is done together with premastering by the desktop CD recorder. The term mastering is used to mean recording in general.

Mixed-Mode Disc
A CD including both data and audio tracks. The data is written in CD-ROM or CD-ROM XA format in the first track of the CD, and the audio in CD-DA format in one or more following tracks.

Mode
There are two recording modes for CDs. In Mode 1, used with CD-ROM, 288 bytes of each sector are used for storing error correction code, and the remaining 2048 bytes per sector are available for user data. Mode 2, used in CD-I and CD-ROM XA, has two forms: Form 1 is similar to Mode 1, as it is also used to record data that requires error correction; Form 2 is used for recording information such as sound or images that do not require such extreme precision. Since less error correction is needed, more bytes in the sector can be freed for information storage, resulting in a user data area of 2336 bytes per sector.

MPEG
Motion Picture Experts Group, whose name has been applied to the standard promulgated by the group for compression of full-motion video.

MSCDEX
Microsoft DOS extensions for CD-ROM. Allows the DOS operating system to recognize a CD-ROM as a DOS volume.

Multisession
A CD to which data is added incrementally in more than one re-

cording session. If data is linked between sessions, all data on a multisession CD, when read on a multisession CD-ROM drive, may be seen as part of a single, logical structure.

O

Optimum Power Calibration Area
The optimum calibration area (OPC), is a special area near the center of the recordable CD. Before writing a track on a CD, the CD recorder must adjust the amount of power applied to the writing laser for the optimum level for the mounted CD. The optimum calibration area is reserved for this purpose.

On-the-Fly
Writing data directly from the source files to CD *without* first writing a real ISO 9660 disc image.

Orange Book
The Philips/Sony specification for Compact Disc Magneto-Optical (CD-MO) and Compact Disc Write-Once (CD-WO) systems. It is the standard by which recordable CDs are recorded.

P

Packet Writing
A method of CD recording in which data can be written in much smaller chunks than are possible with the current Disc-at-Once and Track-at-Once methods.

PCA
Power Calibration Area. A space reserved at the beginning of a recordable CD for calibrating the recorder's laser for that particular CD.

Photo CD
A CD format based on the CD-ROM XA and Orange Book specifications. It is used to store photographic images for display and printing.

PMA
Program Memory Area. On a recordable CD, an area which temporarily contains track numbers and their starting and stopping points (that is, the session Table of Contents) when tracks are written in a session that is not yet closed. When the session is closed, this same TOC information is written in the session lead-in.

Post-Gap
A space dividing tracks, recorded within the track data area at its end. The post-gap is 150 sectors (2 seconds) long and is required only where successive tracks are of different types. However, because many disc replicators expect a post-gap at the end of every track and may erroneously strip out data sectors if they do not find one, Easy CD software records a post-gap after every track.

Pre-Gap
A space dividing tracks, recorded before the track data area. The length of the pre-gap varies with the CD recorder, the types of tracks being recorded, and whether recording is done in Track-at-Once or Disc-at-Once mode.

Gaps in Track-at-Once recording:

The pre-gap length varies depending on the types of tracks being separated and the CD recorder used:

Track Types	Gap
CD-ROM followed by...	
Audio	2 or 3 seconds*
CD-ROM	2 seconds
CD-ROM XA	3 seconds
CD-ROM XA followed by...	
Audio	2 or 3 seconds*
CD-ROM	3 second
CD-ROM XA	2 seconds
Audio followed by...	
Audio	2 seconds
CD-ROM	3 seconds
CD-ROM XA	3 seconds

*According to the standard, the gap between a data track and an audio track should always be 2 seconds, but some recorders automatically write a 3-second gap.

Gaps in Disc-at-Once recording:

Note: Not all CD recorders support Disc-at-Once recording:

Track Types	Gap
CD-ROM followed by...	
Audio	2 seconds
CD-ROM	2 seconds
CD-ROM XA	3 seconds
CD-ROM XA followed by...	
Audio	2 seconds
CD-ROM	3 second
CD-ROM XA	2 seconds
Audio followed by...	
Audio	0 seconds
CD-ROM	3 seconds
CD-ROM XA	3 seconds

Premastering

The process of preparing data to be mastered onto a CD. It includes breaking the data into logical blocks and recording those blocks with the appropriate header (address) and error correction information. With recordable CD systems, premastering and mastering are done in one operation, resulting in a ready-to-read CD.

R

Recordable Disc

See Gold Disc.

Red Book

The Philips/Sony specification for audio (CD-DA) compact discs.

Replication

Also known as duplication. The factory process of making multiple copies of a CD by injection-molding.

Romeo

A file system option that allows you to write files to CD with names up to 128 characters long, including spaces. This is not part of the Joliet standard, the Unicode character set is not supported, and there is no provision for

associated DOS filenames. Romeo filenames can be read on Windows 95 and Windows NT systems. Romeo CDs can be read on Macintosh systems if the filenames are no longer than 31 characters.

Do *not* use Romeo if your CD must be read in other conditions.

Run-In/Run-Out Blocks
Whenever the recording laser is turned off after writing, two run-out blocks are written. When it is turned back on again, one link block and four run-in blocks are written.

S

SCSI
Small Computer System Interface (pronounced "scuzzy"). An interface which allows up to seven peripheral devices to be linked to a single controller. Most CD recorders are connected via a SCSI host adapter card.

Sector

The smallest recordable unit on a CD. A disc can contain [(75 sectors per second) x (60 seconds per minute) x (number of minutes on CD)] sectors. The amount of data contained in the sector depends on what physical format and mode it is recorded in; for regular CD-ROM (Mode 1) data, you can fit 2048 bytes (2 KBytes) of data into a sector.

Session
A recorded area of a CD containing one or more tracks of any type (data or audio).

T

Table of Contents (Disc)
Shows the number of tracks recorded on CD, their starting locations, and the total length of the data area of the CD.

Track
Every time you write to CD, you create at least one track. Any session may contain one or more tracks, and the tracks within a session may be of the same or of different types (for example, a Mixed-Mode CD contains data and audio tracks).

Track-at-Once
A method of CD writing in which the recording laser is turned off after each track is written, and on again when a new track is written. This means that run-in/run-out blocks are written between tracks.

U

UPC
Universal Product Code. A 13-digit UPC catalog number for the entire CD, which may be written in the CD's Table of Contents. Also known as EAN.

V

Video CD
A reproduction system to present full motion pictures with associated audio using the CD format. Video and sound are compressed together using the MPEG 1 standard, and recorded onto a CD Bridge disc.

A video CD contains one data track recorded in CD-ROM XA Mode 2, Form 2. It is always the

first track on the CD (Track 1). The ISO 9660 file structure and a CD-I application program are recorded in this track, as well as the video CD information area which gives general information about the video CD.

After the data track, video is written in one or more subsequent tracks within the same session. These tracks are also recorded in Mode 2, Form 2. The session is closed after all tracks have been written.

Volume
Under the ISO 9660 standard, a single CD-ROM disc.

Volume Descriptors
In ISO 9660, a set of information on the CD containing information about the CD and how the computer should read it.

W

Wave Files
Wave is a standard DOS/Windows format for audio files. Wave files can be recorded at different rates, but if they are recorded at 44.1 MHz, 16-bits, and stereo, they are essentially identical to the music CDs that you buy.

Y

Yellow Book
The book which sets out the standard developed by Philips and Sony for the physical format of CDs to be used for information storage.

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