



# MULTIMEDIA TOOLBOX

Using Multimedia Tools for Education

## AN INTRODUCTION TO RECORDING DATA CDs

Ruth Dahl, Centre for Innovation in Teaching and Learning

The new Dell computers come with a CD-Recordable/ReWriteable drive installed as part of the standard desktop (hardware) configuration. What is a CD-Recordable/ReWriteable drive? It is a CD drive that can not only **read** CDs but **record** CDs. That is, the user can now take a blank recordable CD and record their own content onto it. One of the many uses of a drive like this is for recording **data** CDs. There are many reasons for recording data (off your computer) onto a CD. It is an excellent way to backup or archive files. It is an easy and convenient way to transfer files to another computer or distribute data to others.

The media itself (the actual CD disc) has many advantages. It is small, lightweight, and portable. It is an optical medium not a magnetic medium, so there is no susceptibility to erasure from electrical charges or magnetic fields. CDs are durable – they last decades longer than traditional storage (magnetic) media. CDs have a large storage capacity – 650 MB for a 74 minute CD or 700 MB for an 80 minute CD. This is the equivalent of approximately 500 floppy discs! CDs are also extremely affordable.

There are two types of recordable CDs:

### CD-R (CD-Recordable)

CD-R discs can be read by **all** CD-ROM, CD-Recordable, and CD-ReWriteable drives. This type of disc is excellent for permanent data storage and should be used when there is no need to erase data off the CD. They are the cheaper type.

### CD-RW (CD-ReWriteable)

CD-RW discs can **only** be used for recording in **CD-ReWriteable** drives and read in **newer MultiRead CD-ROM** drives. This type of disc can be erased and re-recorded over many times.

Since the CD drives on the Dell computers are CD-Recordable/ReWriteable, either type of CD can be used. Tip: When recording a CD to be used on **another** computer, use a CD-R disc – just in case it has an older CD drive that cannot read CD-RW discs.

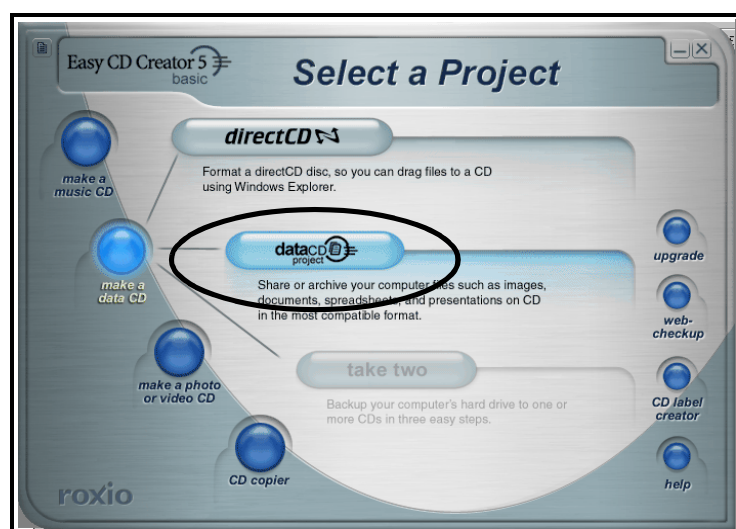


Figure 1

### Roxio Easy CD Creator 5

The software installed on the Dell computers to record CDs is Roxio Easy CD Creator 5. This program is accessed through the Start menu (Start > Programs > Roxio Easy CD Creator 5 > Project Selector). The Project Selector Interface appears. See Figure 1.

Move the mouse over the “make a data CD” button and 2 options light up – directCD and dataCD project. Click on the dataCD project option. An untitled data CD project window appears. See Figure 2.

The top half of the window is the Explorer window, listing all the files/folders/drives on the computer. The bottom window is the data layout window. This is where the data to be recorded is organized. Simply select by clicking on the files or complete folders (to be recorded) in the Explorer window and then click on the Add button on the CD layout toolbar. Alternately, files can be added by clicking and dragging them to the layout window. Continue this process until all the desired files have been added. A data CD layout can consist of files and folders, as well as audio files (WAV or MP3 files, **not** music CD tracks).

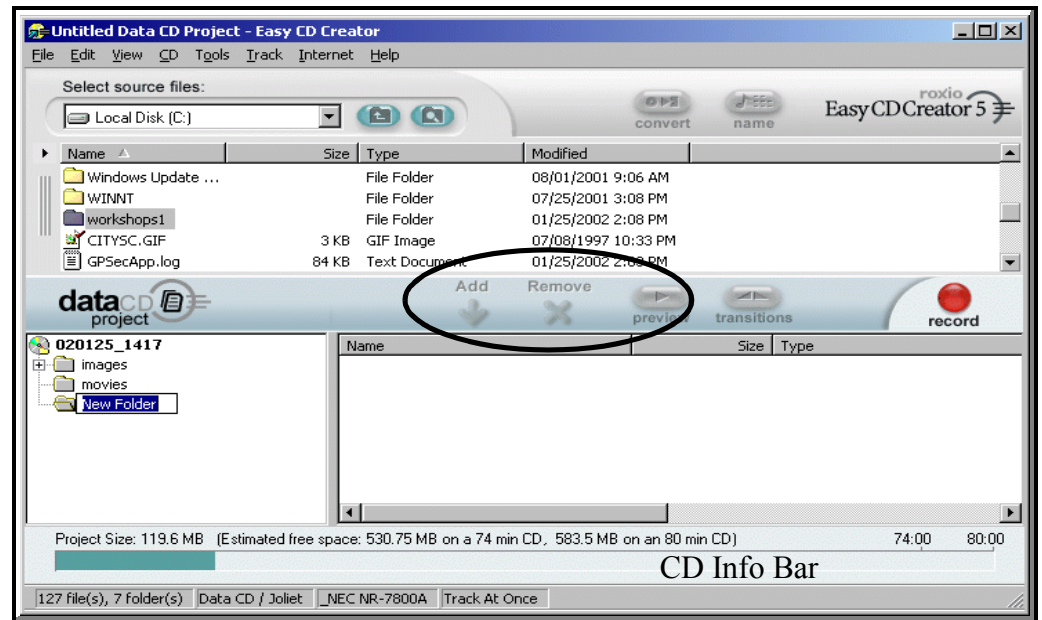


Figure 2

As files and folders are added to the layout, the CD Info Bar at the bottom of the project window show the amount of data (in MBs) contained in the layout and how much free space remains on the CD. Please keep in mind that this is estimated free space. See Figure 2.

The CD layout acts like a **pointer** to **where** the data is located on the hard drive. The files/folders themselves are not actually moved or copied to the layout. Because of this, files in the layout can be moved around, deleted, and renamed without affecting the actual data on the hard drive.

The files in the layout window can be organized as desired. A new folder can be created in the layout. To create a new folder, click anywhere in the CD layout window. Select New Folder from the Edit menu at the top of the project window. A new folder appears on the left side of the layout window. See Figure 3. Type in a new name.

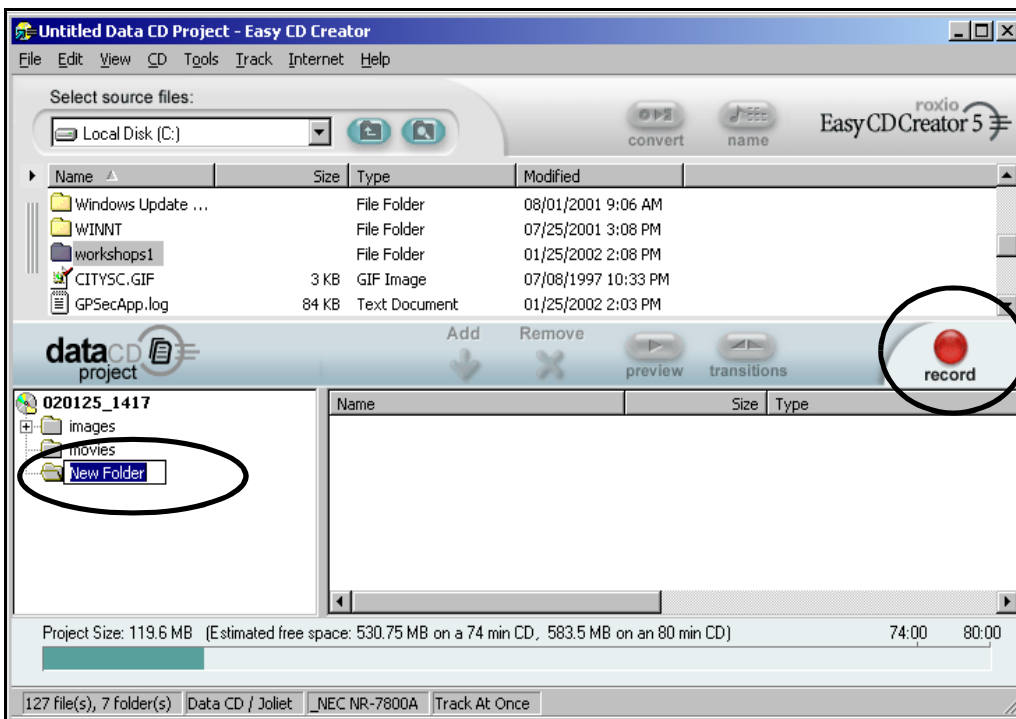


Figure 3

Files/ folders can now be added to this new folder. The order of the files can be rearranged. Select the file or folder in the layout window and drag it to the position desired within the layout. Files/folders can be removed from the layout as well. Simply select the file/folder in the layout and click the Remove button on the CD layout toolbar. The names of file/folders listed in the layout can be renamed (this does not change the original name of the file/folder on the hard drive). Select the item in the layout window and select Rename from the Edit menu. Type in a new name.

When all the desired files/folders have been added to the layout, recording the CD can take place. If it is inconvenient to record at this time, the data CD project can be saved. This project can then be opened and recorded at a later time. To save a project, select Save Project List from the File menu. A Save As dialog box appears. See Figure 4.

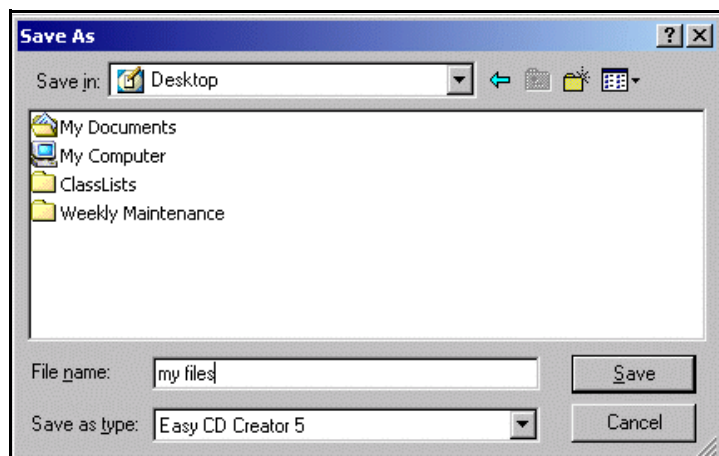


Figure 4

Enter a file name and select a location on the hard drive. Click save. The file will have an extension of *filename.cl5*. To open a CD layout, start the program as described previously. Under the File menu, select Open CD Layout. Browse and Select the CD layout desired and click Open.

Before the CD is recorded, it is a good idea to validate the layout. What this does is checks the layout contents to make sure that the actual files on the hard drive that the layout points to have not been moved, deleted, renamed or modified since being added to the layout. If a data item cannot be validated, a message will appear. The item should be deleted from the layout before recording.

The CD properties must be set before recording. The settings here determine how the CD is recorded. Under the File menu, select CD Project Properties. The CD Project Properties dialog box appears. See Figure 5. Only the properties pertaining to recording data CDs will be covered.

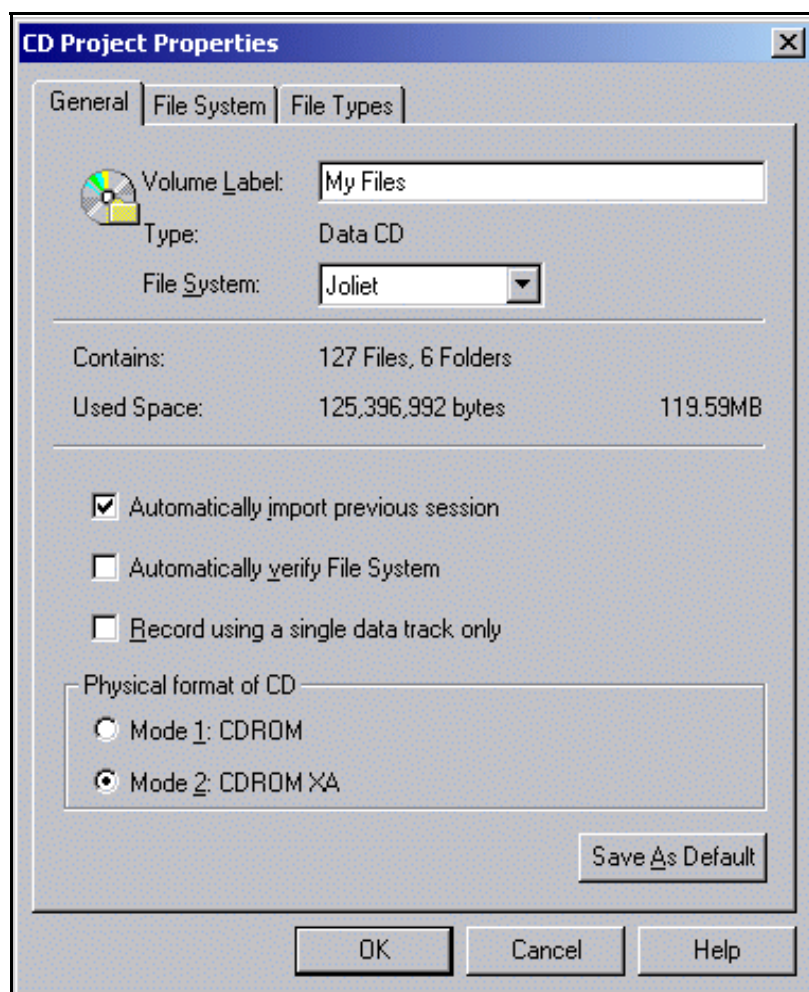


Figure 5

In the Volume Label space, type in a name to identify the CD. If a specific name is not typed in, the default numerical sequence will be used to identify the CD. This numerical sequence represents the year, month, day and time the CD was created.

Under the File System, select the Joliet option. This option allows for file names that contain up to 64 characters in length, including spaces. This is the default option and is used to record most CDs. 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.

Under the Physical format of CD there are two options, Mode 1 or Mode 2. Unless all the available space (give or take about 30 MBs or so) on the CD has been used up (check the Info bar), ensure that Mode 2 is selected. Mode 2 allows more data or another “session” to be recorded to the CD at a later time if desired. If Mode 1 is selected, no more data may be recorded to the CD. No sense recording a CD with 50 MB of data and not having the option of adding more data to it later.

To record the CD, make sure to put a blank CD into the CD-Recordable/ReWriteable drive. Click the Record button on the project window toolbar (the red button). See Figure 3. A Record CD Setup dialog box appears. See Figure 6. Only the options pertaining to recording data CDs will be covered.

This dialog box lists the options for recording the CD.

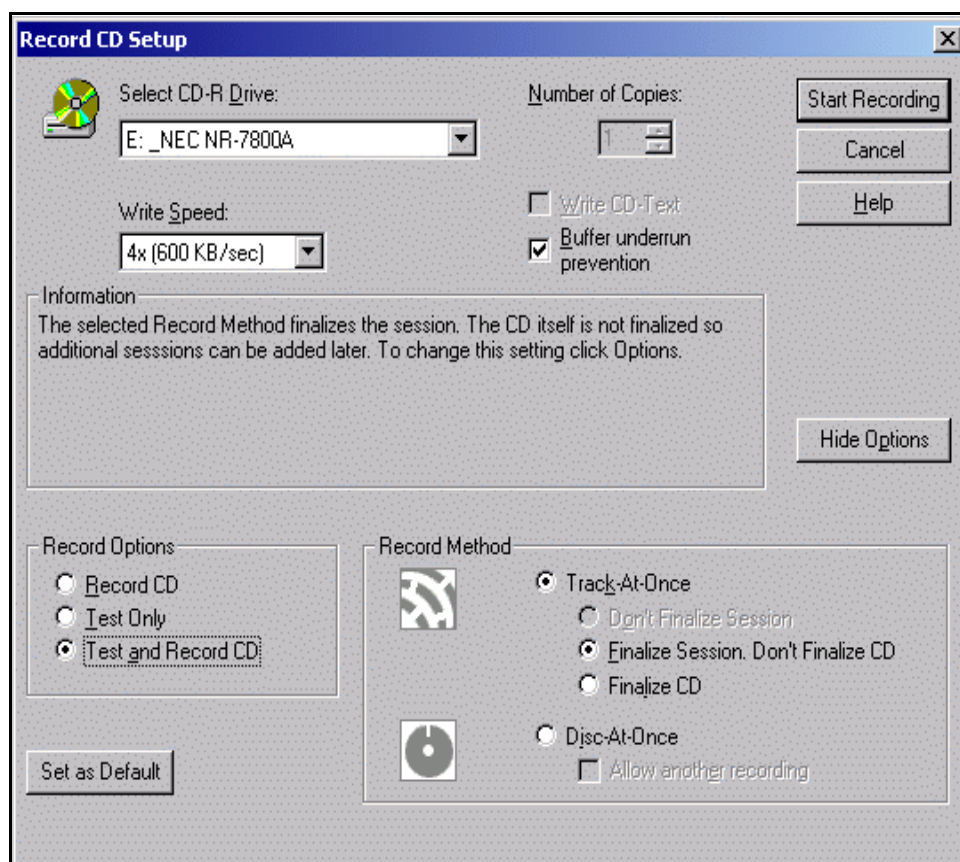


Figure 6

**Select CD-R Drive:** Select the CD-Recorder to use for recording CDs. If more than one CD-Recorder is connected to the computer, select the CD-Recorder to use from the drop-down list box.

**Write Speed:** Select the speed of the drive for recording CDs. Change this setting if you want to make the CD at a different speed. Often there will only be one choice for write speed. If the system is not fast enough to write at higher speeds, reduce the write speed. Errors may occur during recording if the write speed is set too high.

**Note:** Blank CDs are labeled with a write speed. It is advisable not to exceed this speed.

**Number of Copies:** Type or select the number of copies of the CD project desired. If more than one copy is selected, the recorded CD will eject and the user will be prompted to add another blank CD. This option is not available if the Recording option is set to Test and Record.

**Buffer Underrun Prevention:** Make sure this option is selected. It prevents some errors during the recording phase. This option is available only when your CD-Recorder supports buffer underrun preventions.

**Information:** Displays information on the selected Record Method.

**Options/Hide Options:** Click this button to show or hide Record Options and Record Methods.

### Record Options

- **Record CD:** This option begins the recording process immediately.
- **Test Only:** This option performs a real test in which the files to be recorded are passed to the CD-Recorder. No actual information is recorded to the CD. This is a useful way to check for any errors before recording.
- **Test and Record CD:** This option performs a real 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 only after a successful test.

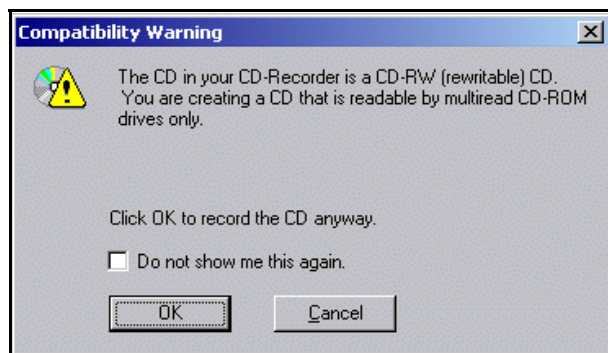
Select the Test and Record CD option. This is the safest way to record a CD. If the test detects any problems or errors with files or folders, defects on the CD itself, or if the write speed is too high, recording will not take place. A message window will appear stating the test was unsuccessful and why. Steps should be taken to correct these errors before attempting to record again.

### Record Method

- **Track-at-Once:** Select this option.
- **Finalize Session. Don't Finalize CD:** Select this option to finalize the session. The CD itself is not finalized so additional sessions (data) can be added later.

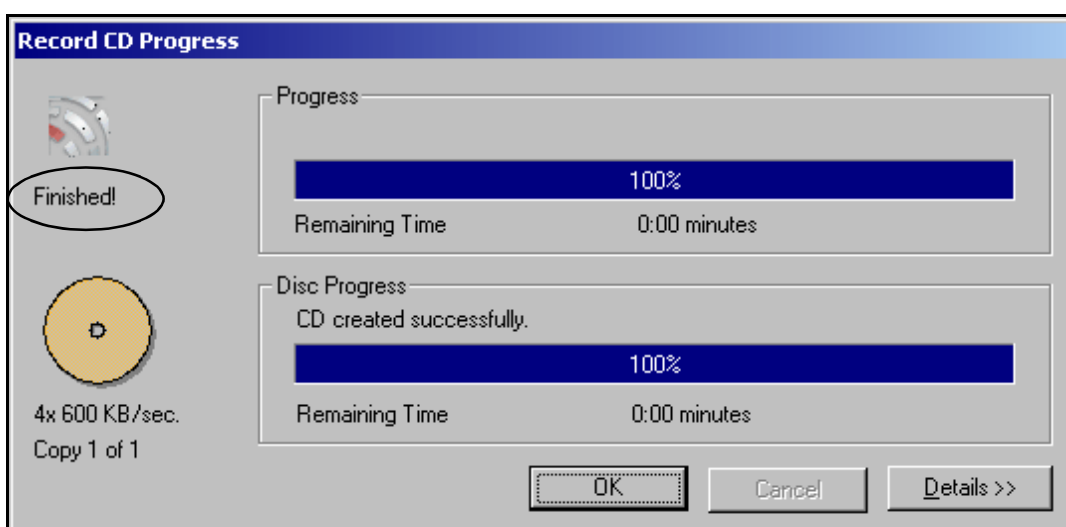


- **Finalize CD:** Select this option to finalize both the session and CD. Once the CD is finalized, you cannot add additional tracks or data to the CD.
- **Set as Default:** Click this button when you want to set the Record CD Setup default settings. Make your selections in the Record CD Setup dialog box before clicking this button.



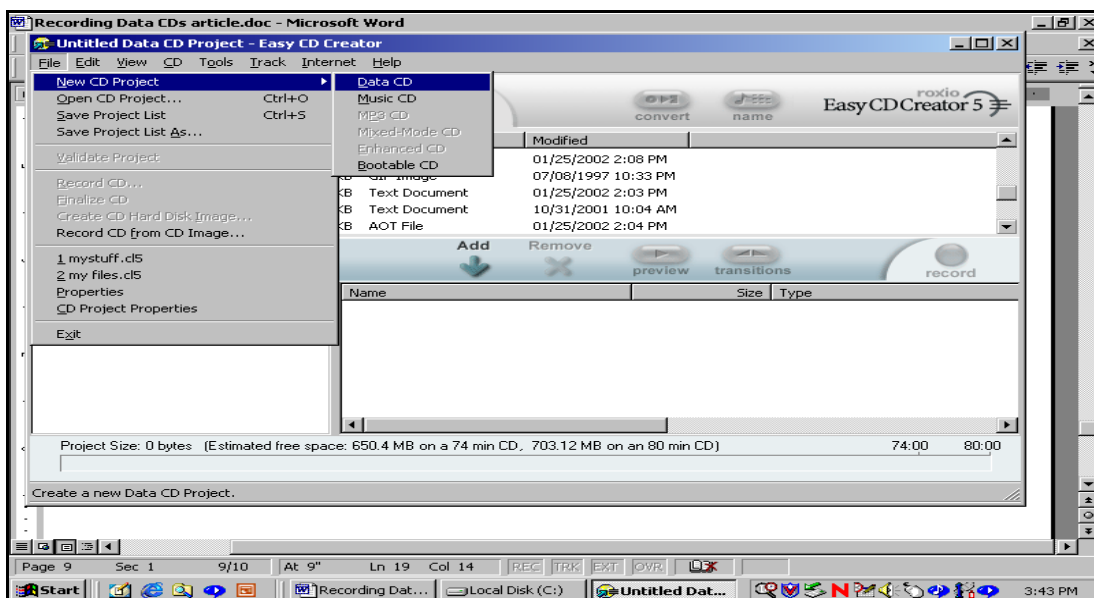
Once all the recording options have been set, click the Start Recording button. If you are recording onto a CD-RW disk you will get the following window.

Click OK. The Record CD Progress Window appears detailing the recording process. When completed, the phrase "Finished" appears on the right hand side of the window. See Figure 7. Click the OK button. Eject the CD.



If the CD was recorded as a Mode 2 disk and the CD was not finalized, more data can be recorded on it provided there is available free space. This is known as adding another **session** and the CD disk would then be a multisession disk. To add another session to a CD, start the Easy CD Creator software as described earlier. If the software is already open, select File > New CD Project > Data CD. See below.

Figure 7



Insert the CD (with previously recorded data on it) into the CD-Recordable/ReWriteable drive. From the CD menu, select Import Session. The Import Session Window appears. See Figure 8. The last recorded session on the CD is listed in this window. Select it and click Import.

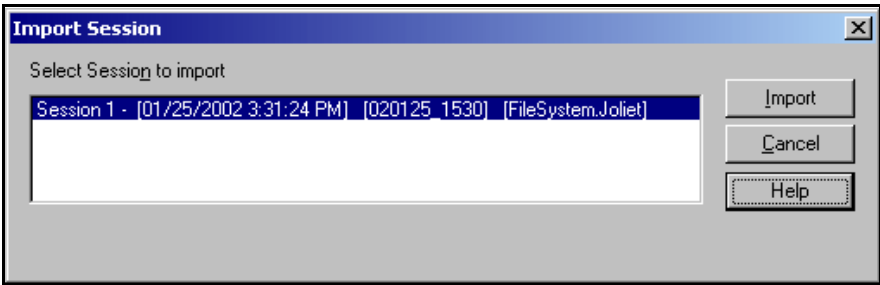


Figure 8

All the files that had been previously recorded to the CD are now listed in the layout window. See Figure 9.

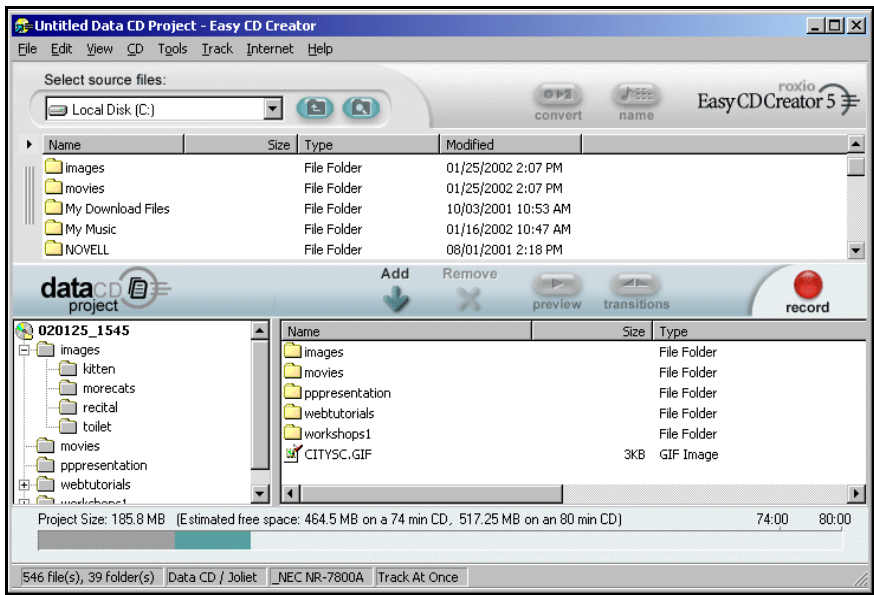


Figure 9

Continue adding files and folders to the layout as described earlier. Click Record when finished. The Record CD Setup Window appears. See Figure 6 previously. Under the Record Method, choose either Finalize Session. Don't Finalize CD or Finalize CD depending on whether there is enough space for another session. If not, then choose Finalize CD. Click Start Recording. Sessions can continue to be added until the disk is close to being full. Please keep in mind that closing a session and writing the CD directory take up space (MBs) on the CD. Therefore it is not possible to record exactly 650 MB of data. Keep an eye on the CD Info bar.

CD-RW disks can be erased. To erase a CD, make sure the CD creator software is running. Insert the CD to be erased. From the CD menu, select Erase disc. The Erase CD dialog box appears. See Figure 10.

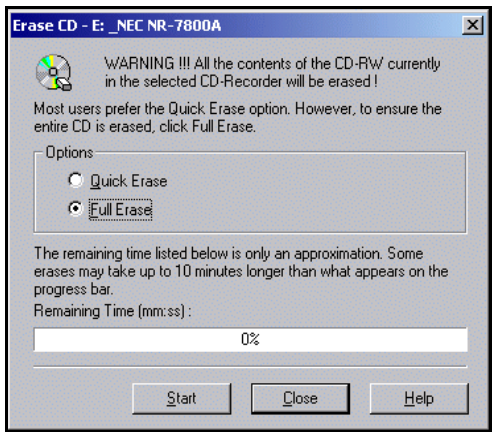


Figure 10

Select the Full Erase option. This ensures every physical bit of data on the CD-RW disc is erased. Click the Start button. When the CD has been completely erased, close the Erase CD box. Eject the CD.

That pretty much covers the basics of recording data CDs. For those who have received a new Dell computer recently, start using the CD-Recordable/ReWriteable drive. You will soon find it to be a useful and indispensable device. It's never been more convenient to back up or store large amounts of data.

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