

# How to Backup ScotWeave Files

26th February 2004

### **IMPORTANT !**

#### **Disclaimer**

These notes are intended as a basic guide to making backup copies of ScotWeave data files. These notes outline the basic procedures involved but may lack the necessary detail required to implement a backup system on a user's computer.

These notes do not constitute a complete backup strategy nor can they be used in any way to guarantee safe backup of data files.

Your data files are your responsibility and you should take measures to ensure the integrity and safety of these data files.

ScotWeave Ltd. will not accept any liability for loss of user data files through the use of these notes.

## What Is A Backup ?

A backup is a copy of your original data file which is stored on a removable medium and which is kept safely in a different location to the computer.

The idea is that if the original copy of a data file is lost or corrupted in some way then you can replace it with the backup copy of the file.

Ideally backup files should be made to a removable medium (such as a removable hard disk drive, tape, or CD) so that the backup files can be physically stored in a different location to the computer. If a fire occurred and the computer was lost in the fire then there is some chance that the backup media might not be affected if they are located in a different room, for example.

## Why Backup ?

Computers are simply machines, which, like all machines, may break down and stop working from time to time. If all of your design data is stored on your computer and it breaks down then this will stop you from accessing that data until the computer is repaired and running again.

If the nature of the breakdown is such that the hard disk is affected by the breakdown then it is possible that some or all data on the hard disk could be lost.

Complete system failures are rare but they do happen, therefore it is important that you take measures to recover from this.

If you setup and implement a backup strategy then this means that, in the event of a computer breakdown, you will still be able to access your data files. If the computer has to be replaced then your backup strategy should allow you to restore the data files onto a new computer and continue working with the minimum of interruption.

## What Is A Good Backup Strategy ?

A good backup strategy should have the following key features

1. It must be easy to backup files to
2. It must be reliable
3. It must be easy to restore files from
4. It should be reasonably fast

1. It must be easy to backup files to

If a backup strategy is complex then users will not feel comfortable using it or may not use it correctly. This might lead to backups not being performed (because it's too complicated) or performed incorrectly which means that important data may not be backed up.

2. It must be reliable

When you use a backup strategy you must be sure that it has been successful every time and be sure that your data has been copied accurately onto the backup medium. Remember, if your computer fails then your backup data may be all you have. If these backup copies are not accurate, or are corrupted, then the entire backup strategy is a waste of time and effort.

3. It must be easy to restore files from

If you have a computer failure and have to restore data from your backup medium, then it is important that this is done correctly, and that the files can be restored correctly. If it is difficult to restore files then some files may be missed or lost during restoration, or it may take too long to restore everything correctly.

4. It should be reasonably fast

If a backup system is relatively fast then this will encourage users to make use of that system. If, however, the backup process occupies the computer for large parts of the working day then this means that backup will become an inconvenience and therefore the users may not carry it out as often as they should.

## Using Local Area Network Storage

If your computer is part of a Local Area Network (LAN) then there may already be a network-wide backup system in operation. If so, you should ensure that the ScotWeave data files (see later) are included in this scheme.

If you LAN is smaller and simply consists of two or more ScotWeave computers then you may be able to make use of spare disk capacity to supplement (*but not replace!*) a backup scheme.

Generally a ScotWeave LAN system will have all users' data files stored on one hard drive in one computer. If you copy the ScotWeave data files periodically to another location on another computer then this will give you two copies of the data files, one of which is immediately available in the event of a single computer failure.

If you have enough storage capacity then this is a simple and quick way to reinforce your backup strategy.

## Backup Devices

### Tape Backup

Traditionally backups were made to magnetic tape devices. These offered high capacity and reasonable running speed, although full system backups could still be slow such that they would be performed “overnight” when the computer was not being used.

Tape backup devices are still available and come in various newer, high capacity formats to cope with larger hard disk capacities (e.g. DAT, SDLT and DLT formats).

Tape backup drives will generally be supplied with special backup software designed to make the backup process as easy as possible. This software will often feature an “incremental backup” option which only backs up those files that have been added or have been changed since the last backup was performed. This feature avoids having multiple copies of the same, identical files from different backup sessions.

Data can also be compressed while it is being written to a tape drive to increase the data capacity of the tape cartridges.

The main disadvantage of a tape backup system is the relative difficulty of restoring single data files from the tape. It can be quite difficult and time consuming to locate individual files on a tape backup.

Tape backup devices are most suited to larger organisations with dedicated IT personnel to operate and maintain them, as they can be complicated for the less experienced user. However, once setup correctly, they offer the simplest solution for unattended full system backup.

### Removable Hard Disk Backup

A removable hard disk is simply a hard disk drive that can be removed from the computer system for safe storage.

These are generally external disk drives which are shock mounted as protection against rough handling and which attach to the computer either via a USB connection or a Firewire (IEEE1394) connection.

Once connected an external drive will appear under “My Computer” or Windows Explorer as simply another disk drive. You can drag and drop files from one hard drive to another quickly and easily.

Removable hard drives are very easy to use and are ideal so long as you can match the capacity of the removable drive to that of the internal hard disk drive.

There is generally not any special backup software available for these so you will have to perform the backup manually, folder by folder.

### Iomega Zip Drive Backup

The Iomega Zip drive uses removable magnetic disks (like a very high capacity floppy disk) to store data. These vary in capacity from 100 Mbytes to 750 Mbytes per disk, depending upon the type of drive used.

This means that you will not be able to backup all of your files onto a single disk and must therefore somehow identify which files are to be backed up onto a single disk.

The advantage of this medium is that, when used correctly, you can restore individual files quickly and easily. No backup software will be readily available for these media therefore you will need to work out some strategy for selecting files to be backed up and for keeping track of backup data.

### CD-R/CD-RW Backup

Rewritable CD drives are often standard equipment on pcs nowadays and these do offer a simple method of backup. CDs vary in capacity from around 500 Mbytes to 800 Mbytes. This means that you will not be able to backup all of your files onto a single disk and must therefore somehow identify which files are to be backed up onto a single disk.

It is important to understand the difference between a CD-R and a CD-RW disk here.

A CD-R disk is a write-once medium, which is very cheap and ideal for archiving. When setup correctly a CD-R can be read by any computer with a CD-drive. This is a very valuable tool for backup/restore purposes as it means individual files can be retrieved from a backup CD-R on virtually any computer.

A CD-RW disk can be written to and read from as many times as you wish (just like a floppy disk). The disadvantage of this is that the disk capacity is reduced (to around 500 Mbytes) and the CD-RW can only be reliably read by a computer fitted with another CD-RW drive.

Of the two, CD-R is probably the more useful for backup purposes as it allows a large archive of files to be built up over time very cheaply. Added to this is the advantage that any individual file can be read back from any CD-R archive disk in the future by virtually any computer.

### DVD Backup

A DVD is essentially a very high capacity CD (capacities vary from 4.7 Gbytes to 9.2 Gbytes). Operation is similar to that described above for CD backup but the higher capacity allows more files to be stored and this may allow all of your data files to be stored onto a single DVD.

Note that there are different DVD standards (e.g. DVD-R, DVD-RW, DVD+R, DVD+RW, DVD-RAM) so you must ensure that you use a medium compatible with your DVD drive

### Backup Reliability

Where possible you should try to ensure that your backup system is very reliable. To understand this consider what you would do if your computer hard disk failed and then when you tried to restore files from your backup system you discovered that the files had become corrupted, or that you had missed important files from your backup.

The amount of time, effort, and expense spent on your backup system should reflect the value of your data files to you.

If you would go out of business if you lost your data files then you should use this a justification for best backup system you can afford. If, on the other hand, the loss of your data files would only cause a few days inconvenience then perhaps a simpler, cheaper system will suffice.

Only you, the user, can judge the importance of your data to your organisation.

### Backup Frequency

The frequency of backups in your organisation should be determined by how often data files are changed or new data files are created. The more frequently data files are changed and added to the system the more frequently you should backup.

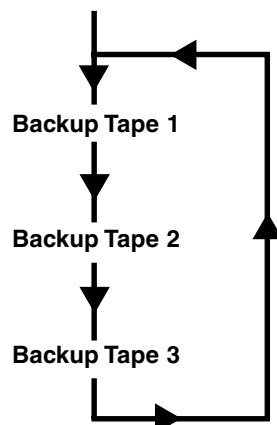
To calculate how often you should backup you should try to imagine what would happen if there was a computer failure and you had to restore all of your files from your backup system.

How much data would be lost by restoring from the last backup point ?

If you backup once a month then you could lose the entire last month's data. If this would cause you severe problems then you should be backing up more frequently.

### Rotating Backups

In the computer world there is an accepted standard or rotating backups, which was devised for tape backup systems. In its simplest form this involves using at least 3 separate backup tapes and using each one in turn for successive backups. This is shown below.



When used for regular, frequent backups this system provides excellent data security since even if one tape fails then you can restore from the previous tape with minimum loss of data.

In very important data environments the rotating scheme should be extended for daily data backups with a different tape for each day of the week. These tapes themselves would also be replaced periodically (perhaps twice a year) and all older tapes archived carefully.

### Off-Site Storage

An important feature of a backup strategy is “off-site storage”. This means simply that once a backup has taken place, the backup media is taken to a different location and stored away from the computer system.

The reason for this is to provide an effective route for restoring data if there was, for example, a fire in the computer room. If the backup media is stored beside the computer then it too might be lost and the backup will have been ineffective.

The exact location for off-site storage will again depend upon the value of the data.

Very important data should be stored as far away from the computer as is practical, preferably in a different building and preferably in some kind of fireproof safe to ensure its protection in most situations.

For less vital data it may be sufficient to store the backup media in a different room of the same building, although storing the media at one of the employee's homes is often a good compromise.

### Storage Conditions

You must ensure that the backup media will not become damaged in any way by the environment in which they are stored.

All backup media will come with guidelines on suitable environmental storage requirements but generally this will mean storing them away from extremes of temperature, dust, and humidity.

Read the instructions that come with the media for full details.

For example, you should be aware that CD-R media should be stored away from direct sunlight as this can have an effect on the recording surface of the CD-R.

## Which Files Do You Backup ?

This document is concerned with backing up ScotWeave data files only therefore the following will identify only ScotWeave files. If you need to backup other files then you will need to identify those yourself.

Provided you use the recommended default locations for ScotWeave files, you will find all ScotWeave data files in the following folder and sub-folders of this -

### X:\ScotWeave

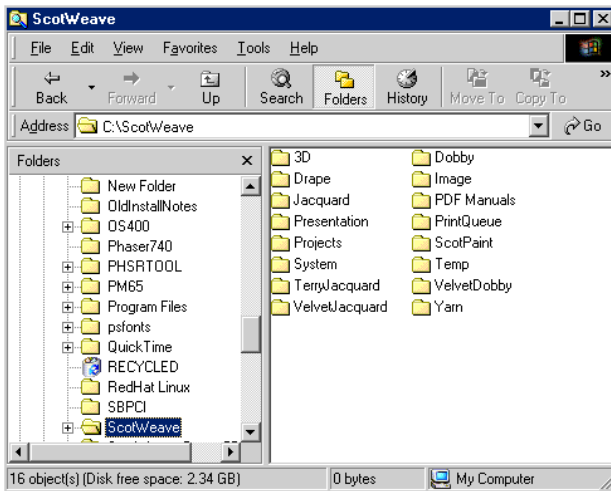
Where "X:" is the drive letter (usually C: but not always) of the hard disk drive where the files are stored.

You should familiarise yourself with the contents of this folder and also verify that your data files are present in this folder.

You can explore this folder using "My Computer" or Windows Explorer, whichever you are more comfortable using as follows

- Open the disk drive icon that you wish to explore
- Open the ScotWeave folder

You will now see a list of sub-folders similar to that shown below



These sub-folders fall into two categories – ScotWeave system files and ScotWeave user data files.

## ScotWeave System Files

All ScotWeave System files are stored in the following folders

- \ScotWeave\3D**
  - \ScotWeave\PDF Manuals**
  - \ScotWeave\PrintQueue**
  - \ScotWeave\System**
  - \ScotWeave\Temp**
- Do NOT backup these folders

These files can be restored from ScotWeave installation or update disks therefore it is *not necessary* to backup these files.

## ScotWeave User Data Files

The following folders contain files created by the user. The folders should be backed up.

Depending upon which ScotWeave software options are installed, you may be able to ignore some of the folders (for example, if you do not have ScotWeave Velvet Dobby installed then you will not need the \ScotWeave\VelvetDobby folder backed up).

- \ScotWeave\Drape**
  - \ScotWeave\Dobby**
  - \ScotWeave\Jacquard**
  - \ScotWeave\Presentation**
  - \ScotWeave\ScotPaint**
  - \ScotWeave\Yarn**
- You MUST backup these folders

ScotWeave Terry Jacquard users should also backup the following folder.

### \ScotWeave\TerryJacquard

ScotWeave Velvet Dobby users should also backup the following folder.

### \ScotWeave\VelvetDobby

ScotWeave Velvet Jacquard users should also backup the following folder.

### \ScotWeave\VelvetJacquard

In addition you may also find the following folders

- \ScotWeave\LoomConfig**
- \ScotWeave\Image**
- \ScotWeave\Projects**

These folders may be empty. If they are empty then you do not need to back them up. If they contain files then you should add them, to your backup list.

## How To Backup

The following outlines the basic processes involved in backing up ScotWeave files. Different software will be installed on different users; computers therefore it is not possible to be specific about exactly how to backup files on every computer.

Always refer to the instructions or help files, which come with the software installed on your own computer for more specific details.

## Tape Backup

A tape backup system should come with a comprehensive software package designed specifically to make backup easy. Please follow the instructions that come with this software.

Note that you should be able to use the “incremental backup” features of this software to only backup those files that have been added or have been changed since the last backup.

Tape backups are designed to run unattended so it should be able to run these overnight when the computer is not being used for some other task. It may also be simpler to backup all files on the computer rather than to specify individual files or file groups.

## Removable Hard Disk Backup

It is unlikely that there will be any specific backup software supplied with a removable hard disk drive. This being the case you will have to copy files from the local hard disk drive to the removable drive by “dragging and dropping” them in Windows.

You can do this in Windows Explorer or you can use “My Computer”.

If you use “My Computer” then it may help to use the following procedure –

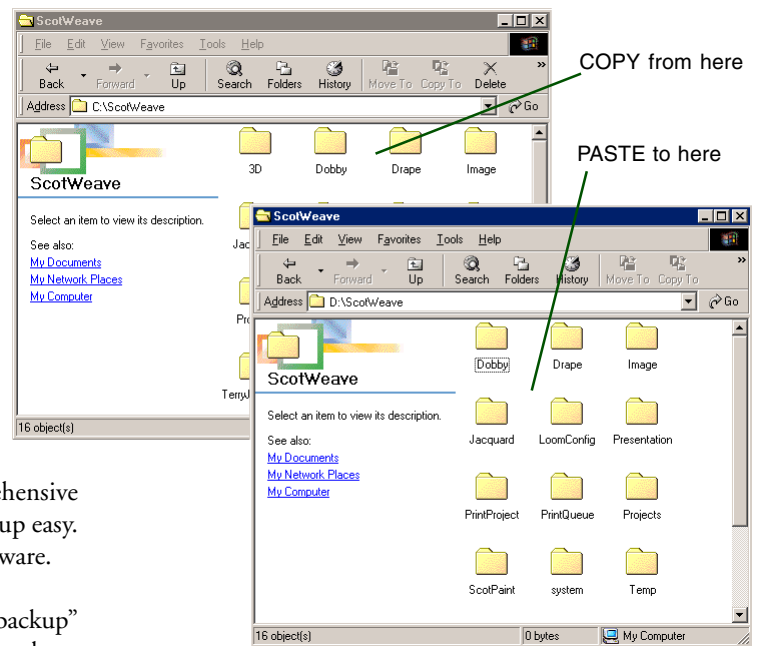
Attach the removable hard drive  
Switch on the computer and wait for Windows to start

Click on **My Computer**  
Open the local hard drive icon in one window

Click on **My Computer** again  
Open the removable hard drive icon in a second window

RIGHT-click on a file or folder in the first window  
Select **Copy** from the drop down menu  
Move into the second window  
Open the folder where the file/folder is to be placed  
Select **Edit – Paste** from the top menu

There are many ways of dragging and dropping from one window to another. The above method is just one example.



Screen shot example showing two “My Computer” windows open. Note the drive letters (C: and D:) in the Address bar showing which window applies to which drive.

Note that when you copy files from one hard disk to another in this way any previous files with the same name will be overwritten.

This is generally desirable in that it avoids multiple copies of the same file but does mean that you will not have any historical record of the files as they have been changed.

Once backup is complete you should browse through the folders on the removable hard disk drive to ensure that you can see that the files have been copied successfully.

With a removable hard disk drive you can also open backed up files directly from within ScotWeave. You should select a few files randomly and try opening the files from within ScotWeave, again to ensure that the files have been copied successfully.

To do this simply start ScotWeave as normal and open the ScotWeave program as normal. Select the normal **File - Open** option then use the Windows “Open File” dialog to navigate back to the removable hard disk drive and then forward into the appropriate \ScotWeave folder.

## Iomega Zip Drive Backup

This operates essentially the same as for a removable hard drive backup above. You can open/explore the zip drive in a separate window and copy/paste files in the same way.

Note that you will have to be aware of the zip drive filling up with data and insert a new zip disk appropriately.

**CD-R/CD-RW Backup**

Since one of the key requirements of a backup system is reliability, we would recommend that CD backups are done using CD-R media and using the method of CD creation outline below.

You can use CD-RW media and overwrite files on the CD-RW with successive backups but it has been our experience that the more you write to a CD-RW the more chance there is of failure of the media and a corrupted CD-RW is of no use in a reliable backup system.

You can also use CD-R in “multi-session” mode (using “DirectCD” or equivalent software) but, once again, our experience has been that this makes the media more prone to failure.

So, our purpose is to copy data files onto a single or multiple CD-R and to create reliable CD-R media which can be read in any CD drive. Each CD-R will be used only once and this can be used to build up a historical archive of data. Over a period you will use quite a lot of CD-R media but these are relatively cheap and easy to store.

The key to this backup method is to use the correct software to create the CD-R. With most systems there are generally two methods of creating a CD-R and you must ensure that you select the correct one.

If you pc has Roxio CD Creation software installed then you will have the following software options –

**Roxio Easy CD Creator  
Roxio DirectCD**

The first option **Easy CD Creator** is the one that you should use.

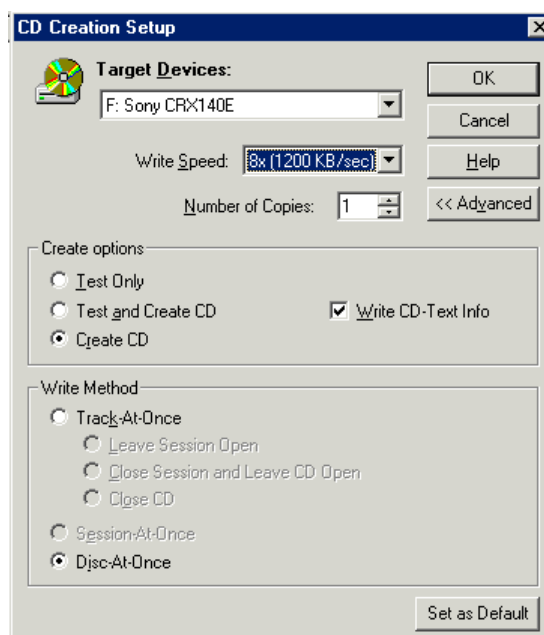
If your CD drive came with other software (e.g. Nero) then you should consult the manuals or help files and choose the CD-R creation option that allows you to create a data CD and specifically *not* a “multi-session CD”.

When you start the CD creation software you should see a Windows Explorer-like screen (see opposite). A data CD does not require “formatting” before it is created so if you are prompted to format the CD then you are using the wrong software – cancel and try again using other software.

Use the split screen to drag and drop files from the hard drive (upper window) to the CD (lower window). The files are not physically copied at this stage – you are simply selecting which files you wish to copy.

A bar at the bottom of the window shows the CD capacity and free space. You will be able to see how the CD is being filled as you add files.

When you have selected all of the files you wish click on the appropriate “Create CD” or “Record” option. You will then see a dialog prompting for some properties of the CD. Choose “Disc At Once” (DAO) and select a write speed (see later).



**Write Speed**

The write speed controls how quickly the CD is spins around while data is being written. The faster the write speed the faster the CD will be created.

Note that blank CD-R media comes with a rated “maximum write speed”. You should ensure that your chosen write speed does not exceed the maximum rated speed for the CD-R media you are using.

When you choose very fast write speeds there is a chance that data errors may occur during writing. This shows up either as a write failure while the CD is being created or, more worryingly for a backup CD, problems when attempting to read the CD back.

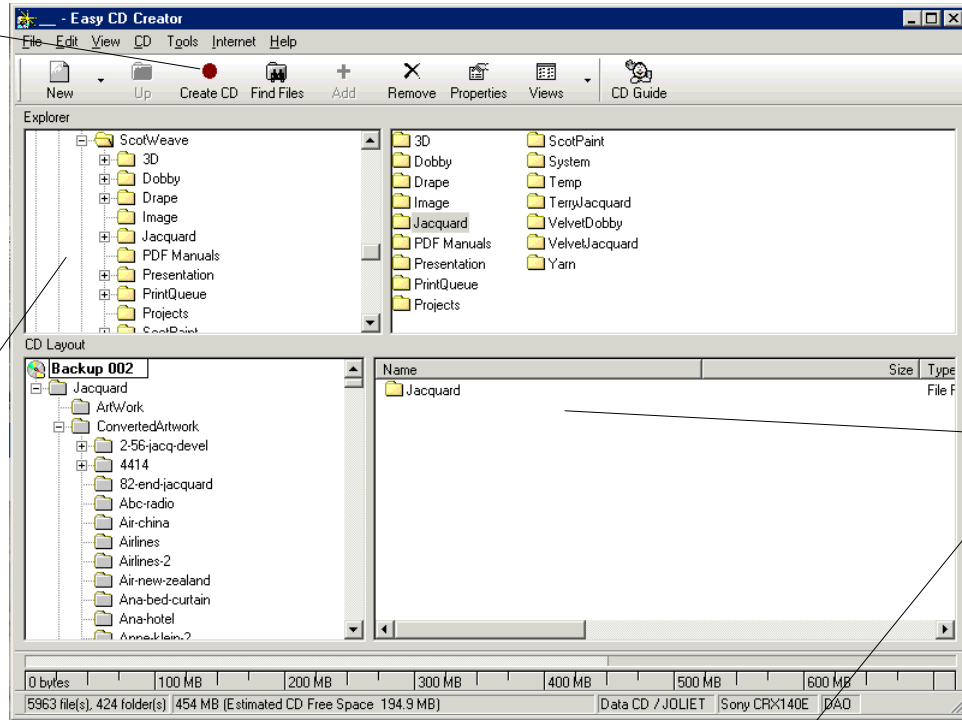
To avoid this you should *reduce the write speed*.

As a general guide for creating backup CDs it is recommended that you do not create CDs at the maximum write speed but, instead, choose the next fastest available speed. So, for example, if the available write speeds on your CD drive are as 16x, 8x, 4x and 2x then it would be safer to operate at 8x write speed.

If you experience any problems at this speed then reduce the speed to the next step (e.g. 4x).

Adaptec (Roxio) Easy CD Creator 4 running under Windows Millenium Edition

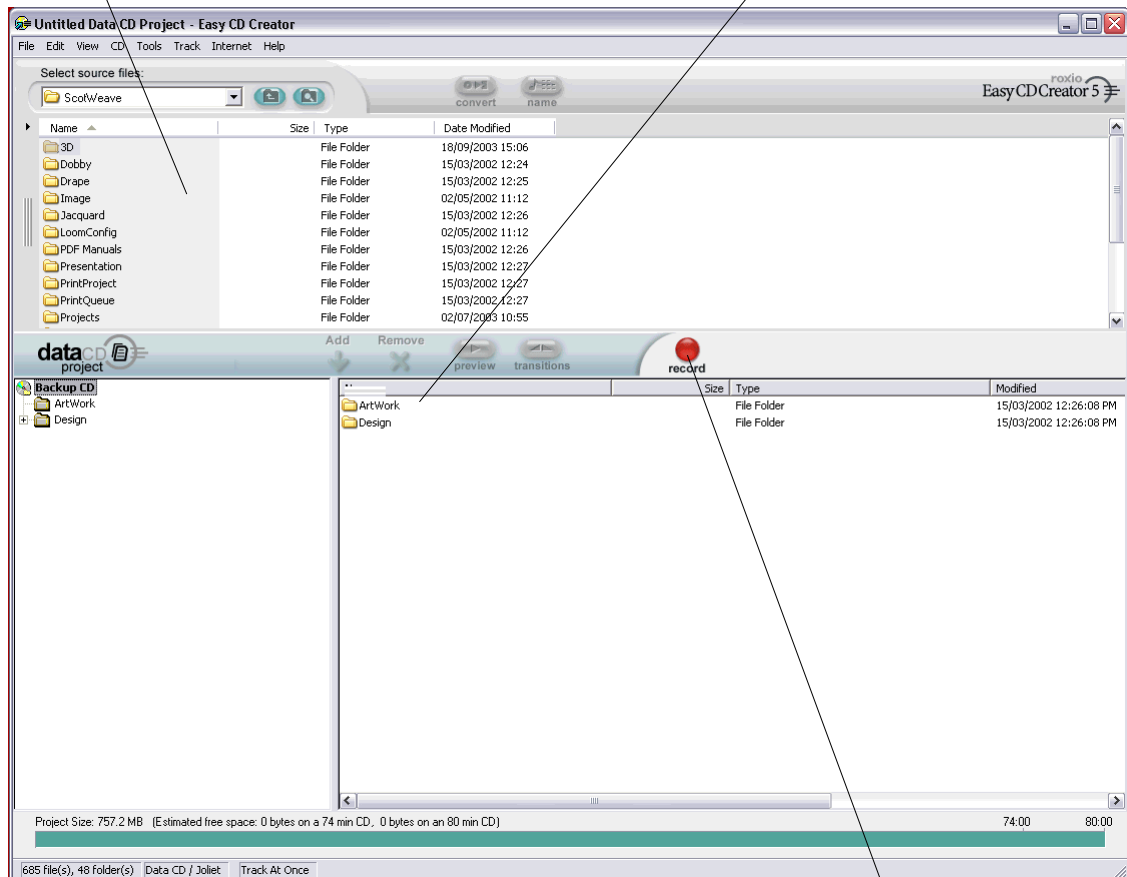
Click here to create the CD



Contents of hard disk drive

Files that will be copied to CD

Roxio Easy CD Creator 5 running under Windows XP



Click here to create the CD

### **Backup Over More Than One CD-R**

Initially you may be able to make an entire backup onto a single CD-R. However, it is very likely that this will not be possible later, as you create more and more ScotWeave files.

When this happens you will have to choose what files you backup to each CD-R.

There is no foolproof method for this but the object is to ensure that you always backup any new files you have created plus any old files that have been changed since the last backup.

It should be possible to backup groups of files onto single CD-Rs. For example, you may be able to backup all of your Dobby files onto a single CD and all of your Jacquard files onto a second CD-R.

If there is still not enough space for this then you will need to backup files on a folder-by-folder basis. This might mean that you backup, for example, the first 10 jacquard design folder onto one CD-R and the remaining jacquard design folders onto a second CD-R.

Remember that CD-R storage is cheap and quick to use so it is always better to backup more files than less files. If you are not sure if a file has been changed since the last backup then back it up anyway.

### **DVD Backup**

A DVD drive may come with specially designed backup software. If you have this software then you should use that and follow the instructions for that software.

If there is no backup software available then the procedure will be similar to that for creating a CD-R backup.