

ARCHIVING PATIENT REPORTS ONTO CD

The backup program built into the Holter LX software can be used to archive patient reports onto a compact disk using Roxio Easy CD Creator software. During the procedure, the patient files are copied from the system's hard disk, compressed, and saved to CD. There are two requirements: (1) the Roxio software must be installed on your system's hard disk and (2) your system must have CD drive that can write to CD.

As a general rule, each 700-MB CD can hold about 10 to 15 full patient reports (called "Full" in the backup settings), including 24 hours of editable ECG, or between 200 and 300 partial records (called "Reports" in the backup settings) that include the entire Holter report, but not the full editable ECG.

You have two options for backing up:

- copying a group of zipped patient files at a single session onto a CD, using a format that is more likely to be accessible by any computer system; or
- copying zipped patient files at multiple sessions to a CD that is considered a direct device, using a format that perhaps will not be supported in the future.

Note: We recommend that the former approach be used when backing up patient reports for permanent archival. It is more likely to result in files that can be read in the future and does not allow accidental over-writing of previous files. That approach is described first in the following documentation.

Backing up on CD in a single session

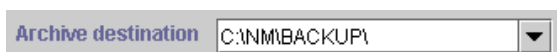
The procedure consists of three steps:

1. using the Holter LX Backup software to compress patient files and save them in a temporary location,
2. using Roxio software to copy the compressed files to CD, and
3. deleting the compressed patient files from the temporary location.

Compressing Holter data for backup

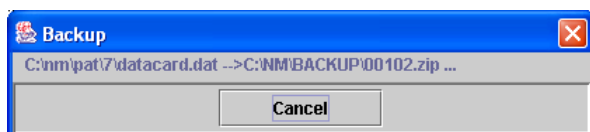
To start the backup procedure:

1. Launch the Holter LX software.
2. Select File > Patient. Click List to open the Patient list window.
3. Click Backup to open the Backup window, which displays the Backup tab.
4. In the Destination field, enter the device and directory in which backed-up files will be stored temporarily. Use c:\nm\backup.



Archive destination field in Backup window

5. In the patient list, click on the patient report you want to back up; if your patient list is longer than the window display, use the scroll bar to display additional patient reports. To back up multiple sequential patient reports, click on the first report to be backed up, then drag down to the last one you want backed up.
6. With the appropriate patient(s) selected (that is, highlighted), click Backup again. A small Backup status window opens, displaying the current compression step.



Backup window displayed during compression

7. When compression is complete and the files have been transferred to the \nm\backup directory, the status window closes. You can continue with formatting the CD.

Note: For details about what files get compressed and assigned file names, refer to the “Managing Patient Reports” chapter of your Holter LX operator’s manual.

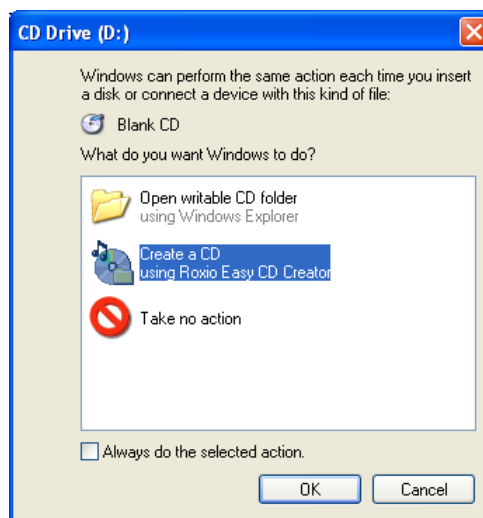
Copying to CD

To copy the zipped files produced by the backup program onto CD:

1. Insert a blank, writable CD-R (not CD-RW) into the drive.

Note: Although it is possible to use a CD-RW for backup, it requires a prolonged formatting period and is more expensive. Because the backup procedure is intended to be permanent storage of patient records, there is no advantage to using CD-RWs.

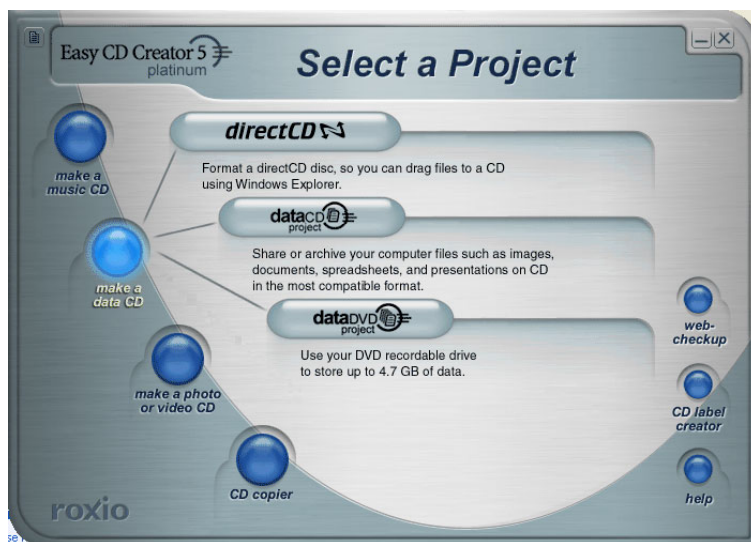
2. If an Explorer window opens asking how to proceed, select the choice “Create a CD using Roxio Easy CD Creator” to launch the Roxio Easy CD Creator software. If an



Explorer’s CD Drive window

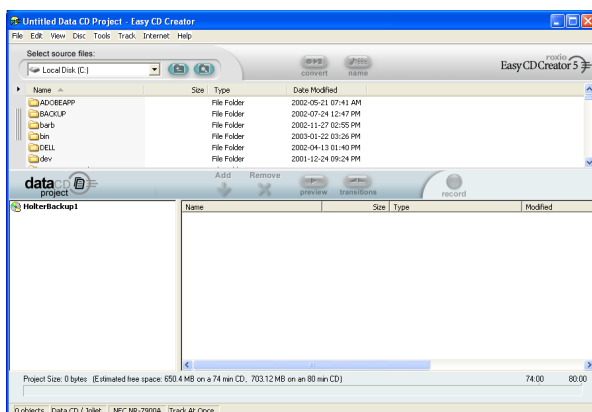
Explorer window does not open, launch the Roxio Easy CD Creator from your Start > Programs menu.

3. The Roxio main menu appears. Place the cursor over the button labeled “make a data CD” so that additional menu choices appear as shown below.



Main menu of Roxio Easy CD Creator

4. The middle menu choice is “data CD project.” Click that. The Data CD Project window opens.

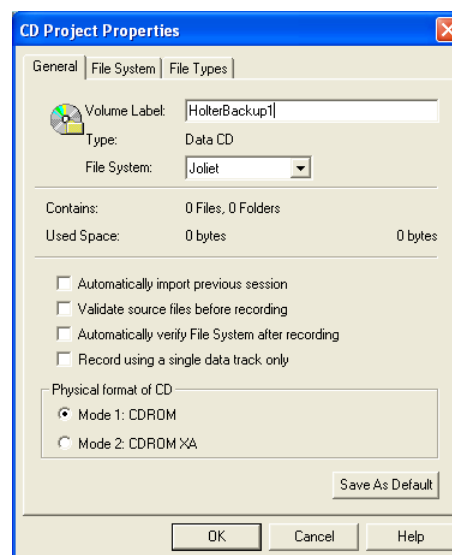


Data CD Project window

5. Select File > CD Project Properties to open the properties window. Click the General tab so that the window shown at right

appears. Type the label you want for the CD in the Volume Label field.

6. Make sure that “Joliet” is listed in the File System field. If it is not, select it from the list of choices.
7. Click the radio button labeled “Mode 1: CDROM.”
8. Press OK to close the window.
9. Within the Data CD Project window, the “Select source files” field should read “Local Disk (C:)” and should list directories/folders below it. One of the directories is named “nm” - for NorthEast Monitoring. Double-click that folder so that “nm” appears in the Select source files field and additional directories are listed below it. In that list of directories, double-click on “backup” to select it; “backup” appears in the Select source files field, and the compressed files (named *.zip) are listed below that.

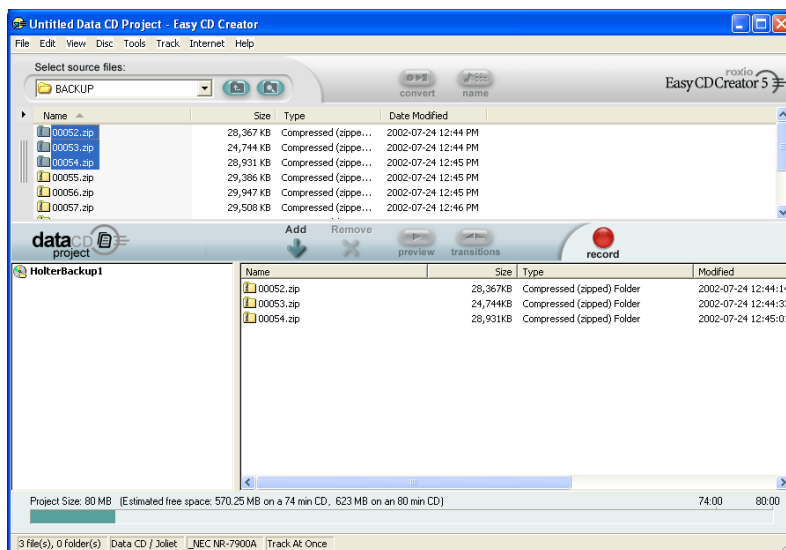


CD Project Properties window

10. From the list, select the patient records to be backed up, which will typically be all the files listed. Click on a file name to select it; to select multiple sequential files, click on the file name, press the Shift key and drag to the last file name. To select all files, hold down the Ctrl key and press A.

Note: *If the record button is dim, you have not yet moved files to the Add list. You must have selected at least one file and moved it to the Add list for the record button to turn red.*

13. When the Record CD Setup window opens, if the Options button appears, click it to include the record options at the bottom of the window,



as shown at the bottom of this page. If the Hide Options button appears when the Record CD Setup window opens, the options are already displayed.

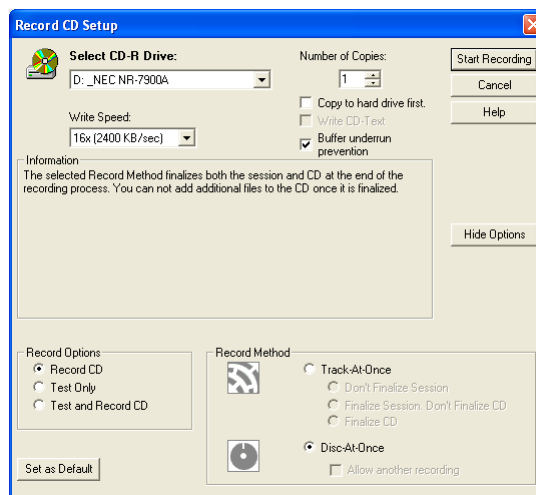
14. In the Record Options area, "Record CD" should be selected. In the Record Method area, click on "Disc-At-Once." This will allow you

Data CD Project window with selected files in Add list

11. With the files you want highlighted, click the Add arrow near the center of the window. The selected file names appear below the Add arrow. You can also choose to drag the highlighted file names from the top of the window to the space below the Add arrow. Files can also be selected individually and added to the Add list one at a time.
12. When all of the files you want copied to the CD appear in the Add list, press the red record button. The Record CD Setup window shown at right opens.

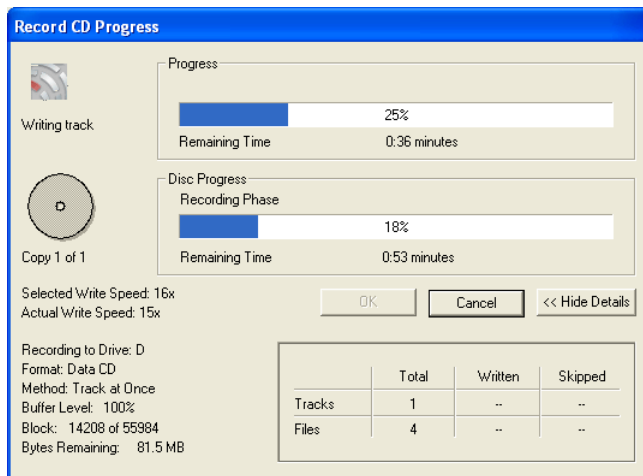
to copy files to the CD and then close the session to any future additions.

15. Click the Start Recording button.



Record CD Setup window

16. The Record CD Progress window appears as the files are copied to CD.



Record CD Progress window

17. When copying is complete, a query about launching CD Label Creator opens. To Close the current CD session, click Close.



Launch CD Label Creator query window

18. In the Record CD Progress window, click OK.
19. If a query window appears asking you whether you should save the project, click Yes.
20. If the Explorer window for the CD drive appears with the compressed files listed as “Files Currently on the CD,” close the window.
21. Eject the CD from the drive and label it appropriately, with a unique name that will distinguish this CD from other backup CDs.

Note: Do not remove the CD from the drive while it is still being written to. Wait for the spinning sound to stop before removing the CD.

Deleting compressed files

22. To delete the compressed files from their temporary location, go to My Computer and double-click Local Disk.
23. Double-click the nm folder to open it.
24. Double-click the backup folder to open it, displaying the compressed files (*.zip) currently in the folder.
25. To delete the files one-by-one, right-click on each file you have backed up and select Delete. To delete all files, select one of them, then hold down the Ctrl key and press A to select all, then press Delete.

Note: If you do not delete files from the \nm\backup directory, they will accumulate and you will have to keep track of which ones have been copied to CD and which ones have not. Instead, we recommend that you routinely delete all files after copying to CD so that when you are backing up, you know that any files in the \nm\backup directory have not yet been copied to CD.

Backing up a Holter test on “direct” CD

The procedure consists of three steps:

1. properly formatting the CD,
2. using the Holter LX Backup software, and
3. closing the CD session.

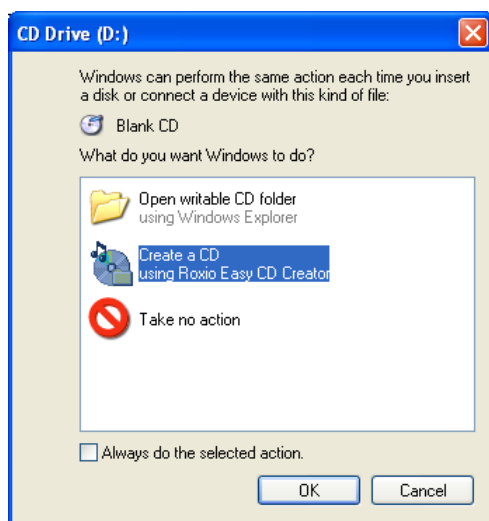
Formatting the CD

To format the CD to accept the zipped files produced by the backup program:

1. Insert a blank, writable CD-R (not CD-RW) into the drive.

Note: Although it is possible to use a CD-RW for backup, it requires a prolonged formatting period and is more expensive. Because the backup procedure is intended to be permanent storage of patient records, there is no advantage to using CD-RWs.

2. If an Explorer window opens asking how to proceed, select the choice “Create a CD using Roxio Easy CD Creator” to launch the Roxio Easy CD Creator software. If an



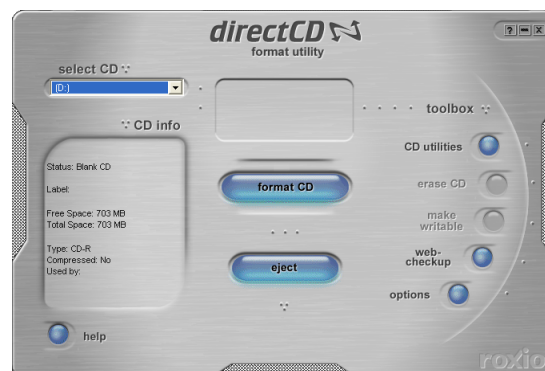
CD Drive window with Roxio selection

Explorer window does not open, launch the Roxio Easy CD Creator from your Start > Programs menu.

3. The Roxio main menu appears.
4. Place the cursor over the button labeled “make a data CD” so that additional menu choices appear as shown at right.
5. The top menu choice is “direct CD.” Click that. The Roxio format utility opens.

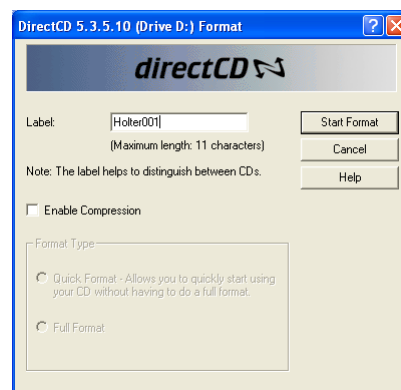


Roxio main menu with “make a data CD” choices



Direct CD format utility

6. Make sure the correct drive name is listed in the select CD field as shown in the figure above. Then click the Format CD button in the center of the display. The Format window opens.

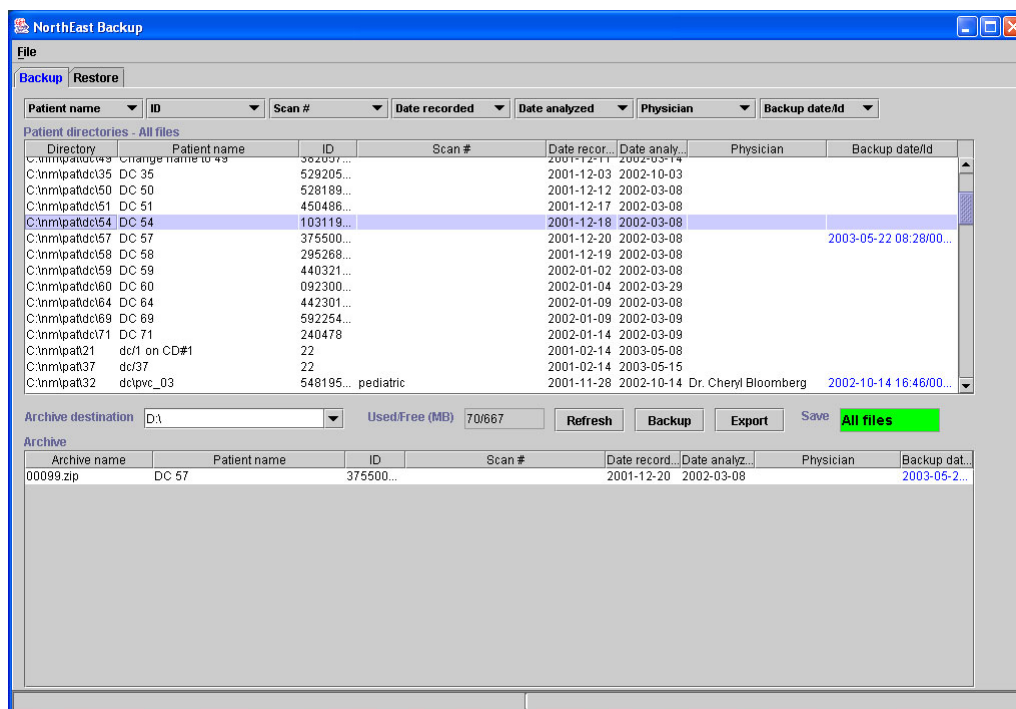


Direct CD Format window

7. Type a label name for the CD (choose a unique name that will distinguish this CD from other backup CDs) in the field indicated in the Format window. If you have inserted a new blank CD-R, the Quick Format and Full Format selections will be dim; the Quick Format will be done.

Note: If the Quick Format is dim and the Full Format selected, and you cannot click the Quick Format on, you probably have a CD-RW in the drive. We recommend that you use a CD-R instead.

8. Click the Start Format button. Several windows open in sequence. When formatting is complete, Explorer may open an empty window for the indicated drive.
9. Close the Explorer window to reveal a CD Ready window; click OK to close that; and then close the Roxio format utility display.
10. Launch the Holter LX software and continue with the steps in the next section.
13. From the list of patients in the Backup window, click on the patient report you want to back up. To back up multiple sequential patient reports at one time, click on the first one to be backed up, then drag down to the last one you want backed up. Or click on the patient report you want to back up and then press the Shift key and click on additional patients.



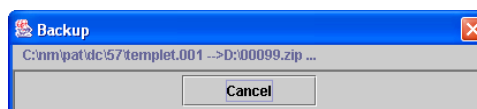
Backup window with Backup tab displayed

Using the Holter LX Backup software

11. After launching the Holter LX program, go to File > Patient to open the Patient window, then click the List button.
12. In the List window, click the Backup button to open the Backup window, which displays the Backup tab.
14. In the Archive destination field under the patient list, select the appropriate drive name for your system's CD drive. Click on the arrow at the right of the field to display the drive choices; click on your choice to change the setting.
15. With the appropriate patient(s) selected (that is, highlighted), click Backup again. The report for each patient is compressed into a zip file and transferred to the CD.



Archive destination field in Backup window



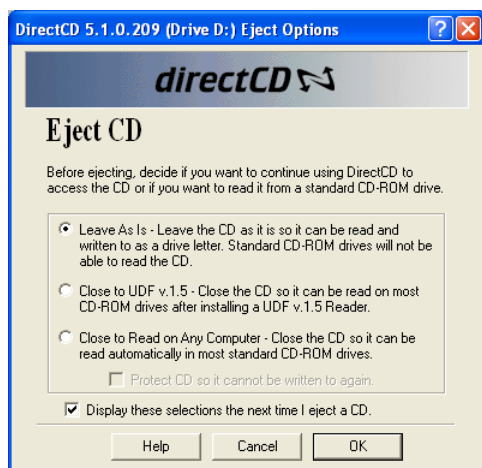
Backup window displayed during compression

16. When the procedure is complete, the Backup window reappears, with the list of backed up patients in the bottom of it.
17. Click the red close button in the upper right corner to exit the Backup window and return to the List window.
18. To remove the CD from the drive, follow the directions in the next section.

Note: *Details of what gets saved for each patient report and how to retrieve a patient report from archived files are covered in the chapter “Managing Patient Reports” in the NorthEast Monitoring Holter LX Software Operator’s Manual.*

Closing the CD session

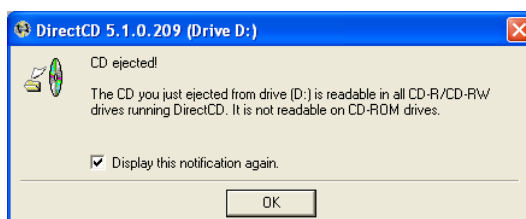
19. Once you have backed up patient files on CD, to remove the CD, you must first indicate how to save the CD. To do so, select the Roxio software so that the format utility is displayed.
20. Click the Eject button in the center of the display. The Eject Options window opens with the following choices:



Eject Options window

- **Leave As Is** - This leaves the CD in a state so that you can continue to add patient reports to it. In this state it is only readable by a system running Roxio Easy CD Creator Software.

- **Close to UDF v.1.5** - This saves the information on CD, but it can only be read by a system running UDF v.1.5.
 - **Close to Read on Any Computer** - This saves the information on CD, but will not allow additional patients to be added. It can be read on most standard CD-ROM drives, without Roxio software.
21. To save to the CD, but allow additional patients to be added in the future (up to the storage limit of the CD), click “Leave As Is” to select it, then click OK. The CD drive opens and the following window appears.



Ejected CD window

22. Click OK.
23. Remove the CD and label it appropriately.
24. If the Roxio format utility is still displayed, click the close button in the upper right corner to close it.

Adding patient reports to CD

To copy additional patient reports onto a directCD that already contains some:

1. Insert the CD into the drive. If a window opens displaying what is on the CD, close it.
2. Launch the Holter LX software and follow steps 10 through 19 listed above.
3. If the CD is not yet full, you can proceed with steps 20 and 21, and then remove the CD from the drive. If the CD is full, (1) select the “Close to Read on Any Computer” choice in the Eject Options window in step 20 so that the information is permanently archived in a format that is accessible by most CD-ROM drives without Roxio software and (2) click to turn on “Protect CD so it cannot be written to again”; then click OK and remove the CD from the drive.

Using a spreadsheet to keep track of archived data

Once you have backed up patient reports (either Full reports including all the recorded ECG or Reports including just the information in the printed report) onto CD, you need to keep track of which CD holds which patient reports. You can do this using a spreadsheet program like Microsoft Works Spreadsheet.

The simplest way to do so is to create a spreadsheet that lists all the patients on a particular CD and print that list to archive with the CD. Alternatively, you can create one large spreadsheet listing all archived patients and the CD label on which they are saved; this spreadsheet can be used to locate a patient name and then obtain the CD label.

Creating a simple spreadsheet list

To create a printout listing the patient reports on a particular CD:

1. Launch the Holter LX program.
2. Select File > Patient.
3. In the Patient window, click List.
4. In the Patient list window, click Backup.
5. In the Backup window, in the bottom half of the window, select the Archive destination where the patient records were stored. If you backed up using the dataCD method described earlier, the Archive destination was c:\nm\backup\. If you used the directCD method, the Archive destination was d:; make sure you have the CD in the drive when you select the d: drive. The patient records you just backed up will appear in the bottom half of the Backup window.
6. Press the Export button.

7. Launch the Microsoft Works Spreadsheet. An empty spreadsheet opens.
8. Select Edit > Paste. The data selected in the Backup program is entered in the data fields of the spreadsheet.

	A	B	C	D	E	F	G	H	I	J
1	Archive nam	Patient name	ID	Scan #	Date record	Date analyz	Phy	Backup dat	Serial #	Volume
2	00001.zip	GOLD STANDARD - DC	#####		2001-10-31	2002-03-13		2002-03-16 08:36	00001	F
3	00101.zip	Patient dc21	#####		2001-11-09	2002-05-23		2003-05-29 09:03	00101	F
4	00102.zip	Patient dc35	#####		2001-12-03	2002-06-04		2003-05-29 09:04	00102	F
5										
6										

Spreadsheet with patient list

9. Select File > Save As. Select an appropriate folder/directory in which to save the document and type an appropriate name (for example, the Volume Label you assigned the CD).
10. To print the spreadsheet to keep with the CD or to file, use File > Print.
11. Use File > Exit to close the spreadsheet program.

Creating a spreadsheet listing all archived patient names

If you create a single spreadsheet listing all archived patient names, you can more easily locate the particular CD on which a patient record is archived. To create the spreadsheet:

1. Follow steps 1 through 8 above.
2. Create a new column by clicking in the spreadsheet in the field to the right of "Volume" and selecting Insert > Insert column.
3. Type a label for the column; call it "CD Label."
4. Click on the first field below CD Label and type the label of the CD on which the patients were archived.

J	K
Volume	CD Label
01 F	Holter001
01 F	Holter001
02 F	Holter001

New CD Label column

5. Drag across the label you have typed to select it and select Edit > Copy to make a copy of the text. Paste the copy into each of the CD Label fields of the other patients backed up on that CD.

6. Select File > Save As. Select an appropriate folder/directory in which to save the document and type an appropriate name.
7. Use File > Exit to close the spreadsheet program.
8. Whenever you want to add patients to the spreadsheet, launch the Holter Backup program, select the appropriate archive destination and click Export. Then open the spreadsheet file, click on the row below the last used row and select Edit > Paste.
9. To eliminate the extra row of labels at the top of the new list, click in a field in that row and use Insert > Delete row.
10. For each newly pasted patient record, add the appropriate CD label in the CD Label column.
11. Select File > Save, then File > Exit.

Locating a patient record in the spreadsheet

To find a particular patient in the spreadsheet, sort (using Tools > Sort...) by the name or scan number column, locate the match, then refer to the CD Label field to see which backup CD holds that patient record.