

DATA 3.0 Guide

About DATA

DATA is a utility program that allows you to backup the sound and Session files created on your Digidesign system, to standard DAT cassette. DATA supports all Digidesign's Nubus-based systems including Pro Tools, Session 8, Sound Tools II, ProMaster 20 and Audiomedia II/LC. Sound file formats supported include Sound Designer I, Sound DesignerII (16-bit only, 24-bit files not supported at this time), Sound Designer Compressed, and AIFF format files, as well as Session and Instrument files. DATA backs up both the audio data in a sound file and the edit/parameter data (regions, playlists, markers, etc.), allowing you to store all elements of a sound file on tape. To use DATA you must have a Digidesign digital recording & editing system with digital inputs/outputs and a DAT recorder with digital inputs/outputs (AES/EBU or S/PDIF).

DATA can also be used to back up other file types on your computer. However, this capability should be used only as a convenience when backing up MIDI files or other audio data formats. DATA should not be used as general backup utility for other documents created by other software applications.

How DATA Works

DATA sends sound data through your audio interface in normal fashion, allowing you to listen to audio files as you make backup tapes. However, parameter and edit data cannot be recorded as an audio signal—it must first be encoded by DATA, then recorded on the DAT tape as an audio signal. Thus, a backup of your audio file on the tape will consist of a header section, a parameter/edit data section (both of which sound much like noise) followed by the actual sound data, and finally, a trailer section.

Because the sound data is played back directly (as opposed to being encoded), you can listen to your backup tapes, as well as recover the sound data by re-recording it into your Digidesign system in the event that the header and/or parameter section becomes corrupted.

Because the sound data is played out at the sample rate of the DAT recorder, the sound may be higher or lower in pitch than you originally recorded it. Don't be concerned about this. When the file is restored, the original sample rate will also be restored.

Please remember, DATA should not be used as a general backup utility for programs or important documents. Please back up non-audio files onto a floppy disk or other archiving medium.

Note: DATA performs no write-verification of the backup files.

System Requirements

Here is what you'll need in order to use DATA:

Minimum configuration requirements:

- One of the following Macintosh-based Digidesign digital audio production systems:

Pro Tools™, Session 8™ for Macintosh, ProMaster 20™, Sound Tools II™, Audiomedia II™, or Audiomedia I™.

- DigiSystem INIT version 2.81 or higher.
- One of the following NuBus™-equipped 25MHz, NuBus-equipped Macintosh® computers:
Macintosh II series, (68030 CPU, 25MHz or faster)
Centris or Quadra series (68040 CPU)
Power Macintosh 7100 or 8100
- Apple System software 7.1 or higher, running in 32-bit mode. Virtual Memory can not be used with DATA.
- A hard disk drive with an access time of 18ms or faster.
- A compatible DAT recorder.
- A 13" computer monitor (or larger).

User requirements

Before using DATA, you should have a working knowledge of the Macintosh computer and its operating conventions. These include how to use a mouse; how to open, close, and save files; and how to use standard Macintosh menus and commands. If you are unfamiliar with how to perform any of these tasks, please spend some time learning your Macintosh before going any further.

Getting Started — Installing and Launching DATA

To install DATA, do the following:

- Copy the DATA application to your hard disk.
- If you haven't already done so as part of your system installation procedure, copy the DigiSystem INIT into the Extensions folder inside your System Folder and restart your Macintosh. This INIT is required by DATA and MUST be present in your System Folder.
- Start DATA by double-clicking on its icon.

Configuring Your System

Before you begin backing up or restoring files, you must first configure your system with the Preferences command.

To Configure your system:

- Choose Preferences from the File menu.
- Click the Card pop-up menu to choose the location of the Digidesign card that you want to use. Normally, the menu will default to the slot location of the first Digidesign card in your system. However, if you have multiple cards installed in your Macintosh, choose the slot of the desired card.
- Click the Sample Rate button to select the sample rate at which you wish to backup your file(s). This rate doesn't need to be the same as the sample rate of the files you are backing up.
- Click the Digital Format button to select the appropriate digital format (AES/EBU or S/PDIF).
- Choose the appropriate Hard Disk Buffer Size. This command tells DATa the size of the playback memory buffer you wish to use when playing back from hard disk. Generally speaking, a setting of 8 will provide the best results (a setting of 32 is most appropriate for an optical drive). If you are playing audio from a slow or fragmented hard disk, or you experience hesitations or beeps during playback, increase the HD Buffer Size until the problems stop. The total amount of playback buffer is computed as [8 kbytes * HDPlayBuffer size * Number of Channels in Soundfile]. So for a stereo file, a buffer size of 8 yields $8k * 8 * 2 = 128$ kbytes of buffer for hard disk playback.

About the “Interleave Mono Soundfiles” Command

If you wish to double the speed of backup of mono files, choose interleave mono sound files in the Preferences dialog. When this option is checked, all mono files will have every sample alternately written to each of the two channels of the DAT. If you are backing up a batch of files that includes mono and stereo audio files, enabling this option will only affect the mono audio files.

This method of transfer will take approximately half of the transfer time, and utilize half of the tape required by the normal transfer method. Even though the file is split between left and right channels on the DAT tape, DATa will still restore the file completely intact. If you listen to the audio on the DAT, it will play back at twice the pitch and speed.

Interleaving samples has its advantages and disadvantages. The advantage is a reduction of time and tape consumption. A disadvantage is that if the DAT cassette develops a dropout in the area of the file's header information, the file cannot be recovered. If a similar dropout were to occur to a non-interleaved file, then you could recover it by re-recording the audio into your Digidesign system using Sound Designer II, Pro Tools, or Session 8. Carefully consider these facts before choosing the interleave mono sound files option for backing up your important files. The chances of dropouts occurring during a file header are minimal, but they can happen.

Backing up a File

DATa will back up Sound Designer I and II, Sound Designer Compressed, AIFF format files, as well as Session and Instrument files.

Due to the nature of the AIFF and Compressed file formats, the entire file—including the audio data—is encoded for transfer. This results in approximately six times the amount of tape and

Important

For maximum security, Session files should be backed up a minimum of 3 times. Doing so provides 2 chances of retrieving the Session, minimizing the potential damage of a dropout.

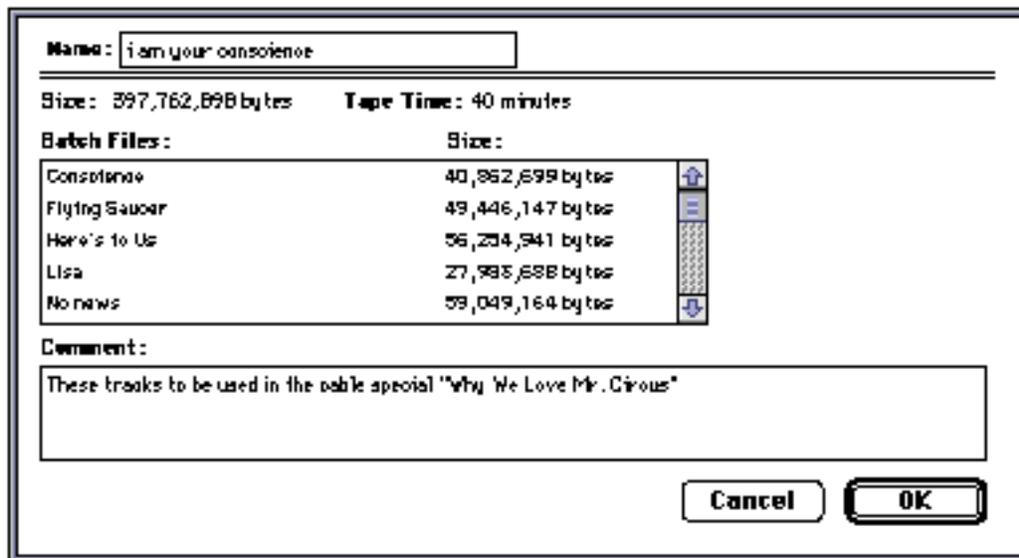
Batch Backups

For convenience, DATa also allows you to back up multiple files within a directory (the same hard disk level/folder) in a single operation. This feature works on a single level at a time: only sound files within a selected folder can be backed up. If there are folders of files within that same folder, they will NOT be recognized during the backup procedure.

Before you start recording the batch data, take a moment to verify that you have enough tape to hold the data you are about to transmit. Use the value in the Tape Time field of the backup info dialog to determine how much tape you need. A good rule of thumb is to have at least one extra minute of tape available before attempting the backup.

To backup a batch of files:

- Choose Batch Backup... from the file menu.
- In the file dialog that appears, use the Current Directory and Selected Directory buttons in the Batch Backup dialog to select which files/folders you wish to back up. After you select the desired directory with one of these buttons, the audio files in that directory will appear in the Batch Backup Info window similar to the following:



- When you are ready to start the batch backup, click on the OK button.
- A dialog will appear giving you directions. Start the DAT recorder and write a start ID. After the start ID has been written, click OK in the Directions dialog box.
- DATa will start sending your file out to the DAT recorder, displaying its status as it proceeds. If at any time you wish to abort the backup, press Command-period.

Getting Information about a Backup File

Next, you'll learn how to perform the Get Info procedure to verify that the backup was successful. This procedure is also useful for forwarding through a DAT tape and finding a particular file before you decide to restore it to your hard disk.

To Get Info on a Backup file:

- Select Get Info from the File menu. A dialog box will appear giving you directions.
- Rewind the DAT recorder to the start ID of the file you wish to get information about. Then click OK in the directions dialog box and start playback of the DAT recorder.
- DATa will display the size, modification and creation dates, file type, as well as any backup comments for the file (or files if you are getting information about a batch of files) after reading its header from the DAT recorder.

Clicking the Next button in this dialog will cause DATa to wait until it receives the header of another file on the DAT. When it receives it, it will notify you by beeping and will then display the information about the file. This feature facilitates searching through a DAT with many backup files.

Restoring a File

This section explains how to restore a file from a DAT cassette to your hard disk.

To restore a file from DAT to hard disk:

- Select Restore from the File menu. A dialog box will appear giving you directions.
- A file dialog will appear. Select a location and name for the restored file.
- Rewind the DAT recorder to the start ID of the file you wish to restore, then click OK in the directions dialog box and begin DAT playback.
- DATa will start restoring your file from the DAT recorder, displaying its status as it proceeds. If at any time you want to abort the restore operation, press Command-period. If you abort the restore operation, the file that you began to create will be deleted.

Restoring a Batch of Files

For convenience, DATa also allows you to restore multiple audio files backed up with the Batch Backup... command.

To restore a batch of files:

- Select the Batch Restore... command.
- Choose the desired location of the files to be restored by navigating to the appropriate hard disk location and clicking Current Directory or a Selected Directory. A dialog box will then appear with further instructions.
- After you have found the appropriate start ID on the DAT, click OK in the dialog and press Play on the DAT machine. DATa will then restore your files to disk.

Recovering a File from a Corrupted DAT Tape

If for some reason, the header or parameter section of the DAT backup tape is damaged, you can still recover the sound data by re-recording it digitally from the DAT into Sound Designer II, Pro

Tools, or Session 8. Unfortunately, because of their data format, AIFF, Sound Designer II compressed or mono interleaved, and non-audio files cannot be recovered from a corrupted DAT cassette with this method.

To record an audio file from a DAT backup:

- Set up Sound Designer II, Pro Tools or Session 8 to record from DAT.
- Locate the start of the sound data on the DAT tape (by listening to the tape) and record it as you would normally record it to Sound Designer II, Pro Tools or Session 8.
- If necessary, set the sample rate of the file to the correct value.
- The first 3 samples (3 left and 3 right) will be a marker that DATa uses when restoring files. Delete these samples to restore the sound data to its original form.

Troubleshooting

DATa is a fairly simple program. If trouble occurs, it will usually alert you with a beep or an error message. Here are two of the more common problems and instructions for how to handle them:

Problem: During batch backup, DATa gives you an error message “Could not complete because of a disk error”:

- Solution: Open DATa’s Preferences dialog and change the hardware/slot selection, then reset it and close Preferences.

If the problem still occurs, one of the following may be causing the trouble:

- A Disk Error message when attempting a Backup can also be caused by a corrupted Digisetup file. This file resides in the System Folder and stores the hardware settings. To resolve this, quit DATa, throw away Digisetup and empty the trash. Launch DATa, open the Preferences window, select the proper Sample Rate and Format, then try the Backup again.
- Your source hard drive may need to be optimized or reformatted/reinitialized. Consult the documentation that came with your hard drive for suggestions on hard drive maintenance.
- One (or more) of the files may be corrupted. If you suspect this but do not know which file may be corrupted, break the batch of files into two folders and try backing up each batch again. If one folder backs up successfully but the other doesn’t, look for the corrupted file in the folder that did not backup. Apply the same technique to narrow it down even further — split this folder into two folders and try to back each new folder up. Continue until you have isolated the file(s) that cannot be backed up. Try the procedure outlined in the section entitled “Recovering a File from a Corrupted DAT Tape.”

Problem: DATa beeps while backing up or restoring files:

- Try adjusting the Hard Disk Buffer Size in the Preferences dialog.