



Data Recycler Users Guide

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1 - Introduction

1.1 Welcome!

Thank you for purchasing Data Recycler!

Data Recycler is a powerful utility for Macintosh that protects you from accidental file deletion. It will protect you by:

- offering three levels of protection to ensure data remains safe
- constant monitoring of deleted files with minimal impact to the OS
- protecting files up to half the size of your drive
- saving files after computer shutdown. Files, once protected, remain protected even after computer is turned off
- giving you the option to securely delete files

1.2 Latest version of the software

Check our web site “<http://www.prosoftengineering.com>” to find out if you have the latest version of this software.

If you do not have the latest version of Data Recycler, download it from the web site using your serial number.

Note: serial numbers are compatible with all versions having the same main version number: a serial number of version 1.0.0 is useable with versions 1.0.1, 1.0.2, etc.

1.3 Installing Data Recycler

If you downloaded Data Recycler from our website, expand the .hqx file then mount the disk image. If you purchased Data Recycler on CD-ROM, insert the CD in to your computer.

To install Data Recycler, double click the DataRecycler.pkg icon and follow the onscreen prompts to install Data Recycler onto your system.

The installer will launch the application as part of the installation process. If this is the initial launch of Data Recycler, you will be prompted to enter your serial number (sent to you by email, or on a sticker on your CD).

1.4 Registering Data Recycler

You will need to register Data Recycler to unlock its full use. If this is the first time the software has been installed, a registration window will appear, as shown in Figure 1.



Figure 1 - Data Recycler Registration Window

If you have purchased a copy of Data Recycler, enter your name, organization, and serial number in the fields provided, then click <Register>. This serial number will activate all of the features of Data Recycler. Please, keep this number in a safe place (for upgrades and technical support).

If you wish only to try Data Recycler, click <Demo>. Data Recycler will run with full functionality for 30 days. After 30 days Data Recycler will stop working and you will need to purchase a full copy in order to continue using the product.

After you select either Register or Demo, the Data Recycler application launches and you are ready to begin using Data Recycler!

Data Recycler will be automatically opened at start up if:

Under Mac OS X, select the <login> feature in the <System Preferences> and drag the Data Recycler icon in the <Login items> list.

1.5 Uninstalling the Software

To remove this software from your hard disk you will need to do the following:

Run the “Data Recycler X Uninstall” application that was installed in the Data Recycler folder. This will remove the Data Recycler application and related files from your computer.

Note: Remember that if you uninstall the application, all protected files will also be permanently lost. Protected files are those that were deleted and saved by Data Recycler.

1.6 Technical support

Our technical support is free and can be accessed by e-mail, fax or phone. You must have your serial number and the software version number ready before calling.

1.7 Contact Prosoft Engineering

If you have comments about this product, problems or questions unresolved with this handbook or with our web site - or if you are interested in a site license - please contact PROSOFT ENGINEERING (specify the version and serial numbers of your copy):

- by e-mail address: support@prosofteng.com
- by phone or fax: Tel.: 925-426-6306
Fax: 925-426-6309
- by mail: PROSOFT ENGINEERING
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Pleasanton, CA 94566

2 - Starting Data Recycler

2.1 Data Recycler

After you have installed Data Recycler you are ready to protect your files from accidental file deletion.

Launch the application by double-clicking the Data Recycler icon in the <Applications> folder. The Data Recycler start screen opens, as shown in Figure 2.



Figure 2 - Data Recycler Start Screen

Click anywhere in the start screen to continue.

2.2 Administrator Authorization

Under Mac OS X, a user has limited access to the files and folders, depending on the rights granted for each file, to the user, the group or the world. When a user attempts to read or delete a file without the necessary permissions, the system will not allow the operation.

Thus, numerous files from the OS X system are protected, and are only accessible to the administrator or <root>.

Data Recycler, as any application launched by the current user, has the same limited rights as the user. Data Recycler cannot copy or move files if the user has no rights for them.

2.2.1 Activating Administrator Authorization for Data Recycler

Because Data Recycler needs access to your entire file system, you must run the application with Administrator privileges. To do this, upon starting Data Recycler, a login window will appear, as shown in Figure 2. If you do not have an administration password for your computer, please contact your system administrator to login for you.

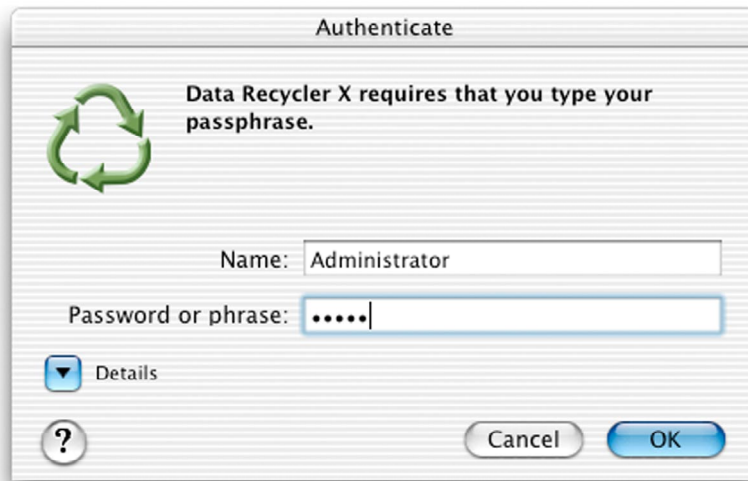


Figure 3 - Data Recycler authorization window

3 - Running Data Recycler

3.1 Main Screen

After you start Data Recycler you will be presented with the main screen. This screen includes most functions that you will need to protect your Mac from accidental file deletion.

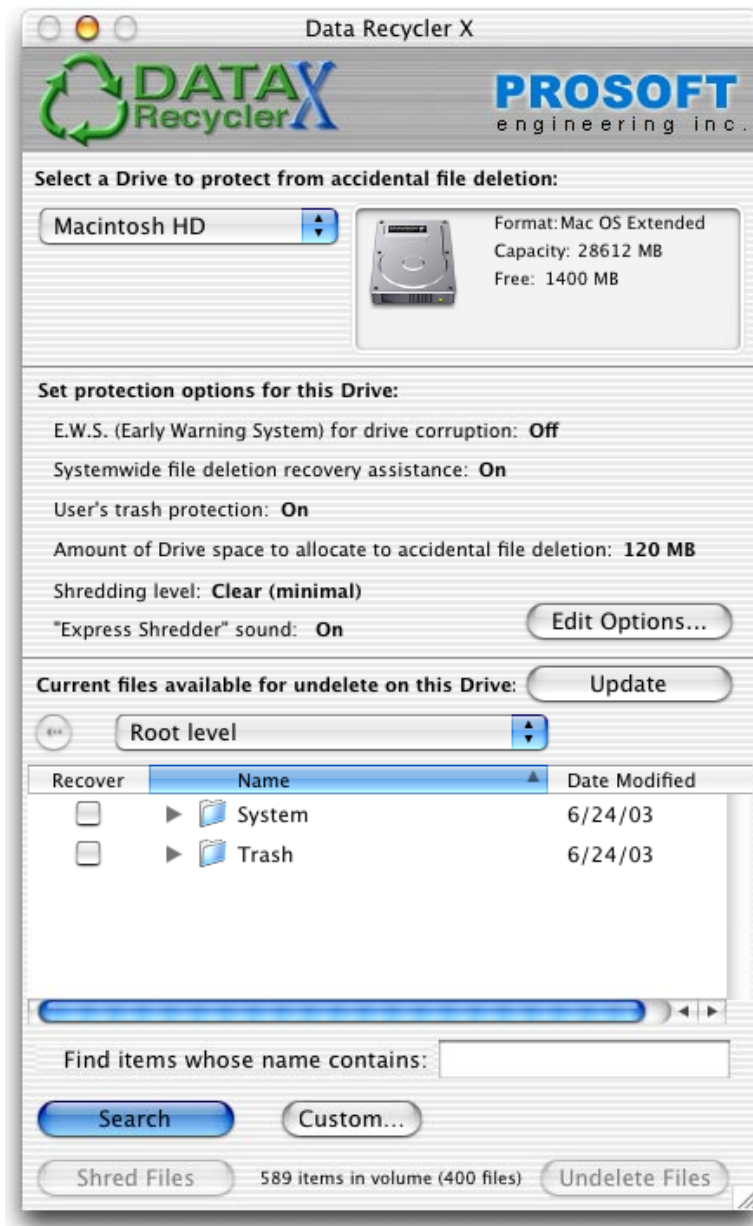


Figure 4 - Data Recycler Main Screen

3.2 Selecting a Volume to Protect

At the top of the Data Recycler main screen you will be presented with a pull down menu of currently mounted volumes that Data Recycler has found on your system. Data Recycler only supports HFS+ file systems. Only HFS+ volumes can be selected for protection, all other volumes will be grayed out.

Note: Volumes will be local to the machine, i.e. not server volumes. If volumes become available or unavailable while Data Recycler is running, the list will not refresh. You can select "Refresh Volume List" from the "File" menu to update the list.

Selecting a volume will display the protection options for that volume. E.W.S. is turned off by default. "Systemwide" and "User's trash protection" are turned on by default. The "Amount of Drive space" that is allocated by default is 10% of the currently available disk space.

Selecting a volume will also display a list populated with files *currently* contained in the "deleted item cache", if any. The "deleted item cache" is a file, which contains the data from deleted files and folders that are detected by examining the trash. Data Recycler is also able to capture files deleted from the Terminal window using the <rm> command.

3.3 Set Protection Options

The <Edit Options...> button on the main screen takes you to the dialog box that let's you turn on/off the protection options for the selected volume and set the deleted item cache size.

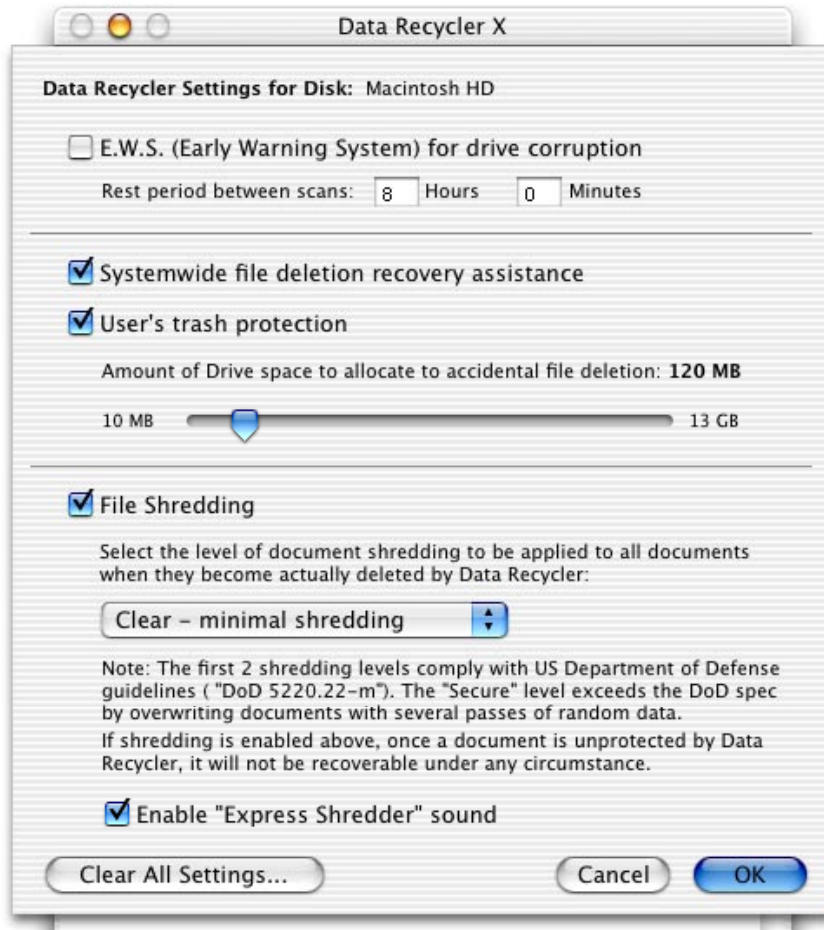


Figure 5 - Data Recycler Settings for Disk

3.3.1 E.W.S. Early Warning System for Drive corruption

Data Recycler continually monitors your drive for signs of data corruption. If corruption exists, you will be notified to take steps to protect or recover your data.

- **Rest period between scans**
This denotes the time between E.W.S. scans. If you set the time to 8 Hours 30 Minutes, Data Recycler will scan your disk for drive corruption every 8-1/2 hours then.

Data Recycler creates a scan file that can be used by Data Rescue later to recover files if corruption is found on the disk. The file will be found at “/.Data Recycler Folder/.DataRecyclerScanFile” on each volume with EWS enabled. E.W.S. is disabled by default.

3.3.2 Systemwide file deletion recovery assistance

Selecting this option will provide protection, system wide, based on the current user's account access rights. This option does not include the trashcan. The default setting for this option is "On".

See Chapter 2 for more information on user rights and access privileges.

3.3.3 Users Trash protection

Selecting this option will provide protection on the Mac trashcan in case it is emptied with important files in it. Each user has their own trashcan and their own recovery folder. The default setting for this option is "On".

3.3.4 Amount of Drive space allocated to accidental file deletion

This reserves space on the volume for the "deleted item cache", which is for archiving deleted files. It is recommended that this cache size be set to 10% of the size of your volume. The cache size defaults to 10% of your available drive space.

Once the cache size is reached, the oldest files will be flushed from the "deleted item cache" to make room for newly deleted files. If you delete a file that is larger than the cache size then that file will NOT be saved.

Note: If the size of the "deleted item cache" is changed, a warning screen will be displayed warning that the contents of any previous deleted item cache file may be erased.

3.3.5 Shredding Level

The Shredder can be enabled to securely remove unwanted files. See figure 6.

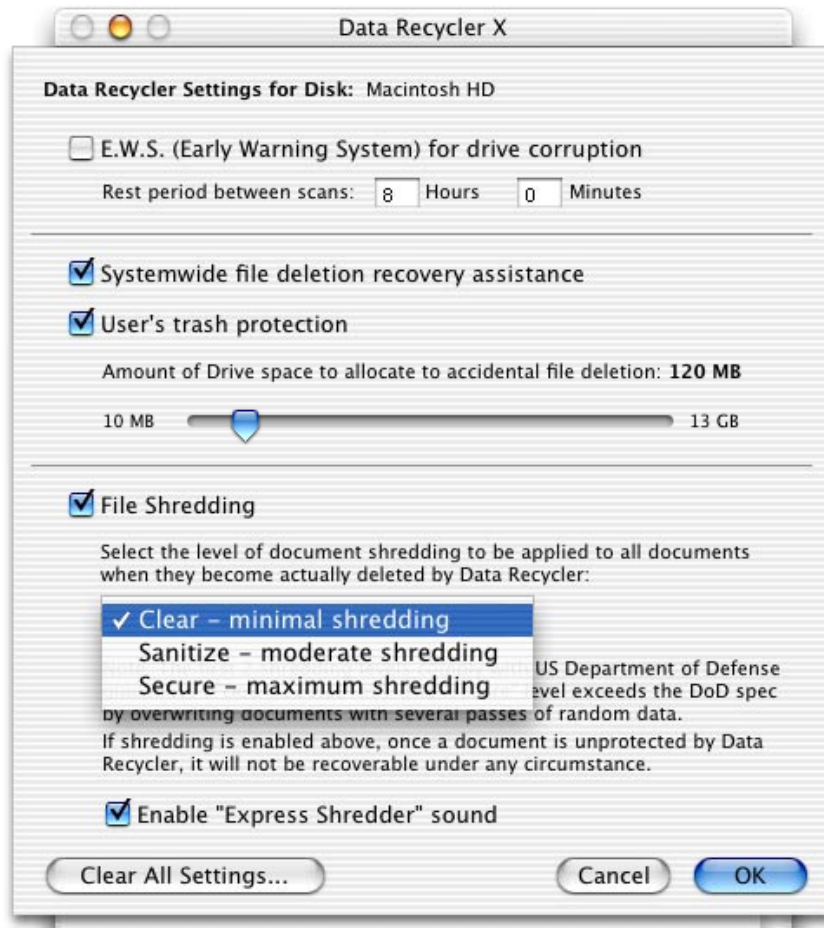


Figure 6 - Shredding Levels

Here you can select the level of shredding to be applied to files when they are permanently deleted from the Data Recycler deleted item cache. The level you select here also applies to files that are dragged to the “Data Recycler Express Shredder” icon on your Desktop.

Note: Files deleted from Data Recycler's cache and files dragged to the Desktop shredder icon will be shredded (if enabled here) and deleted immediately. They cannot be recovered under any circumstance.

There are four options for file shredding:

- No shredding: files are deleted without any shredding
- "Clear" shredding: files are overwritten with a single character
- "Sanitize" shredding: files are overwritten with a character, its complement, and then a random character.
- “Secure” shredding: files are overwritten 5 times with random data

The “Clear “ and “Sanitize” levels are for compliance with the US Department of Defense specification 5220.22-m. “Secure” shredding exceeds the requirements of this specification. The default setting for this option is “Clear – minimal shredding”.

Data Recycler also installs a “Data Recycler Express Shredder” icon on the desktop. To immediately shred documents, drag and drop them to the shredder icon. See figure 7.



Figure 7 - Data Rescue Express Shredder Icon

3.3.6 Express Shredder sound

The Express Shredder sound can be enabled or disabled here. The default is “On”.

3.3.7 Clear All Settings

Clicking this button will reset all of your configuration settings. When you deactivate all options all currently protected files are deleted immediately and will not be recoverable in the future.

3.4 Undelete and Unprotect Files

At the bottom of the Data Recycler main screen you will see a list of files and folders available to be undeleted from the selected volume.

Both files and folders will be listed in order to maintain hierarchies in case an entire folder was deleted and needs to be recovered as a group.

Files found by Data Recycler are presented in a list with their names and modification dates. You can scroll up and down this list to look for your files. As in the standard Macintosh <Open> window, you can view the contents of folders by selecting them and clicking the disclosure triangle, and you can back out of the folder by using the hierarchy pop-up menu above the list.

Additionally, you can use the **Search** button to locate files having a particular name, size, date. By default, when the **Search** button is pressed, Data Recycler searches for file names that contain the text you type into the text box next to the button. This default behavior can be modified by using the **Custom...** button. For instance, if you are looking for files that were modified since August 1, 1998, click the **Custom...** button and then set the **Find** menu to **Date** \geq and enter 8/1/98 in the **Find** box. Then click **OK** and then **Search** in Data Recycler’s main window. Data Recycler will jump to the folder containing the matching items. If several folders contain matching items, use the **Next** and **Previous** buttons to move to other folders.

There is a possibility that recently deleted files have not yet been detected by the Data Recycler, and therefore have not been added to the “deleted item cache”. The <Update> button will scan for very recently deleted files, updating the “deleted item cache” file list.

3.4.1 Unprotect or Shred Files

You can choose which files found in the “deleted item cache” are to be permanently deleted. Once unprotected these files or folders will be permanently removed from the system. The screen will display a <Shred Files> button if shredding is enabled, or <Unprotect Files> if it is not.

Instructions:

1. Select the files or folders you wish to unprotect by selecting the checkbox, next to each file or folder, in the Recover Files volume.
2. Select the <Unprotect Files> or <Shred Files> button to remove the selected items from the “deleted item cache”. This will create space for additional items.

Note: If this option is selected, a warning screen will be displayed warning that the action is not reversible and that these files or folders will be permanently deleted.

3.4.2 Undelete Files

You can choose which files found in the “deleted item cache” are to be restored.

Instructions:

1. Select the files or folders you wish to undelete by selecting the checkbox, next to each file, in the Recover Files volume.
2. Select the <Undelete Files> button to restore the selected items.
3. Enter the location where you want to save your files to.

Note: If you undelete files to an area that requires Administrator privileges, and you are not logged as System Admin, you will not be able to remove the <Undeleted...> folder that is created.

4 – Using Data Recycler Express Shredder

When you install Data Recycler, it will place a “Data Recycler Express Shredder” icon on your desktop. See Figure 7. The Express Shredder can be used to securely remove files by simply dragging and dropping them onto the icon.

Note: Files dragged to the Desktop shredder icon will be shredded (if shredding is enabled) and deleted immediately. They cannot be recovered under any circumstance.

The shredding level is set on a per volume basis, and is dependent on the settings for the drive on which the file resides.

5 - Glossary

File type: Associated with every file on a Macintosh is a four-letter code that specifies the type of file it is (e.g. ‘TEXT’ denotes a text file, ‘APPL’ denotes an application). On many other operating systems, the file type is part of the name; it is usually a three-letter code following a period (e.g. myfile.txt or letter.doc). On the Mac, this code is hidden from the user but serves the same purpose: to identify the kind of file. It uses the file type, along with the Creator type (see below) to determine the icon to display for a given file.

HFS, HFS+: This stands for “Hierarchical File System” and “Hierarchical File System – Plus”. These are the names of Apple’s proprietary File system layout for Mac OS computers. The newer, HFS+ system affords greater file and disk capacities, as well as performance improvements over that of the older HFS architecture. HFS+ was released with Apple’s 8.1 operating system and is designed to supersede HFS. All Mac OS versions from 8.1 Classic through OS X 10.x support both HFS and HFS+.

Remote volume: A remote volume is a volume that is not directly connected to your computer. Typically a remote volume is a file server. If your Macintosh is not connected to a computer network (e.g. at your company), you probably don’t have access to any remote volumes.