DataRescue

PhotoRescue Manual

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Since you are looking at this guide, you probably have lost pictures you care about. Our aim, with this guide, is to help you recover them. If you aren't an experienced computer user, please take the time read this guide.

First things first

What you should **never** do: **never write** to the card or media where the lost pictures are supposed to be. Overwritten pictures can not be recovered by any means, at any price. Do not attempt to reuse the card containing lost data. Do not reinstall an operating system onto a crashed drive.

What you should **always** do: **check that your hardware works and is correctly connected to your computer**. Quite often, problems can be solved by unplugging your card reader or camera, rebooting the computer and connecting the card reader or camera again. If you own several cards, test your setup with a card known to be good.

PhotoRescue

If you still can't access your pictures, it is time try PhotoRescue. PhotoRescue is a data-recovery application, optimized for digital images recovery. Trying PhotoRescue is totally safe as it does not write to the target media.

PhotoRescue is available in two versions, both available for Windows and for Mac OS X. The **Wizard version** is the easiest to use: in most cases, it will detect the media and recover pictures with minimum intervention. This is the one you should use if you aren't very knowledgeable about computers. The **Expert version** is a bit harder to use, but slightly more powerful. This is the one you should use if you are an experienced computer user or, if the Wizard version fails to recover your pictures.

Both versions of PhotoRescue offer a **"what you see is what you get"** warranty: each and every valid thumbnail shown by PhotoRescue is recoverable at full size.

Table of Contents

Using PhotoRescue Wizard

[Download PhotoRescue Wizard for PC](#) (requires an active Internet connection)
[Download PhotoRescue Wizard for Mac OS X](#) (requires an active Internet connection)

Make sure the card you want to recover from is properly inserted in the card reader and that the card reader is properly connected to your computer. Recovering directly from some cameras is possible but we do not encourage you to do so: we do recommend that you use a card reader.

Start PhotoRescue Wizard by double clicking on its icon. PhotoRescue Wizard appears. You may now choose to continue in advanced mode but, at this stage, simply click next.
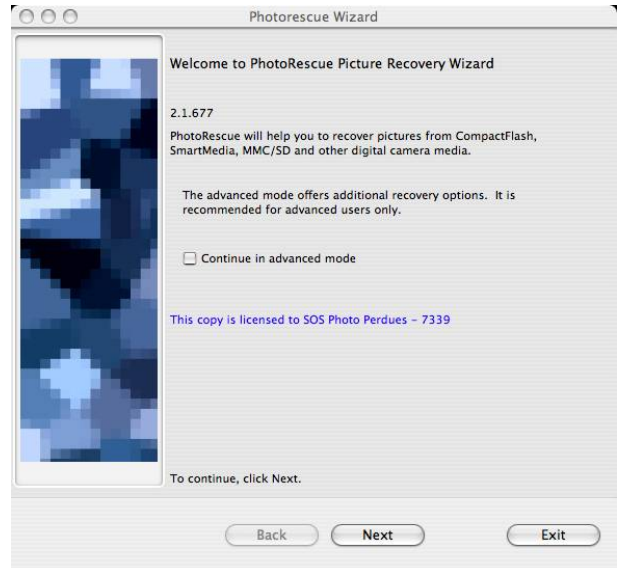
The wizard will now ask you to select a card to recover from, as shown in the screen capture below.
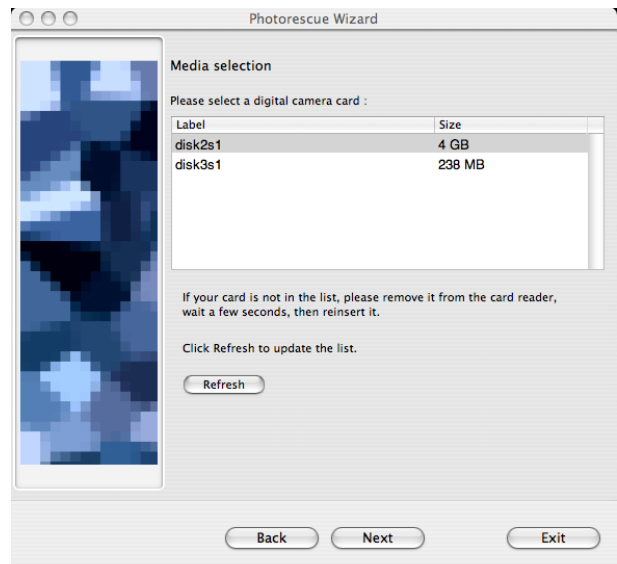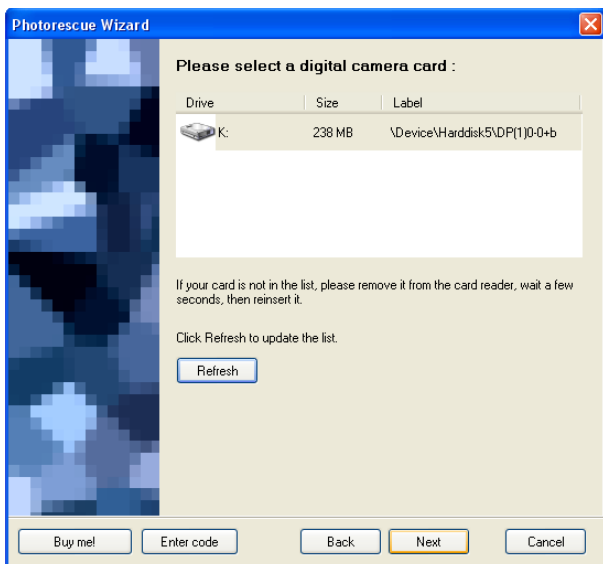
If no card is visible

– Check that your card is properly inserted in your card reader.
– Check that the card reader is properly connected to the computer.
– Click the refresh button.

If the above doesn't work,

– check with a card known to be in good state
– reboot your computer, reconnect the card reader and try again.

> **Recovering directly from the camera?**
>
> Recovering directly from the camera may be possible if the camera fully supports the "USB Mass Storage" protocol. This is often the case for recent Sony or Nikon cameras. At the time this guide is written, this is never the case with Canon cameras. Since there is no easy way for a non-technical person to know for sure which protocol the camera uses to communicate with the computer, we recommend that you use a card reader for the recovery. Card readers are cheap, quick, and don't rely on batteries to do their job. Canon camera owners will ALWAYS need a card reader to recover erased pictures.

If several cards or device appear in the drive selection box, select the card or device whose displayed size matches (or is close to) the size written on the card's package. In the example below, a 256MB memory stick and a 4GB compact flash are simultaneously inserted in the card reader. We want to recover from the memory stick. We select the 238MB card, which is actually the 256 MB memory stick. We could of course have selected the 4GB card if we had wanted to recover from it.
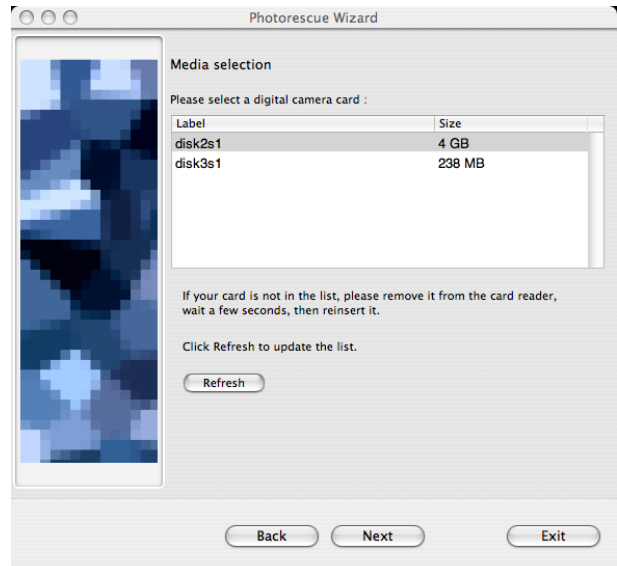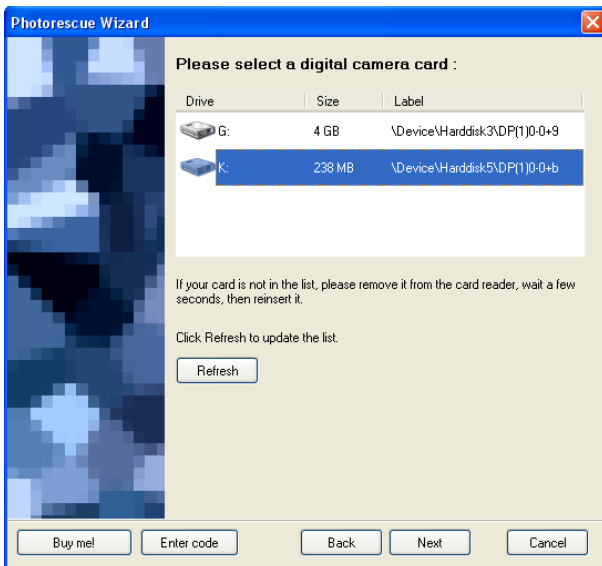

> **Why may drive size differ?**
> Manufacturers use different methods for defining the size of the hard drives.
> Some of them define 1KB as 1024 bytes, other use 1KB as 1000 bytes.

The recovery

The recovery begins. After a few minutes or possibly faster, recovered pictures should begin to appear in the recovery window of the PC version only. The Mac OS X version will simply display a progress bar. Rest assured that difference doesn't have any impact on the recovery rate.
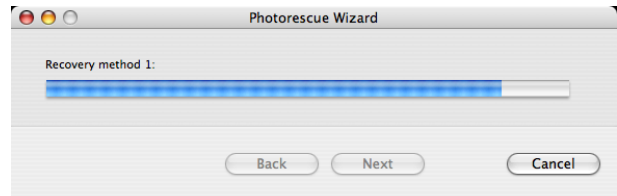
How long should a recovery last?

This depends on the size of the card, the speed of the card reader (USB, USB 2.0, Firewire), the speed and the amount of free memory of the computer used for the recovery. In most cases, the recovery process will take a few minutes. In the worst case, a very large card on a small computer, it could take up to an hour. Any overly long recovery may indicate a physical problem with the card.

The erased pictures have now been recovered. By default, they are preselected and ready to be saved. If you aren't interested in all the pictures shown, just de-select the ones you aren't interested in.
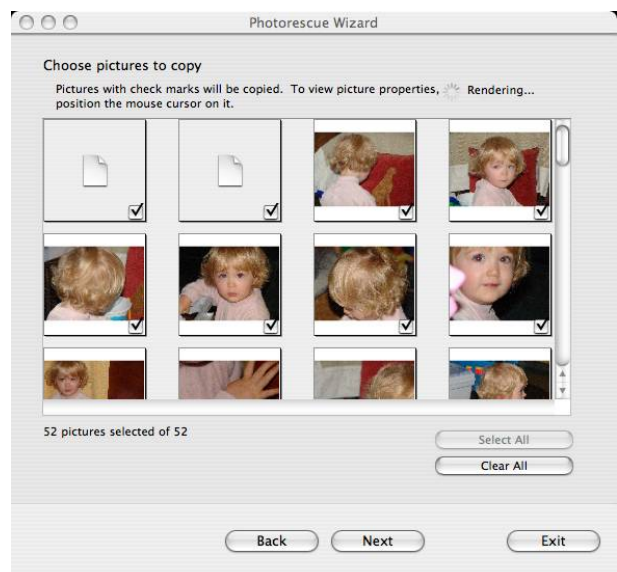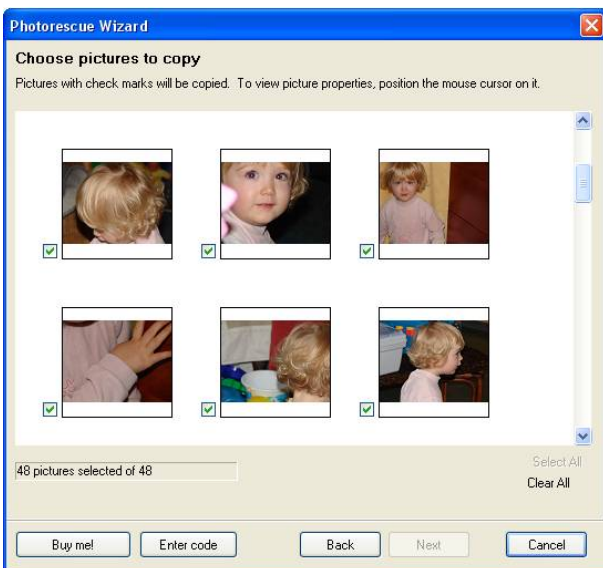
Registering PhotoRescue Wizard

If you are satisfied with the result of the recovery, click on the "Buy Me" button. After your order is successfully processed – it usually takes no more than a few minutes – an activation code will be sent to you by e-mail. Click "Enter Code" and simply copy&paste the code into the registration Window. Please note that the code given below is not an actual activation code but just an example

You will then be allowed to proceed and save the file to the folder of your choice. Accepting the default folder should be acceptable on most systems. If you decide to save your pictures under another name or into another folder, make sure you don't forget the new name or location!
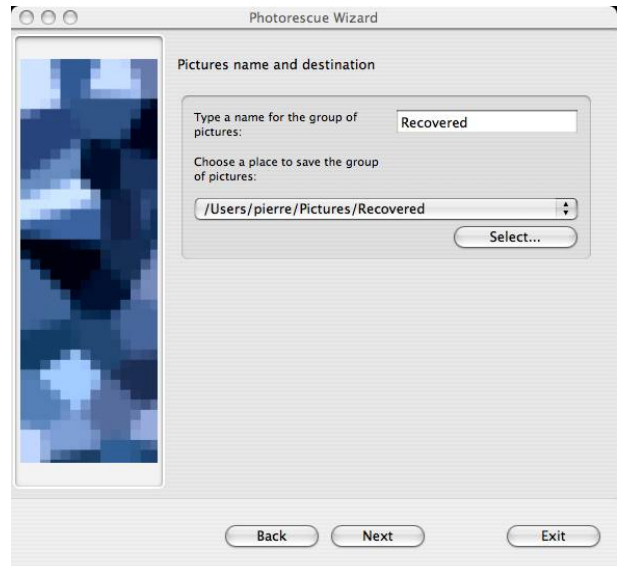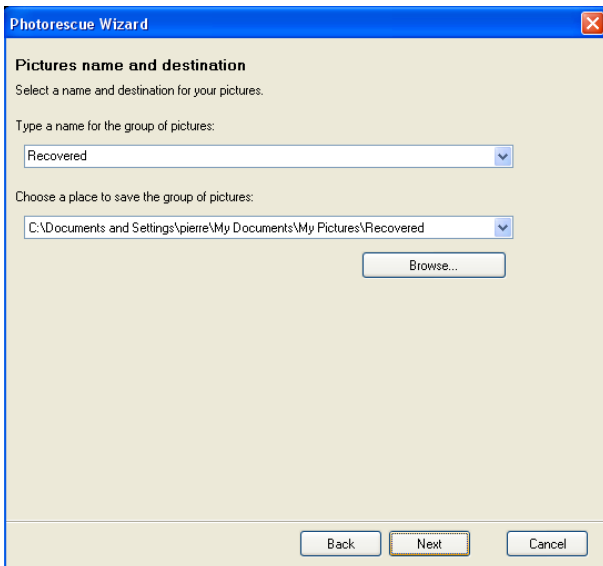
Finally, PhotoRescue will offer to open the folder where the pictures have been recovered.
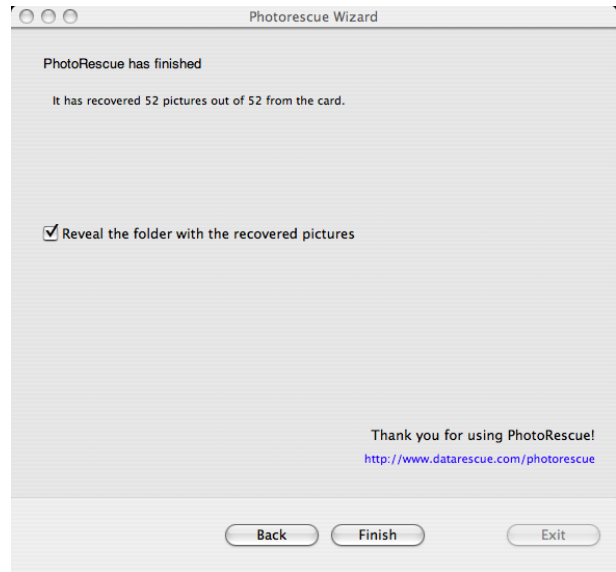
If PhotoRescue Wizard fails to show your card or drive or fails to recover your pictures, **please try PhotoRescue Expert.**

Contacting Support

We respond to all queries within 24 hours, usually much faster. Contact support@datarescue.com or use our support board if you have any questions. If the question is about a registered version of PhotoRescue Wizard, please don't forget to provide your order number.

Using PhotoRescue Expert

[Download PhotoRescue Expert for Windows](#) (requires an active Internet Connection)
[Download PhotoRescue Expert for Mac OS X](#) (requires an active Internet Connection)

PhotoRescue Expert is intended for the experienced computer user: while it gives more control over the recovery process, it also requires some familiarity with the notion of drives, devices and their underlying physical reality. The initial dialog allows you to configure the recovery

The initial dialog
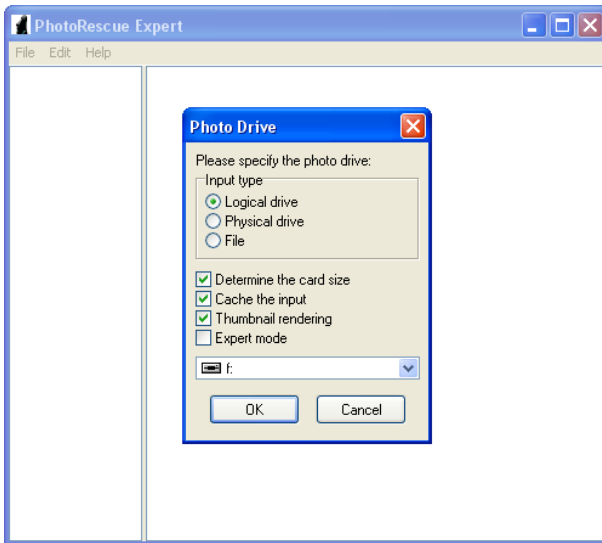
Logical drives are the drives that have been allocated drive letters (PC) or the ones that are actually mounted (Mac). This is typically what you will choose when pictures have been erased by mistake but the card structure is known to be good.

Physical drives are the underlying raw devices underlying the logical drives. This is typically what you will choose when the card can not be accessed anymore or is not visible at all on your desktop. A card whose logical structure has been damaged can often be accessed in that mode even though it is not mounted by the computer.
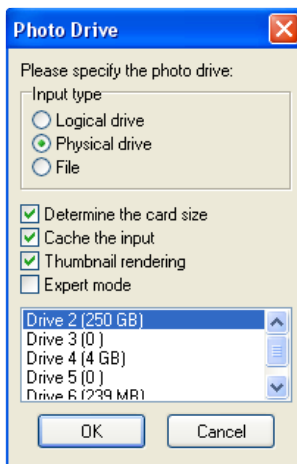
The dialog box shows what a typical "Physical Drive" selection looks like. The 250GB drive 2 is an external hard drive. The 4GB drive 4 is a 4GB compact-flash card and the 239MB drive 6 is a 256MB memory stick connected through an external USB card reader. Please note that the system drive is excluded from that listing. We do not support recovering from a system drive when the system is booted from it. System drives are the subject of constant read/write operations that make it unsafe for recovery. Further, if we allowed recovery from the system drive, the inattentive owner of a

single drive system could attempt to recover from and to the same drive, a very dangerous option.

File refers to backup files created by PhotoRescue. In complex recoveries, where the card is about to fail, it is a good idea to work from a backup rather than work from the card itself. Backup files are created by the PhotoRescue demo at the end of its run, by default under the card_image.cib name. Backups can be created manually, with the **Duplicate the Card** function of the File Menu.

Determine the card size: if this option is checked, PhotoRescue will attempt to determine the card or drive size automatically. This option should be on by default, and only deactivated if PhotoRescue locks up determining the size of a damaged card.

Cache the Input: this option will speed up the recovery if and only if your computer has enough memory. PhotoRescue will auto-detect this setting. Feel free to deactivate it if your computer becomes unresponsive during the recovery or if PhotoRescue allocates too much memory.

Thumbnail Rendering: PhotoRescue renders its own thumbnails on the fly, from the actual picture data. While this ensures that the preview accurately represents what will be recovered (see the "lying thumbnails" item in our FAQ or on our website), this is also a bit slower: you may want to deactivate the rendering option if you are in a hurry and don't want to select the pictures to be recovered. Another situation where disabling this option can be useful is when a picture is so subtly corrupted that it crashes the renderer. PhotoRescue attempts to validate the pictures it recovers but the validation will not always be 100% accurate. The Apple QuickTime renderer is some times a bit temperamental when it is confronted to a corrupted picture: deactivating this option might help if the Mac OS X program suddenly exits while rendering thumbnails.

Graph the Input: this option is available on PC only. Its purpose is only to give some visual feedback on the nature of the damage and assess, for example, whether an address line or a complete card bank is defective. This option may disappear in future versions as the design of cards evolve.

Reconstruct: this option is only available on PC. Its purpose is to rebuild a picture that can be displayed by PhotoRescue but can't be loaded by a graphic editing program because it suffers from minor corruption. The jpeg library used by PhotoRescue is slightly more error resistant and can handle and eventually fix some minor problems with the file. Reconstructing a file will lose its EXIF header.

Expert Mode

Expert Mode: switches the recovery into expert mode.
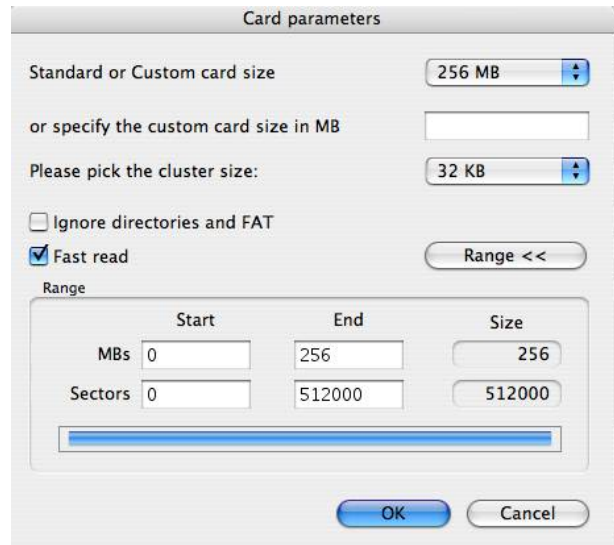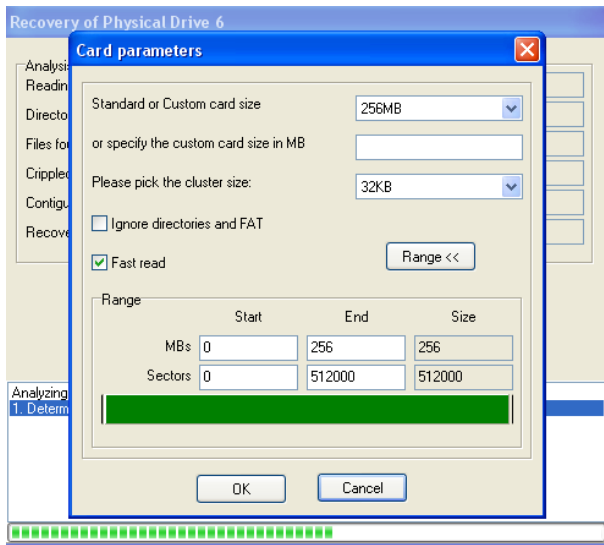
Standard or Custom Card size: allows the user to force a specific card size for the recovery.

Cluster Size: the cluster size is the size of the basic allocation unit. This depends on the size of the card and the file system it uses. Use this setting only if you know what you are doing: for example, a FAT 32 card containing data that was wrongly formatted in FAT 16 might require some manual tweaking.

> Important note about card sizes and cluster sizes
> If you are prompted for a card and a cluster size, or if you are seeing a message telling you that the card size and cluster size don't match, either
> – You are selecting a wrong drive, for example an empty slot of your card reader!
> – You are attempting to force incompatible parameters.
> – The card is physically defective and is returning bogus data or no data at all.

Ignore directories and FAT: that option can be used if your card/drive was "fixed" by a data-recovery program that writes to the damaged disk (typically checkdisk). If it is selected, PhotoRescue will ignore seemingly accurate file system information and/or the bogus files that were created by the recovery program.

Fast Read: by default, PhotoRescue uses the fastest method possible to read the card. That may not be optimal if the card is damaged. Deactivating "fast read" will give time to slow responding cards to keep up with PhotoRescue. Of course, the recovery will then be much slower.

**Intervals – Range**: if a card is partially unreadable, data might still be recovered from some of its parts. In some situations, you will notice that the card locks up when PhotoRescue reaches a certain location. The trick is to first define a range that stops before the problematic area is hit and to recover from that area first. Then, try to skip over the locking area by defining a new range that begins further.

The recovery process
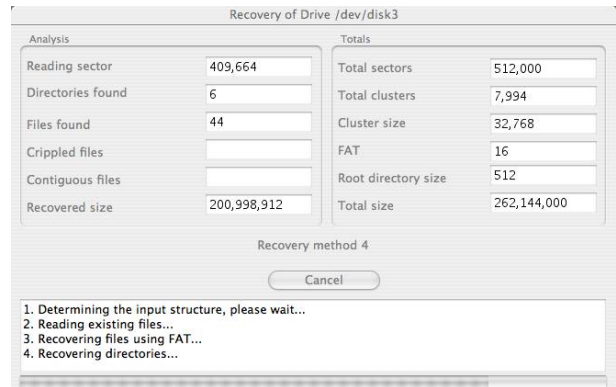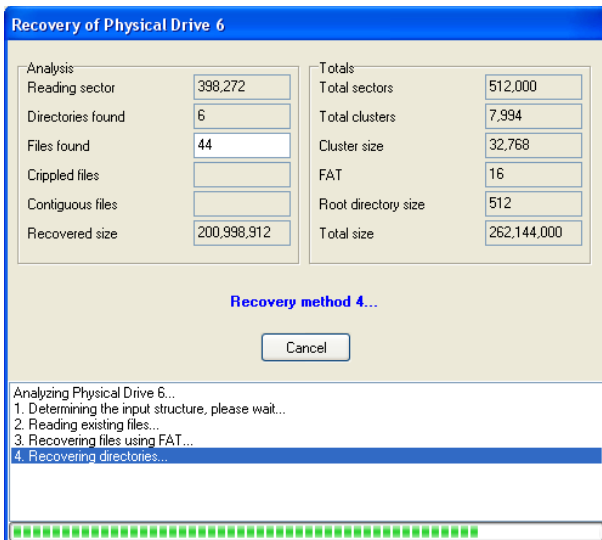
The recovery process window provides information that may help an advanced user define means to improve the recovery. For example, the "**Reading Sector**" field can be useful in finding out where a lockup occurs and help define useful parameters for the previously described "Range" option.

The end of the recovery
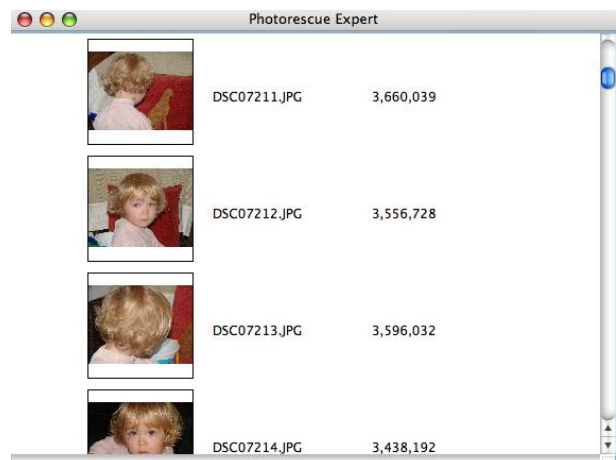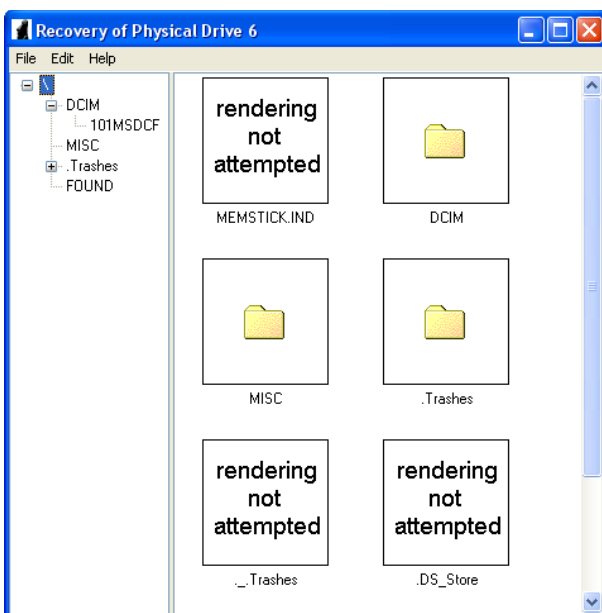
At the end of the recovery, a virtual view of the card will be shown. Remember that, since PhotoRescue doesn't write to the card, this view is totally virtual: pictures have to be saved elsewhere to be used. **Rendering not attempted** means that the file in question aren't pictures: no attempt were made to render them. **Rendering failed** means that although PhotoRescue believes it has found a graphic file, it couldn't be rendered: the file is probably corrupted beyond recovery. The DCIM folder is the normal Sony folder: it contains the pictures that were not erased, the FOUND folder contains the erased pictures that were recovered. **Embedded Thumbnail Ignored** means

PhotoRescue Wizard and Expert Manual   11

that the picture found is too small to be a realistic full size picture and is probably a thumbnail.10

The FOUND folder
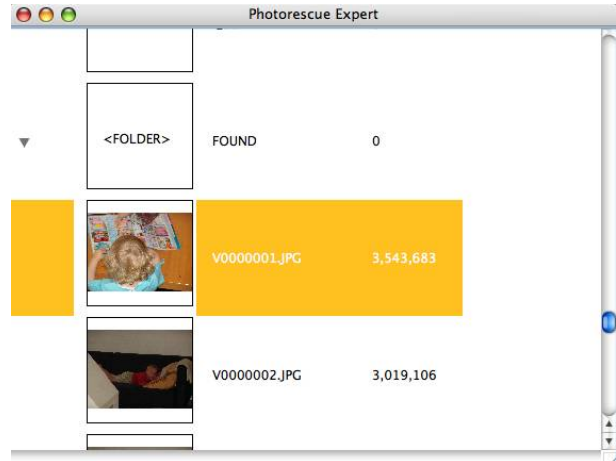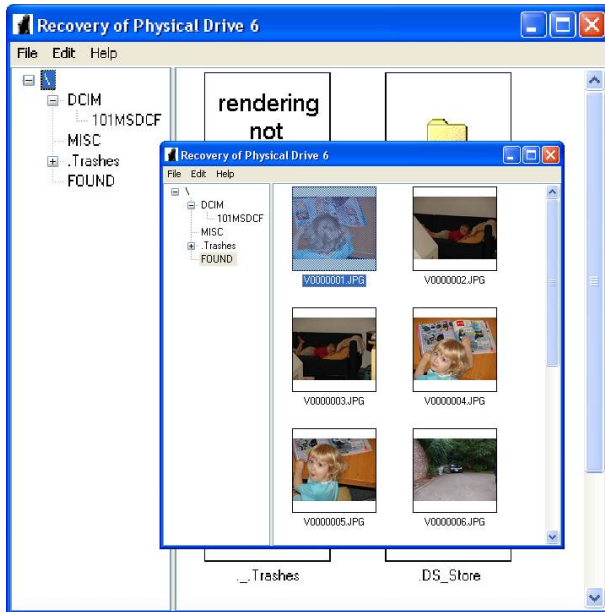
You may now freely navigate the found folder and save all or some of the recovered pictures.

PhotoRescue Expert will usually ask you if you are satisfied with the recovery result and, if you are not, will offer to run with a different set of default parameters. Do not hesitate trying that option if you are unhappy with the recovery result.

The Demo version will offer to create a backup of the card being recovered. We strongly recommend that you accept that suggestion. Not only does it provide additional safety if the card fails further, but it also provides valuable insight should you need to contact technical support.

Registering PhotoRescue Expert.

Saving the recovered pictures requires a registered version of PhotoRescue Expert. Unlike PhotoRescue Wizard, PhotoRescue Expert can't be activated with a registration code. What you'll receive, approximately 10 minutes after your order goes through, is a full, pre-registered, non-expiring, version of PhotoRescue Expert.

Contacting Support

We respond to all queries within 24 hours, usually much faster. Contact support@datarescue.com or use our support board if you have any questions. If the question is about a registered version of PhotoRescue Expert, please don't forget to provide your order number.

Frequently asked questions

Is PhotoRescue single use?
Whereas some of our competitors allow only a single use of their data-recovery product, PhotoRescue Expert and the activation code of PhotoRescue Wizard aren't limited in any way. Feel free to use them as many times as you need to. Further, we do offer free upgrades for a year after the initial purchase. See our upgrade page to obtain the latest version of PhotoRescue Expert or simply download and reactivate the demo version of PhotoRescue Wizard.

What are the differences between the Wizard and Expert version of PhotoRescue?
The full, up-to-date, list of differences between PhotoRescue Wizard and PhotoRescue Expert is visible on our web site.

Will my pictures be usable full size?
Yes, all the pictures shown by PhotoRescue as valid thumbnails will be recovered as they were shot, and usable at full size for printing, editing etc... In particular, the EXIF header will not be touched. We only guarantee thumbnails shown by PhotoRescue as the system or camera thumbnails aren't necessarily accurate.

Will the original names and date of the picture be preserved?
PhotoRescue will do its best to recover the original directory entry of the picture being recovered. However, in some cases, data is lost precisely because the filename and directory entry are corrupted: if that is the case, PhotoRescue will assign new names to the pictures. However, this does not matter much as all the original picture information (date, time, exposure information, etc... etc...) will still be available in the EXIF header created by the camera.

But I can see my thumbnails!
Often, the thumbnails shown by the operating system or on the camera monitor will be accurate and but the full size picture will be damaged. This confusing situation happens because the original thumbnails are embedded into the picture when it is taken (and obviously intact at that point). When corruption occurs, it is much more likely to hit the body of the picture which is much bigger than the thumbnail. One ends up with corrupted pictures showing a valid thumbnail, as situation that can be misleading. PhotoRescue generates its own thumbnail, on the fly, during the recovery. Therefore PhotoRescue thumbnails always show an accurate picture of the situation. More details about that issue are available here

PhotoRescue locks up – what should I do?
PhotoRescue will attempt to recover data from physically damaged or unresponsive cards. Unfortunately, hitting a non-responsive area can lead to a computer lock up as the card driver waits, forever, for the card response. In that situation, we suggest you attempt to determine where the problem occurs by watching the Expert version status window and then exclude the problematic area from the scan using the Expert version's range sliders.

Are some cards better than others?
Yes, definitely. However, it is unfortunately almost impossible to tell if a card is good without opening them. We suggest you stick to well known brands, and pay attention to the warranty offered by the manufacturer.

Preventive tips

Do not play with fire! Most flash card failures are very sudden. If you experience problems with a card such as random camera lockups, or random file corruption, do not hesitate returning the card. Most manufacturers offer a "lifetime" warranty. Take advantage of it!

Do not fill cards 100% We have seen quite a few situations where taking the last picture led to some corruption. There are several reasons to that. The camera may have underestimated the size of that last picture and could run out of space. Some cameras had a firmware bug that would cause them to wrap their writes around and erase the beginning of the card in such circumstances. Last but not least, the last sectors of a card might be slightly unreliable.

Do not edit pictures on the card. Edited pictures may take a bit less or a lot more space on the card. They may be saved in a format that is unrecognized by the camera. Editing pictures will increase fragmentation.

Format your cards regularly. While formatting usually (Olympus and Fuji cameras are an exception) does not erase data from the card, it allows you to start each session in a clean known state and minimizes the impact of fragmentation. Formatting in the camera or on your computer is, in theory, identical. However, if you are not a familiar with the different types of file systems, you might choose the wrong one on your computer: that is why we recommend "in-camera" format over "in-computer" format.

Verify your transfers. Copying pictures to a computer is not always successful. Check that the files were copied correctly to the computer and are usable at full size before reusing the card.

Do not reuse cards before you are sure. Make sure all your pictures are safe before shooting again on a new card. While PhotoRescue may sometime show very old pictures and give the impression it went back in time, there is no way to recover a file that has been overwritten by another one.

Make sure your firmwares are up to date. Digital cameras and media cards contain their own firmware. They are, in fact, small computers running normal computer programs. Bugs do happen. Incompatibilities do arise, especially when pushing the edge of performance. Manufacturers release firmware upgrade from time to time: keep an eye on them.

Do not swap cards in and out of cameras before the data has been fully written to the card. If you realize you may have swapped your cards too quickly, do not reuse the card in question before you have saved the pictures it contains. A card that has been removed before writes were completed may contain bogus directory information that could compromise the next pictures. Likewise, do not swap cards in and out of your card readers without being sure all the writes have been completed. "Eject" cards properly if your operating systems requires you to do so.

Do not shoot when you are almost out of battery. One of the worst thing that can happen is to have your camera run out of battery as it writes to a critical card area. Try to avoid getting that last drop out of your battery.