Help on Backer 3.0

1. Introduction

1.1. Purpose of program

Backer is a Windows 95 utility for

• Synchronizing,
• Updating and
• Archiving

directories and files via

• Network,
• Cable,
• Infrared,
• Disk or
• Other media (Zip, Jaz etc.).

Backer keeps all your computers and disks up-to-date.

With Backer you can:

• Synchronize your notebook before you travel and your desktop afterwards;

- Synchronize files within a work team;
- Transfer files between your office and your home;
- Backup your day's or week's work;
- Keep current copies of system files on disk to be prepared for a crash;
- And many things more.

Features of Backer:

• Convenient setup • Uses file creation / modification dates to compare • Interactive selection of includ
types• Several options for sorting, confirmation, filtering and cleaning-up • Fast access to stored config
log of all actions • Can process unlimited quantities of data • Writes standard MS-DOS files - readable
without special software • Comprehensive online help with many examples • Ready-to-print manual in

Backer is indispensable for...

- Everyone who works on more than one computer;
- Those who do not want the cost and hassle of large programs just to backup 20 files a week;
- Everyone who would suffer economic damage by a data loss;
- Network administrators who want a simple yet powerful backup tool on everybody's PC;
- Backups and mirrors of network servers.

1.2. Installation

Backer runs on any computer that runs Windows 95 or Windows NT.

If you received this software in a compressed state, decompress it first. For installation start *Setup.exe*

Backer consists of:

- *Backer32.exe* Executable file
- *Backer32.dll*   Accompanying library
- *Backer32.hlp* Online help
- *Backer32.cnt* Contents of online help
- *Backer32.rtf*   The essentials of the documentation in shortened form
- *System.bac*   Example file: Backing up system files to disk
- *Desktop.bac*   Example file: Backing up your personal Desktop to disk
- *TmpBak.bac*   Example file: Removing unnecessary files from your hard disk

Depending on your source of supply you will find additional files. At least Backer32.exe and Backer32.

1.3. Deinstallation

Backer can be deinstalled by the Control Panel of Windows 95, symbol "Software".

Afterwards you have to manually delete the file *Backer32.ini* in your Windows directory (usually C:\Win

2. What you have to know

2.1. Before you get started

Important hints

• Since Backer works with your valuable data, please take the time to familiarize yourself with its opera
  with it.

• Files erased by Backer <u>cannot</u> be restored from the Windows 95 Recycle Bin.

• For optimal use knowledge of some basic terms is required.

• Answers to frequently asked questions can be found with the button *Problems?* above.

2.2. Mode of operation

Backer compares two different versions of one and the same file by the date-time stamp. This stamp is
updated to the present date and the present time each time a file is modified.

The date-time stamp of a file is modified *only if you, the user, demand this by giving your application a
document*, but remain untouched when copying or moving it. You see: It is you, not the computer, who
make it a very reliable criterion of newer file versions. A non-existing version of a file is considered 'infin

Caution!
If the clock in one of your computers is inoperative, the stamp used by this computer will be incorrect. T
computers with inoperative clocks.

2.3. Typical uses

The capability to compare date-time stamps allows a variety of uses:

• You can synchronize the data on two computers, that is bring them to the same state.
  The newer version replaces the older one, and files not present on one machine are
  added. Synchronizing can work in only one direction or in both. This is useful for
  example between a notebook and a desktop system or among network computers. If
  the computers are not connected directly files can be transferred with the help of a
  disk.

• You can backup important documents to disk in case they accidentally get deleted from the hard disk
  individual configurations for different projects or applications to divide data volumes down so that eac

• If a data loss really has occured you can restore your documents from disk. Backer can handle both o
  you can proceed just like before with the backup.

- You can backup system files to disk so that you can restore these important files any time your compu

- And last but not least you can compare directory trees in general, even without any kind of updating, general search tool.

As mentioned, you can configure Backer for any need and store this configuration so that you can get

2.4. Differences to other backup software

The archive bit

Other backup utilities check a file's so-called archive bit to decide whether it has already been backupe that multiple backups of the same data are not possible. Neither is it feasible that way to synchronize t comparison to the data in the destination. Backer's date-time comparison is just as reliable, but more fl

Compression

Commercial backup programs often advertise high transfer rates and good compression. However, this cooperation with other computers. Usually these backups can only be read by the program that create DOS files that can be read on almost any computer in the world.

Large data volumes

Some products set a fixed upper limit to the number of files to be processed. Backer, in comparison, is (RAM), thus being very powerful with larger data volumes.

Please also read the comment on My Briefcase.

2.5. Multiple disks in a backup

If you want to backup a complete hard disk to Zip disks you will certainly need more than 1 Zip disk for only partially.

The mode of operation described requires that the whole data volumes of source and destination are a possible with multiple disks. Programs that offer backups to multiple disks use the archive bit instead c comparisons.

But...
If you do backups into an empty directory (for example with the destinations changing daily) or onto an compare and you can work across multiple disks. When the Interruption appears with the message "Lo disk and press `Retry`.

There is no reason to backup a complete hard disk! Just compare how little space all the documents y much space the word processor itself, which you have on CD-ROM anyway. Why lug two thirds of balla the data created by yourself a single disk will do. Handling mutliple disks is always impractical - the bet data volume or buy a larger backup medium. Storing a 2 GB hard disk on Zip disks is neither a cheap reasonable time.

In the chapter "Examples" you will find procedures how to steer clear of the obstacles of multiple disks

2.6. My Briefcase

Have you tried My Briefcase? It is supposed to synchronize your data, just like Backer.

My Briefcase makes a copy of each file to be updated in the directory *C:\Windows\Desktop\My Briefca*
specify). It does not compare two copies of a file directly but only via this unnecessary third copy. That
trees is impossible. The idea behind My Briefcase is that you work with the file copies inside it when yo
briefcase. The disadvantage is that you have to rip files out of their original directory structures. Backe
directories, without a third copy.

2.7. Connecting to computers and drives

Windows 95 offers numerous ways to connect computers and drives to each other: Networks, serial or
add-on drives like Zip or Jaz. The technical details are shielded from the user to insure the most unifor

To put it another way: Windows 95 shows you all available mass storage devices through drive letters
physically (a floppy disk, a hard disk or a CD-ROM, in your own or another machine) and how you are
matter - you only want access to their files and directories. Backer also uses this simplification.

You can learn more about using the Direct Cable Connection in the chapter "Making work easier".

2.8. Workfiles

A workfile tells Backer what to do. It contains the source directories and files to be processed, the dest
options you selected. To put it shortly: It knows everything about your updates or backups.

The filename extension is *.bac*. This extension identifies a workfile in the command line or at Drag and
automatically.

2.9. Drives, files, directories, paths, folders

You should be proficient with these terms and objects to get the most out of Backer.

Drives
are anything that hides behind a letter with trailing colon. Typical examples are A: for the first floppy dis
hard disk drive, D: for a CD-ROM drive or a second hard disk drive. Basically anything from D: can be
ROM drives, removable media drives, Direct Cable Connections etc. It is the task of your operating sys

Files
are, from a user's point of view, the basic storage element on a drive. If you write a letter in your word p
95 will create a file on the drive you specify. Images, applications, spreadsheets, sounds, videos and s
the possibility to bundle several of these together into a single new file, often called an archive (this cap
itself).

A file has a filename and a filename extension, often also called type. Both are separated by a period. was limited to 8 characters for the filename and 3 characters for the filename extension. A file can be n

Directories
put files together in groups. Windows 95 allows hierarchical directories, that is you can set up subdirec This simplifies the overview considerably. The best example is the Windows directory that in turn conta everything Windows needs to function is gathered there.
Directories and subdirectories are lined up one after the other, separated by a backslash, to build paths

Paths
tell the way along which a file can be found on the whole computer (including all drives connected to it Connection). A path consists of lined up directory names. A drive letter with a colon can be in front.
Backer adds, other than Windows 95 itself, an extra backslash to the end of a path to achieve a clear v
Backer\Test is a path, *C:\Backer\Test* is a file with path.
In practice directories are synonymous to paths without drive letters, since a directory name alone is n

Folders
Windows 95 names directories folders and files partly documents. Strictly speaking, folder is a more ge cannot only contain files but also any other object. An example are the folders for fonts or printers. Bac sense and therefore names directories still directories.

Example
For the file *C:\Test\Backer\Backer.hlp* the path is *C:\Test\Backer*,, the filename *Backer* and the filenam and the directory *\Test\Backer*.
The file *A:\Test\Backer\Backer.hlp* matches in directory, filename and filename extension but has a dif

2.10. Long filenames

Windows 95 allows file and directory names of up to 255 characters, including spaces and other specia limitation. As a true 32 bit application Backer works with the long filenames. However, they contain son

In order to let 16 bit programs access files with long filenames Windows 95 creates a short name follow preserving the first six characters of the long name and adding a tilde ~ as well as a digit. The filename display the short names via the properties of a file or directory.

The *Birthday letter to Grandma.doc* thus becomes *BIRTHD~1.DOC*. So far, so good. If later another fil characters the digit will simply be counted up. The *Birthday card to Peter.doc* thus becomes *BIRTHD~.*

If, however, you now create a *Birthday greeting to Susy.doc* in another directory or on another compute *BIRTHD~1.DOC*. Copy this letter with a program without long filenames (and this means Windows 3.1 Susy overwrites the letter to Grandma, since the short names are identical. But even if the copy progra have a problem: The letter to Susy's copy gets the short name *BIRTHD~3.DOC*. One and the same let names and will puzzle every program that does not yet support long filenames.

What you can do against it: Make sure that no two long filenames in the same directory start with the s advice below this count is raised from six to eight.

How to avoid the tilde character and get short names with eight characters:

- Run *C:\Windows\RegEdit.exe* to edit the Registry that contains the user and system settings.
- Expand the branch `HKEY_LOCAL_MACHINE` in the left window until you reach `HKEY_LOCAL_MACHIN` `control\FileSystem`.
- Click on `FileSystem` in the left window. In the right window you see a list of the values assigned to t
- Select `Edit | New | Binary value`.
- Enter `NameNumericTail` and press *Return*.
- Double-click on the new entry `NameNumericTail`, enter the value `0` (appears as `00`) in the dialog b
- Exit *RegEdit* and restart Windows 95.

Filenames with tildes that already exist remain untouched by this, and as soon as a long filename is id eight characters Windows 95 falls back to the tilde with digit. In these cases you must rename the long the Explorer.

Long filenames may occur even though there are not more than eight characters but a character forme contained.

3. Examples

3.1. Example 1: Synchronizing notebook and desktop

You want to go on a business trip, go home or on a holiday, and get some work done on your notebook latest versions of your files (texts, speadsheets, data bases etc.) onto the notebook. This example ass directly connected to each other (network, Direct Cable Connection, phone line). If they are not, read t

This example can be configured with the Quick setup. It suffices to run Backer on only one of the two do with Backer.)

- Find out under which drive letter your notebook's hard disk is addressed by your desktop (or vice vers
- Select the two directory trees that correspond to each other on notebook and desktop as `Source` un
- Check `All subdirectories`.
- Enter `*.*` at `Files: Inclusive` ein.
- Enter files to be excluded from synchronizing at `Files: Exclusive`, for example closed document single files like *Not urgent.doc*.
- Select `Confirm: No`.
- Select `Touch: Destination and source`.
- Press `OK`.
- Select menu item `Save as...` and save your configuration by a name of your choice. You have just
- Select menu item `Update`.

The latest versions of your files are copied from the desktop to the notebook. Files that are newer on t desktop are copied from the notebook to the desktop.

On return to your work desk this procedure repeats: All you have to do is open the workfile created and
Touch: Destination and source the latest versions of your files are now copied from your notebook to y

To make life even easier put this workfile into the Top Twelve. Once you are an advanced user, try aut

3.2. Example 2: Transferring files between your office and your home

It is assumed that your computer at home and your computer at the office are not connected via the ph
prerequisites for example 1.

You proceed as in example 1 but insert disks as an aid. You must subdivide your data volumes by han
create individual workfiles for the various subdirectories. The destination must be *A:* (or the drive lette
update first on one machine, then on the other.

You can confine the data volume very easily by an age limit. Note that returning to the Quick setup ma

3.3. Example 3: Backing up important documents to disk

This example is very similar to example 2, because there you have already been working with disks. H
to cut down the data cvolume to avoid multiple disks in a backup. Basically there are two variants: You
your applications in those respective directories, or you collect all documents in their own directory tre

Documents are in the applications' directories

If for example you want to backup your Windows 95 it is not necessary to process the whole directory t
100 MB with a full installation. After all, you have the CD-ROM from Microsoft. Concentrate on those fil
the installation. They can simply be recognized since the installed files all bear the same date (the Ger
the first sales day in Germany). Unless you have carried out the installation on exactly that day all data
Set an age limit, and the data volume decreases to about one third - without any risk for you.

This procedure works with any installed application because the installed files must always be older tha
can even tell this borderline afterwards as most software companies set all files to the same date and t
application.

Documents are in their own directory tree

Here no files belonging to the application get in your way. You can backup the whole tree to a single da
for example into texts, spreadsheets, pictures etc. With inclusive and exclusive directories and files yo
a workfile for each type.

For both cases

Find out what data volumes result from the individual workfiles. Combine several workfiles into a batch
backup medium remains as a reserve. The lot of work will pay off when you save time and money at b

Select Touch: Destination only. If you store more than one application to the same disk you should kee
are preserved. The quick setup shortens the paths. By varying the destination you can hold different ve

In example 4 the files will be restored. Example 5 explains a backup strategy for small offices and hom
most important system files will be created in example 6.

3.4. Example 4: Restoring important documents from disk

This example is based on example 4. In case you have suffered a data loss on your hard disk you can
application has been erased, too, first install it from the original media.

Open the workfile or batch file you have carried out the backup with. Select Touch: Source only and sta
restored.

3.5. Example 5: A backup strategy

A backup strategy is your personal way to effectively protect yourself against data loss. Data loss can h

- Viruses
- Damaged hard disks (notebook fallen to the ground?)
- Human error ("I thought we wouldn't need this document anymore...")
- Revising a document until you realize you have ended up in a dead-end street and want to have back

This is not to create exaggerated fear of data loss. Nevertheless, if your data are an economical value,
extent you go depends on the value of your data: Losing the letter to Grandma will probably not hurt; lo
probably be the end of your company. Backer gives you the whole spectrum of data security - decide fo

Your personal strategy could for example be:

- Every day's work is saved to a 1.44MB disk by setting an age limit of 0 days. Every day of the week h
  after 7 days.
- Once a week you save to a Zip disk with the destination changing daily. If a medium is full you buy a
  archive with date information over the months that allows you to regain old versions any time.
- If you accumulate large data volumes every day you should climb to a higher level, for example with Z
  the weekly backup.

Under Touch techniques to maintain an archive or backup are explained.

3.6. Example 6: Backing up system files to disk

The included workfile *System.bac* backups several important Windows 95 system files to disk, as well
the *.ini* files. Open *System.bac*, insert an empty floppy disk into drive *A:* and start updating. If storage
insert a second one when the Interruption appears and press `Retry`. Label this disk and put it to a saf

You can restore your data by opening *System.bac*, select Touch: Source only and start updating.

The first disk in an emergency is always the Windows 95 Startup Disk that you can create in the Contro

System.bac shows an application for the Attributes.

3.7.   Example 7: Backing up your personal Desktop to disk

The Desktop is Windows 95's main window. You can create links to programs and documents here for

The included workfile *Desktop.bac* backups your Desktop to disk, and also your Start Menu. Open *Des* drive *A:* and start updating. Label this disk and put it to a safe place. Update it after major changes.

You can restore your data by opening *Desktop.bac*, select Touch: Source only and start updating. The icons' exact positions are not remembered; you must have them rearranged.

You can backup different Desktops to the same disk by expanding the destination, for example from *A.* this workfile by another name like *Desktop for Project Miller & Son.bac*. Proceed like this for other Des

Desktop.bac shows an application for the Orphans, since it deletes outdated links (files) from Destinati

3.8.   Example 8: Removing unnecessary files from your hard disk

In the course of time a lot of unnecessary files gather on your hard disk: temporary files **.tmp* that an a could not erase anymore due to a crash), backup copies **.bak* that you had created while working on a etc. Backer can search your hard disk for such files. This is done by the included workfile *TmpBak.bac*

A Destination is not really necessary here, so *C:\Windows\Temp* is assumed. In the Overview all files to be erased, highlight them and press `Erase`. Do not press `Normal`, or you would have files copied. are deleted.

Warning! Do not erase **.tmp* files that could belong to a running application. Make sure with *.bak* files anymore. For safety the overview is sorted by date, with the latest files on top.

3.9.   Example 9: Comparing two directory trees

In general Backer can be used to compare two directory trees, that is directories with all their subdirect You can, for example, compare two installations of the same application in a network or via the Direct (the other not.

In the Quick setup select the two directory trees as `Source` and `Destination` with `All subdirect` also `Confirmation: Overview` and `Touch: Destination and source`. If you start updating a two directory trees is displayed.

3.10. Example 10: Just copying

You can copy with the help of the Explorer, too, but not as comfortable:

Neither does the Explorer tell you if all data to be copied will fit onto the destination drive, nor how far t
just cannot do that because it always works through such commands in small portions. Backer, on the
whole data volume and therefore can give you constant information.

Copying files with Backer probably needs no further explanation. If however you are a novice look at th

4. Control

4.1. Menu "File"

4.1.1. New

Creates en empty workfile in memory. Backer sets the configuration to the values most used. If you ha
used. A filename is assigned when the workfile is saved for the first time.

A warning is issued if memory contains unsaved data.

4.1.2. Open

Reloads a workfile into memory.

A warning is issued if memory contains unsaved data.

You can, provided the filename extension is *.bac*, also pass a workfile on in the command line on progr
workfiles is kept, and you can put frequently used files on the function keys F1 to F12 as Top Twelve.

4.1.3. Save

Saves a workfile currently in memory. The existing filename is used. In case you want to respecify it or
select menu item Save as....

4.1.4. Save as...

Saves the workfile currently in memory by a new name. In case you want to keep the existing filename

4.1.5. Exit

Exits Backer.

A warning is issued if memory contains unsaved data.

4.1.6. View log

Displays the Log file. You can modify, save or print it or open it in a word processor of your choice.

If you have not yet specified a word processor you'll have to choose one first. Changes can be made w

4.2. Menu "Configuration"

4.2.1. Quick setup

The Quick setup summarizes the most important settings of menu items Source, Destination and Optic used options this is the easiest way - or if you have not yet worked with Backer and look for an easy a

You can select a single directory and the destination belonging to it. The various `inclusive` and `exc` spaces.

Caution!

When pressing `OK`, the settings not appearing here are set to standard values. These are:

- All further inclusive directories are lost.
- All exclusive directories are lost.
- Fixed destination
- Sort by path
- Shorten paths
- No attributes
- No age limit
- Copy / ignore / copy / copy / ignore orphans
- Warnings with message but without sound
- No automation
- Create directories in source and destination as needed
- Do not delete empty directories in source and destination
- Size check factor 3

To prevent setting of these standard values press `Cancel`, but you will also lose your recent changes.

More explanations can be found under the menu items mentioned above. You can simply leaf forward

4.2.2. Source

Selects the directories and files you want to process. All directories must be on the same drive. An alte and Drop.

Directories and files can each be inklusive or exklusive. Backer processes your selection by the simple the exclusives". That way you can for example except individual subdirectories from a directory tree or *.doc* files.

Important:
You have to make at least 1 specification each for inclusive, like *.* for the files.

Directories and files can be added to or deleted from your selection by the green and red arrows. The
topmost field, a file only if none is highlighted in the list. Alternatively you can move list entries by Drag
only the current directory in the case of the directory list.

You can type the desired directory into the topmost field. The little X button to its right resets the entry t
Update display. If the directory is not accessible, for example because a disk is not inserted or you
be displayed. You can type the desired filename into the topmost field. The little X button to its right res
press Update display.

Windows 95, in contrast to former versions, can handle masks like *ABC*.* properly - it will find all files

The two buttons for All subdirectories decide whether directories are used with or without all the
names indicates all these subdirectories. With the left button you make the decision for all subsequent
button you toggle already selected directories.

Hint for users of earlier versions of Backer: If you have used exclusive directories, you now must spec
including all subdirectories at inclusive, for example *C:**, to get the same function. If you have used ex
at inclusive to get the same function.

4.2.3. Destination

Select the destination, that is the directory tree the Source is compared to. The destination can be on a
mistakes.

The destination can be a special directory *C:\Archive* or *C:\Backup*, or a disk *A:* or a Zip drive *D:*, or
computer   or a Direct Cable Connection.

The selection window shows only existing directories. To select a not yet existing directory or a present
drive, net drive not accessible) you can enter it into the topmost field by hand.

Hints

A not yet existing destination is only created if you have selected Create directories as needed.

If you chose a destination earlier that is not available when opening this dialog it cannot be displayed a
available. Your old setting is not lost, though. Simply leave the dialog by Cancel. The decisive entry is
main window.

Vary

You can vary the destination automatically, that is create subdirectories beneath the specified destinati
make sense only for backups, not for synchronizing two computers or drives. The varying subdirectory
window, but only the destination specified here with a hint.

With Daily the current date is used. If you for example have the destination *E:\Archive*, then on July
A070496 would be created. This makes sense for building an archive of old versions. Except on the sa

be overwritten.

`Daily` is also of general use to give an archive a date tag.

`Weekday` creates subdirectories *Sunday*, *Monday* etc. After a week old files are overwritten.

`Even/Odd` uses the subdirectory *Even* on even calendar days and *Odd* on odd ones.

`3 Generations` first creates a subdirectory *Grandson*. Before the next update this is renamed to *Son*,
the update after that the *Son* becomes the *Father*, the *Grandson* again becomes the *Son*, and a new *G*
And then? Then the *Father* is 'reborn' as *Grandson* and used for updating. Again, the *Son* becomes the
the *Son*.
This way you always have three generations of your archive with no gaps in the sequence, namely *Fa*
can appear in up to three different versions. If it has not been altered in between, however, it appears t
During an update a temporary directory *Grandfather* is created.

4.2.4. Options

Backer achieves its power by the many options that are divided in 10 groups:

- Confirm
- Sort
- Paths
- Attributes
- Touch
- Age
- Orphans
- Warnings
- Automation
- More Options

You can store your favorite options and reload them when needed. When you create a new workfile in
are uses also.

4.2.4.1. Confirm

Determines if you want to confirm the files to be updated not at all, individually before each copy proce

- `No` is useful for unattended updates in conjunction with the Automation.

- `Individually` is useful for updates where you want to avoid careless mistakes. Do not use this set

- `Overview` is useful to first check all file pairs before anything is copied or erased.

`Individually` has one disadvantage: Files to be erased are not processed beforehand to make roor although in the end space would have been sufficient. In those cases skip large files and have others e process the skipped files.

4.2.4.2.   Sort

Determines how Backer sorts the files to be updatedand thus the order in which they are processed. Y Path and Type.

If you have selected No confirmation or Overview Backer deviates from the sort order: Files to be eras room on the data carrier.

4.2.4.3.   Paths

You should be familiar with the term Path. These paths you can...

• `Drop` if the precise location of a file is not important, or if you want to collect files spread over a direct

• `Keep` if you want to update two directory trees whose paths on different drives match exactly, or if you backup.

• `Shorten` if you want to update two directory trees where the paths match only in the back part, or if y parts of the paths in a backup.

Examples

• You want to save the directories *C:\Text\Office* and *C:\Text\Private* into the Destination *A:*.
  If you select `Drop`, the files will be copied to *A:*. Make sure that no filename occurs twice because th
  If you select `Keep`, the files will be copied to *A:\Text\Office* and *A:\Text\Private*.
  If you select `Shorten`, the files will be copied to *A:\Office* and *A:\Private* because the directory *Text* dropped.

• You want to synchronize *C:\Data* and *E:\Data*. If you select the destination *E:\Data* and keep the dir *Data* - obviously not what you wanted. The destination has to be *E:*, or you must shorten the directo

• You want to synchronize *C:\Data* and *E:\Smith\Data*. If you select the destination *E:\Smith* and kee *Smith\Data* - exactly what you wanted. If you shorten the directories *Data* will be dropped and the de is how the Quick setup does it.

• It looks different if you want to synchronize two directories *C:\Data* and *C:\Text* with the drive *E:*. Sin directories Shorten will lead to the same result as Keep. In the two previous examples the destination respectively.

Hints

If you select Drop, Touch: Destination and source / Source only are not allowed because the correspon

If you are not sure which result Shorten will yield simply check with the help of the Overview list wheth

To create directories that not yet exist and to delete directories that are empty the respective settings

4.2.4.4. Attributes

Determines the so-called attributes of files that are to be processed <u>in addition</u> to normal files. Attribute highlighting the file(s) and pressing *Alt+Return*. `Hidden` and `System` are true for many files that Windo and therefore wants to protect against accidental deletion. `Read-only` usually is set by the user for fil accidental deletion. Unfortunately, all files copied directly from CD-ROM are marked read-only also.

Hidden and System are normally not found but can be overwritten. Read-only, on the other hand, is alv This distinction is not made by Backer but by Windows 95. It may be puzzling at first; however, becaus attributes, it is plausible.

The source file's attributes are always transferred to the destination file after copying. Thus attributes h

- Exactly synchronize those directories also that contain hidden or system files, for example the root di
- Overwrite read-only files also without error messages - of course, this bears a certain danger that yo

An application for the attributes is shown in Example 6.

4.2.4.5. Touch

Determines the direction in which the update is carried out. You can determine precisely whether a dat changed during an update or not. You can override this limit in the Overview list or the Confirmation, th

Touching means writing or erasing a file in Source or Destination, since this alters the data carrier. For directories `Destination and source` is the right choice because both are equivalent. If you have b that are not used any more you will probably want to prevent them from being copied back to hard disl `Source only` is useful for restoring files from a backup.
Note that source and destination never switch sides: If you made disk *A:* the destination, it is always be actual copy direction goes from destination to source.

For easier understanding the three settings can be expressed like this:

- `Destination only` = from source to destination, forwards
- `Destination and source` = in beide Richtungen
- `Source only` = from destination to source, backwards

The metaphor of 'touching' is used in Backer because it expresses precisely what happens during an u important in conjunction with the Orphans.

If you have the paths dropped `Destination and source` as well as `Source only` will not work be cannot be determined.

4.2.4.6.   Orphans

Orphans are the most powerful and most complicated feature of Backer. You should have a thorough u
any setting to `Erase`, especially if you have switched off the Confirmation.

Orphans are files that exist either in the Source or in the Destination, but not in both. Depending on the
to the opposite side, ignore them or erase them. The possibilities depend on the setting for Touch.

Understanding orphans

Orphans are easiest to understand if destination and source are to be touched. Both sides are equivale

- `Copy orphans` to bring both sides to the union of the data sets. All files in source OR destination OF
  Files missing on one side are added there. After updating there are no more orphans and both sides l

- `Erase orphans` to bring both sides to the intersection of the data sets. Only files in source AND des
  updated. Orphans are erased. After updating there are no more orphans and both sides have identica

- `Ignore orphans`. Only files in source AND destination (that is all non-orphans) are updated, but orp
  there are still orphans, and both sides have different data sets.

Hint for users of earlier versions of Backer: Ignore orphans corresponds to the old option `Existing`

The same applies in principle for the other touch modes. The more complex setting is necessary since

Archives and backups with orphans

Decide whether you want to have any file created so far in your archive / backup or only those still bein
source. Select Touch: Destination only and set the orphans in the source to Copy (those are the files th
and need to be added). Depending on your decision set the orphans in the destination to Ignore or Era
the archive / backup but have already been erased in the source).

Synchronizing with orphans

When synchronizing two computers source and destination are not always equivalent. If you never wor
and always synchronize when changing, the computer used last is more important: You may have eras
anymore. But they still exist on the other computer - as orphans. These circumstances are typical for p
desktop computer.

If you set Touch to `Destination only` or `Source only`, respectively, depending on the desired dir
orphans erased for both settings, you do not need to take care of cleaning up any more. A practical exa
desktop via the Direct Cable Connection. The notebook is the guest. Backer is running on the noteboo
notebook, destination the corresponding directory tree on the desktop. The orphans are treated as follo
`source copy, destination erase; Touch source only: destination copy, source`
desktop. Now you want to go on a trip with the notebook. Set Touch to `Source only`. Start updating.
are erased. After returning to your desk let Backer run on the notebook again. Set Touch to `Destinat`

the desktop (the destination) are deleted. Etc. If you have understood this example thoroughly - and on
synchronizing system.

Warning!
Orphans are by nature files that exist only *once* (and afterwards not at all anymore). So think twice if yo
you have selected `Touch: Destination and source:` Deleting orphans is pointless and dangerou
yet empty data medium because then all files in the source are orphans! Renaming single files or direc
are always on the safe side if you have set the Confirmation to `Individually` or `Overview.`

4.2.4.7. Age

Backer knows three different age filters: relative, absolute and automatic.

- `Not more than x days old` is a relative limit. The date changes with every new day. This setting
  where only the changes during that period are caught. The present day is counted as 0.

- `Since...` is an absolute limit. The date does not change with every new day. This setting is useful fo
  were started on a certain day.

- `Since the last update` catches all changes since the <u>beginning</u> of the last update with this work
  workfile is considered. The date of the last update is recorded in the file *Backer32.ini* in the Windows
  only work if you always use it from the same Windows installation. In networks this is not always the o

An age filter can confine large data volumes or except old files from updating that are not interesting an
applications.

4.2.4.8. Warnings

Backer issues warnings as required during an update. Some of them you may find unnecessary, others
warnings sound. You should never switch of the Interruption on error as long as you want to control the

For an automatic update without human intervention all messages must be switched off. You can recon

4.2.4.9. Automation

The settings for the automation help you to run unattended updates. You can reconstruct the action late
display of the log blocks Backer until the user stops the display. Selected functions are displayed in the
Automatic starting is only effective if you open a workfile by means of the command line.

Hint for users of earlier versions of Backer: You made these settings in the command line formerly.

4.2.4.10. More options

Create directories as needed:

Enable this setting to create directories that do not yet exist. If you do not you will get an Interruption if
(this pertains to subdirectories for varying destinations, too). This setting should only be off in special c
structure must not be expanded.

Delete empty directories:

This setting allows you to exactly match two directory trees. Only directories within Backer's range are
Source and the corresponding ones from the Destination down. This setting is very useful in conjunctic

Check sizes:

The size check issues a warning if the size difference between the two file versions is larger than the fa
versions have different sizes in spite of identical date. This way you sometimes can stop damaged files
list critical file pairs appear with a yellow icon, in the Individual confirmation with a hint.

4.2.5.Log

The log is a report of Backer's activities in text file format. The report's appearance can be customized
individually for each workfile.

Under *Date and time* you define how the moment a file was copied is noted. Do not mistake this mome
created. The new log can be appended to an old one or overwrite it. If no old log file exists both will yie
automatically showing the log after each update you can also call it manually when needed.

The log file should always be excepted from updating since it is written to in the meantime. Put it out of
files.

Hint for users of earlier versions of Backer: The settings for the log are now saved within the workfile.

4.2.6.Overview

If you have selected the Overview list for Confirmation you can set its initial appearance here, as well a
emphasizing file groups. The settings can be made individually for each workfile.

4.2.7.Top Twelve

You can put workfiles that you use frequently on the Top Twelve list and add a description to them. This
menu so that you open a workfile and start updating with one command. Instead of the file menu you c
you press *Shift* in addition, you only open the workfile but do not start it.

A description can be up to 60 characters long and contain any character. You may specify a non-existir
checked when opened later. A list entry without filename will not appear in the file menu but is stored n
in the file *Backer32.ini* in the Windows directory.

In case you expect a help function on F1, as most other Windows programs do offer, better leave this k

4.2.8.Batch file

A batch file is a group of workfiles to be processed one after the other. Since this is usually done unatte
No in each workfile. The individual settings for Warnings and Automation are overwritten by the batch f
effective if you open a batch file by means of the command line. You can reconstruct the action later fr
of the log blocks Backer until the user stops the display.

4.3. Menu item "Update"

4.3.1.Update

Starts updating. For faster operation, this command may also be issued with the *Return* key.

Preparations:

You should have selected the Source directories and files, the Destination and your Options.

Checks:

Backer checks...

• whether your configuration is complete,
• whether source and destination are not identical,
• whether source and destination drive are accessible,
• the free space on source and destination. Actual space consumption is always slightly greater than ca
   occupy single bytes and has to fill up files with zeros until a cluster boundary is reached.

Warnings can be suppressed to not disturb an unattended run and appear in the Log.

Information window:

While searching for and erasing directories and files Backer displays an information window.

Confirmation:

After the search you see, depending on your selection of the Confirmation, an Overview list, Individual

Copy window:

During the copy process you see a window with the file pair currently processed.

Interruption:

After the search you see, depending on your selection of the Confirmation, an Overview list, Individual
Interruptions can be suppressed to not disturb an unattended run and appear in the Log.

4.3.2. Overview list

The overview list shows all directories and files found on updating collected - provided that you have s[...]
initial settings can be determined under Overview.

The list uses 'positive' icons (black on white) for files in the direction Source → Destination and 'negativ[...]
direction Destination → Source. In the upper right corner of the window you see the number of files in t[...]
count, then the Orphan count. Below that you see the data volume that has to be copied and the free s[...]
<u>after</u> updating. If this is a negative number space will not be sufficient for updating.

Folders put all files into a group that have the same value at Sorting. They are <u>not</u> tantamount to direct[...]
representation a group is recognizable by a uniform Background color.

Changes to the list

Folders and files can be...

• Normal, that is they are copied;
• Ignored, that is skipped;
• Erased (before copying the other files to make room on the drives);
• Inverted; meaning that you change the original copy direction (not possible for Orphans);
• Viewed if you are unsure about the contents of the file(s).

By these changes you can infringe on the setting under Touch. If you change a complete folder all files[...]
well. If you change individual files in the folder later, its icon will not change.

Double click

By a double click on a folder or a file you cycle through the sequence `Normal → Ignore → Erase →`[...]

Via the right mouse button plus double click on a folder or a file you cycle through the sequence `Folde`[...]
`Folders` etc. The position in the list is remembered.

Meaning of the buttons and icons

	Display as folders
	Display as 1 line
	Display as 3 lines
	Sort by path

Sort by name		
Sort by type		
Sort by size		
Sort by date and time		
Sort in descending order		
Sort in ascending order		
Filter for size check on/off		
Filter for double modification on/off		
Normal folder		
Ignore folder		
Erase folder		
Normal file	(Source → Destination)
Ignore file	(Source → Destination)
Erase file	(Source → Destination)
Invert file	(Source → Destination)
Normal file	(Destination → Source)
Ignore file	(Destination → Source)

	Erase file	(Destination → Source)
	Invert file	(Destination → Source)
	Warning: Check sizes	
	Warning: Double modification	
	1 folder backwards	
	1 folder forwards	

4.3.3. Confirmation

This window will appear for every file if you have selected the Individual confirmation. Files can be...

- Normal, that is they are copied;
- Ignored, that is skipped;
- Erased (before copying the other files to make room on the drives);
- Inverted; meaning that you change the original copy direction (not possible for Orphans);
- Viewed if you are unsure about the contents of the file(s).

Besides you can...

- Skip all files in the present folder and move on to the next (Folders put all files into a group that have tantamount to directories.);
- Give an overall confirmation for all files following   - useful if if you only want to check part of the upda

4.3.4. Interruption

This window will appear if copying a file during an update gets interrupted - either by you or by a read c interruption is displayed. You can...

- Retry after you have eliminated the cause;
- Skip this file and move on to the next;
- Skip all files in the present folder and move on to the next (Folders put all files into a group that have tantamount to directories.);
- Erase this file / these files.

The remedy

- "Lower directory must be created first.": Switch on Create directories as needed.
- "Lower file is write-protected.": Switch on Read-only (Write protected).

• "Medium is write protected.": Remove the write protection.
• "Lower drive is full.": Check if this is a case for Multiple disks in a backup.

4.4. Making work easier

4.4.1. Recently opened workfiles

Backer remembers the last 6 workfiles and batch files that were open via menu item Open or saved via
in the file menu and can be reopened with the keys 1 ... 6. In contrast to the Top Twelve they are not st

4.4.2. Accelerator keys

Backer knows the following accelerator keys to operate the menu items:

Ctrl+N	File | New
Ctrl+O	File | Open
Ctrl+S	File | Save
Ctrl+A	File | Save As
Alt+F4	File | Exit
Ctrl+V	File | View log
F1...F12	Open and run Top Twelve
Shift+F1 ... Shift+F12	Open Top Twelve
1...6	Open old workfile
Alt+Q	Configuration | Quick setup
Alt+S	Configuration | Source
Alt+D	Configuration | Destination
Alt+O	Configuration | Options
Alt+L	Configuration | Log
Alt+V	Configuration | Overview
Alt+T	Configuration | Top Twelve
Alt+B	Configuration | Batch file
Return	Update

All accelerator keys except *Return* are displayed in the menus. You do not have to learn them by heart

4.4.3. Drag and Drop

Drag and Drop is a Windows mechanism to for example take files easily from A to B with the mouse. A
allows you to copy and move directories and files this way. Or think of the Recycle Bin in Windows 95.

Not everything that can be dragged can also be dropped over Backer - watch the symbol of the mouse
This serves as a short cut for the menu item Source.

The procedure is as follows:

• If it is a directory, it will be added to the inclusive directories. If you have pressed *Shift* it will be added
  you have pressed *Ctrl* in addition the symbol * *for all subdirectories will be added.

• If it is a file, it will be added to the inclusive files. If you have pressed *Shift* it will be added to the exclu

Drag and Drop also works within the forms for Source and Batch files.

4.4.4. The Direct Cable Connection

The Direct Cable Connection of Windows 95 helps in the simple and inexpensive data transfer betwee
called null modem cable. Choose a parallel one, it is considerably faster than a serial one. It costs abo
you want a connection cable, not a printer cable. Another possibility is Infrared (IR).

You must determine one computer as the host and the other as the guest. If you want to connect a not
should be the guest, because the desktop usually has more resources (for example CD-ROM) to offer.
arbitrary, however.

Backer must run on the guest. Do not forget to share the host's drives and directories so that the guest
Explorer by right-clicking on the respective icons and choosing *Share...*.

For additional information see the Windows 95 online help, keyword "Direct Cable Connection".

5. Legal corner

5.1. Shareware

This computer software and its accompanying documentation are <u>Shareware</u>. The only difference betw
a reminder screen on program start and disabling of keys F3 to F12.

What does "Shareware" mean?

The Shareware principle states that you may test the product for a limited time or to a limited extent fre
however, either remove the product completely from your system or convert it into the full version by o
copyright rules without the limitations mentioned. In the case of Backer the limitation is that you must n
than 30 days. Remember: <u>Trust is the foundation of the Shareware principle!</u>

Shareware is a distribution method, not a type of software. The Shareware system makes fitting your n
before you buy. And because the programmer's overhead is low, prices are low also. Shareware has th
you don't use the product, you don't pay for it.

Copyright laws apply to both Shareware and commercial software, and the copyright holder retains all
Shareware authors are accomplished programmers, just like commercial authors, and the programs ar
there are good ones and bad ones. The main difference is in the method of distribution.

Giving Backer to others

Shareware comes, as the name implies, with the programmer's express wish that you pass on the eva
version! - to others. Please do this in exactly the same form you received it yourself, that is complete. A
product to arrive at a potential customer as planned, and not without parts of the documentation.

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5.2. Legal information

Beside defining the user rights for your evaluation version of Backer the following information is necess

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6. Order

6.1. How to order

This computer software and its accompanying documentation are Shareware. If you use Backer for mo
license. You will receive at no cost a license number   to convert your evaluation version into the licens
reminder screen on program start and enable keys F3 to F12. Your licensed version may be used with
resulting from copyright laws.

There are 3 ways to register:

• Directly with the developer by sending in the Order form,

• Via CompuServe by entering GO SWREG and selecting number 4310.

• Via the PsL:
  CREDIT CARD ORDERS ONLY - You can order with MC, Visa, Amex, or Discover
  from Public (software) Library by calling 800-2424-PsL or 713-524-6394 or by FAX to
  713-524-6398 or by CIS Email to 71355,470. You can also mail credit card orders to
  PsL at P.O.Box 35705, Houston, TX 77235-5705. Mention program 14442 to identify
  this program.
  THE ABOVE NUMBERS ARE FOR CREDIT CARD ORDERS ONLY. THE AUTHOR
  OF THIS PROGRAM CANNOT BE REACHED AT THESE NUMBERS.
  Any questions about the status of the shipment of the order, refunds, registration
  options, product details, technical support, volume discounts, dealer pricing, site
  licenses, non-credit card orders, etc, must be directed to the developer of this program.
  To insure that you get the latest version, PsL will notify the author the day of your order
  and the author will transmit the license number directly to you via the fastest way
  possible. If available, please leave your electronic contact information (e-mail, fax) with
  the PsL when ordering.

6.2. Order form

Please print, fill in and mail or fax. You can also copy the content with the mouse, copy it and paste it
into your word processor or e-mail client.

Bernd Cordes
Am Pahl 3c
D-24999 Wees
Germany
Phone / Fax +49 (4631) 622590

Name: _____   Company: _____

City: _____   Zip code: _____

Street: _____   Country: _____

Phone: _____   Fax: _____

E-Mail: _____

I order:

_____ licenses Backer 3.0

Credit card, check: DM 49.95 each   DM _____ total

All others: US$ 29.95 each   US$ _____ total

Site licenses available; please inquire.
Prices include shipping & handling. Credit card or check users, please check your current exchange

I pay:

O Cash; money is enclosed

O MasterCard/Access no _____ exp. date _____

O Visa card no _____ exp. date _____

O Check (drawn on a German bank in DM, payable to Bernd Cordes)

_____
Signature

Please take the time to answer the following questions. You help to rid this product of possible bugs an

Supplier of Backer 3.0:

O CD-ROM _____ published by _____

O WWW page, FTP server _____

O America Online _____

O CompuServe _____

O MSN _____

O Other online service: _____

O Other: _____

Opinion in school marks:

Usefulness: A   B   C   D   E

User friendliness: A   B   C   D   E

Documentation: A   B   C   D   E

Maturity / crash safety / bugs: A   B   C   D   E

Suggestions for improvements:

Thank you for your effort!

6.3. Where to get the latest version

The latest version of Backer can be found on the Internet at:

http://ourworld.compuserve.com/homepages/BerndCordes/index.htm

In the fast moving world of the Internet this address may change; in case you cannot find us there anymore we can tell you the new address.

7. Support

7.1. Addresses

Bernd Cordes
Am Pahl 3c
D-24999 Wees
Germany
Phone / Fax +49 - (4631) - 622590

CompuServe: 100334,375
America Online: BeCordes
Internet: 100334.375@compuserve.com
WWW: http://ourworld.compuserve.com/homepages/BerndCordes/index.htm

7.2. Troubleshooting

A basic hint to begin with

Many problems under Windows are caused by the natural playfulness of the user who thinks the defau
Start Menu is uncomfortable. On top of this comes a dozen of supposedly necessary memory manage
certainly have the right to set up your computer as you like. Sometimes, however, the actual applicatio
purchased for, do not run flawlessly.

Other programmers are not to be demonised here, and neither does this product claim to be immacula
to be erased by a frustrated user although the blame is on someone else. Therefore I ask you: In case
Windows 95:

• Boot without drivers, tools and utilities in *Config.sys* and *Autoexec.bat* (what Windows
  95 needs it loads on its own)
• Display 640 x 480 with 16 colors
• Windows'95's own display driver instead of the graphics adapter's manufacturer's
• Color scheme "Windows standard" with font MS Sans Serif 8
• My Computer or Explorer to start applications

Then give Backer a second chance.

This is a lot asked, but it helps you to detect the real troublemaker in a structure as complex as Windo
much trouble in the long run.

Some frequently asked questions:

Q: The program cannot be started. A message appears that memory is insufficient, that the program is
connected to the computer does not work.
A: Some so-called shells (replacements for Desktop, Start Menu and Explorer) cause this error, includ

Windows 95 Desktop, Start Menu or Explorer, then you will see that Backer is not guilty. Especially the
of unknown kind - please do not start checking the plugs in the back of your computer!

Q: When I try to start *Backer32.exe* a message that a file was not found appears.
A: The required file *Backer32.dll* is missing. See installation for details.

Q: Some files are found twice.
A: You have specified file masks that include one and the same file twice. For example with **.** and **.t*
found twice. Though two identical specifications are not allowed, Backer cannot detect such redundanc

Q: Those many settings puzzle me. Backer simply does not do what it is supposed to.
A: A program as powerful as this requires some time to get used to. In the beginning, set yourself simp
the Quick setup.

Q: Text in the various windows does not fit properly, overlaps or is clipped at the end.
A: You have selected an inappropriate system font for Windows 95. This affects all other programs, too
that suggest a large system font with high resolutions like 1024x768 although it is completely unapprop

Q: On my 640 x 480 notebook some windows are larger than the whole screen.
A: See previous question. The size of a window is affected by the size of the system font. Backer has l
too.

Q: The progress bar runs irregularly - first quickly, then almost creepingly.
A: You use a cache. This means data are not written to the data medium immediately but temporarily c
system breather the real writing takes place. Programs cannot detect a cache because the operating s
without cache - that is the punch line. You can watch this effect under Windows 95 when deleting a larg
window has disappeared the Explorer still does not accept input for some seconds, since it is occupied
disadvantage of a cache: If in such cases you switch off your computer too early the write process will
data!

Q: With 3 Generations sometimes a *Grandfather* appears, but the *Father*, *Son* or *Grandson* is missing
A: It is the cache's fault - see previous answer. A cache has a certain strategy in which order it actually
strategy is bad, the grandfather that appears shortly while renaming the generations will not be remove
starts. This is typical for removable media drives - use your internal hard disk for comparison, and the p
hard disk uses a cache, too. There is not much you can do here, because you certainly do not want to
problem will heal itself the next time renaming works - no 'dead bodies' will remain.

7.3. ASP ombudsman statement

This program is produced by a member of the Association of Shareware Professionals (ASP). ASP war
principle works for you. If you are unable to resolve a shareware-related problem with an ASP member
ASP may be able to help. The ASP Ombudsman can help you resolve a dispute or problem with an AS
technical support for members' products. Please write to the ASP Ombudsman at 545 Grover Road, M
616-788-2765, or send a CompuServe message via CompuServe Mail to ASP Ombudsman 70007,35