VBackupE

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Chapter 1

VBackupE

1.1 VBackup V0.15Beta © 1996 Jan Hendrik Schulz

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                          VBackup V0.15Beta
            © 1996 Jan Hendrik Schulz
          Videostreamer Backup Software



      ~Introduction~~~
            What is VBackup?


      ~Requirements~~~
            Required hard- and software

      ~Installation~~~
            Nothing easier than that...



      ~Usage~~~~~~~~~~
            How to use this program?



      ~Author~~~~~~~~~
            ...and my address

      ~Legal~stuff~~~~
            Please read this!

      ~Credits~~~~~~~~

      ~Future~~~~~~~~~
            What's planed for the future?


      ~History~~~~~~~~
            What's new?


      ~Bugs~~~~~~~~~~~
            NOTE: This version is still a beta-version. Even if it's not
   very likely, it's not absolutely impossible that the backup-
```

    format will change in future versions and that those versions
    are unable to restore backups created with this version!

1.2 Introduction

                                    Introduction

    Some years ago I bought the "VideoBackupSystem" (short: VBS) developed by
the german company Rossmöller. With a simple
                    hardware
                     and a special software
this system made it possible, to store computer-data with a normal VCR on a
normal video-tape.

    The speed of this VBS (round about 800 KB/min) and the capacity of a
video-tape (round about 200 MB on a 4 hour tape), is not very high, but it is
still better than making backups on floppy-disks. Especially because it's not
necessary to sit near the computer all the time to change the disks. And a
video-tape (even a good one) is much cheaper than the equivalent amount of
disks.

    At the time I bought the VBS, I only had a 100 MB harddisk and so the
backup-speed was acceptable, but now I have more than 400 MB on my harddisk
(still growing) and 800 KB/min becomes to slow. I thought about buying an
expensive SCSI-tape-streamer or writing my own video-backup-software which
should be faster while still using the old VBS hardware.

    As the original software was designed to run on a plain Amiga500 with 512
KB RAM and no turboboard, it seemed not to be difficult to speed up the
software, and so I decided to write my own backup-software. The result is
VBackup, a comfortable and fast video-streamer-backup-software that reaches
backup speeds up to 3 MB/min, by still using the
                    VBS~hardware
                        .

    Unfortunately the backup-speed of this VBackup version depends heavily on
the type of the backup-data. Making a backup of many small files needs more
time than making a backup of some big files. So the average speed is only
round about 2.2 MB/min. Future versions of VBackup will support a new
backup-technic with 3.4 MB/min (and maybe even faster) nearly independent from
the file-sizes.

1.3 Requirements

                                    Requirements
            What soft- and hardware is needed to use VBackup?

Software:
  · AmigaOS 2.04 or better
  · MUI 3.3 or better

Hardware:

· An amiga with:
  – fast processor^1 (>=68030, or a fast 68020 and some fast-RAM)
  – round about 1.5 MB free RAM

· The
              VBS~hardware
                  · A VCR

_____

^{1}) If you are not sure if your amiga is fast enough, note this: It's
allways possible to make backups, even with a slow amiga, it only
maybe needs more time. But to restore a backup, your amiga must be
fast enough! So try to restore a backup to find out if your amiga
is fast enough.

1.4 VBS hardware

                              VBS-Hardware

    To use a VCR as streamer, there must be a connection between Amiga and VCR.
So, beside the software some hardware is needed.

    Because I don't know enough about hardware-development and because with the
VideoBackupSystem (see
                introduction
) I allready own a suitable hardware, I
decided to use this hardware with VBackup.

    As this hardware is part of a copyrighted product, I can't include a
detailed re-build description of this hardware with VBackup.

    Unfortunately I find out, that the schematic of the hardware which was
distributed with the last VBackup version is very similar to another (maybe
commercial) video backup hardware. Even if the schematic is not absolutely
identical with this hardware, and even more only the differences made it
possible to use the hardware with VBackup without problems, I decided to no
longer distribut this schematic with VBackup. (And I will not send this
schematic to someone or answer questions about this schematic anymore, sorry)

  So, if you want to use VBackup, you have to:

  · allready own the VideoBackupSystem and with it the needed hardware, or
  · buy the VideoBackupSystem to use the hardware with VBackup, or
  · develop your own hardware.

  If someone will develop an own hardware, it would be very nice if I could
than include the necessary information about this hardware (how to build it)
with VBackup. But note: The person that sends me the information must be the
developer of the hardware (so please don't send schematics somewhere found),
the hardware must be successfully tested with VBackup and if another hardware
was used as basis, the new hardware must be really different from this
hardwareE! If this is not the case, it may result in problems and so I wouldn't
distribute the information with VBackup, I hope you understand that.

If you want to develop your own hardware, or if you are simply interested to know, how the hardware works and what it does, I'll try to give you a function-description of the hardware now:

writing (backup):

To store data on a videotape, this data is 'coded' with black and white lines on a PAL-screen. This PAL-screen now have to be recorded on the videotape. So, for writing you'll need (with the most amigas) only a cabel, that connects the video-output of the amiga with the video-input of the VCR, that's all. As the data-PAL-screen contains only blank and white lines, it's no problem that some amigas only have a black&white video-output.

If you have an Amiga 3000 or 4000, a little bit more hardware is needed, because this amigas don't have a video-output. This extra hardware has to to create a video-signal out of the normal monitor-output. As this video-signal don't needs any color information, such a hardware is very likely very simple to create.

reading (restore/verify):

Reading back the data from the videotape is more complicate. The necessary hardware connects the video-output of the VCR with the serial-port of the amiga. This hardware does 'nothing else' than converting the brightness information of the video-signal into low- and high-signals on the seriel-port input.

Everytime the video-signal is bright (white) the serial-input must be high (+12V), and everytime the video-signal is dark (black) the serial-input must be low (-12V). To get good results, some things are important:

· The serial-port input signal (which is created by the hardware) should
  be (as good as possible) allways really low or high, and not something
  between low and high. That meens also:

· Changing from low to high or from high to low should go as fast as
  possible.

· If (a part of a line of) the videosignal looks like this:

  ... | black | white | black | white | black | white | black | ...

  Than the resulting serial-port-input should look like this:

  ```
                  _____          _____          _____
  ... _____|        |_____|        |_____|        |_____  ...
  ```

  And not (e.g.) like this:

  ```
                  _____            _____            _____
  ... _____|      |_____|      |_____|      |_____  ...
  ```

  In words: The reaction on a white/black change should be as fast
  as the reaction on a black/white change, and vice versa.

· All information of the videosignal other than the brightness-
  information must be ignored/filtered.

1.5 Installation

Installation:

Simply copy all files to a place of your choice. The subdirectory 'Images'
contains some images which are used/needed for the tree-display of directories
(see IMAGEDIR-tooltype).

Tooltypes:

There are two tooltypes/shellarguments:

  IMAGEDIR: Defines the directory where the images for the tree-display of
    directories are stored. If this is not defined, VBackup searches in
    'PROGDIR:Images/'.

    Note: While VBackup is running, an assign (VBImages:) is set to this
    directory.

  PREFSFILE: If not the default prefs-file ('PROGDIR:VBackup.prefs') should
    be used, you can use this tooltype to set a different file. If this
    tooltype is used, but the specified file does not exist or is not a
    vaild VBackup prefs-file, an error will occur. If this tooltype is not
    used and the default prefs-file does not exist or is not valid, no error
    will occur - VBackup simply uses the default-settings in this case.

    Note: If you used this tooltype to set a different prefs-file, this file
    (filename) is also used if you save the prefs from the prefs-window!

1.6 Benutzung

Usage

Start:
  Simply doubleclick on the icon or start VBackup from a shell. There are
  no assigns etc. needed. If no error occures, the main-window will appear.

Main-Window:
  The main-window only contains some buttons:

            ~Backup~~
                    Create a new file-backup

            ~Restore~
                    Restore files from a file-backup

            ~Verify~~
                    Test a file-backup

            ~Prefs~~~
                    Open the prefs-window
      Quit   Quit VBackup

1.7 Backup

                    Create a backup :

 1) Choose 'Backup' in the main-window.
 2) Use the filerequester to choose the source-directory (e.g. 'System:'
    or 'Work:Pictures'...)
 3) Wait until the directory-tree is read.
 4) Now you may add another directory with 'Add Directory'.
 5) Select the files you want to include into the backup. (How? Read
                here
                .).
 6) Type a comment-text for the visual-header into the string-gadget.
 7) Choose 'Start Backup' to start the backup. (The visual-header should
    be visible now.)
 8) Start record on your VCR.
 9) Start the backup with the left mouse-button.
10) Wait until the backup is done or stop it with the left mouse-button.
11) Close the report-window, which will apear now.

 Note: If you have installed a screen-blanker, it is a good idea to
       disable it while making a backup!!

1.8 Restore

                    Restore:

 1) Prepare your VCR (insert the right tape etc.).
 2) Choose 'Restore' from the main-window. A report-window will appear
    and VBackup tries to read the file-catalog.
 3) Now start the VCR to play back the file-catalog. (It's no problem if
    first (a part of) the visual-header is played back.)
 4) Wait until VBackup tells you to stop the VCR. Do it and click on
    the 'Continue'-button.
 5)
                Choose
                 the files you want to restore. (First all files and
    directories are selected).
 6) If needed use 'Set Destination' to choose a new destination for the
    files. If the backup contains more than one directory-tree, it's
    possible to choose a destination for every directory-tree. (Set the
    cursor of the directory-listview to one directory of the directory-
    tree and click on 'Set Destination'.)
 7) Click on 'Start Restore' to start the restore.
 8) If you are asked to restart the VCR, do it.
 9) You can stop the restore with the left mouse-button. (Only while
    VBackup reads data from the video (you can't move the mouse at
    that time).)
10) Click on 'Continue'. If not all selected files are restored, the
    directory-tree window will appear again with theese files still
    selected.

 Note1: With this version of VBackup, existing files are overwritten if
    they are older than the file in the backup. If the backup-file is

not newer, it is not restored (but it is deselected).

Note2: It's normal that the computer seems to hang (you can't move the
    mouse) while datas are read from the video. It's necessary to disable
    all interrupts to read the datas fast enough from the serial-port.

Note3: For timing-reasons it's necessary to set the amiga video-hardware
    to the same screen-mode while reading data from the video, that was
    used to create the backup. That meens a PAL-screen if it is a PAL-
    backup and an NTSC-screen if it is an NTSC-backup. (Yes, the serial-io
    is influenced by the video-hardware!) If you have a gfx-card, make shure
    the last used non-gfx-card screen was a PAL/NTSC-screen. If you have no
    gfx-card, run VBackup on a PAL/NTSC-screen or use the 'Open a PAL/
    NTSC screen' feature (see
                    Prefs/VideoIO
).

1.9 Verify

                    Verify:

  Verify is very similar to
                    Restore
                    . There are only two things different when
making a verify:

  · After reading the file-catalog from video, it directly goes on, as
    there is no need to (de)select some files.

  · The data which is read from the video-tape is (of course) not saved
    to the harddisk.

  Note: This version of VBackup doesn't compare the data from video with the
data of the corresponding files on harddisk. The verify only checks, if it is
possible to read back the data from the videotape without errors. The
possibility to compare the data with the files on the harddisk will come in
future versions of VBackup.

1.10 Prefs

                    PREFS:

  The prefs window contains the following pages:

        page   settings for...

                    ~Backup~~~
                        backup

                    ~Restore~~
                        restore

```
          ~Video~IO~
                datatransfer from/to vcr

          ~Filelist~
                showing files in the filelist window
```

At the bottom of the prefs window you'll find three buttons:

SAVE:
  Use the new settings and store them in 'PROGDIR:VBackup.prefs'
  or in the prefs-file which was set on startup (see
            tooltypes
).

USE:
  Use the new settings, but don't store them in a prefs-file.

CANCEL:
  Close the prefs-window and ignore all changes.

1.11 Prefs/Backup

PREFS/BACKUP:

· Fonts for visual-header:
  There are 3 fonts used by the visual-header. Just select 3
  different fonts and make a short backup to see, what is
  displayed with which font.

· Screen-offset:
  Not all of the 283/241 scan-lines of a PAL/NTSC-screen are used by
  VBackup for backup-data. As some VCRs have problems with the
  top lines and some other with the bottom lines, you can set
  the offset of the first used line here. Normaly a value of 4
  or 5 should be OK.

· Archiv-flags:
  If enabled, the archive-flags of all backuped files are set
  after a successfull backup.

1.12 Prefs/Restore

PREFS/RESTORE:

  This page of the prefs window is currently empty. The next version of
  VBackup will have some settings here.

1.13 Prefs/Video IO

```
                  PREFS/VIDEO IO:
```

· Video Type:
  Here you can select, if you use a PAL or NTSC video. To set this
  correctly is only important for making backups. Only if you
  enable the following function, you have to set this correctly
  even for restore/verify.

· Open PAL/NTSC Screen / Interlaced:
  Here you can choose, if VBackup should open a PAL/NTSC-screen while
  reading data from the videotape (restore/verify) and if it should
  be an interlaced screen. (See
                  Restore
).

· Show Errorinfos:
  If enabled, some extra infos about errors are display in the
  restore/verify report-window. Everytime a new data-block is read
  from the videotape, this is displayed and then three numers like:
                              (3,2,0)
  The first number is the number of defect parts in the data-
  block. (All numbers up to 20 are absolutely normal, even with
  good videotapes.) The second number is only for debuging
  and will very likely be removed in future versions. The third
  number tells you, how many of the defect parts (first number)
  could not be repaired. So, this number should be 0 and it is
  never greater than the first number. Normaly even 100 and more
  defect parts (first number) are no problem, but that depends also
  on the type of the errors.

  Hint: Don't use the first 2-5 minutes of a videotape, because
        there are much more drop-outs etc.

1.14 Prefs/Filelist

PREFS/FILELIST:

    Settings for the backup/restore file-display. You can choose the
    display- and sort-order of the file-informations and which of
    these informations should be displayed.
    If 'Deselect Dirs' is enabled, a directory becomes deselected
    automaticly if you deselect all subdirs and files in this
    directory. (To select an empty directory with 'Deselect Dirs'
    enabled, you have to double-click directly on this directory.)

1.15 Dateien markieren

                  SELECTING FILES AND DIRECTORIES:
 - Selected directories are displayed bold, if they contain at least one
   selected file, and italic if not. This makes it easier to find selected
   files.

- Selecting files in the right listview goes like you know it from
  every MUI-multiselect-listview. (See MUI-Prefs.)
- A double-click on a selected directory deselects it and its whole
  contents (files and sub-directories).
- A double-click on an unselected directory selects it and its whole
  contents (files and sub-directories), except empty directories if
  'Deselect Dirs' (see

                  Prefs
) is enabled. To select empty directories
  you have to double-click directly on them or disable 'Deselect
  Dirs'.
- With the select-window you can (de)select files which match some
  criteria.

THE SELECT-WINDOW:
  - Use the buttons on the left side to choose the criteria that the files
    should match. Note: If no button is enabled, the files have to match no
    criteria and than the action (see below) is performed on every file!
    (Because there is no file that does not match the criteria, as there
    is no criteria...)
  - Beside those buttons you can specify the criteria:
    Name and Comment: Type in a valid dos-pattern.
    Size: Min- and max-size in bytes. If you only want to set a min- or a
          max-size, use 0 for the other one.
    Flags: Choose which flags must be set and which must be unset.
    Date: Type in the dates in the same way as they are displayed in the
          right listview, but without time. If you want to specify only
          one date, simply type in nothing for the other one.
  - With the cycle-gadget on the right side you could choose the action
    that should be performed. You can 'select', 'deselect' or 'invert'
    (change the state) the files which match the criteria.
  - With the three buttons below the cycle-gadget the action is invoked:
    'All': If you click on this button, all files are checked against
          the criteria.
    'Dir': Only the files which are directly in or below (in a sub-dir
          of) the currently active directory (the one in the left
          listview with the cursor on it) are treated.
    'Files': Only the files which are currently displayed in the right
          listview are treated.

1.16 Author

                          Author

  snail-mail: Jan Hendrik Schulz
                Elsässer Str. 19
                22049 Hamburg
                GERMANY

      email: schulz_j@informatik.fh-hamburg.de
             or schulzjan@dame.de

NOTE: I only answer questions etc. via email or if you included
      enough money with your mail to cover my costs!

1.17   Rechtliches

                                        Legal stuff

This version of VBackup is freeware. Redistributing of VBackup is only
allowed, if all files are included and unchanged. It's not allowed to make any
profit in any way by redistributing VBackup. Including VBackup on CD-ROMs is
allowed as long as the CD-ROM costs not more than 30 DM / 20 US$. Before
including VBackup on coverdisks you have to ask
                me
                 to get a written
permission.

            VBackup is (c) copyright 1996 by Jan Hendrik Schulz

VBackup is provided as-is, without warranty of any kind. You are using VBackup
on your own risk. I'm in no way responsible for any damage or data loose,
which may result in any way, directly or indirectly out of the usage of
VBackup or the impossibility to use VBackup.

1.18   Danksagungen

                                        Credits

I want to say 'thankyou' to:

  Stefan Stuntz   for
                MUI
                ,
  Wouter van Oortmerssen   for AmigaE,
  the developers of the
                VBS-hardware
                ,

  all my betatester, especially:
    Thomas Haller,
    Rainer Hoenig and
    Frank Leyendecker

  all those, who sent me emails, even if I needed much time to answer some
  of them :-)

  and all those I forgot.

1.19   Zukünfiges

                                        Future plans:

List of planed features (incomplete and in no particular order):

  - New backup-mode without breaks. (-> backup-speed up to 3.4 MB/min)
  - Datacompression using XPK-libraries.

- Restore: Display the average time until the next needed file comes
  on the video-tape. That makes it easier to skip not needed parts,
  if not all files should be restored.
- device-backup (for emulator-partitions etc.)
- Possibility to store the filecatalog of a backup to disk too.
- Maybe usability of seriell-io-cards
- Usage of the local.library.
- Automatic VCR-control (START, STOP, FFW, REW, ...)

- Good ideas
                I
                 hear from you!

1.20 History

                                                         History

version 0.15beta
  - NTSC support (untested, as I don't have an NTSC-VCR)
  - Prefs-window and
                docs
                 a little bit changed/improved.
  - Hardware info removed form the archive. (Reason: See
                here
                 .)

version 0.14beta
  -
                Verify
                -function is available now.
  - Information about a compatible hardware included. (Thanks to
    Michele Giorato for sending me this information.)
  - Removed a bug in the video-read routine, which made it impossible to
    rewind or fast forward the videotape while restoring or verifying data.

version 0.13beta
  - first version with english docs.
  - first version which is distributed on aminet.

1.21 Bugs

                                                       Known bugs

Especially as this is still a betaversion, there are very likely some bugs
left, and some features are not implemented at all. But beside those
unimplemented features there are currently no known bugs.

I'll try to remove (as fast as possible) all bugs which I'll find, or which
will told
                me
                 via bug-report. So please report every bug you'll find, even if
you think the bug is so obviously that very likely someone else allready told

```
                        me
                         about it.
```

Known bugs/problems:

- · If you move the mouse while making a backup, the mouse-pointer may
  appear. I don't know the reason for this, so if you have this problem,
  please tell me what amiga-model you are using, what kickstart and
  workbench version and a list of all programms/comodities you are
  running in background.
  Until I solved this problem: Move the mouse to the bottom of the
  screen, to make shure the mouse-pointer does not overlap the
  data. (Note: Maybe the mouse-pointer doesn't reacts immediately.)

1.22 MUI

```
                        This application uses


                   MUI - MagicUserInterface

             (c) Copyright 1993-96 by Stefan Stuntz
```

MUI is a system to generate and maintain graphical user interfaces. With the
aid of a preferences program, the user of an application has the ability to
customize the outfit according to his personal taste.

MUI is distributed as shareware. To obtain a complete package containing lots
of examples and more information about registration please look for a file
called "muiXXusr.lha" (XX means the latest version number) on your local
bulletin boards or on public domain disks.

```
          If you want to register directly, feel free to send


                       DM 30.-  or  US$ 20.-

                             to

                         Stefan Stuntz
                    Eduard-Spranger-Strae 7
                         80935 Mnchen
                            GERMANY



             Support and online registration is available at

                      http://www.sasg.com/
```