078f4f00-0

Dirk 'Dirkie' Vael

COLLABORATORS

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WRITTEN BY	Dirk 'Dirkie' Vael	November 11, 2024	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

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1.1   Welcome to DiskSqueeze!

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DISKSQUEEZE!

a powerful and yet so easy-2-use diskpacker
for the Amiga Computer

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1.2   Overview

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DiskSqueeze! - Overview Menu

Introduction

Features
Requirements

</div>

1.3 Introduction

                                   Introduction

DiskSqueeze! is the answer to people who are in need for a disk archiver
which has better compression ratio's than existing programs, and has
moreover some extra's which cannot be found in existing archivers. Since
it is a 'must-have' for a new disk-archiver to be compatible with the DMS
tool (Disk Masher System), this option is also implemented. But before we
go to all the features of DiskSqueeze!, let's talk a bit more about the
currently available disk-archivers.

Almost every Amiga owner who has worked with compressed files, has seen
and/or worked with the DMS tool. This tool, the follow-up of a disk
cruncher called 'Warp', was released in 1991 by the American firm SDS
software. The Warp tool, also from SDS and which was very similar to DMS,
was one of the first disk-archivers for Amiga computers those days,
together with 'Zoom'. But as you might have guessed, DMS was fast,
compressed better than 'Zoom', 'LHWarp' or 'Warp', was relatively easy and
(almost) totally free. The docs were missing with the DMS distribution on
Fish Amiga Lib disks, but the program was pretty self-explanatory.

Then came the new Amiga's, SDS passed away (RIP) and DMS (v1.11) had still
some bugs, which were sometimes very frustrating. The program itself
crashed sometimes for inexplicable reasons (it even crashed on my machine
just a few minutes ago!), archives were sometimes unstable (cf.
ERROR!ERROR!...), and the compression routines were becoming outdated
(although still MUCH faster as 'DImp' (Disk Imploder)).

These kind of archivers, especially DMS, were mostly used by pirates (come
on guys, admit once!). This wasn't funny for SDS, but the Amiga-user
benefited somehow from this situation, cause pirates recoded partially
these disk-archivers. Guys like 'Paradox' and 'Quartex' made their own
enhanced versions of DMS or Warp (DMS v1.51-53 / WarpXtra3+), and some
dudes tried even to make money with it (ParCon), releasing DMS as DMSWB

2.xx. However, these pirates often forget something good programmers and Commodore (almost) never did... compatibility ... Ever tried to run DMS v1.53 or DMS 2.06 on an Amiga 4000/040, with all caches on ? CRASHHHHHHH !!! Caches maybe off ? Oh yeah, and pack with the speed of an A500... this was pretty frustrating, moreover by the fact that archives became incompatible with older versions of DMS/Warp... Ok, Paradox claimed that they fixed most bugs in the original version, Quartex made a Warp version which could pack upto 83 tracks (under MFM though), and ParCon made a DMS which could pack high density disks or MS-DOS disks, but what if the archiver itself isn't working properly on your fast Amiga ? DMSWB crashes also when started from WB ! (and not from CLI..?? stupid...:-)

There was also a new compression-standard coming to Amiga, called eXtended PacKer (XPK). Very flexible, up-to-date compression algorithms for all kind of data, all hosted by one library, and endless update-able. Backup programs, doublespacers, etc. were starting to use these compression algorithms... However, DMS was keeping up pretty well in Amiga-land, certainly because of pirate-support ...

Once I switched to XPK, I was happy for some time. Transparent packer for files and/or devices (including harddisks) ... hmmmmm ;-) But this year, another cruncher saw the light in Amigaworld... LZX. PC suckers always say that nothing beats their ZIP or RAR archivers, and they have MS-DoubleSpace, Stacker etc. Amiganoids were forced to work with LhA, fast but not as good as ZIP. Amiga versions of ZIP were always a bit inferior in compression than their PC-counterpart. Moreover, PC's are very fast these days, which benefited PC-ZIP aswell.

This time, we can kick some PeeCee ass, showing them LZX (on a fast Amiga of course ;-). Compression ratio's unrivalled, especially for big files. Lotsa whining on internet-newsgroups, but you couldn't deny the superior compression ratio's in daily 'work'. Sadly, there are a few things missing in LZX. If you compare LZX 1.20r with LhA 1.50r, you'll see that there is alot of extra options with LhA, like disk-spanning, move option, etc... Moreover, LZX doesn't support XPK or PC (still under development, says J. Forbes, author of Amiga LZX). Although Amiga-owners have the very talented gift of being VERY patient ;-), some Brit Amiganoid called 'Adam Chapman' couldn't stand it no longer in this DMS world, and decided to make an disk-archiver based on LZX. His result was called xDM (eXtended Disk Masher). I was pretty surprised that making a disk archiver is really easy (...). However, xDM had really alot of bugs and wasn't flexible at all. Therefore, decided to put my Amiga-knowledge of the past 8 years into a better version of xDM. For more about xDM, see History. After I uploaded xDM v1.2 and a much improved xDM 1.3, Adam finally reacted to my calls to agree/disagree with the release of this. He reacted on it by removing my xDM v1.3 from the Aminet! Grrr, me pissed off. He was working on a v2.0 xDM, and I was 'degraded' to a beta-tester... When I saw what xDM v2.0 was, I was very bitter that such a thing was the reason for the destruction of all my hard work on xDM 1.3. Even when I saw further improved versions of xDM, I was still thinking that it could be done MUCH better. Well, the result is DiskSqueeze!. An versatile, ass-kicking disk-compressor.

I made this because I wanted to solve all experienced troubles with DMS and xDM, and not seeing somebody else running away with all my ideas ...

Hope you enjoy it,

Dirk

1.4 Features

'DiskSqueeze!', the ultimate 'kick-ass' storage solution, featuring:

* ALWAYS better compression ratio than DMS (using the LZX algorithm)

    -> not that much gain for packed disks (few percent), but upto
       33 % for unpacked disks
       And wipes the floor with XPK too, regarding disk-packing

* faster compression for registered LZX users (LZXr autodetected)

    -> yep, with the -Qf and af options
       The -9 option is crap, cause it's 20 times slower than -3, and
       gain is only 3% or so (see benchmarks)

* DSQ-archives include verbose filelist for valid ADOS/MAC/PC disks !

    -> yep, and that's totally new for a disk-archiver

* supports ADOS/MAC/PC (high-density) disks (+ other device-drivers)

    -> yes! again new, and future filesystems will work too with it !

* DiskSqueeze! also handles DMS and xDM archives without ANY problem

    -> hmm, nowhere seen yet

* inbuilt DMS to DSQ archive-convertor (also seperately available)

    -> obligatory, I guess ;)

* supports up to 2 ramdrives (for quick packing/unpacking/converting)

    -> more than enough, I guess + very handy for big-mem systems (>5 MB)

* fully multitasking + OS compliant (no extra libraries required)

    -> OK, like most of the bunch

*   easy, mouse-driven ASL user-interface

    -> Aha, that's not so usual

*   smart memory-usage monitoring + full error-handling

    -> For those nasty bug-hunters, or the silly wussies

*   extensive AmigaGuide documentation

    -> Hmmmm, I hope it's useful, and if it isn't, just read it anyway

```
*              very flexible installing (anywhere you want!)

   -> Pff, it's hard making an installer-script without manuals!

*                   including nice MagicWB icon

   -> Yep, took me all night just for that one little sucker to draw

*          *free* (!) registering for future updates/tools etc.

   -> The only road to success  (???)
```

1.5 Requirements

```
                     Requirements for DiskSqueeze! (DSQ!)


· an Amiga ;-) : sorry, since LZX isn't supporting PC/Unix yet, forget it
                 porting DSQ!-archives to Aminet etc...

· a M68000 upto M68060  (M68EC020 or better recommended)
                     Remember to select the correct version of LZX for
                     your CPU.

· OS 2.04 (v37.175) or higher : people who are still working with
                             1.2/1.3 ever heard of FAST Amiga's ?
                             OS 3.x is still MUCH faster, and for those
                             who have an A3000 and are interested in
                             cheap OS 3.0, or all A500/1500/2000/2500
                             users with a recent kickstart switcher,  I
                             sell my OS 3.0 chips for  £10 / $15 / DM25
                             with all the disks etc. included.
                             (see e-mail adress for more)


· a 'working' WorkBench or Shell with:

        most system libraries (DiskSqueeze! doesn't use extra libs)

        the following directories:
        - ENV:
        - C:
        - T:

        in your C: directory
        - list / assign / eval / diskchange / mount / resident / type
          rename / RequestFile / RequestChoice
          (Hey OS 2.x users!: these last 2 files are included in this
          archive, and will NOT be found on your WB 2.x disk!)

        - the 'More' textviewer, supplied with your WorkBench disks
          (may be located anywhere on your system)

· 1 MB RAM  : This is theory, expect dogslow compression with this kinda
              memsize. Even 512 K users can give it a try.
```

However, you need a harddisk or a second floppy drive to
work with only 512K RAM
Since 512K users are an endangered species, I would suggest
2 MB of RAM as a good minimum. Fast RAM makes everything
MUCH faster (upto 4 (=FOUR) times !! > You'd be surprised!)
4 MB is more than enough for DiskSqueeze! when not using
the two RamDrives and the T: temporary storage dir at the
same time (checked by DiskSqueeze!)
A harddisk is still very recommended for crunching, but
from 3 MB onwards, not really recommended anymore.

!BUT! if you wanna squeeze HD disks (1440/1760K), add 1MB
of reserved harddisk-space (or RAM)

· LZX 1.20   evaluation or registered copy (check Aminet: util/arc)
               See LZX docs for more info on this

· all other files (PackDev, TestDevice, DirII & OS 2.0 requesters) will
  be installed by the installer script, using the Commodore 'installer'
  program (found everywhere)

· all the necessary files (except the commands) are checked by DiskSqueeze!
  when starting it up. They might be replaced ANYWHERE on your system !!

Optional requirements:

· DMS 1.11 (check Aminet: util/arc)
  Not necessary, but if you wanna have DMS compatibility (for unpacking
  and/or convering), a must-have

· dd 1.1 (check Aminet: disk/misc)
  Only needed for uncompressing old xDM archives (1.0 - 1.2)

· MFS 2.x = MultiFileSystem (check Aminet: disk/misc)
  Also not necessary, but if you wanna squeeze MS-DOS or MAC disks, again a
  must-have. MS-DOS disks require additionally 'CrossDOS' (see Workbench
  (OS 3.x), Aminet or Fred Fish), MAC (HD) disks require 'MaxDos' or
  'CrossMAC'. CrossDOS is installed in 3.x ROM's, CrossMAC has to be
  purchased seperately from Consultron, the guys behind CrossDOS. For
  MaxDos, check Aminet biz/demo for more details.   Be sure to use MFS v2.2
  if you're using the FAST CrossDOS 6 Pro.

  If you want to have a look at the docs of PackDev, RequestFile (for 2.0)
  or DirII, check Aminet, it's all there for free! I haven't included them
  here to save some bandwidth for all you modem-freaks...

1.6 Installation

                        Installing information

 SpeedUp is a small tool to autoinstall all necessary environmental files,
 except the DSQ temporary path variable, which can be altered in the main

program itself...

For those who want to install the rest manually, read the following:

Since DiskSqueeze! is designed to 'float' on your system, you can place
almost all its files wherever you want!

Those 'floating' files are:

DiskSqueeze!   __together please!
DiskSqueeze!.info   /

PackDev

DirII

TestDevice

LZX (not included here)

DMS (not included here)

dd (not included here)

more (Commodore textviewer, see Workbench disks)

Make sure you have all necessary AmigaDOS command files (see Requirements)
in your C: directory.

If you want to make DiskSqueeze! a bit faster, make sure you copy the
following 8 very small files from your ENV: dir to your ENVARC: dir (if
they already exist -> you need to run DiskSqueeze! first):

DSQ, LZX, DMS, More, dd, TestDevice, DirII, PackDev

Next time you boot your system, DiskSqueeze! won't have to look for these
tools anymore, but will know straight ahead where they are located (using
these ENV files)

Note: If you place one of the 8 executable files somewhere else, make sure
to re-run the 'SpeedUp' tool; it will refresh all needed ENV files (except
the DSQ temporary path variable.

1.7 Usage

                        How To Use DiskSqueeze!

Well, the program is pretty self-explanatory, so I won't start whining as
"first you click the icon, the you move your mouse to the menu..."

No no no! ;-)

Just try it out for yourself, there's nothing you can do wrong, as long as

you know what unpacking and packing means... unpacking needs always a
device, so make sure that the destination disk (RAD:, DF0:, etc...) isn't
containing vital stuph or so... it will be completely erased after an
unpacking session !

Therefore:

This software is provided as-is, without warranty of any kind, either
expressed or implied. In no event will the author be liable for direct,
indirect, incidental or consequential damages or data loss resulting from
the use or application of this software. The entire risk as to the
results and performance of this software is assumed by the user.

;)

For those who want some info, I'll give you some (but it's pretty dull)

When starting up with a small system (no HD or low-memory), DiskSqueeze!
will check what it can do to avoid lot of problems (disk-swapping, etc.)
Make sure you choose a disk-based temporary path, and not something like
RAM:, T:, ENV: or so... Mounting RamDrives (automatically) will also be
pre-checked by DiskSqueeze!, to avoid problems...

Disk-swapping can be avoided using the 'resident' command. All this is
taken care of by DiskSqueeze!, IF necessary of course... (at the expense
of \ensuremath{\pm} 125 K)

If some necessary files aren't present (not DMS. 'more' or 'dd'), and this
after a fierce search ;) DiskSqueeze! will complain and exit. See more on
this in the requirements section.

Main-menu Options:

Pack   This option will squeeze the device you select...

  (If you wanna know something more about 'mixed filesystems', press HERE)

UnPack   This option will decompress an disk-archive. Current supported
            formats are DiskSqueeze! (DSQ), Disk Masher System (DMS) and
            eXtended Disk Masher (XDM). DiskSqueeze! will apply the
            decompression routines based on the extension of the archive.
            If you try to change for example the extension of a DMS archive
            to ".dsq", DiskSqueeze! will inform you that the archive is
            fake or corrupted (i.e. broken, due to some transfer error over
            modem, or just a read/write error, or maybe because the archive
            was created using a pirated version of the archiver...;-)

View   With this option you can view what is actually stored inside
            the archive (not some useless crap like DMS gives you, but (and
            this is pretty cool) filenames, disklabel, filesizes, directory
            structures, etc...) All this is made even easier to read by
            using ANSI colour-codes. See the docs of 'DirII' for more...
            This option is also seperately available (see 'Hints' and/or
            'Registering')

This option is NOT available by ANY other diskarchiver ! Have
fun with it...
Oh yeah, when unpacking an archive, you'll get the option to
see what you're about to unpack aswell.

There is one important note about this goodie: when your disk
isn't using any filesystem (trackdisk loader programs, like
most megademos do, and also some games, DiskSqueeze! cannot
create such a filelist, since there do not exist any files at
all !

Note: when packing an empty disk, you'll see that DiskSqueeze!
will inform you that the disk is using a 'mixed~filesystem'.
This means that there aren't any files found on the disk, but
that the directory checksums are valid. Easier explained, this
means that the PackDev program would be misled when using the
BAM (Block Allocation Map) of the disk to read its contents. It
would normally result in an archive of 250 to 328 bytes, which
looks a bit too small to be a valid archive (if that would be
TRUE...).
Therefore, select MixedFs option when this occurs...

For those who are DMS-experts: this option is the same 'NOZERO'
                                 in DMS.

Convert   To convert DMS- to DSQ-archives... nothing special to say about
            this, I guess...
            One note : if you cancel the convert function after unpacking,
            you'll be directly back in the main menu. If you pressed the
            wrong button, then just continue by selecting 'Pack' and take
            the same device you were using to convert...

I, 'Dirkie' Vael, have tried 2 imagine what things can go wrong, and I can
assure you that it will be hard to get DiskSqueeze! do things that aren't
supposed to happen (tell me if you did manage it!). Have fun finding bugs
and stuph, but if you f**k around with the installation script or system
files, remember that I cannot forsee all nasty things...

1.8 Hints

                  Hints using DiskSqueeze!

- if your disk is a normal DOS disk (Amiga or PC), make sure it's not
  fragmented. (use 'ReOrg' (Amiga > Aminet) or 'DEFRAG.EXE' (MS-DOS))
  This will improve your crunch-speed AND will save some extra bytes
  (\ensuremath{\pm} 5%) from your archive size (read benchmarks!)

- use a ramdisk for FAST converting (see benchmarks again)

- How 'mixed filesystems' can be detected, click HERE

- Making an DSQ-archive-viewer in DOPUS is very easy:

just assign a button with following details:

name it whatever you want (DSQview or something)

no flags

<new entry>

```
AmigaDOS   LZX -m x {f} T: Files.dsq
Command    FinishSection
AmigaDOS   Delete T:Files.dsq
Command    AnsiRead T:Files.dsq
Command    Notify "Archive listed... (if nothing appeared, it's a NDOS disk)
```

[I know it's weird, but delete it before you ansiread it...]

- Making a quick bootblock viewer in DOPUS is also very easy, but requires
  the 'dd' utility, also needed to unpack xDM v1.0 - v1.2 archives:

assign again a button with a preferred name

no flags

<new entry>

```
AmigaDOS   dd -q -c2 -r{s} T:bootblock
Command    FinishSection
Command    HexRead T:bootblock
AmigaDOS   Delete T:bootblock
```

- Since I anticipated all problems during packing, I cannot give any more
  hints... ;-)

1.9 Troubleshooting

                            TroubleShooting

What can I say ... ? Since most of the errors are explained in the program
itself, I can hardly add much to it...

Just here are a few reminders:

To make sure that all required commands are present, check the
installation page (HERE)

If files are corrupted, LZX cannot unpack the archives, so DiskSqueeze!
can't do much about it... pity for you...

Don't try to unpack a high-density disk or 'fremdformat' (other FS, like
MSDOS or MAC) to ramdisk... (see bugs)

Make sure your path for temporary storage (see 'ENV:DSQ') ends with a ':'
(for devices) or '/' (for directories). if it isn't, DiskSqueeze! will
force you to choose a valid one

The opposite is applicable for filenames (as always) : please don't try to
use ':' or '/' in a filename (read your AmigaDOS manual for more on this!)

Save memory doing the following easy steps:

- close all your non-DiskSqueeze! windows

- don't choose for the non-disk-swapping option if DiskSqueeze! asks for it

- quit all applications (screenblankers, jingle-tools, etc...)

- replace the line in your S:Startup-sequence saying "LoadWB" with

  "LoadWB -debug"

  Now choose in the 'Debug' menu (next to the 'Tools' menu in WorkBench)
  the 'flushlibs' option... this frees more than avail flush (which is
  already done by DiskSqueeze! anyway)

  If you accidentally clicked 'ROMWack' (a terminal debugger), just wait
  25 seconds and your machine will unfreeze again (on an A4000/040 is
  it 25 secs, maybe more on a slower Amiga?...)

- choose a disk-based temporary storage path

- remove ramdrives and REBOOT your computer

- don't use ramdrives (but DiskSqueeze! will check if this is possible)

Unexpected failures do occur with pirated versions of LZXr... Ask the
author of LZX for more about this... he'll probably smile... (a failure of
the archive itself is also possible... I warned ya! ... 8-O

If you can't temporary store your image onto a 880K floppy, try diskspare
device (found on the Aminet), which gives you over a whopping 1,000,000
free bytes on a standard Amiga 880K disk... But remember that PackDev can
crash if you try to pack a diskspare 1 MB or 2 MB (HD) disk !!!!

No more troubles to shoot... (I hope)

If you have any difficulties with your Amiga, don't hesitate to contact~me
(I am very friendly, you know ;-)

1.10 Known Bugs

BUGS in DiskSqueeze! :-/

Although I have put every effort in this program to avoid bugs (I even
made some 'fake' archives to see how DiskSqueeze! reacted on them, and
afterwards I enhanced the script to avoid bug-traps)...

However, there are some bugs I cannot workaround (yet?)

All of these are because the used tools with DiskSqueeze! have bugs ;)

1. PackDev bug : if you insert a disk that was created with
AFS(=PFS)/diskspare etc., well, PackDev hangs... at least on my system...
The author of PackDev hasn't yet found why this occurs, but he's smart ;-)
so expect a bugfix for that soon

2. PackDev + DirII bug : if your AmigaDOS disk is using a valid
filesystem, but some asshole added an endless directory-loop or made the
disk unreadable using root/dir-header editing, DiskSqueeze! will hang. I
have encountered only a few (old) disks who had these fucking directories
('CCS Musicdisk', almost all 'Bitstoppers' cracks, almost all Bamiga
Sector One cracks (hello Peter!) and 'Ports Of Call' (cracked by 'Warriors
o/t Wasteland'). The games were hacked ones, so you legal guys can be
assured that you normally will never encounter these nasty disks. The only
solution to this is copying the files of the disk to another empty DOS
disk or do some sector-editing (removing the 'looped' directory headers,
but be careful, always try this on a copy first!)

3. DirII bug : if you pack/convert a disk, the label of the disk will not
be stored in the archive list, but only the device-name the image was came
from...

4. LZX bug : When there is a memory failure (out of memory), LZX will
abort the process, but won't return a return code for this. The WARN flag
has no effect on this kinda error, but I work this nasty bug around by
checking if the DSQ-archive has a reasonable size (and not 10 bytes, like
it otherwise would be when LZX failed undetected)

5. dd bug : 'dd' gives no error returncodes whatsoever, so using this
muthafucker is real hard in a script. Therefore, I made a check on whether
there was a disk inserted in the chosen device when dd unpacked to it, and
there wasn't any disk present. However, due to the nature of this
'Testdevice' tool used in DiskSqueeze!, there will always be a reminder
requester asking if everything went well when a NDOS disk, archived with
xDM, was succesfully decompressed to a device. There was no other way of
avoiding this problem. Other errors with dd are also undectected, but a
reminder-requester will politely ask if all went well. I could avoid this
requester by suppressing all dd output, but then you're not seeing anymore
what is going on... (same reason why I let DevPack show its info in the
DiskSqueeze! window)

6. AmigaDOS bug : If a ramdrive is unmounted with 'remrad', the system
will still recognize that ramdrive... PackDev will certainly complain...
Restart your machine after a remrad if you wanna re-use your ramdrive(s)

7. DSQ bug : if you're processing high density disks, remember to add ONE
megabyte of memory to the minimum requirements for memory (cause
DiskSqueeze! won't ;-) Normally, people with highdensity drives are
serious users, with plenty of RAM...=)

8. DSQ bug : Unpacking HD-disks and/or MS-DOS disks (or whatever
filesystem, like MAC) to the ramdrives will result in a failure EXCEPT
when the cylinder values are modified in the mountfiles of RAD: and RAD2:

9. DSQ bug : If you wanna view a file with a '.dsq' extension, but it
really isn't a DiskSqueeze!-archive, the program will just say that this
archive is originally a NDOS disk. (I could avoid this, but than LZX has
to work first, and that's not funny for slow Amiga-dudes)

10. DSQ bug : don't fuck around with the ENV files while the program is
running. This WILL disturb the process seriously! (not really a bug)

Final note:
The 100% sure bug-free version was accidentally discarded on Friday, so I
had to re-fix an earlier version ... I hope all bugs were cleared in this
new quick-fix version (I have only tested it a few hours, while the other
version was tested succesfully during two days...) Inform me if you find a
nasty hidden bug...

1.11 History

                              DiskSqueeze! History

I'll save you from all the beta-versions with their ommitments and
bugfixes, but I can assure you that it was sometimes very hard to find
where those nasty bugs came from, not forgetting all those times that my
backups fucked up (even this weekend I lost four hours due to an overwrite
operation that wasn't supposed to happen... :-(

The only thing I can tell you about beta versions is that 83 tracks were
supported upto version 0.75b, but then kicked out because it was just too
unstable.

I'll save you most of the crap history stuph regarding xDM 1.1 - 1.3, the
'father' of DiskSqueeze!, since this tool has been erased from Aminet
anyway. Some short crap follows:

xDM 1.0 : written by Adam Chapman

xDM 1.1 : small bugfixes, 4 floppydrives support, 'looped'
          [done by ME - unreleased]

xDM 1.2 : bugfixes, 1 ramdisk avail, dd implemented, better ASL config
          [Aminet June '95]
          [Adam didn't react on my snail-mail message]

xDM 1.3 : bugfixes, PackDev implemented, multifilesys, xDM backwards

compatible, AmigaGuide docs
[Aminet July '95 / Amiga Shopper October '95]
[Adam finally phones me, and erases xDM from Aminet, without
telling me this > I got the message from Urban Müller himself]

xDM 1.4b: bugfixes, 2 ramdrives supported, DMS convertor implemented
[unreleased]

Since then, Adam asked me to hand over all my ideas to him, but I didn't
like this, because it didn't go fast enough + too many bugs in his BETA's
(more than in my (previous) xDM 1.3 !). Finally, I could persuade Adam to
implement PackDev... (he sticks also with 'dd' for some unclear reason).
I also think he will include DMS compatibility in xDM, since I suggested
that to him too (not included in xDM 2.0beta5, though)
Since I was told by Adam that he wanted to do all, and I would just be a
silly beta-tester (I found that out soon after), I was pissed off even more
than when I read Urban's mail...

So I went my own way, developing DiskSqueeze!, based on MY xDM 1.4c
version, NOT Adam's 2.0 beta's (OK?). Well, this is the result (I worked 6
weeks on DiskSqueeze!, so don't think it's just a renamed xDM).

Further improvements were:

- OS 2.04 compatibility (thanks to Rainer Koppler for suggesting me this)
  (> without seperate versions, as originally planned)
- high-density/MSDOS/MAC etc. support
- DMS support
- xDM support ;-)
- File-format-recognition for DSQ/xDM/DMS
- File-list included in archives of valid DOS disks
- File-list extractor for valid DOS archives
- all bugs removed (?)
- memory dependant operations
- better device-handling
- 2 ramdrives supported
- read short-readme for more

I hereby officially announce that I'm NOT affiliated with xDM anymore
(Adam can keep my ideas). If xDM is released to Aminet, let's see what's
best...

Bugfixes from 1.00 to 1.01

Oops, even registered users were insulted as 'wussie pirates'... sorry if
some registered LZX user felt offended by this... It's 100% my fault, and
I apologise for the inconveniences...

Ok, what went wrong ?

Well, the algorithm to detect a pirated keyfile was OK, but it was again
the 'VAL EQ' instruction which caused the trouble (I do really think this
is some flaky bug in the OS, since it gives sometimes the good result, and
the next moment it's wrong ... ??? That's what happened here ... All was
cool and working (even with my valid keyfile), but then the f**ker refused
to accept my keyfile... I have encountered these problems more than once

while developing DiskSqueeze!, and I dunno what the reason for this flaky
behaviour of VAL EQ 0 ...
Anyway, I made another trick to check, and this time, no more problems
can occur...

I also replaced PackDev with the latest release 1.5 (thanx Chris), so bug
number 2 was resolved too (the noconfirm stuff -> see dox of DSQ 1.00)

Also some benchmarks were added for LZXr time ratios (much faster).

1.12 Future

                              Future plans with DiskSqueeze!

                     >> Only implemented if anyone asks for it ! <<

- more ramdrives support

- xDM to DSQ archive convertor

- DSQ to DMS archive convertor (for guys who wanna upload their stuff to
  Aminet)

- 'Chunked' reading/writing/crunching (cf. DMS)

- a C++ version (no more script stuff) > if I know enough Amiga C++ (I
  only know C for PC at the moment)

- a version which can read raw track formats aswell (won't be with
  PackDev!) (does this already exists ? I only have WarpXtra3+ MFM, but
  that requires additional hardware before it really works, I believe...?)

- an flexible and stable 83 track implementation (if a tool for this
  exists, not like WarpXtra3+ - see note just before this one)

- any bugfixes (?)

- a Windoze95 version ...??? Over my dead body! I don't work with crap >=)

- if LZX-XPK compressor library comes out, MUCH faster version out soon

- ??? ... let me know

1.13 Free Registering

                              Registration info

How do you register ?

DiskSqueeze! is 'pictureware', which means that you'll have to send a

picture to me (in digital format - any format is OK (PCX/GIF/IFF/JPG/PCD))
of something weird or nice... (a nice chick is a good suggestion ;-)

Snail mail is OK, although I prefer e-mail for fast replies...

See Author for all the address stuph...

What do you get for this picture in return ?

- FAST & longlife updates/bugfixes/hints/etc
- a seperate utility to decrunch DSQ archives
- some interesting mail now and then (e-mail only)
- a surprise... 8-)

1.14 Author

                              Info about the author

name: Dirk Vael
born: 1972
addresses:

        (weekend)
        Merellaan, 33
        B-9060 Zelzate
        (silly) BELGIUM (Europe)

 tel: +32-93447196
 fax: none (yet)

 OR (my student tenement in Antwerp (weekdays))

        Korte Noordstraat 5
        2000 Antwerpen
        BELGIUM (Europe)

 if you want to have fast snail-mail replies, use this address instead of
 my home address

 email:

 till the end of September: te900078@beta.ufsia.ac.be
 from October till Sep'96 : mb900078@beta.ufsia.ac.be

 (this is fastest way of reaching me)

 If you're having trouble to reach my e-mail address (bounced mail),
 try this one:

 hi910097@beta.ufsia.ac.be

 (which~is~the~account~of another Amiga-freak called~Frank~Verheyen)
 Ask him where the hell I am, he'll surely know...

current activities:

'doing' a post-academic year called 'Master of Business Administration'
(MBA), at the university of UFSIA, after finishing studies in Applied
Economics (orientation: informatics) also at the university of UFSIA,
Antwerp (Belgium). Graduated AE with a thesis about Amiga systems (over
400pp). Also teaches students at that same university about Internet,
LAN's, WordPerfect, MS-Office, ... (and they even pay me for it ;-)
(try our WWW page .. euhmmm, damn, I forgot! Try http://www.ufsia.ac.be or
 e-mail me for the correct address)

hobbies:

-Amiga, esp. the high-end stuph (since 1988)
-Garage music (like 24hr Experience, Strictly Rhythm stuph, MaW, Roger S,
 CJ Mackintosh, Carl Craig, David Morales, Todd Terry, Italo grooves...)
-DJ'ing at local house-parties
-IndyCar and Formula 1 racing (euh, watching it of course)
-Beavis'n Butthead (they're like.. euh...cool.. huh huh huh)

DiRkiE's fuNNy coNfiG:

A4000/040 25Mhz
2 MB chip RAM (like most of us...)
8 MB fast RAM
IDE 420 MB HDD
IDE double speed CD-ROM
5,25" 880K external diskdrive
A1010 880K external diskdrive (3,5")
MicroVitec A1438 multisync monitor
HP LaserJet 4L printer
OS 3.1

From October 1995 on, and after wasting $5.000, my fuNNiER coNfiG
will (hopefully?) be:

A4000/060 50Mhz
2 MB chip RAM
16 MB LOCAL RAM
2,1 GB FAST-SCSI-2 harddisk (using CyberSCSI-2 interface)
Pinnacle Micro RCD-1000 Rewritable Double Speed SCSI-2 Internal CD Drive
Toccata 16-bit soundcard |
2 $\times$ 1.76 MB internal diskdrives |
5,25" 880K external diskdrive |
A1010 880K external diskdrive (3,5") |
MicroVitec A1438 multisync monitor |
HP LaserJet 4L printer |
OS 3.1 (OS 1.2/1.3/2.04/3.0 softkicked w/ Set040) |
   _____|
  /
(*) Finally I'm gonna get all my awesome and precious groovy garage vinyls
    on CD, mixed by myself ofcourse, using ASIMware's MasterISO software.
    CD-ROMs or CD^3^{2} can be made too with this... YESSSSSSSS!!!!
     (Gimme a sign if you are interested in this as much as I am :)

Also the CyberVision64 gfx card and the MicroVitec A1564 monitor are on my wishlist, but that's something for '96, I'm afraid :(

Oh yeah, I almost forgot that there's an A500 w/ kick 1.3 & 1 MB standing in a dusty corner (for old games only, I'm afraid!) It's linked serially anyway with the A4000, just for fun, I guess...

Other machines:

486SX40 desktop 4MB ram, 170 MB HD (old but necessary evil, I guess)

486DX66 portable 4MB ram, 350 MB HD, colour display (a cute machine!)

Psion 3 256K with extra worksheet flashcard (funny thing, but 3a is definitely cooler, Marc)

Signed,

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           Y@@@@_@@@@[  !@@@@@    !@@@A   @@@@@''M@@@@i  !@@@@b Y@@@@W___
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1.15 Wanted

                              FOR SALE

A3640 CPU board (68040 25Mhz incl. MMU & FPU for A3000/A4000)

(100% OK, revision 3.1, 1yr old, incl. software)
price: 15.000 BEF = 500 UKP = 750 DM

OS 3.0 package (for A3000/A4000 and recent kickswitchers)
(100% OK, incl. books (German), disks and 2 kickstart chips)
price: 500 BEF = 10 UKP = 25 DM

Tandem Zorro-II controller card for IDE CD-ROM and 2 IDE harddisks
(100% OK, incl. extra cables, software and orig. box, 1yr old)
price: 1.500 BEF = 30 UKP = 75 DM

Suggestions are welcome! See Author

                              WANTED   ,'-/

a solution for the memory-problem with Set040 and OS2.04 (Is it possible
to allocate any fast-ram or harddisk??)

a PD program which creates maps for an old (1987) Amiga game called
'FirePower', a gorgeous tank battle game from 1987, still working pretty
good on my A4000/040 & OS3.1 & all caches on (except laying mines freezes
the system... still clean programming) I know it exists, but it's very
hard to find... The guy who finds this program will rewarded VERY
generously!

RattleCopy v4.0 or later which works on an A4000 (or patch)

1.16 Salutes

        Thanx must go to the following friendly Amiganoids:

Frank Verheyen : Keep programming, dude!

Tim Groenwals (tgroenwa@zorro.ruca.ua.ac.be) and the guys of HCC Antwerp
(Amiga division) for helping me with my thesis...

Adam Chapman for his xDM concept and his nice phonecall

Ian Wilson for his nice mailings (ian@iwilson.demon.co.uk)

Jonathan Forbes for the awesome LZX program. Come on guys, get registered
now, it's worth every penny of it! (but be VERY patient...)
(jonathan.forbes@canrem.com)

Bruno Costa for 'dd' (bruno@impa.br)

the Amiga store 'Hirsch & Wolf OHG' (in Germany) for excellent prices and
service (Na daß war schön, Vielen Dank!)

Oliver Hitz (oliver.hitz@unifr.ch) for his LJ4-Boost proggy

Christian Wasner for PackDev (crisi@blackbox.shnet.org)

Simon Dick for his handy RequestFile for 2.0 owners

Stephen Davies for his excellent DirII tool (I love it!)
2:2500/73.18@fidonet

Will Bow (wbow@crl.com) and Colin Thompson (colin@cts.com) for TestDevice

Paul Reeves at AsimWare Innovations Inc. Canada (reeves@guy.asimware.com)

Geert Peeraer at UFSIA for all the help (check our http://www.ufsia.ac.be)

Tony W. for keeping me informed about all kinda Amiga 'thingies'

Tim Stalmans for bug-reporting (tim_stalmans@metnet.demon.co.uk)

Rainer Koppler (Köppler?) for the e-mail

The rest of the Amiga-community (including the magazines, esp. Dave @Amiga
Shopper), except the lamers, like "Click!" ,'-/

My brother Luc Vael, a London-based lawyer, for the awesome 'Kiss FM'
tapes he sends up regularily.

Thank you Paul 'Trouble' Anderson, Steve Jackson, and all DJ's spinning
the groovy 'tech-funk' tunes from Chicago. London and NY every day.

Tommy Vandaele, my partner in crime, along with 'Rikske' Verlinde and
'Koentje' Verschueren : the message still reads "De gebuisde kut en eure
debiele kliek zal ons nie te pakken krijgen" Oh yeah, and I cannot forget
Viki & Gitta for their charming company in Antwerp! ;-)

Ruby & Viete (for their SL-1210's and professional Technics/Denon/Luxman
audio hardware)... keep the vibe alive guys...

And remember guys:

Wintendows95 from Mickeysoft needs an MMU (Marketing Management Unit) to run

(next to the Pentium w/ 16MB ram + 500 MB hd... and this with MS-DOS as OS)

You DO know that Win95 is NOT an operating system, but just a *16* bit
(and not 32, just some kernel stuff is 32bit, but most of it is 16bit!!)
resource-hungry front-end for 11yr old MS-DOS, with 640K base mem, FAT
filesys, ... ?

Hahahahaha .... Win95 ... 1995 ?? Win85 sounds better!

Ok, cut the crap, as long as you remember this:

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1.17 Technical Info

                          What is DiskSqueeze in fact doing ?

To put it very simple:

DiskSqueeze! uses a DMS-like way of reading disks, and compressing the
image as a file with LZX

To put it not so simple:

DiskSqueeze! uses a combination of various tools (6 for the moment)
connected in some way to each other using a very complex AmigaDOS script.

The six tools are:

dd
an outdated disk-reader. Only needed for xDM 1.0-1.2 compatibility. This
tool has no error-return codes whatsoever, making it pretty hard to use it
in a script. Also are only 880K AmigaDOS disks supported.
version 1.1 supported

DirII
this tool is just a dir+list replacement, and is used in DiskSqueeze! to
store the filelist of the AmigaDOS/MS-DOS/MAC etc. in the archive It is
better than dir or list because it has much more parameters and gives a
nicer output too
version 3.3a supported

PackDev
a very good disk-reader, with optional XPK support (not used   in
DiskSqueeze!). Will support more filesystems in the future.
version 1.5 supported

TestDevice
a small tool, just to check whether a disk is inserted or not, and if so,

whether it's a DOS disk or a NDOS disk
version 1.0 supported

LZX
excellent file compressor. Very hard to get registered, since I've waited
over 9 weeks for my keyfile, (my disk was probably lost in mail, but J.
Forbes was so friendly to send my keyfile through e-mail. Thanks Jonathan)
But beware, the pirated versions of the lzx.keyfile and standalone LZXr
that I have, are very unstable and buggy, due to the two-level protection
incorporated in LZX. I cannot say more about this, because Mr. Forbes
asked me to ! (BTW, I am really registered!)
Still some minor bugs with error codes (and also w/ 'e' command), but the
author confirmed a soon to be released update (1.25 or 1.30)
version 1.20, evaluation or registered, supported

DMS
good but buggy and old (see introduction)
only version 1.11 supported
(not those lame pirated versions, or even the 'pirated pirate-versions',
like I have one of DMS-WB 2.06r (worth absolutely shit))

The script is about 500 lines big, written in pure spaghetti-style ;-) and
it uses 10 or so temporary variables (in ENV: dir). Also, one string
always resides in ENV: , namely 'DSQ'. See installation for more on this.

Advantage of this modular view is that the tools, especially PackDev and
LZX, can be replaced with updates as soon as they become available. Expect
PackDev 2.0 and LZX 1.25/1.30 soon, just to give an example of this.
These updates are more likely bugfixes + further refinements of the
current versions. Expect updates of DiskSqueeze! in the future, if new
options are implemented in LZX or PackDev. Also, when bugs are removed, I
could make the script a bit shorter, in removing all sorts of workarounds
to deal with those nasty bugs (see Bugs)

The writing to disk is slower than DMS, because PackDev verifies every
track written to disk. Maybe can this be left out of it (or with option)
in a future release.
Unformatted disks can be inserted aswell to unpack to, using the enhanced
trackdisk format routine in PackDev (set by DiskSqueeze!)

                         Multitasking Info

When LZX is packing, all other tasks will be frozen (taskpri 5 or lower),
so forget 'user-multitasking' at that specific moment.
If have * NOT * changed the task-priority for PackDev, because I wanted to
give resident virus-checkers the chance of checking a disk when it's
inserted (before PackDev can lock the device).

                         Memory Information

Memory is checked when selecting ramdrives -> no problem

For guys with systems with only 1 MB of RAM, the buffer of LZX is the
default 64K

When having 2 MB of RAM, LZX works with a 256K buffer

When having 3 MB of RAM or more, LZX works with a 930K buffer (fastest)

LZX isn't using a disk-based workdir, since this is only used when really
'adding' files to existing archives. This is not the case for
DiskSqueeze!, where only a (small) filelist is added, if it exists. And
environmental files aren't supported in LZX anyway...

'dd', 'More' and 'DMS' are not made resident by DiskSqueeze!, because they
aren't necessary for basic operation... the others are (AmigaDOS command
'type' isn't made resident too...)

                          Other things you shouldn't know ;-)

DiskSqueeze! was developed with a 800x300 resolution and a XEN-8 font. I
have tested it also with a 640x256 and the default Topaz-8 font, just to
avoid any 'invisible' text... So no problems should occur...

Something big about 'Mixed~Filesystems'

                          DiskSqueeze! was made with...

                     A4000/040 (see Author for config)
                                GoldEd
                      Heddley (Hello Ed, great job!)
                            Directory Opus
                            DiskMonTools
                             ilbm2ascii
                              Set040

1.18 HERE

                       A word on 'Mixed FileSystems'

1. Normal AmigaDOS disks (also for MAC and PC)

The normal Amigadisks are using the AmigaDOS filesystem as the standard
system to store files. This filesystem uses file-headers, directory
blocks, a root block, checksums, cache blocks, links, data blocks and
more...   The   connection between a directory/files and the actual
disk-sectors goes via checksums and headers... The 'trackdisk.device' will
handle the actual sector/track reading. This system has the disadvantage
that it's slower than direct track access + it's eating disk-capacity
before even 1 byte is written to disk. (ex: a 4.3 Gig HD loses about 300 K
when being formatted)
The big advantage of a filesystem is of course the easy and clear way of
managing various data on a disk (adding, deleting, replacing, etc.) Some
flavours of FS were added during the C= Amiga years, like FFS/DC/INTL,

next to the OFS (read the AmigaDOS manuals (or my thesis ;) for more)

>> All these formats are supported by DiskSqueeze!

2. Trackdisk disks (Amiga only)

Some dudes then discovered that it's easier to write their data straight
to the tracks, ignoring the filesystem... Only the bootblock stays valid,
but the rest of the disk is unreadable when accesses via AmigaDOS. The
bootblock contains specific info about how to start reading sector x to y,
and if more has to be loaded afterwards, programmers can still code this
reading session in the intro or so...
Moreover, you can't access the files with a directory utility or a
filezapper, making it harder to modify datafiles (or hack it).

Lot of games-firms use this system because they can cram more on one disk
and the access is much faster than the ordinary way... Also almost all
megademos on Aminet are coded this way.

>> This format is supported by DiskSqueeze!

3. 'Nibbled' disks (Amiga/PC ... MAC???)

Some dudes went even further, and used another system than the normal
trackdisk.device (SYNC's, MFM, etc...), making the disk unreadable, even
for sector editors (like DiskMonTools, SmartDisk, DiskX, etc...) Very
handy for disk-protection systems, but as always, hackers are just always
a bit smarter ;-) [some hackers are now making money legally, making
copy-protections or so...] :-|
Also some PC programs use (track 81) MFM protection routines...

Only lowlevel access to disks makes them readable, but then you gotta know
alot more about disk access in general. DiskMonTools3 features an MFM
lowlevel sector editor (see Aminet)

example of this: Carrier Command

>> This format is NOT supported by DiskSqueeze! (it was once! cf. history)

Now back to the trackdisk.device story:

4. 'Mixed FileSystem' disks (Amiga only)

      THIS IS *VERY* RARE, AND EVEN NOEXISTANT FOR SERIOUS SOFTWARE.
      MOSTLY GAMES AND FEW MEGADEMOS CAN HAVE THIS SYSTEM (about 1%)

Then came a nasty spin-off of this trackdisk-approach... what if you use a
valid AmigaDOS filesystem (with dirs etc.), ** AND ** some 'invisible'
data, written directly to tracks, and not using a fileheader or
whatever... Well, a diskcopy won't make your copy of such a disk faulty,
but with a mere copy of just all files, you're far from success...

If those guys, who made the disk, have ticked the used sectors in the

bitmap or BAM (Block Allocation/Available Map -> cf. FAT (file allocation
table) with MS-DOS)), no problem will arise with DiskSqueeze!. (but still
with copying just the files). I know five (OLD!) examples of such disks,
namely "FirePower", "Faerytale Adventure", all disks using "BootGirl"
(display a picture before the actual disk is booted), all cracked disks
from HQC with an intro on it, and all faulty disks processes with BFormat
(allocates bad sectors as used, just like all harddisk-filesystems do).

Note: NEVER defrag such disks (using ReOrg etc. will destroy them!)

4.A Using bootblocks

However, with (cracked) games who have an intro or trainer-menu using the
bootblock to start the up, it's a different story. If a virus or so erases
your bootblock, you'll notice that the disk won't work anymore (or in the
best case, just the trainer menu/intro is gone)

>> DiskSqueeze! cannot recognize this type of disks (yet?), and if no
utility is released to check whether a bootblock contains trackdisk-read
code, it will stay this way. Come on, someone do the job ???

If you are a happy owner of 'RattleCopy v4.0 Pro' (written by Peter Van
Campen, a dutchie, back in 1991), there's a bootblock analyzer included in
this copier, which makes it possible to show all sorts of instructions in
a bootblock (reads mouse or keyboard, changes screen-colour, reads/writes
data from/to disk, filter switch etc etc etc). Sadly, this utility doesn't
work on my A4000/040. Strangely enough, v1.0-v2.2 works fine on that same
machine, so I think the display-routines are not AGA-happy... Anyone knows
anything to help me ???

I have also noticed that games from the Bitmap Brothers (Xenon I/II,
SpeedBall I/II, etc.) have just an empty directory.
As sort of protection for these type of disks, DiskSqueeze! will check if
the directory is empty. Just try to archive an empty disk, and see what
the program will do...

IMPORTANT NOTE!:
Since the ramdrive does not support a custom bootblock, it's impossible to
start a NDOS trackdisk.device disk from ramdisk. However, the custom
bootblock is present (but just ignored when booting). Therefore, you can
use the ramdrives to convert/unpack/pack NDOS disks without any problem.

4.B Using file-based sector-readers

Also, and this is even more bothering me, there are disks which use a
normal DOS bootblock, but have an executable somewhere on the disk which
loads tracks straight into memory, bypassing the filesystem... These disks
can only be detected by testing and listening to your drive whether it
makes a vibrating noise (= heads which are skipping tracks real fast)

Another trick is checking if the disk contains few little sized files on
it, while the program seems to load alot more while running...   (example:
"BattleChess")

Yet another trick is optimizing your suspicious disk with a reorganizer or
optimizer, like ReOrg or XCopy, and see if the copy still works... if not,
it's a mixedFS disk.

Last advice, for the real manic freaks, is just copying the files to
another fresh formatted disk, and test whether the program still works on
the copy.

>> DiskSqueeze! cannot check for these disks-loaders, but you can archive
this kinda disk without any problem, as long as you select YES at the
Mixed FS question (when you're packing)

4.C Using MFM techniques

Even bigger crap. Combines AmigaDOS with MFM tracks... Where did they get
such idea ?

Example: Fright Night (it's indeed a nightmare!)

I hope this clears up a bit the latin for novice Amiga users...

1.19 Some Benchmarks

                          Some Benchmarks

All testing done on a standard A4000/040 with 7 MB of free memory (3 MB
used for all kinda things) using LZX 1.20 evaluation + DMS 1.11.
A normal IDE harddisk (1,4 MB/s) was used to store temporaries & archives.
(if using RAM, deduct about 2 seconds from all DSQ busy-times)

Remember that these figures become even more spectacular using LZXr...
I have added some time ratio's using LZXr, and they are sometimes * very *
spectacular !!! (the archive size was sometimes 2 or 8 bytes smaller, but
that's not worth mentioning... but now I did it anyway...)

If you change the -3 to -9 option, packing will be dogslow, and gains will
be about 3 to 5 % (not worth the LOOOOONG packing time...)
To give you an idea about speed degrading:

PageStream 3.0h (636 files, 11.713.787 bytes)
packed with LZXr (-Qf -3) : 4.298.404 in 6m30s (36,70 % left)
packed with LZXr (-Qf -9) : 4.213.186 in 30m30s (35,97 % left)

OK, back to DiskSqueeze!...

Test 1: (verbose)

Name: WB 3.1 Storage (original)
Type: AmigaDOS 880K OFS
      517.632 bytes free
      5 dirs & 118 files (uncrunched)
      60% fragmented
Note: loads of interesting recoverable deleted stuff on it !!!!!!!

```
r = read          | (No)MIX = (no) Mixed FS flag | 0x00 = unallocated
l = load filelist | f  = fragmented              |       sectors filled
p = pack          | nf = not fragmented          |_____ with $00's
s = seconds       | () = figure inbetween is archive-size|

Remark 1: MIX nf without $00's is useless to perform (always free unused
                                              blocks after optimize)


Remark 2: PackDev ALWAYS verifies its write operations, making write a tad
          slower than DMS write

** PACK **

Using a floppy drive

DiskSqueeze! 1.00                                     | DMS (CMODE HEAVY2)
-----------------------------------------------------+-------------------
NoMIX f     r: 25s / l: 18s / p: 21s$^1$= 64s  (82900) | 43s (123.164) 33 %
NoMIX nf    r: 19s / l:  7s / p: 20s =  46s  (80862) | 43s (115.624) 30 %
MIX f       r: 45s / l: 18s / p: 47s$^2$= 110s (356422) | 47s (408.812) 13 %
MIX 0x00 f  r: 45s / l: 18s / p: 30s =  93s  (85852) | 43s (123.164) 30 %
MIX 0x00 nf r: 45s / l:  7s / p: 23s =  75s  (83852) | 43s (115.624) 28 %
                                              _____/
($^1$) LZXr = p: 17s > TT = 60s                            DSQ-gain over DMS
($^2$) LZXr = p: 37s > TT = 100s

Using a ramdrive

DiskSqueeze! 1.00                                     | DMS (CMODE HEAVY2)
-----------------------------------------------------+-------------------
NoMIX f     r:  1s / l:  1s / p: 21s =  23s  (82900) | 18s (123.164)
NoMIX nf    r:  1s / l:  1s / p: 20s =  22s  (80862) | 17s (115.624)
MIX f       r:  2s / l:  1s / p: 47s =  50s (356422) | 38s (408.812)
MIX 0x00 f  r:  2s / l:  1s / p: 29s =  32s  (85852) | 17s (123.164)
MIX 0x00 nf r:  2s / l:  1s / p: 23s =  26s  (83852) | 17s (115.624)


** UNPACK **

Using a floppy drive

DSQ (all cases)
unpacked in 2s, and written to disk in 85s = 87s (with verify ON)
DMS (all cases)
unpacked and written to disk 43s (with verify OFF)


Using a ramdrive

DSQ
unpacked in 2s, and written to disk in 3s = 5s
DMS
unpacked and written in 6s
the unfragmented disks were unpacked & written in 5s


Now some quick pack tests (sorry, no time for more):
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Test 2:
Name: Elite I
Type: NDOS uncrunched

DSQ : 45s for reading, 28s for packing = 73s (307.372)  (LZXr = 65s)
DMS :                                       28s (351.180)
Save: 12,5 % (43.808)

Test 3:
Name: TechTech (1988 demo) > this made me buy an Amiga o/t double!
Type: NDOS uncrunched

DSQ : 45+45= 90s (383.708)    (LZXr = 82s)
DMS :        46s (397.105)
Save: 3,5 % (13.397)

Test 4:
Name: Flood (game)
Type: NDOS crunched

DSQ : 45+50= 95s (441.018)    (LZXr = 85s)
DMS :        45s (456.883)
Save: 3,5 % (15.865)

Test 5:
Name: Esthetica 'Ivy & Chrome' Megademo (taken from Aminet 6 CD)
Type: NDOS crunched

DSQ : 45+49= 94s (691.972)    (LZXr = 75s)
DMS :        50s (700.620)
Save: 1,3 % (8.648)

Test 6:
Name: Battlechess (game)
Type: MixedFS (wasn't detected by DSQ!, but archive size was 5K... ;-)

DSQ : 48+42= 90s (722.196)    (LZXr = 73s)
DMS :        50s (729.773)
Save: 1,1 % (7.577)

Test 7:
Name: Firepower (game)
Type: AmigaDOS 880K OFS (MixedFS, but invisible file is allocated in BAM)

DSQ : 45+50s= 95s (276.032)   (LZXr = 85s)
DMS :         44s (316.680)
Save: 13 % (40.648)

Test 8:
Name: Amiga Shopper 10/95 subscribers disk
Type: AmigaDOS 880K FFS (LZX crunched)

DSQ : 45+40s= 95s (878.856)   (LZXr = 67s)
DMS :         42s (882.265)
Save: 0,4 % (3.400)

Test 9:
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Name: Tornado 5/5 (data)
Type: AmigaDOS 880K OFS (crunched)

DSQ : 43+2+50= 95s (811.950) (LZXr = 72s)
DMS :         44s (814.006)
Save: 0,3 % (2.056)


Test 10:
Name: Indianapolis 500 (game)
Type: DOS OFS 880K uncrunched (MixedFs, but ALL block allocated as used)

DSQ :  45+46= 91s (464.384)  (LZXr = 80s)
DMS :         47s (483.172)
Save: 4 % (18.788)


Note: I had to push the 'Ignore this'-gadget  when DiskSqueeze! warned me
      that this disk was a MixedFS disk...


Test 11:
Name: Abyss Drugstore Demo (disk 1) (taken from Aminet 7 CD)
Type: NDOS (crunched?)

DSQ : 45s+32s=87s (426.756)  (LZXr = 79s)
DMS :         48s (445.208)
Save: 4 % (18.452)


Test 12:
Name: WordPerfect 6.0a (disk 1)
Type: MS-DOS 1440K disk (taken from my PeeCee, probably crunched)

DSQ: 88+1+62 = 151s (1.348.424) (LZXr = 125s)
DMS: went up in smoke  ;-)



PS: the games were archiveable because they used novella-protection,  and
    not some trackdisk or MFM copy-protection (or weren't protected at all!)



Conclusion:

Always gains,  but heavy crunched disks have almost no effect on the used
cruncher... Especially non-crunched DOS disks seem to benefit from LZX.

The reading is slower, but much more secure than DMS,  so that's not such
a big drawback.  Same applies for writing.

The registered LZX users benefit a speed increase from 20 to 80 %, making
the total packing time 5 to 30 % faster.  See it's worth to register ?!

Also remember that an A4000/25 is 4 times faster as an 68030/25,  8 times
faster than an 68020/14 and 40 times faster as an 68000/8  (an FPU has NO
effect on crunching, remember that!!) Only Fast Ram will boost your Amiga
to unseen heights... (well, sort of...)

On the other hand is fast ram in an A1200  or  A4000/030 or  A3000 upto 5
times FASTER as in an A4000/040,  due to the lack of "dynamic bus sizing"
in a 68040 and 68060. Only LOCAL fast ram (Warp-engine, Cyberstorm, PP&S)
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directly on the processor bus will boost ram to speeds of 50MB/s (5 times
faster than normal fast-ram)

I dunno what the figures will be on an A1200 or A4000/030 or other fast
configurations...??? Can somebody post them to me ?
If I have my '060, I'll post mine to registered users or in a DSQ-update!