

ARCHandler

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COLLABORATORS

	TITLE : ARCHHandler		
ACTION	NAME	DATE	SIGNATURE
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REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

ARCHHandler

1.1 ARCHHandler 1.0a

ARCHHandler 1.0a
=====

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Disclaimer
Shareware Notice

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The author

When I'm sad she comes to me
with a thousand smiles
she gives to me free

It's alright, it's alright she says,
Take anything you want from me,
anything.

Jimi Hendrix

1.2 ARCHHandler: Disclaimer

Disclaimer

With this document I make no warranties or representations, either expressed or implied, with respect to the program described herein. The

program and the information presented herein is being supplied on an 'as is' basis and is expressly subject to change without notice. The entire risk as to the use of the program and the information presented is assumed by the user. In no event will I be liable for direct, indirect, incidental, or consequential damages resulting from any claim arising out of the use of the program or the information presented herein, even if I have been advised of the possibilities of such damages.

1.3 ARCHHandler: Shareware Notice

ARCHHandler is Shareware

This package is released as shareware. This means you can copy it freely as long as you don't ask any money for it, except perhaps a nominal fee for copying. If you like and use this package on a regular base, you should send me a contribution of 500 BEF or USD 15. Send money by International Money Order, EuroCheck (in BEF!) or Cash.

The package is Copyright © Rafael D'Halleweyn, All Rights Reserved. The author reserves the right to change the status of this package whenever he finds it appropriate.

This package should not be spread in any other form than an LhA (or equivalent) archive and all parts of it should be spread together. The package may not be altered in any way and cannot be used for commercial purposes without the prior written permission of the author. The archive should contain the following files:

- ARCHHandler (dir)
 - C (dir)
 - FlushARC
 - MountListEntry
 - L (dir)
 - arc-handler
 - S (dir)
 - MountList-header
 - WhichLhA
- ARC
- ARC.info
- ARCHHandler.guide
- ARCHHandler.guide.info
- Install
- Install.info
- ReadmeQuick
- ReadmeQuick.info
- ARCHHandler.info

The installation-script ('Install') and the extra commands it uses ('MountListEntry') are also copyrighted and can't be used in any other project/archive without the prior written permission of the author.

1.4 ARCHHandler: Introduction

Introduction to the ARCHHandler

Archives (such as LhA , Zip, Zoo, Tar, ...) are very easy to store and move large amounts of files. However, if you wish to use the files contained in the archive you always have to extract the files first. Secondly, to easily browse through the archive, you have to extract the whole archive.

Wouldn't it be easier if you could treat archives just like directories: move to a directory, look which files are in the directory and possibly use one of those files.

I have already heard a lot of suggestions in this direction, so the idea is neither mine nor is it original. But I've never seen an implementation, so I tried to make my own and this is the result.

Currently the ARCHHandler only supports lha-archives.

1.5 What is an archive?

In this text the word archive is used to indicate a group of files, that are stored in one big file, possibly also containing the file-structure of the original (directories) and maybe using compression to store the files.

Archives are mainly used to move large amounts of data from one computer to another (via disk/modem/ftp/...). Archives are also an easy way to store that data.

The ARCHHandler currently only supports lha-archives.

1.6 What is an lha-archive?

LhA is probably the most widely used archiver on the Amiga. It uses the Lempel-Ziv-Huffman (LZH) compression scheme to reduce archive size. Several other LZH-archives exist for the Amiga (LhArcA, LhArc, LZ, LhEx, ...) and for UNIX and MS-DOS machines.

1.7 ARCHHandler: Requirements

Requirements to use the ARCHHandler

ARCHHandler currently requires an Amiga running Workbench/Kickstart 2.04 or higher. You also need the LhA command (© Stefan Boberg), both the registered and evaluation version should work.

ARCHHandler currently also needs the PIPE-device. If you didn't change your Workbench-partition after Workbench-installation this should be no problem (otherwise you might want to add a 'Mount PIPE:' to your User-Startup).

To test the handler, a few lha-archives can also be very handy :).

1.8 ARCHHandler: Starting

Starting the ARCHHandler

To be able to use the ARCHHandler you should install it first. If you double click the 'Install'-icon, the handler will be installed for you (the installation requires the Commodore Installer, © Commodore). If you only want to test the handler, double click the 'ARC'-icon and a disk-icon should appear on the Workbench-window named 'Archives'.

Once installed, you'll have to start the handler. If you've selected the 'Always mount ARC: on start-up?'-option during the installation, the handler will be started after each reset. If you did not use this option, you'll have to start it manually:

- under Workbench 2.1 or higher the easiest way is to double-click the 'ARC'-icon in the 'Storage/DOSDrivers'-drawer of your Workbench partition (or disk);
- if you are using Workbench 2.04 or higher you can (also) start the handler by entering the following command in a Shell:
Mount ARC:

If everything was installed correctly, a disk-icon should appear on the Workbench-window named 'Archives' (or the name you selected during installation).

1.9 ARCHHandler: Using

Using the ARCHHandler

Once the ARCHHandler is started, you should be able to use it as any-other AmigaDOS-device.

The root-directory of the device contains all the volumes that AmigaDOS knows of (it even contains the ARC-volume, you can use this to access an archive in an archive). Just enter one of those volumes and you'll see all the files and directories that are on that volume. You're able to use any of these files the same way as on the normal volume, read a text, execute a program (only read operations are supported in this version).

When you come across an lha-archive you'll notice that the handler tells you that it is a directory. When you enter the archive you'll see all the files and directories that reside in the archive. These files can be used as normal files, you can read texts or execute the programs. Currently the handler doesn't support writing to files in an archive.

1.10 ARCHHandler: Technical Info

Some technical background

Startup-arguments

```
Workbench icons
Archive-file-lists
FlushARC command
Packet types
```

1.11 ARCHandler: Startup-arguments

Startup-arguments

The ARCHandler uses the 'Startup'-field of a MountList/DOSDriver to let the user pass some important information. The string in the 'Startup'-field is parsed with ReadArgs(). The string should always have double-quotes around it and you should only use single-quotes (') in the string. Currently the arc-handler recognizes the following arguments:

```
NAME
LHA
TEMPDIR
BUFFERS
DISKICON
DRAWERICON
NOEXTCHECK
```

The template of the 'Startup'-field is:

```
NAME/K, LHA/K, TEMPDIR/K, BUFFERS/K/N, DISKICON/K, DRAWERICON/K, NOEXTCHECK/S
```

Example:

```
Startup = "LHA=Work:C/LhA DISKICON='Work:Extra Icons/ARCDisk.info'"
```

NOTE: The 'Install' script adds a 'Startup' tool type to the 'ARC'-dosdriver-icon. So, if you want to change the 'Startup'-field, you should change the tool type (use the 'Icons/Information...' menu item of the Workbench)!

1.12 ARCHandler: NAME argument

NAME

The NAME argument in the 'Startup'-field of a MountList/DOSDriver is used to specify the name of the volume. You can specify any name you want, if you want to use spaces in the name surround the name with single-quotes. The default name is 'Archives'.

1.13 ARCHandler: LHA argument

LHA

The LHA argument in the 'Startup'-field of a MountList/DOSDriver is used to

specify the place of the 'LhA'-command. You should specify the full path (including device/volume/assign). If the path contains spaces you should surround the name with single-quotes. The default is 'C:LhA'.

1.14 ARCHHandler: TEMPDIR argument

TEMPDIR

The TEMPDIR argument in the 'Startup'-field of a MountList/DOSDriver specifies a directory where the ARCHHandler can create its temporary files. All the files that the handler extracts from archives are placed in this directory. This directory should be large enough to hold all those files. You should specify the full path (including device/volume/assign). If the path contains spaces you should surround the path with single-quotes. The default is 'T:'.

Special note about MultiUser: don't use a directory on a muFS-partition as the directory for temporary files!

1.15 ARCHHandler: BUFFERS argument

BUFFERS

The BUFFERS argument in the 'Startup'-field of a MountList/DOSDriver indicates the number of unused archive-file-lists that the ARCHHandler keeps in memory. This argument should be a number. The default number is two and should probably not be changed.

1.16 ARCHHandler: DISKICON argument

DISKICON

With the DISKICON argument you can specify the name of the icon that the volume should use as its disk-icon. This is the icon that appears in the Workbench window. This arguments defaults to 'DEVS:ARCDisk_info'.

Special note about MultiUser: don't place the disk-icon on a muFS-partition!

1.17 ARCHHandler: DRAWERICON argument

DRAWERICON

With the DRAWERICON argument you can specify the name of the icon that will be used for the archives that are represented as directories. This argument defaults to 'DEVS:ARCDrawer_info'.

1.18 ARCHHandler: NOEXTCHECK argument

NOEXTCHECK

ARCHHandler recognizes lha-archives by looking at the contents of the file. Normally, the handler will only open (and thus recognize) files with a name ending in ``.lha'`` or ``.lzh'``.

When you specify the NOEXTCHECK argument the handler will open all the files and it will also recognize archives with a filename not ending in ``.lha'`` or ``.lzh'``. However, this will take much longer to scan directories, so by default the option is off (the argument is a switch, if you use the argument in the `'Startup'-field`, the option is enabled).

1.19 ARCHHandler: Workbench icons

Workbench icons

To be able to easily access the ARCHHandler through the Workbench, the handler adds extra icons:

- In the root of the ARCHHandler volume there is a disk-icon (Disk.info). This icon is currently the only file that can be written to. (see also DISKICON)
- In the root of the volume there are also drawer-icons for the other volumes. These icons are created from the original disk-icon on that volume (if non disk-icon exists on a certain volume the default disk-icon will be used). You can't write to these icons.
- For all the archives the handler recognizes a drawer-icon is added. These icons are also write protected. (see also DRAWERICON)

1.20 ARCHHandler: Archive-file-lists

Archive-file-lists

ARCHHandler keeps a certain amount of unused archive-file-lists (a list of all the files and directories in an archive) in memory (BUFFERS). This has the advantage that the handler won't have to re-list the archive on every access. This results in a faster response.

This also has a small side-effect, the handler keeps a lock on all archives whose archive-file-list is still in memory. The handler uses a simple LRU (least-recently-used) replacement rule to select the archive-file-list that will be freed when another archive-file-list is no longer used. As a result the archive-file-list-lock won't be released until enough other archives are used.

If, at a certain moment, you want to free all unused archive-lists and locks you can use the FlushARC command.

1.21 ARCHHandler: FlushARC

FlushARC command

You can use the FlushARC-command if you want to free all unused archive-file-lists and archive-locks. The FlushARC command has the following template:

```
FlushARC DEVICE
```

The DEVICE argument defaults to 'ARC:'. The DEVICE argument should be the name of the device, not the name of the volume.

To flush the device named 'ARC2:' use:

```
FlushARC ARC2:
```

1.22 ARCHHandler: Packet types

Unsupported packets

This is a list of the packets types that the handler currently doesn't support:

These actions will be supported in a future writable version:

```
ACTION_CREATE_DIR
ACTION_DELETE_OBJECT
ACTION_RENAME_OBJECT
ACTION_SET_COMMENT
ACTION_SET_DATE
ACTION_SET_FILE_SIZE
ACTION_SET_PROTECT
```

These two actions don't need to be implemented because the dos.library emulates them by using ACTION_EXAMINE_OBJECT and

```
ACTION_EXAMINE_NEXT:
ACTION_EXAMINE_ALL
ACTION_EXAMINE_ALL_END
```

actions that may be implemented, if needed:

```
ACTION_ADD_NOTIFY
ACTION_CHANGE_MODE
ACTION_COPY_DIR_FH
ACTION_EXAMINE_FH
ACTION_FH_FROM_LOCK
ACTION_FREE_RECORD
ACTION_LOCK_RECORD
ACTION_MAKE_LINK
ACTION_PARENT_FH
ACTION_READ_LINK
ACTION_REMOVE_NOTIFY
ACTION_RENAME_DISK
ACTION_SET_OWNER
```

Actions that won't be implemented:

```
ACTION_FORMAT
ACTION_FLUSH
ACTION_MORE_CACHE
ACTION_INHIBIT
ACTION_WRITE_PROTECT
```

Packets ARCHHandler needs

This is the minimal list of packets that an underlying FileSystem should support, if you want to use it through the ARCHHandler:

```
ACTION_COPY_DIR
ACTION_END
ACTION_EXAMINE_NEXT
ACTION_EXAMINE_OBJECT
ACTION_FINDINPUT
ACTION_FREE_LOCK
ACTION_LOCATE_OBJECT
ACTION_PARENT
ACTION_READ
ACTION_SEEK
```

1.23 ARCHHandler: History

History of the ARCHHandler

```
•release 1.0 [37.129 (12.7.94)]
  -First release.
```

```
•release 1.0a [37.131 (14.7.94)]
  -Volumes that have the same name as a device couldn't be used
    through the handler (reported by Erik Bergen).
  -Removed a nasty Enforcer hit.
  -Made some changes to the installation script.
```

```
•future release
  -Support for 2.0-packets.
  -Fully writable filesystem, with the ability to create/change
    files in archives.
  -Support for more archive types (zip/zoo/tar/...).
  -Support for packed files (XPK/PowerPacker/Imploder/...).
```

These are just some of the features I might add to a future release. I don't guarantee that either of these features will ever be implemented (but I hope they will). If you've got any good ideas for a future release let me know.

1.24 About the Author

ARCHHandler was written by Rafael D'Halleweyn.

If you have any questions, remarks, suggestions or bug reports please let me know. You can contact me via normal mail:

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BELGIUM

Or you can try to reach me via EMail, you can reach me at:

amiga@suntew.ruca.ua.ac.be

(but this is not my own account). I will try to read my mail there during July, August and September. From October you'll be able to reach me at:

Rafael.DHalleweyn@rug.ac.be

(this is my own account).

[if you only have fido-access you should send a message to UUCP (2:29/777.0) and the first line of the message should read 'To: <fill in email address>', the second line should be empty]

I'd like to thank Nico François, Johan Billing, Per-Anders Josefsson, Stefan Zeiger, Tom De Voeght and Peter Stuer for Beta-testing. I'd also like to thank David Larsson for the excellent KingCON. These seven persons shouldn't try to send me the shareware fee, because then I'll have to send it back :-).

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