

identify.library

A library that converts cryptical IDs to a human-readable form
Version 9.2, 22 March 1998

Richard Körber

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Please read the Copyright chapter!

1 Introduction

The `identify.library` has a rather long history.

It all began when I got mad about all the System info programs only showing the expansion boards as a number. So I wrote `expname.library`, which you may already be familiar with.

Later, `expname` could also identify the system's parameters (even if it was wrong sometimes ;). I still have new ideas for this library. The only trouble is that the name does not fit any more.

Well, now you have the second generation of the `expname.library`, called `identify.library`. It has been completely rewritten and expanded. The conceptional flaws of the `expname.library` have been removed, and a lot of new features have been added.

The library has currently these features:

- Converting manufacturer and product id into manufacturer name, product name, and product class.
- Converting the cryptical Amiga Guru codes into readable descriptions.
- Analyzing the system's configuration (system type, processor, memory, graphics and so on...).
- Converting shared library offsets into function names.

Even if the library appears to be quite ready — it is still far from complete!

I need your help! Please send manufacturer and product names and IDs, your system's configuration, suggestions, bug reports and so on; simply all you want to see implemented in the library.

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3 My Address

Please send all bug-reports, board descriptions, missing graphic OS, keyfiles, flames and so on to one of the following e-mail addresses:

INTERNET

I'm reachable through Internet via these E-Mail addresses:

`shred@eratosthenes.starfleet.de`
`richard.koerber@koeln.netsurf.de`

Check my home page for the latest release and other programs. The URL is:

`http://www.is-koeln.de/einwohner/shred/`
`http://shredzone.home.pages.de`

SNAIL MAIL

You can send me a snail mail letter, too. My address is:

Richard Körber
Hornstraße 20
51465 Bergisch Gladbach
Germany

Please enclose a "1,10 DM" stamp if you live in Germany and want to get a reply.

INFOLIST

You can add yourself to a information list to get notified when new versions of the library are available. Just write a mail with the subject "HELP" (body will be ignored) to:

`richard.koerber@koeln.netsurf.de`

This list is handled offline, so please allow some days for the reply.

SUPPORT BBS

You can also find the latest release in the official support BBS **Eratosthenes**.

Number: +49-228-230083 (V.32bis, V.Fast-Class)
+49-228-239522 (V.32bis, V.34, ISDN X.75)

Login: SUPPORT (no password required)

Board: /SUPPORT/SHRED

Please note that even though the BBS is also to use in English, the main language is German.

4 ListExp

ListExp is a small tool that was already included in the `expname.library` package.

It describes the hardware components of the system. On the first line it will write some hardware parameters (like CPU, Memory). After that, all expansion boards will be listed (hopefully by name).

By using the option `FULL`, all currently used commodities are listed too. The output is then useable for bug reports and similar.

A further option allows to get the manufacturer name, product name and class from manufacturer ID and product ID. Use the options `MANUFID` and `PRODID` to do so.

Finally, the option `UPDATE` forces identify to re-check all hardware information. Use this option e.g. after you started VMM.

Example:

```
> ListExp MANUFID=514 PRODID=9
-- ListExp V9.1 -- by Richard Koerber

Manufacturer: Commodore West Chester
Product:      A2060
Class:        ArcNet
```

If some entries in the expansion list begin with a '#' instead of a name, you should send a copy of the ListExp output and the description of the missing board (manufacturer name, product name, product class) to me. :-)

Please write me if an expansion name has been guessed. You can easily recognize this by the class (`guessed`).

It is also not possible to check out all combinations of Amiga expansions. If your hardware is not properly recognized, please write me.

Please note: Some manufacturers, especially GVP and Phase 5, assigned the same ID to different boards. `identify.library` is prepared and tries to differ these boards, anyhow it can't in any case decide right.

5 Guru

Guru translates the cryptical alert code into a human-readable form.

You may provide your alert code (all eight digits without any symbols before or behind) as parameter. An example:

```
> guru 81000005
-- Guru V1.3 -- by Richard Koerber

Alert Code: 81000005
Type:      Deadend
Subsystem: exec.library
General:   General fault
Specified: Corrupt memory list detected in FreeMem
```

Or you can pass LASTALERT. In this case, the last alert code will be examined.

Please read the results like this::

Alert Code

This is the alert code that has been decoded.

Type What kind of alert is it? It may be a deadend alert, or a recovery alert.

Subsystem

Which system caused the alert?

General To what general class does this alert belong? In this case, it is a general fault which must be specified later.

Specified

What was the cause? This example shows that the memory list has been corrupted by a badly written program.

6 Function

You can use the tool `Function` to decode the name of a function by providing the library name and the function offset.

The first argument is the library name, e.g. `'exec.library'`. You may also specify device or resource names here. All letters after the point (including the point itself) are optional, but it is case sensitive.

The last argument is the function offset to be decoded. It must be a multiple of 6, but it doesn't need to be signed.

Example:

```
> Function exec.library -456
-- Function V1.1 -- by Richard Koerber

Library:    exec.library
Offset:     -456
Function:    DoIO
```

This function requires the `.fd` files and an assign `'FD:'` to the drawer containing these files. The files must have the usual file name format, e.g. `'exec_lib.fd'`.

7 System

`identify.library` analyzes your system and provides the result to the programs. If you read the different results, please keep this in mind:

SYSTEM	Describes your Amiga model, e.g. 'Amiga 4000'. Unfortunately, it is not possible to differ between Amiga 500 and Amiga 2000. In this case, 'Amiga (OCS)' or 'Amiga (ECS)' will be reported.
CPU	The used CPU is returned.
CPUREV	The revision number of the CPU, if available. Currently, only the revision of the 68060 processor is available.
CPUCLOCK	The CPU clock.
FPU	The used FPU, if present.
FPUCLOCK	The FPU clock.
MMU	The used MMU, if present. Currently, a 68030 is always recognized with MMU. In this case, the result is not to be considered as a prove for a working MMU being present.
VBR	Address of the processor vector base.
CHIPSET	The available chipset, e.g. 'AGA'.
GARY	Version of the Gary chip.
RAMSEY	Version of the Ramsey chip.
BATTCLOCK	Is a battery backed up clock available?
CHUNKYPLANAR	Is a system conformous Chunky Planar hardware available. It is not sufficient if the blitter of your graphic board has a chunky planar feature.
AGNUS	What Agnus chip revision is mounted in your system?
AGNUSMODE	What Agnus mode is selected (PAL or NTSC)?
POWERPC	Which PowerPC is available?
PPCCLOCK	The PowerPC clock. Due to a bug of the <code>ppc.library</code> , the result can be different to the real clock. When using WarpUP, the PowerPC clock cannot be evaluated under special circumstances.

PPCOS	Shows the OS that is currently used for the PowerPC. In this version, PowerUp (Phase 5) and WarpOS (Haage&Partner) is recognized.
OSVER	The version of the AmigaOS ROM. If you mapped a ROM from a kickstart file, this version will be used.
OSNR	The (usual) version of the AmigaOS, e.g. '3.0'.
EXECVER	The version of exec.
WBVER	The version of Workbench, if available.
SETPATCHVER	Version of the SetPatch command, if available.
GFXSYS	The used Graphic system, e.g. 'CyberGraphX'. If you use multiple Graphic systems, you will only see one of them. It is also important that you have already started the system and not just installed it.
AUDIOSYS	The used Audio system, e.g. 'AHI'.
TCPIP	If a TCP/IP stack (e.g. 'Miami') has been started, its name will be returned.
CHIPRAM	
FASTRAM	
RAM	Size of the RAM (virtual RAM included). The tilde ('~') means that a small amount of the RAM is not available to the system. This applies to the Chip RAM as well as to the total.
VMMCHIPRAM	
VMMFASTRAM	
VMMRAM	Size of the virtual RAM.
PLNCHIPRAM	
PLNFASTRAM	
PLNRAM	Size of the physical RAM. The 'Slow RAM' of the Amiga 500 and Amiga 2000 is included here as Fast RAM.
SLOWRAM	Size of the special Fast RAM on Amiga 500 and Amiga 2000.
ROMSIZE	The size of AmigaOS ROM. If you mapped a ROM file, the size of the file will be returned.
VLANKFREQ	Frequency of VBlank interrupt.
POWERFREQ	Power frequency. This can be different to the real frequency on UAE.
ECLOCK	Frequency of a special system clock.

LASTALERT

The recent system alert.

RAMACCESS

Access time of the *motherboard* RAM, if available. The access time of memory expansion boards or accelerator boards are ignored.

RAMWIDTH Bus width of the motherboard RAM. Accelerator boards are ignored.

RAMCAS Returns the CAS mode of Chip RAM, if available.

RAMBANDWIDTH

Returns the bandwidth of Chip RAM, if available.

Appendix A Known Bugs

This is a snapshot of my current Amiga:

```
-- ListExp V9.1 -- by Richard Koerber (mailto:shred@eratosthenes.starfleet.de)
ListExp is a part of the Identify package (see AmiNet util/libs)
```

**** HARDWARE ****

```
System:  Amiga 4000
CPU:      CPU=68060/50 MHz (Rev 1), FPU=68060/50 MHz, MMU=68060
Chipset:  AGA (RAMSEY F, GARY Normal, CHUNKY None) VBR=0x0803AF80
Agnus:    Alice 8374 Rev. 3-4 (Mode: PAL)
AmigaOS:  3.0 (V39.106, SetPatch V43.6)   Exec V39.47   Workbench V39.29
Support:  GraphicOS: CyberGraphX 3, AudioOS: AHI, TCP/IP: None
Clock:    Power 50 Hz, VBlank 50 Hz, E-Clock 709379 Hz
RAM:      Motherboard 32 bit, 60 ns, Double CAS, 4x Bandwidth
```

```
Memory:           CHIP    FAST    TOTAL ROM = 512.0KB    SLOW = 0
                PLAIN    ~2.0MB  42.0MB ~44.0MB
                VIRTUAL    0        0        0
                TOTAL    ~2.0MB  42.0MB ~44.0MB
```

**** EXPANSIONS ****

Nr	ID	Address	Size	Manufacturer	Product
1	2140.22	40000000	64M	Phase 5	CyberVision 64 Graphics
2	2140.19	00EA0000	128K	Phase 5	CyberStorm MK-II Flash-ROM
3	082C.10	00E90000	64K	BSC	Multiface II Multi I/O
4	4754.0C	00EC0000	64K	MacroSystem Germany	Toccata Audio
5	4754.05	00ED0000	64K	MacroSystem Germany	MaestroPro Audio

THESE BUGS ARE CURRENTLY KNOWN:

- ‘Phase 5’ and ‘GVP’ have sometimes assigned one ID to two or more boards. In this case, `identify.library` may return a name that does not fit to the hardware.
- Currently, an 68030 will always be recognized with MMU.
- All `IDHW_LASTALERT` accesses will most probably cause an Enforcer hit "LONG-READ from 00000100". This is necessary and harmless.

Appendix B Frequently Asked Questions

An enforcer hit occurs while analysing the system.

This hit is necessary to read the last alert code. It is harmless.

The CPU/FPU clock isn't accurate.

Measuring the clock requires real Fast RAM for best results, else there may occur major faults.

The PowerPC clock isn't accurate.

This is a bug in the `ppc.library`.

The PowerPC clock isn't available.

This occurs with some processors using WarpOS.

The system crashes at system queries (e.g. `ListExp`).

Make sure that you have *not* installed the `ppc.library` if you do not really have a PowerPC.

Where can I find another FAQ?

On my home page: <http://www.is-koeln.de/einwohner/shred/>

Appendix C History

V 9.2

- Improved PowerUp/WarpOS recognition [Sebastian Becker]
- Added further boards

V 9.1

- Minor docs revision
- IDHW_TCPIP is not cached
- Added further boards
- Corrected 'FILE_ID.DIZ' [Domenic Gebauer]

V 9.0

- Divided into developer and user packet
- 'identify.library' 68020 version
- Added further boards
- Improved clock measurement
- IDHW_TCPIP, IDHW_PPCOS, IDHW_AGNUS, IDHW_AGNUSMODE implemented
- IdFunction() now also searches 'include:fd/'
- Recognizes Amiga 500 with Viper 520 CD correctly [Gerald Schnabel]
- Recognizes Amiga 4000 Tower [Jan Jampolski]
- WarpOS supported
- Wrote InstallIfy

V 8.2

- Added further boards
- Improved UAE recognition
- Improved 68060 compatibility
- Visibly shortened by several optimizations

V 8.1

- Improved SlowRAM recognition
- Implemented IdHardwareUpdate()
- Implemented motherboard RAM tests (RAMACCESS, RAMWIDTH, RAMCAS, RAMBANDWIDTH)
- Removed stupid IDHW_VBR and IDHW_LASTALERT caching

- ListExp actualized

V 8.0

- Bugfix: IdFunction produced mungwall hits on oversized lines
- Bugfix: VMM messed up the memory results
- IdExpansion speed improvement
- IDTAG_ClassID returns numerical board's class code [Jens Langner]
- IDTAG_Localize returns builtin language only, if TRUE
- IDTAG_NULL4NA returns NULL ptr instead of "N/A" string
- IDHW_CPUREV returns the revision of the main CPU
- IDHW_CPUCLOCK, IDHW_FPUCLOCK returns the clock frequencies
- Reorganized the catalog files
- UAE recognition implemented
- Updated ListExp and rexxidentify.library
- Added .ct files for translation

V 7.3

- Bugfix: GfxOS detection was broken under certain situations
- Added Commodities to rexxidentify.library [Domenic Gebauer]
- Minor DraCo bugfixes [Udo Reuchlein]
- Picasso96 (hopefully) is properly recognized now [Jens Langner]
- Added further boards.

V 7.2

- Bugfix: LowMemory handler now works fine
- Some minor optimizations
- Added IDTAG_Secondary
- Added SECONDARY to rexxidentify.library
- Increased IdFunction() parser maximum line length, due to some lines in the cybergraphics_lib.fd.

V 7.1

- Bugfix: rexxidentify.library returned additional Null termination [Bossman]
- Bugfix: LowMemory handler hangs up and is temporary disabled
- Added further boards.

V 7.0

- Chunky to planar hardware recognized
- PowerPC recognition implemented, but not yet completed

- Added an LowMemory handler (AmigaOS V39+ only)
- Memory sizes are shown like in `ShowConfig`

V 6.1

- Added further boards.
- Enforcer hit now only occurs on LASTALERT query.
- Added ARexx command EXPNAME

V 6.0

- Added further boards.
- OS2.1 recognized properly.
- Some new hardware requests (VBR, Gary, RAMSEY, Slow-RAM, Frequencies, BattClock)
- You can list all expansions without the need to open expansion.library now
- IdHardwareNum() implemented: you can also request a numerical result for own evaluating purposes now
- localized and actualized ListExp, Function and Guru
- ARexx access to the library via rexxidentify.library
- More example programs

V 5.2

- Added further boards.
- Wrote a small C example: using identify with MUI

V 5.1

- Bugfix: did not recognize AHI properly
- Added further boards.
- Properly recognizes A500 with A570 expansion.
- AmigaE include files [Roger Hågensen]

V 5.0

- Better Picasso96 recognition
- Should now FINALLY recognize OCS/ECS Amiga with OS3.1
- Added further boards.
- Now also checks Audio OS and AmigaOS.
- Added plain and VMM memory checkings.
- Supports shared Manufacturer IDs now.
- Bugfix: Enforcer hit when asking directly for an unknown expansion
- Gained several KB by optimizing tables, database compression and clean-ups

- Adapted ListExp

V 4.4

- Recognizes Picasso96
- Added further boards.
- Bugfix: "-?-" printed beside guessed expansion name
- Bugfix: Some Amiga 1200 were recognized as "Walker" :-)

V 4.3

- Recognizes CyberGraphX V3
- Added further boards.

V 4.2

- CyberGraphX wasn't recognized properly.
- Added further boards.

V 4.1

- Bug fix: still some problems with Amiga recognition.
- Picasso will be recognized.
- Added further boards.

V 4.0

- IdFunction() implemented.
- New tool Function.
- Added further boards.
- Bugfix: In some cases the manufacturer name was trashed.
- Pascal include files (made by Axel Dörfler)
- Identifies SetPatch version

V 3.1

- 2 boards added
- Bugfix: always recognized an Amiga 3000 on ECS machines with OS3.1.
- Bugfix: recognized CyberGraphX even when PictDT was installed only.
- Improved memory rounding

V 3.0

- Bases on the `expname.library`, but completely rewritten.
- Now convert alert codes, too.
- Wrote GURU.

Appendix D Users

These programs are already using the `identify.library`:

cP!_ShowConfig

Autor: Domenic Gebauer
AmiNet: `util/wb/cP_ShowConfig.lha`
E-Mail: `campino@gmx.net`

EuraTools Register

Autor: Richard Körber
AmiNet: `util/misc/EuraTools.lha`
E-Mail: `shred@eratosthenes.starfleet.de`

IdentifyBB2

Autor: Ferraris Luca
AmiNet: `dev/basic/IdentifyBB2.lha`
E-Mail: `ferraris.luca@educ.di.unito.it`

P96Speed

Autor: Jens Langner
AmiNet: `gfx/board/P96Speed.lha`
E-Mail: `deck@rcs.urz.tu-dresden.de`

Scout

Autor: Andreas Gelhausen, Richard Körber
AmiNet: `util/moni/Scout.lha`
E-Mail: `shred@eratosthenes.starfleet.de`

ShowSystem

Autor: Jarmo Laakkonen
AmiNet: `util/moni/showsystem.lha`
E-Mail: `jami@dlc.fi`

SL!-BoxStatus

Autor: Sascha Sauer
AmiNet: `comm/bbs/SL-BS??.lha`
E-Mail: `SPACEMAN@SPACELND.ruhr.de`

SIP

Autor: Andreas R. Kleinert
AmiNet: `util/moni/SIP.lha`
E-Mail: `Andreas_Kleinert@t-online.de`

SystemPrefs

Autor: Richard Körber
AmiNet: `util/wb/SytemPrefs.lha`
E-Mail: `shred@eratosthenes.starfleet.de`

ToxicBoards

Autor: Sascha Reissner
AmiNet: `comm/cnet/TBoards20f.lha`
E-Mail: `sascha@toxic.franken.de`

XOpa

Autor: Axel Dörfler, Alexander Bartz
AmiNet: `util/moni/XOpa1_??_lha`
E-Mail: `axeld@ax.westfalen.de`

Your program is missing? Write me!

Appendix E Credits

I want to thank especially these fellows (in no special order):

Andreas Gelhausen

for Scout, his board list and his ideas.

Martin Wietfeld

for his great board list!

Axel Dörfler

for using Identify in XOpA, and the PASCAL includes.

Frank Wille

for his great PhxAss assembler, his hints and all his help, especially for the WarpOS PPC clock source.

Thomas Kessler

for his many ideas.

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for his board list and the description of the GVP codes.

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for the Amiga-E include files and his hints.

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for his genius hint!

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for his field tests, checking my translations and his useful hints.

Kössi

for his many boards, his help for all my TexInfo problems, and his debug skills.

...and for their contributions (sorted alphabetically):

'2bros', Daniel Adolfsson, Ralf Adrion, 'ALV', Thomas Andersson, Andrija Antonijevic, Sven Arke, Jörn Asmussen, Norbert Becker, Sebastian Becker, Matthias Bethke, 'Bossman', Paul Braithwaite, Benoit Broc, Dave Clarke, Gary Coleman, Gagliardini Daniel, Marcus Cai Degler, Ethan Dicks, Frank Dietrich, Norbert Dimpfl, Kevin Fairhurst, Ulrich Falke, Alexander Fichtner, Dieter Gaikowski, Ramiro Garcia, Matthew Garrett, Domenic Gebauer, Andreas Gelhausen, Patrick Gern, Neil Griffiths, Roger Hågensen, Fred Hamilton, Michael Hartmann, Georg Hazianastasiou,

Dirk Hebisch, Matthias Heilmann, Ian P.Heitmans, Gene Heskett, Patrick Hess, Torfinn Ingolfson, Jan Jampolski, Bengt Jensie, Holger Jeromin, Thomas Kessler, Bernd Kösling, Thomas Krafzik, Bernd Kriwolat, Mario Kuban, James Kückmann, Rask Lambertsen, Jens Langner, Lutz Legero, Mika Lembke, Petter Lindquist, Mika Lundell, Gunther Mannigel, Peter Marquardt, Peter Mattsson, Mario Misic, Gernold Mühling, L Mac Mullan, Pavel Narozny, David Oakes, Jürgen Ofner, Jakob Ölund, Chris Painter, Oliver Peike, Markus Pietz, Heiko Polig, Giuseppe Premoli, Michael Reichenbach, Sascha Reissner, Jan Rembser, Udo Reuchlein, Jochen Rhein, Kai Rode, Timo Ronkko, Gregor Rosenauer, Andre Schenk, Kai Schindelka, Andreas Schlick, Gerald Schnabel, Bodo Schulz, Thomas Schürger, Frank Seidel, Simon Shead, Karsten Soeth, Mark Sorensen, Nicholas Stallard, Teemu Suikki, Johan Sundstrom, Imre Szollosi, Adam Szymczak, Patrick Thato, Colin Thompson, Henrik Tikanvaara, Jürgen Urbanek, Geert Uytterhoeven, Jarkko Vajus-Anttila, Milco Veljanoski, Federico Villata, Christian Wasner, Pete Wason, Ralph Wermke, Henrik Wetterstrom, Martin Wietfeld, Alexander Wild, Frank Wille, Beno Zidaric, Rolf Zuercher, Alessandro Zummo.

(and all I might have forgotten!)

Keep on!

```

      //
\\ //  -- Amiga - The Computer for Creative Mind --
  \X/

```

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