

# **README-FIRST**

Cronus

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## Chapter 1

# README-FIRST

### 1.1 Geek Gadgets Overview

Welcome to Geek Gadgets Version 1, a CD-ROM distribution of the  
Amiga Developer's Environment (ADE).

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Geek Gadgets will be a quarterly release, with intermediate development snapshot releases via ftp from ftp.ninemoons.com or one of its mirrors. Sales of the Geek Gadgets CD help to support further development and a large portion of the proceeds are made available as incentives for developers to work on specific projects. Subscriptions are available at reduced cost.

The ADE is a dynamic entity, being worked on simultaneously by a number of different people all over the world. As such, it is subject to constant revision and improvement. The Geek Gadgets CD attempts to capture a stable snapshot of the ADE at periodic intervals and make it available to people who otherwise would have no easy access to this material. Many improvements are planned for future releases, so this CD is certain to be very different than Geek Gadgets Version 2, when it is released about three months from now.

Geek Gadgets Version 1 consists primarily of three separate sections; (1) a set of archives from the 961012 ADE snapshot, (2) a set of alpha test archives for material which was not complete in time to be included in the snapshot or else is an update to material in the snapshot, and (3) a file tree that is ready to run directly from the CD for those that just want to try out a few things or are limited by available disk space.

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The ADE itself is organized into several distinct areas, two of which are included on this CD; the distribution archives and the ready to run binary tree. Of course the third, the source tree, can be reconstructed from archives supplied in the distribution tree.

An installer script is supplied to make it easy to install the ADE to your harddrive, but if you wish to wait to do that, you can run the ADE directly off the CD.

Cronus maintains a number of mailing lists for people to discuss ADE related topics and get timely information about the ADE.

## 1.2 General ADE Information

Because of the hard work from a number of members of the Amiga community, we now have a large body of development tools that have been ported to the Amiga and are available in both source and binary form. We will refer to this software set as the "Amiga Developers Environment" or "ADE" for short.

The name reflects the fact that not only is this environment intended to meet the needs of Amiga Developers for tools, examples, documentation, and other useful material, but that it is also supported by the developer community itself and not any single entity, commercial or otherwise. This ensures that it will always be available and supportable by this community.

One of the goals of the ADE is to have a completely self hosting environment. I.E. that everything within it be compilable by the provided compilers. It should be possible for the recipient of these utilities to make whatever changes or bug fixes they want in any piece of code, and then rebuild and use that fixed version (and hopefully send those changes back for integration into future releases).

Although the ADE started out as ports of tools covered by the GNU General Public License (GPL), the GNU Library General Public License (LGPL), or some code covered by the "Berkeley License", it certainly isn't limited to those. Any package which is available in source is eligible to be part of the ADE.

There are several mailing lists available for people that are interested in getting ongoing ADE information or participating in discussions about the ADE.

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## 1.3 ADE Organization

The ADE is can be divided into several distinct files trees. If you simply plan to use the ADE to build your own projects, you won't have to worry too much about these details, since you can just use the provided installer script to install the ADE.

If you plan to help out the ADE project or want to understand more of the details, then you should study this section. The ADE file trees are:

ADE-bin Binary tree where executables, runtime libraries, user documentation, etc live in "ready-to-run" form. Uses "ADE:" as an alias (Amiga assign). The files in this area are built from source in ADE-src or copied from files in ADE-src.

ADE-src Source tree which contains all the sources for components of the ADE. Given the ADE-src tree, and a copy of the ADE-bin tree, it should be possible to completely recreate the ADE-bin and ADE-dist trees.

ADE-dist Tree which contains material from ADE-bin and ADE-src, archived in a form suitable for BBS or ftp access. Also contains baseline source archives for packages which have been modified and diff files for the Amiga sources relative to this baseline.

The ADE-dist tree normally contains several files for each program. As an example, here are the names of the files for the GNU C compiler. Each file also has an associated product info file which has the same name but an additional suffix of ".pi":

gcc-X.X.X-base.tgz Baseline source before incorporation into the ADE. In some cases base files have been reorganized to match the same file tree structure as used for the Amiga source in the ADE, so that diff files can be mechanically generated.

gcc-X.X.X-bin.lha The binary package for GNU C, C++, and Objective C.

gcc-X.X.X-src.tgz The Amiga source from which the supplied binaries were compiled.

gcc-X.X.X-diffs.gz The diffs from the baseline to the Amiga source. The baseline source, amiga source, and diff file form a complete source distribution. In theory, only any two of these are needed, since the third can be regenerated from either of the other two.

Note that ".tgz" is short for ".tar.gz", which is a gzip compressed tar archive. To extract the contents, you would do something like:

```
tar -xvpzf gcc-X.X.X-base.tgz
```

If this causes you any problems, you can use pipes to do the decompression and tar extraction as two separate processes, without creating a temporary file:

```
zcat gcc-X.X.X-base.tgz | tar -xvpf -
```

Without using pipes, you can create a temporary file to extract from, as follows:

```
zcat gcc-X.X.X-base.tgz >gcc-X.X.X-base.tar
tar -xvpf gcc-X.X.X.tar
```

## 1.4 Stable 961012 ADE snapshot archives

About every 4-6 weeks, a new developer release of the ADE is made available via ftp from ftp.ninemoons.com and its mirrors. Most of the material on this particular CD came from the snapshot that was released on October 12, 1996 (961012). These are the archives that can be found in the ade-dist directory at the root of the CD. When the contents of the binary archives are extracted, and then overlaid with the contents of the archives from the alpha directory, the resulting tree forms the "ready to run" tree found in the ADE-bin directory at the root of this CD.

## 1.5 Alpha test archives

The ADE-alpha directory at the root of this CD contains a number ↵  
of packages

that were created too late to make it into the 961012 ADE snapshot in the ADE-dist directory. However they have been installed in the ready to run file tree that is available in the ADE-bin directory, so you can run them directly off the CD. Here are some descriptions of the more interesting or important packages that are only available in alpha test form.

X Window System (X11R6.1)

The X port on this CD is a prerelease only. The server currently only works with standard Amiga screens and only in monochrome. It is doubtful that it will be fully functional on any third party graphics cards. Support for such cards is planned and will be well underway by the time this CD is released. Hopefully the next X release will work on all Amigas and also support color. If you are interested in helping with this project, you should subscribe to the  
ade-x mailing list  
.

Note that the next release of both X and the a2ixlibrary package will be incompatible with the versions that currently reside on this CD. The a2ixlibrary package contains various bugs, most importantly C++ constructors and destructors are never called. This requires certain incompatible changes, breaking all the current shared libraries and all the programs that use those libraries. There was just not enough time to fix these problems in time for this CD. Fortunately, only the X prerelease uses these shared

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libraries.

If all goes well a fully functional X release should be available before the end of this year.

In order to get X up and running you need to do the following:

- 1) Add "setenv DISPLAY :0" to your User-Startup
- 2) Add "path ade:X11R6.1/bin" to your User-Startup
- 3) Add "resident bin:sh force" to your User-Startup (see above)
- 4) Add "/ade/X11R6.1/bin" to your PATH environment variable so sh can also find the X programs.

There are various methods to actually start the server and clients: see for example the 'xinit' and 'startx' manual pages. For the moment you can just use the following CLI commands:

```
run x -pn
sleep 2
run twm
run xterm
```

Primitive, but they do the job.

Java development tools

This CD contains beta test versions of guavac and kaffe.

Guavac is a new compiler for the Java language, written by Effective Edge Technologies and distributed under the Gnu Public License.

Kaffe is a virtual machine design to execute Java bytecode. This machine can be configured in two modes. In one mode it operates as a pure bytecode interpreter (not unlike Javasoft's machine); in the second mode it performs "just-in-time" code conversion from the abstract code to the host machine's native code. This will ultimately allow execution of Java code at the same speed as standard compiled code but while maintaining the advantages and flexibility of code independence.

Free WWW browser

Lynx is a fully-featured World Wide Web (WWW) client for users running cursor-addressable, character-cell display devices (e.g., vt100 terminals, vt100 emulators running on PCs or Macs, or any other character-cell display). It will display Hypertext Markup Language (HTML) documents containing links to files on the local system, as well as files on remote systems running http, gopher, ftp, wais, nntp, finger, or cso/ph/qi servers, and services accessible via logins to telnet, tn3270 or rlogin accounts. Current versions of Lynx run on Unix, VMS and now AmigaOS.

Lynx can be used to access information on the WWW, or to build information systems intended primarily for local access. For example, Lynx has been used to build several Campus Wide Information Systems (CWIS). In addition, Lynx can be used to build systems isolated within a single LAN.

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## 1.6 ADE Mailing Lists

Cronus maintains a number of mailing lists for people to discuss ADE related topics and get timely information about the ADE. These lists are managed by the "majordomo" mail server. Majordomo responds to commands that appear in the body of messages that you send it, and sends back replies to you via email, containing either the requested information or status results for commands you have asked it to run on your behalf.

For example, send email to "majordomo@ninemoons.com" with the body of the message containing "help", to get a

```
help message
from the majordomo server.
```

To see what

```
lists
are available, send an email containing "lists" in the
body of the message.
```

## 1.7 Sample output of majordomo's lists command

This is a sample output from sending the major domo server a "lists" command. Note that it is probably out of date at this point.

majordomo@ninemoons.com serves the following lists:

```
ade                Amiga Developers Environment - general discussion
ade-announce       Important ADE announcements (moderated)
ade-gcc            Discussions about GNU C compiler port
ade-ixemul        Discussions about Unix Emulation library issues
ade-java          Discussions about Java on the Amiga
ade-projects      Discussions about ongoing ADE projects
ade-x             Discussions about ADE X Windows port
areport           Amiga Report distribution list (moderated)
picasso          Picasso II Graphics Board Mailing List
```

Use the 'info <list>' command to get more information about a specific list.

## 1.8 MajorDomo's help message

(This is a copy of the help message from the majordomo server)

This is Brent Chapman's "Majordomo" mailing list manager, version 1.93.

In the description below items contained in []'s are optional. When providing the item, do not include the []'s around it.

It understands the following commands:

```
subscribe <list> [<address>]
Subscribe yourself (or <address> if specified) to the named <list>.

unsubscribe <list> [<address>]
Unsubscribe yourself (or <address> if specified) from the named <list>.

get <list> <filename>
Get a file related to <list>.

index <list>
Return an index of files you can "get" for <list>.

which [<address>]
Find out which lists you (or <address> if specified) are on.

who <list>
Find out who is on the named <list>.

info <list>
Retrieve the general introductory information for the named <list>.

lists
Show the lists served by this Majordomo server.

help
Retrieve this message.

end
Stop processing commands (useful if your mailer adds a signature).
```

Commands should be sent in the body of an email message to "majordomo@ninemoons.com".

Commands in the "Subject:" line NOT processed.

If you have any questions or problems, please contact "fnf@ninemoons.com".

## 1.9 Ready to Run file tree

If you would like to experiment with the ADE without installing any packages to your hard drive, or else are limited on available hard drive space, Geek Gadgets contains a complete ready-to-run file tree with the ADE tools already preinstalled. To use it, all you have to do is add the following lines to your User-Startup file and then reboot:

```
assign ADE: ADE-1:ADE-bin
execute ADE:Sys/S/ADE-Startup
stack 50000
ixtimezone -get-offset
```

## 1.10 Planned Improvements

### Package Manager and Installer

We are working on a better packaging system based on the Redhat Package Manager (RPM) that is the standard for Redhat Linux. A port is included in the current ADE, but the ADE packages have not yet been converted to use it. RPM will provide the ability to selectively install and deinstall particular packages, track dependencies between packages, and more.

### AmigaOS Hunk format support

Work on full support for AmigaOS "hunk format" is in progress. When it is complete, the standard object file format for gcc will be switched from "a.out" to hunk. The tools will continue to accept a.out format objects and libraries though, for backwards compatibility. Once hunk format is supported, support for standard Amiga C extensions like "chip" will be easy to implement. Most of the pieces are already in place. The switchover to hunk format should occur before Geek Gadgets Version 2.

### Better Documentation

A common complaint, and quite justified, for those just getting started working with the ADE is the lack of documentation related to the project itself. There is quite a bit of documentation for each package, but that documentation is not always easily accessible.

One of the projects currently underway is to improve the Makefiles for each project so that they automatically build and install several different forms of documentation in the binary tree, including AmigaGuide format, PostScript format, DVI format, GNU "info" format, and man pages where applicable. The guide files that can be found in ADE-bin/guide are some of the results of this project, but there is still work to be done.

Another documentation goal of the ADE project is to unify all the various types of ADE related documents, FAQ's, etc that are floating around and organize them into a standard document that answers most questions about the ADE, ranging from questions about how to help with the project to what it is good for.

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