

**AmiWin**

<b>COLLABORATORS</b>
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# Chapter 1

## AmiWin

### 1.1 AmiWin.guide

AmiWin

\*\*\*\*\*

This is the documentation for AmiWin V2.0, an X11R6 package for AmigaDOS. Copyright (C) 1994,1995 Holger Kruse. All rights reserved.

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### 1.2 AmiWin.guide/NODE\_DISCLAIMER

Disclaimer

\*\*\*\*\*

AmiWin IS SUPPOSED TO BE AN X11R6 PACKAGE FOR AmigaDOS THAT CAN BE USED TO RUN X11 APPLICATIONS ON YOUR AMIGA, AND REDIRECT THE OUTPUT OF X11R6 APPLICATIONS RUNNING ON OTHER MACHINES TO YOUR AMIGA. EVEN THOUGH EVERY EFFORT HAS BEEN MADE TO MAKE AmiWin AS COMPATIBLE TO THE X11R6 STANDARD AS POSSIBLE, I CANNOT RULE OUT THE POSSIBILITY THAT AmiWin HAS BUGS THAT HAVE HARMFUL SIDE EFFECTS ON YOUR SYSTEM OR ON OTHER MACHINES

CONNECTED TO YOUR AMIGA.

I HEREBY REJECT ANY LIABILITY OR RESPONSIBILITY FOR THESE OR ANY OTHER CONSEQUENCES FROM THE USE OF AmiWin WHATSOEVER. THIS INCLUDES, BUT IS NOT LIMITED TO, DAMAGE TO YOUR EQUIPMENT, TO YOUR DATA, TO OTHER MACHINES YOUR AMIGA IS CONNECTED TO, ANY EQUIPMENT CONNECTED TO THAT HOST, PERSONAL INJURIES, FINANCIAL LOSS OR ANY OTHER KINDS OF SIDE EFFECTS.

YOU MAY USE THE AmiWin PACKAGE ONLY IF YOUR LOCAL LAW DOES NOT CONFLICT WITH THE ABOVE PARAGRAPH. IF YOUR CITY, COUNTY, STATE OR OTHER AUTHORITY FORBIDS THE RESTRICTIONS MADE IN THE ABOVE PARAGRAPH, THEN YOU MAY NOT USE THE AmiWin PACKAGE. IT IS YOUR RESPONSIBILITY BEFORE USING AmiWin TO ENSURE THAT YOUR LOCAL LAW DOES NOT CONFLICT WITH THE ABOVE PARAGRAPH, AND THAT NO SITUATION COULD ARISE IN WHICH I WILL BE BOUND BY ANY LAW VIOLATING THE RULES DEFINED IN THE ABOVE PARAGRAPH.

AMIWIN IS PROVIDED AS-IS. THIS MEANS I DO NOT GUARANTEE THAT AmiWin IS FIT FOR ANY SPECIFIC PURPOSE AND I DO NOT GUARANTEE ANY BUG FIXES, UPDATES OR HELP DURING ERROR RECOVERY.

### 1.3 AmiWin.guide/NODE\_CONDITIONS

Usage / Copying

\*\*\*\*\*

AmiWin is shareware. In this case this means that there are two different versions of the program:

- \* an unregistered freely distributable (under the conditions outlined below) version that has fewer features, and contains fewer utility programs than the registered version.
- \* a version for registered users, that has more features than the unregistered version, and contains more clients, drivers, fonts etc. This version requires a personalized key file that registered users receive from me, together with the complete registered AmiWin package. Neither the key file nor parts of the registered AmiWin package may be made available to other users ! Giving the key file to other users, using key files that you did not receive directly from me for your personal use, or giving other parts of the registered AmiWin package to other users is considered an act of software piracy !

If you want to distribute the unregistered or registered version of AmiWin, the following conditions apply:

- \* The sales price must not be higher than the cost of the empty disks required for the AmiWin files plus a nominal copying fee plus costs for shipping. The total price must not be higher than 10 US\$ or 15 DM or the equivalent in any other currency.
- \* If the unregistered version of AmiWin is to be distributed as part of a CD-ROM collection of public domain and/or shareware programs,

then the retail price of the CD-ROM may not exceed 20 US\$, 30 DM or the equivalent in any other currency.

- \* All parts of the program and the documentation must be complete. The distribution of single parts or incomplete subsets of the original distribution is not allowed. Distribution of keyfiles or parts of the registered AmiWin package is not allowed.
- \* AmiWin or parts of it may usually not be sold in combination with or as part of commercial software. However I might make exceptions to this in some cases - please contact me. However, unless and until you receive my explicit written approval, do not assume that you may distribute AmiWin or parts of it in combination or as part of commercial software.
- \* Program and documentation may not be changed in any way. Exception (this means: acceptable) is the use of archivers such as LHA and packers like Imploder or Powerpacker, as long as it remains possible to retrieve the original program/data.
- \* Please note: The documentation is copyrighted by me just like the software, and unauthorized translations violate the copyright. If you would like to distribute translations of the documentation or of any other text file, you MUST contact me first and obtain my permission.

## 1.4 AmiWin.guide/NODE\_REGISTRATION

### Registration

\*\*\*\*\*

If you often use AmiWin, I suggest you obtain the registered AmiWin version from me. It has many features which are not present in the evaluation version, more display drivers, fonts etc. For a detailed list of additional features see Restrictions.

To register, print the enclosed form REGISTRATION and fill it out, then send it to the address on top of the form along with the registration fee.

The registration fee is  
before August 31st, 1995:  
US\$ 40 plus media/shipping costs

after August 31st, 1995:  
US\$ 50 plus media/shipping costs

For details please see the file REGISTRATION.

The only acceptable methods of payment are:

- \* cash in US\$ or DM
- \* a check or money order in US\$ drawn on a US bank

- \* an international postal money order in US\$. This is probably the easiest and safest way for European customers. You can buy one at your local post office.

Please do NOT send EuroCheques !

Please do NOT make any kind of payment in a currency other than US\$ or DM !

I assure you that the information you provide will be treated confidentially.

Thank you very much in advance !

My address is:

Holger Kruse  
12006 Coed Drive  
Orlando, FL 32826-3101  
USA

Internet: kruse@cs.ucf.edu

## 1.5 AmiWin.guide/NODE\_INTRODUCTION

### Introduction

\*\*\*\*\*

AmiWin is a port of the X11R6 software package by the X consortium.

X11R6 (X-Window-System, sometimes also referred to as "X-Windows") is a GUI interface standard that is particularly common on Un\*x systems. The feature that most sets it apart from other GUI standards is that X11 can run across a network, i.e. a GUI-based program can be run on a machine that is different from the one the user is working on (where the X server is located).

The probably most interesting applications of an X11 server running on your Amiga are:

- \* There is a vast number of very good X applications (such as xv, Chimera, xdvi etc.) available in source code form that can be compiled and run on your Amiga running the AmiWin server. A "developers' package" containing include files etc. to compile your own AmiWin clients on your Amiga will be available soon (for registered users).
  - \* By connecting your Amiga to other Un\*x machines you can execute GUI-based X programs on those machines, and then redirect the GUI to your Amiga. This allows you to use your Amiga as a graphical X terminal for programs such as Mosaic, NetScape etc. To use AmiWin in this fashion you need a TCP/IP protocol stack such as AmiTCP/IP or AS-225 R2.
-

AmiWin is a straight port from the X11R6 CD-ROM distribution, patch level 11 (the latest version as of July 1995).

AmiWin has been compiled with SAS/C as a true Amiga application without the need for any kind of Un\*x emulation (such as ixemul.library).

AmiWin has a highly modular design. The AmiWin executable only contains the core program code. Display drivers, keyboard drivers, X extensions, X transports and most interface code are located in shared libraries. This makes AmiWin easily extensible to support new graphics boards, new TCP/IP packages etc.

During the installation of AmiWin, a directory tree with a variety of files will be created. Here is an explanation of the meaning of those files, that also gives you an insight into how AmiWin is organized:

x11:bin

All server and client executables. This directory must be in your path (automatically done during installation).

x11:etc/X0.hosts

List of authorized hosts. See Configuration.

x11:include/bitmaps

Standard X11 bitmap images that are loaded by some applications.

x11:lib/x11/fonts

Main directory for X11 fonts

x11:lib/x11/app-defaults

Configuration files for X clients.

x11:lib/x11/locale

Main directory for various files related to localization.

x11:lib/x11/twm/system.twmrc

Configuration file for the window manager "twm".

x11:libs/#?.library

All shared libraries used by servers and clients.

x11:xle/#?.xle

Client interface libraries for X11 extensions. These files are automatically loaded by clients if they need to use non-standard features of the X11 server.

x11:xsd/#?.xsd

Display drivers for the AmiWin server.

x11:xsk/#?.xsk

X keyboard drivers

x11:xtp/#?.xtp

X transport modules. These modules are used by clients and servers to access networking software such as AmiTCP/IP or AS-225 R2.



## 1.6 AmiWin.guide/NODE\_REQUIREMENTS

### Requirements

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You need

- \* any Amiga running Kickstart 2.04 and Workbench 2.04 or higher. Kick2.04/WB2.1 and Kick3.1/WB3.1 were used for testing, but other configurations should work as well.
- \* sufficient memory. Usually 4MB of RAM can be considered a minimum. For reasonable use, 8MB or more is recommended.
- \* sufficient harddisk space. The evaluation version requires about 2 MB, the full version requires more than 20 MB if all fonts are installed.
- \* a graphics output device supported by AmiWin. At the moment, any graphics board and chipset which has a Workbench emulation (graphics.library emulation) is supported in monochrome. In addition AmiWin supports several graphics boards and chipsets in palette-color or true-color modes. Please see Display drivers for details.
- \* If you want to redirect the GUI of X11 clients running on other machines to your Amiga, you need a TCP/IP protocol stack running on your Amiga. Currently supported protocol stacks are AmiTCP/IP V2.x or higher, and AS-225 R2.
- \* A 68030/68EC030 processor or higher is strongly recommended.
- \* A three-button mouse is recommended, because most X11 installations are set up for three-button mice. If you do not have a three-button mouse, AmiWin can emulate the middle button for you.

## 1.7 AmiWin.guide/NODE\_INSTALLATION

### Installation

\*\*\*\*\*

AmiWin comes with an Installer script. The program "Installer" (by Commodore) is included with the registered AmiWin package, but not with the evaluation package.

If you want to install the evaluation version of AmiWin, please make sure that you have "Installer" in your path. "Installer" is included with many commercial software packages, and is also available from public domain software sources.

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PLEASE DO USE the supplied Installer script to install AmiWin. Do not attempt to install AmiWin manually. Otherwise you will have a difficult time installing future updates, because the Installer scripts of future updates will assume that AmiWin has been installed by "Installer".

The evaluation version can be installed "in place", i.e. in the directory where you de-archived it, or it can be copied to a different directory during installation.

If you are worried that your system configuration files might be changed or destroyed during Installation, here is what the Installer script does:

- \* ALL AmiWin-related files are copied into one single directory.
- \* One single shared library is copied to LIBS: (or any other directory of your choice), unless a more recent version already exists in your system. The library is "ppipc.libray", a public domain library for inter-process communication. You can skip this step.
- \* Two entries have to be added to your s:user-startup file:
  - assign X11: <install-dir>/X11
  - path X11:bin add

You can skip this step.

- \* Several environment variables are created.

## 1.8 AmiWin.guide/NODE\_CONFIGURATION

### Configuration

\*\*\*\*\*

Most of the configuration parameters of AmiWin are configured by a set of environment variables. These variables are automatically set to reasonable values during the installation.

In addition, some clients have their own configuration files, which are then identical in nature to their Un\*x originals, e.g. "x11:lib/x11/twm/system.twmrc" for "twm" etc. Please see the included man-pages of these clients for details. All clients come with default configuration files set to reasonable values.

IMPORTANT: AmiWin does not require any files in addition to the ones described here. If you use SnoopDos or a similar utility, you will find that some clients and libraries attempt to load other configuration files. This is for compatibility to Unix multi-user setups only. You should not attempt to create additional config files just because these files appear in SnoopDos.

---

List of configuration files. (All of these are automatically set during installation and configuration):

ENV:AMIWIN/AWOPTIONS

This file contains a list of options for the X11 server. For a complete list of options, please see ENV:AMIWIN/AWOPTIONS and Display drivers

ENV:AMIWIN/XTRANSPORTS

This file contains a list of transports for use with all clients and servers. Valid entries are e.g.:

```
    amitcp
or
    as225
or
    amitcp as225
```

Please mind lower-case ! In addition to the transports listed in this file, the "local" (MsgPort-based) transport is always available. Do not include "local" in this file !

If more than one transport of the same type (e.g. TCP/IP) is specified, then the one specified first has priority if an address is specified by transport name (e.g. inet/myhost:0").

ENV:AMIWIN/XAW

This config file is only meaningful in the registered version. It allows you to choose the style of the Athena Widget set. Current options are:

```
xaw (or no config file at all)
    Standard xaw imagery.

xaw3d
    3-dimensional xaw imagery (xaw3d style).
```

ENV:DISPLAY

Default X11 display address. If you want the GUI of clients running on your Amiga to appear on your AmiWin screen, set this variable to "local:0". This is the default.

ENV:XAUTHORITY

This file contains the path of your ".Xauthority" file. The recommended value (and default) is "X11:.Xauthority".

ENV:XFILESEARCHPATH

This file contains a list of directories for application configuration files. The default is "X11:lib/x11/%T/%N". Please do not change this file unless you REALLY know what you are doing...

X11:.Xauthority

This file is maintained by "x11:bin/xauth" and used by all clients and servers to implement the MIT-MAGIC-COOKIE-1 authorization scheme. Please see the man-page of "xauth" for details. Do not modify this file by hand. If this file does not exist, then MIT-MAGIC-COOKIE-1 authorization is not used.

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X11:etc/X0.hosts

This file contains a list of "trusted" hosts, i.e. hosts from which you want clients to connect to your X11 server without having to go through authorization. Just add the IP address of these hosts to this file. Default: empty.

## 1.9 AmiWin.guide/NODE\_AWOPTIONS

Format of the AWOPTIONS file

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The following options (plus any options for display drivers, see Display drivers) can be used in the AWOPTIONS file:

-ac

Normally AmiWin only allows access from clients on machines which  
\* are listed in your X11:etc/X0.hosts file.

\* have the "magic cookie" of your machine (as defined in your  
".Xauthority" file) stored in their own ".Xauthority" file.

All other clients are usually rejected. If you specify "-ac", then no access control at all is used, and any client from any machine is allowed to connect to your server.

-audit int

Specifies the audit trail level, where "int" can be 0, 1 or 2, and specifies which connection attempts are logged. The meaning is:

0

No connection attempts are logged.

1

Only unauthorized connection attempts are logged (default).

2

All connection attempts are logged.

-auth string

Specifies the file used for authorization. The default is  
"X11:.Xauthority".

bc

Enables "bug compatibility mode". Some X programs (in particular old versions of "xterm") have bugs that require special workarounds in the server. Option "bc" enables these workarounds.

-bs

Disable backing store support. This option usually slows down window operations, but saves memory.

-cc int

Defines the default color visual class. Meaning of "int":

- 0       StaticGray: a fixed set of grayscales.
- 1       GrayScale: a variable set of grayscales.
- 2       StaticColor: a fixed set of colors (fixed palette).
- 3       PseudoColor: a variable set of colors (variable palette).
- 4       TrueColor: true color mode (no palette).
- 5       DirectColor: separate palette per color component (R/G/B).

Not all of these visuals are available with all display drivers.

**-co string**

Defines the path of the color database file. The default is "x11:lib/x11/rgb.txt".

**-config string**

Specifies another option file (like ENV:AMIWIN/AWOPTIONS) to be read at program startup.

**-dpi int**

Specifies the screen resolution in dots per inch. Default=72.

**-defer glyphs [none|all|16]**

Defers the loading of character bitmap data ("glyphs") until needed (instead of loading them when the font is opened). This saves memory and reduces the program startup time, but can slow down text rendering. Default="none". "all"=defer all glyphs. "16"=defer only 16-bit glyphs.

**-fc string**

Specifies the cursor font. Default="cursor".

**-fn string**

Specifies the default font. Default="fixed".

**-fp string**

Specifies the font search path. Default="X11:lib/X11/fonts/misc".

**-keymap string**

Defines the keymap for the X screen. Default: Workbench keymap if one has been saved by "Input Preferences", otherwise "usa0". Example: "-keymap d".

**-lalt char**

Specifies the mapping of the left "Alt" key. Meaning of char:

a

Left "Alt" key maps to X11 "Alt" key for use by applications

(default).

m

Left "Alt" key maps to X11 "Meta" key for use by applications.

s

Left "Alt" key maps to X11 "Mode\_switch" key. At this setting the "Alt" key produces international characters in the same way as with AmigaDOS programs.

-logo

Enables the "X" logo in the screen saver.

-midbutton string

Defines the input qualifier used to emulate the middle mouse button (when used together with the right button). Default="rcommand".

nologo

Disables the "X" logo in the screen saver.

nogadget

Normally there is a hidden gadget of size 1x1 in the upper right corner of the X screen. If you click on this gadget without moving the mouse, then the X screen is moved to the back. The option "nogadget" disables this feature.

nogui

Disables the MUI-based graphical user interface of AmiWin.

-p int

Specifies the screen-saver pattern duration in minutes.

-pn

Allows AmiWin to startup even if it could not establish all listening sockets.

-r

Turns off key auto-repeat.

r

Turns on key auto-repeat.

-ralt char

Specifies the mapping of the right "Alt" key. Meaning of char:

a

Right "Alt" key maps to X11 "Alt" key for use by applications (default).

m

Right "Alt" key maps to X11 "Meta" key for use by applications.

s

Right "Alt" key maps to X11 "Mode\_switch" key. At this setting the "Alt" key produces international characters in the same way as with AmigaDOS programs.

---

-reset int  
Defines the action when the server is reset. Meaning of "int":

- 0  
Ignore the reset.
- 1  
Reset the server normally, i.e. terminate all clients and reinitialize the display driver.
- 2  
Quit the server.

-s int  
Define the screen saver timeout in minutes.

-su  
Disable any "save under" support. This usually slows down the server, but may save some memory.

-to #  
Defines the connection time out.

-tst  
Disables the testing extension. This can be useful for security reasons, because the testing extension allows clients to interfere with the operation of other clients.

v  
Use video blanking for the screen saver.

-v  
Do not use video blanking for the screen saver.

-wm  
Let the X property "WhenMapped" default to using backing-store. This roughly corresponds to the "smart refresh mode" of layers.library.

-x string  
Loads the named X extension at initialization time. Only available in the registered version.

-xsd string  
Defines the display driver. This is technically not an option, but a required parameter, i.e. you MUST specify it. There is no default for it. Example: "-xsd rtg-1".

## 1.10 AmiWin.guide/NODE\_DRIVERS

### Display Drivers

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The following display drivers are currently supported by AmiWin. In

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the evaluation version all drivers are limited to max screen sizes of 800x600.

rtg-1

Monochrome driver using the RTG standard

aga-1

Monochrome driver for ECS/OCS/AGA

aga-8

Color driver for ECS/OCS/AGA/A2024

picasso-1-8

Color driver for the Picasso graphics board

cybergraphx-8

Color driver for CyberGraphX boards

picasso-1-15

True-color driver for the Picasso graphics board

cybergraphx-15

True-color driver for CyberGraphX boards

## 1.11 AmiWin.guide/NODE\_RTG\_ONE

rtg-1 display driver

=====

This driver supports monochrome (single-plane) display modes on nearly every graphics board or chipset for which a Workbench emulation (graphics.library emulation) exists. It does not use any direct memory access, but complies with the RTG standard as defined by Commodore at DevCon 93.

All offscreen Pixmaps are stored in 1-bit planar format. The type of memory used to store offscreen Pixmaps depends on the screen mode. If the screen mode is a native Amiga mode, Pixmaps are stored in chip memory. Otherwise Pixmaps are stored in fast memory (unless the driver detects one of the graphics boards that do not support bitmaps in fast memory such as CyberGraphX before version 40.52, and unless the user manually overrides this by specifying "-chipmem").

The default cursor type is "Hardcursor". The driver recognizes the AGA chipset (or other compatible graphics boards) and in this case tries to adjust the sprite resolution to the screen resolution and to use 32-bit wide sprites when necessary. The screen width is rounded to a multiple of 32 pixels.

It is not recommended to use this driver with CyberGraphX, because CyberGraphX does not support planar display modes. This means that with this driver, CyberGraphX constantly has to perform Planar-To-Chunky conversions, slowing the X server down considerably.



Options supported by this graphics driver:

- sm string  
Specifies the screenmode. "string" can be either a screenmode id in the form "0x12345678" or the name of a screen mode in the display data base.
- chipmem  
Store all offscreen pixmaps in chipmem. This slows down the driver, but may be necessary for incomplete Workbench-emulations that do not support bitmaps in fastmem.
- col rrggbb/rrgbb  
Defines the color values used for black and white. The default is "000000/FFFFFF".
- softcursor  
Usually the X cursor is implemented by a hardware sprite. "-softcursor" uses a software sprite ("shape") instead.

## 1.12 AmiWin.guide/NODE\_AGA\_ONE

aga-1 display driver  
=====

This driver supports monochrome (single-plane) displaymodes with any Amiga chipset (OCS/ECS/AGA). All rendering is done by a combination of direct memory access and direct blitter access.

All offscreen Pixmaps are stored in 1-bit planar format in chip memory. The default cursor type is "Hardcursor". The driver recognizes the AGA chipset and in this case tries to adjust the sprite resolution to the screen resolution and to use 32-bit wide sprites when necessary. The screen width is rounded to a multiple of 32 pixels.

Options supported by this graphics driver:

- sm string  
Specifies the screenmode. "string" can be either a screenmode id in the form "0x12345678" or the name of a screen mode in the display data base.
- col rrggbb/rrgbb  
Defines the color values used for black and white. The default is "000000/FFFFFF".
- softcursor  
Usually the X cursor is implemented by a hardware sprite. "-softcursor" uses a software sprite ("shape") instead.

## 1.13 AmiWin.guide/NODE\_AGA\_EIGHT

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## aga-8 display driver

=====

This driver supports 2-8 bit (4-256 color) displaymodes with any Amiga chipset (OCS/ECS/AGA), and A2024 greyscale modes. All rendering is done by a combination of direct memory access and direct blitter access.

All Pixmaps are stored in planar, interleaved format in chip memory. The default cursor type is "Hardcursor" in most display modes. The driver recognizes the AGA chipset and in this case tries to adjust the sprite resolution to the screen resolution, to use 32-bit wide sprites when necessary, and to remap the set of sprite color registers to avoid conflicts with bitmap colors.

Modes for which "Hardcursor" is supported and the default:

- \* A2024: 2 bits (4 greyscales)
- \* OCS/ECS/AGA 2-4 bits (4-16 colors)
- \* AGA 5-7 bits (32-128 colors)

Modes for which "Hardcursor" is NOT supported:

- \* OCS/ECS 5 bits (32 colors)
- \* AGA 8 bits (256 colors)

Interleaved rendering is used whenever possible to avoid color flashing.

The screen width is usually rounded to 32 pixels, but has to be rounded to 64 pixels in some cases to comply with AGA alignment restrictions.

Options supported by this graphics driver:

-sm string

Specifies the screenmode. "string" can be either a screenmode id in the form "0x12345678" or the name of a screen mode in the display data base.

-depth int

Specifies the color depth (2-8).

-round32

In some cases AmiWin normally rounds the display width to 64 bits instead of 32 bits to improve performance (although it would technically be possible to round to 32 bits only). This option forces 32-bit rounding in these cases.

-softcursor

In most display modes the X cursor is normally implemented by a hardware sprite. "-softcursor" uses a software sprite ("shape") instead.

Note: Unfortunately many X clients are buggy and do not support color depths of 3, 5, 6 or 7 bits properly. It is therefore recommended to

use depths of 2, 4 or 8 bits only if you use graphics-oriented X clients (such as WWW browsers).

Note: Many X clients allocate pens for their own use and assume that there are "many" pens available in the server, usually at least 64. It is therefore recommended to switch to a fixed-palette visual (option "-cc 0") if you use the aga-8 driver with a small number of bitplanes (5 or less). Otherwise you will probably get error messages like "unable to allocate color..." from X clients.

## 1.14 AmiWin.guide/NODE\_PICASSO\_L\_EIGHT

picasso-l-8 display driver  
=====

This driver supports 8-bit (256-color) screenmodes on Picasso-II graphics board operating in linear mode with the original VillageTronic Picasso software. Boards running in segmented mode are not supported. If you are using CyberGraphX instead of the VillageTronic software please use the driver "cybergraphx-8", not "picasso-l-8".

The driver uses "vilintuisup.library" and the Picasso blitter for on-screen copying and bit manipulation, and direct memory access otherwise. All off-screen Pixmaps are stored in chunky format in fast memory. "Hardcursor" support is not available. The screen width is rounded to a multiple of 4 pixels.

Options supported by this graphics driver:

-sm string  
Specifies the screenmode. "string" can be either a screenmode id in the form "0x12345678" or a resolution in the form "800x600". When specifying a screenmode id, please note that the screenmodes for vilintuisup.library are different from the screenmodes used by the Workbench emulation.

## 1.15 AmiWin.guide/NODE\_CYBERGRAPHX\_EIGHT

cybergraphx-8 display driver  
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This driver supports 8-bit (256-color) screenmodes on any CyberGraphX graphics board that uses a simple 8-bit chunky bitmap organization.

cybergraphics.library version 40.55 or higher is ABSOLUTELY required for this driver. It does not work with 40.54 or below. At the time of this writing cybergraphics.library 40.55 has not been released yet, but it will be soon. Please do not ask me for a copy. Wait until it is released, and get the official distribution archive.

The driver uses a combination of graphics.library calls and direct

---

memory access for rendering. All off-screen Pixmaps are stored in chunky format in fast memory. "Hardcursor" support is not available. The screen width is rounded to a multiple of 4 pixels.

Options supported by this graphics driver:

-sm string

Specifies the screenmode. "string" can be either a screenmode id in the form "0x12345678" or a resolution in the form "800x600".

## 1.16 AmiWin.guide/NODE\_PICASSO\_L\_FIFTEEN

picasso-l-15 display driver

=====

This driver supports 15/16-bit (32768/65536-color) true-color screenmodes on Picasso-II graphics board operating in linear mode with the original VillageTronic Picasso software. Boards running in segmented mode are not supported. If you are using CyberGraphX instead of the VillageTronic software please use the driver "cybergraphx-15", not "picasso-l-15".

The driver uses "vilintuisup.library" and the Picasso blitter for on-screen copying and bit manipulation, and direct memory access otherwise. All off-screen Pixmaps are stored in chunky format in fast memory. "Hardcursor" support is not available. The screen width is rounded to a multiple of 2 pixels.

Options supported by this graphics driver:

-depth int

Specifies the display depth. Valid values are 15 and 16. Please note that some X clients are buggy and do not support some color depths correctly. Most X clients have fewer problems with 16-bit than with 15-bit.

-sm string

Specifies the screenmode. "string" can be either a screenmode id in the form "0x12345678" or a resolution in the form "800x600".

## 1.17 AmiWin.guide/NODE\_CYBERGRAPHX\_FIFTEEN

cybergraphx-15 display driver

=====

This driver supports 15/16-bit (32768/65536-color) true-color screenmodes on any CyberGraphX graphics board that uses one of the following bitmap organizations:

- \* one bit unused, five bits red, five bits green, five bits blue

- \* one bit unused, five bits blue, five bits green, five bits red

---

- \* five bits red, six bits green, five bits blue
- \* five bits blue, six bits green, five bits red
- \* any of the above but Intel-style byte-swapped.

cybergraphics.library version 40.55 or higher is ABSOLUTELY required for this driver. It does not work with 40.54 or below. At the time of this writing cybergraphics.library 40.55 has not been released yet, but it will be soon. Please do not ask me for a copy. Wait until it is released, and get the official distribution archive.

The driver uses a combination of graphics.library calls and direct memory access for rendering. All off-screen Pixmaps are stored in chunky format in fast memory. "Hardcursor" support is not available. The screen width is rounded to a multiple of 2 pixels.

Options supported by this graphics driver:

-depth int

Specifies the display depth. Valid values are 15 and 16. Please note that some X clients are buggy and do not support some color depths correctly. Most X clients have fewer problems with 16-bit than with 15-bit.

-sm string

Specifies the screenmode. "string" can be either a screenmode id in the form "0x12345678" or a resolution in the form "800x600".

## 1.18 AmiWin.guide/NODE\_TRANSPORTS

Transports

\*\*\*\*\*

Transports are used to transmit information between the server and clients. At this time AmiWin supports three different transports:

- \* A fast MsgPort-based local transport that uses the public domain library "ppipc.library" for implementation. This is the preferred transport for clients running on the same machine as the server. The "ppipc" transport is always available without further configuration. To access it from an X client, use a display string "local:0", "ppipc:0" or (compatibility to Un\*x) "unix:0". If no TCP/IP transport is being used, the local transport is also accessible through "tcp:0" and "inet:0".
- \* The transport library "amitcp.xtp" that accesses AmiTCP/IP 2.x or higher. To activate this transport, add "amitcp" to the file ENV:AMIWIN/XTRANSPORTS (see Configuration). To access this transport from an X client running on a Un\*x box, use a display string "1.2.3.4:0", where 1.2.3.4 is the IP address of your Amiga.
- \* The transport library "as225.xtp" that accesses AS-225 R2 or higher. To activate this transport, add "as225" to the file ENV:AMIWIN/XTRANSPORTS (see Configuration). To access this transport from an X client running on a Un\*x box, use a display

string "1.2.3.4:0", where 1.2.3.4 is the IP address of your Amiga.

It is not possible to change the set of transports that AmiWin uses while the AmiWin server is running. You have to shutdown the server first and modify the XTRANSPORTS file, and then start the server up again.

When you start AmiWin all transports are initialized. This means that if you use the "amitcp" transport, AmiTCP/IP must be running. If you use the "as225" transport, AS-225 R2 must be running. Otherwise AmiWin will not startup properly.

## 1.19 AmiWin.guide/NODE\_USAGE

How to use AmiWin

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After the initial installation all you have to do to start the X server is to type "startx". This starts AmiWin and a window manager (twm in the evaluation version, optionally twm or fvwm in the registered version).

When the "startx" script is completed, you can start X clients, on your Amiga as well as on other machines connected to your Amiga. See How to use the TCP/IP transport for information how to setup Un\*x such that X clients open their display on your AmiWin screen.

Please note that the evaluation version of AmiWin has several limitations (see Restrictions). One of them is that the number of X clients at any time is limited to 4.

To shutdown the server there are different ways:

- \* "Break" the AmiWin process, i.e. send it a "Ctrl-C" signal.
- \* On the X screen, type "RightAmiga-RightShift-Q".
- \* Depending on the setting of "-reset", AmiWin may quit if you quit the last client running on the server (usually the window manager).
- \* If you have not disabled the MUI-based user interface, hit the close gadget, click on "Quit" or select the menu entry "Quit".
- \* If you have not disabled the MUI-based user interface, send a QUIT command to the ARexx port of AmiWin.  
rx "address AMIWIN.1;QUIT"

## 1.20 AmiWin.guide/NODE\_TCPIP

How to use the TCP/IP transport

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There are a few things to do to setup AmiWin and Un\*x boxes correctly, such that you can run X clients on a Un\*x box and have the GUI redirected to AmiWin. Here is a description what you have to do:

- \* Setup the XTRANSPORTS file correctly for AmiTCP/IP or AS-225 R2. Please see Configuration and Transports for details.
- \* Startup your protocol stack (AmiTCP/IP or AS-225 R2).
- \* If this is the first time you want to access AmiWin from outside of your Amiga you have to setup the access rights correctly.

You have two options: You could use the ".Xhosts" mechanism which allows ANY client running on a specific machine to connect to your Amiga, no matter which user started it. This mechanism is easier to setup and use. Here is how:

- Add the IP address (e.g. 10.50.210.56) of your Un\*x box to the file X11:etc/X0.hosts.

Alternatively you could use the ".Xauthority" mechanism. This is more complicated to use, but allows you to grant access only to X clients started by a specific user on the Un\*x box. Here is how to do it:

- If you already have an "X11:.Xauthority" file and want to start from scratch, delete this file.
- start "xauth".
- Think of a 32-bit hex number (e.g. 147AC453) to use as a "magic cookie" (password).
- At the prompt, type  
    add 127.0.0.1:0 . 147AC453  
    exit

where 147AC453 must be replaced by your magic number. Remember this number well, because you will need it when you setup your Un\*x box.

For more information please see the man-page of "xauth".

- \* Start AmiWin on your Amiga.
- \* Establish a telnet or rlogin connection to your Un\*x box.
- \* If you are using the Xauthority mechanism and this is the first time that you are connecting to your Amiga from this host, you need to setup the Xauthority mechanism on your Un\*x box.
  - Start "xauth" and at the prompt type:  
    add 12.34.56.78:0 . 147AC453  
    exit

where 12.34.56.78 must be replaced by the IP address of your Amiga, and 147AC453 must be replaced by your magic number.

- \* You need to setup your DISPLAY variable on your Un\*x box correctly. This is usually done by
-

```
set DISPLAY 12.34.56.78:0
or
setenv DISPLAY 12.34.56.78:0
```

depending on which shell you are using. 12.34.56.78 must be replaced by the IP address of your Amiga. Some shells also require an additional

```
export DISPLAY
```

After that X clients started on your Unix box should come up on your Amiga.

## 1.21 AmiWin.guide/NODE\_GUI

### Graphical User Interface

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AmiWin has a simple, optional graphical user interface to examine and change some run-time parameters. It is based on MUI (Magic User Interface by Stefan Stuntz). MUI 2.2 or higher is required if you want to use the GUI.

Note: I realize that some of you do not like MUI for various reasons. Personally I am not interested in getting involved in this debate in any way. I used MUI "because it is there", because it is easy to use, because it has all the features I need (including iconification, ARexx) and because I like it. If you do not like it, don't use it. Just add "nogui" to your AWOPTIONS file. AmiWin runs just fine without a GUI frontend, and most other X servers (on Un\*x e.g.) do not have a GUI frontend either. I respect other opinions regarding GUI packages, but I am afraid I have neither the time nor the interest to write a different GUI frontend, and I think that the time required to do this could be put to better use (such as writing new display drivers, porting X clients etc.), so please do not bother me about this.

If MUI is installed and you do NOT have the option "nogui" in your AWOPTIONS file, then AmiWin will open a MUI window upon startup, that will be iconified as soon as the server has initialized itself completely.

To use the window, un-iconify it and "click and play". The user interface elements are fairly straight-forward and correspond to configuration options (see Configuration). It is not possible to save the settings, because MUI-specific config files would conflict with the Un\*x-compatible configuration files.

The "Security" page corresponds to the "Xhosts" mechanism. The gadgets on the "Transports" and "Extensions" pages are purely informational, i.e. not modifiable.



## 1.22 AmiWin.guide/NODE\_RESTRICTIONS

### Restrictions

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The evaluation version has a number of restrictions that are not present in the registered version:

- \* In the unregistered version the number of clients connected to the X server at any time is limited to 4 (128 in the registered version).
- \* The unregistered version of AmiWin does not support external X extension modules. The registered version comes with the "Sync" and "Multibuffering" extensions.
- \* All display drivers in the evaluation version have a maximum screen size of 800x600.
- \* The evaluation version does not contain the true-color display drivers.
- \* The evaluation version of the font access library only supports X bitmap fonts. Scalable outline fonts (Speedo, Typel) and remote font access are not supported.
- \* The evaluation version only contains two fonts. Other bitmap fonts are available from other sources though (e.g. ftp.x.org), and can be used with the evaluation version of AmiWin. The registered version comes with a large font collection (17 MB) including scalable fonts, precompiled for AmiWin for best performance.
- \* The registered version contains several more clients, including the virtual window manager "fvwm" and all associated modules.
- \* The registered version contains 68030-optimized versions of all display drivers.
- \* The registered version contains "xaw3d.library", a library that gives the Athena Widgets set a 3-dimensional look, and "xpm.library", a library for handling color images.
- \* The registered version comes with a printable copy of the AmiWin manual (.dvi and .ps formats).

## 1.23 AmiWin.guide/NODE\_HISTORY

### History

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V2.0/V2.0d (July 31th, 1995)  
initial release

V1.x

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BETA-VERSIONS - DO NOT USE !

## 1.24 AmiWin.guide/NODE\_FUTURE

The Future of AmiWin

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Here is an incomplete list of things I would like to do in the future. It is in no particular order, without specific priorities. I would appreciate any feedback and suggestions:

- \* more display drivers, including 24-bit drivers for several architectures, drivers for EGS and Retina
- \* optimizations in existing drivers
- \* some more X clients (in particular: I have ported the WWW browser "Chimera" and the image manipulation program "xv". Both programs are currently at an alpha stage. If I get the permissions from the authors I would like to release both programs to the public eventually, after a bit more testing).
- \* X11R6 font server
- \* improved font library that allows standard Amiga (bitmap and scaled) fonts to be used with X11R6.
- \* more transport libraries, e.g. for Envoy or Enlan-DFS
- \* tcl/tk/tcl-dp and Zircon (IRC client)
- \* developer package to compile your own X11 clients for AmiWin (include files, autodocs, FD-files, link libraries etc.). This should be done quickly, as soon as all the library interfaces are really stable.
- \* X11R6 Session Manager
- \* LBX (Low-Bandwidth-X): a proxy client/server set that drastically improves performance of X connections over slow serial links (PPP/SLIP). This is one of the things I would like to do very soon, but I will need beta-testers who have access to a complete X11R6 source tree on a Unix box and permission to compile a few programs there.

## 1.25 AmiWin.guide/NODE\_ACKNOWLEDGEMENTS

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  - \* the AmiTCP/IP development group for their outstanding TCP/IP protocol stack AmiTCP/IP.
  - \* James Cooper, Steve Krueger and Doug Walker for the SAS/C development system and their great support.
  - \* Stefan Stuntz for his nice user graphical interface package MUI.
  - \* the X consortium for the very well designed and mostly bug-free :-) X11R6 software package.
  - \* all users who decide to register AmiWin.
-