rtgmaster_user

COLLABORATORS

	TITLE : rtgmaster_user		
ACTION	NAME	DATE	SIGNATURE
WRITTEN BY		January 18, 2023	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

Contents

Chapter 1

rtgmaster_user

1.1 Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

User Documentation

Table of contents

Note: If you use MCP, i recommend using at least Version MCP131B8. Earlier versions might use up too much ramlib stack. According to a user, this was fixed with Version MCP131B8. So i recommend at least this version. If problems still appear, i recommend installing MCPramlibpatch. This might also apply to MCP-Clones like MCX.

1.2 RtgMaster Library V42.0

As you might know there was a "rtgCV3D.library" existing in Beta Stage, which supported the Virge-CPU of the CV/3D directly (without using Phase 5s cgxvirgin.library, but implementing support natively, it was even planned to make a PPC Native version of it). This library has been cancelled.

There is a reason for this: Currently a much better 3D-API - which especially will support ANY Amiga 3D Hardware, including Virge and Permedia 2 CPUs - is in developpement. I did not want to add more confusion, because of that i cancelled rtgCV3D.library.

The new system is called Warp3D, and supports both 68k and WarpUP. It will hopefully be released soon. Starting with rtgmaster V42, there is a interface between Warp3D and rtgmaster.

Warp3D needs to know the following things:

- Bitmap address

The new tag grd_Bitmap of GetRtgScreenData of the V42 provides this. It provides always the address of the Bitmap that is currently "in front". If all of them are needed, the coder needs to switch through all prepared Bitmaps at program start with SwitchScreens and call each time GetRtgScreenData.

- If ScrollVPort or "real" Doublebuffering is used

The new tag grd_ScrollVPort does this. If it returns 1 (CGX) ScrollVPort is used by SwitchScreens, if 0 (P96, AMI, EGS) "true" Doublebuffering is used. If you have ScrollVPort (CGX only supports this... so i could not use "true" Doublebuffering for CGX), grd_Bitmap will always return the same Bitmap. Warp3D will then need the offsets, which you can calculate like this:

offset = "Bitmap number" * "Height of Screen"

"Bitmap number" is 0-2, Height of Screen you can get by using grd_Height.

For "real" Doublebuffering, no offset is needed, but three bitmap pointers are returned instead (grd_Bitmap returns the address of the bitmap which is currently "in front").

For closer information about Doublebuffering in Warp3D please refer to the documentation of Warp3D (currently only available for Betatesters).

- I added two more new tags, which might be useful independent of 3D:

* grd_Screen

returns a pointer to the IntuitionScreen of the RtgScreen. This only works if the current RtgScreen *has* an IntuitionScreen, else it returns 0. AMI/CGX/P96 have a IntuitionScreen.

Be careful, if you open requesters on the Screen, and then do CopyRtgBlit, you will kill your requester. So as long as you open intuition.library stuff on an RtgScreen,

you should not do any rendering to the screen.

* grd_Window

The same about an IntuitionWindow (if this sublibrary uses one...). Same notes as

to grd_Screen apply.

Note: None of the new tags is supported by rtgEGS.library, here they all return 0.

EGS uses "true" Doublebuffering, BTW.

1.3   RtgMaster Library V42.0

Some people have encountered problems

- with the CV/PPC GFX Board

to fix it, install WarpUP V3.1 which can be downloaded at

ftp://ftp.haage-partner.com/WarpUP.

Then set the following env-variables:

echo >env:powerpc/force "1"

echo >env:powerpc/gfxaddr "$e0000000"

echo >env:powerpc/TERMINATOR "2"

echo >envarc:powerpc/force "1"

echo >envarc:powerpc/gfxaddr "$e0000000"

echo >envarc:powerpc/TERMINATOR "2"

In a future version the WarpOS Installer will handle this automatically.

The problem was that the CV/PPC is no Zorro 3 Board and has to be handled

differently, if software directly accesses the Video RAM (like rtgmaster

does).

The same settings will probably be needed for the BV/PPC. I don't know yet,

if the address ($e0000000) will be the same for the BV/PPC yet, and the people

at Phase 5 could not yet tell me.

You might need to install MCPramlibpatch additionally, which is now included

to the rtgmaster archive, as under CGX - and especially when CV/PPC is present

- we seem to be low on ramlib stack (I never was low on ramlib stack with P96).

To install it just put:

MCPramlibpatch >nil:

to your startup-sequence ...

- with later FlashROM Updates of the PPC Boards:

These problems result in the author of the FlashROM's giving a sh*t about WarpOS

programs and in the past even trying actively to disable WarpOS. In the latest

FlashROM he patched the OS with a very unclean patch which would cause PPC Shared

Libraries to fail. This can be fixed - if you upgraded to a new FlashROM - by:

- Installing the above mentioned WarpOS V3.1

- setting the ENV-Variables:

echo >env:powerpc/TERMINATOR "2"

echo >envarc:powerpc/TERMINATOR "2"

rtgmaster will still fail, if you start ppc.library applications before you start

a rtgmaster application. This is no bug. It is a direct result of the change in

the FlashROM by the ppc.library author. A real fix for it would be if he would

remove this unclean OS-Patch again. After all P5 and H&P are cooperating now.

Partners don't do such things to each other, in my opinion.

BTW: Be careful, latest 68060.library appearently loads ppc.library at bootup.

This MIGHT cause problems (not sure about it, i deleted ppc.library to avoid any

problems).

rtgmaster is tested with the new WarpOS V3.1 on A1200 PPC (with 68060.library and

ppc.library in ROM), it definitely runs without problems.

IF you have any complaints about this strange stuff, direct them to Phase 5, not

to me... a more clean solution (instead of a hack, that is disabled by a second

hack...) would be if Phase 5 removed ppc.library from the A1200 PPC FlashROM, and

would not try to load ppc.library inside the 68060.library anymore. There is no

real need for it in there...

1.4   RtgMaster Library V42.0

Since V31, it is possible to run rtgmaster programs in a Workbench Window. As

some features of Screens are not available for the Workbench, not all programs

can be run on Workbench, though. For those, where it is possible, this is decided

by a Command-Line Parameter, currently (internally it is controlled by a special

Tag, more information is found in the Developper Archive).

Workbench Support is added for the following rtgmaster Demos:

- flame runs on WB, if the parameter window is added, like

flame window

- mandel runs always on a Window

- mywolf runs on WB, if the parameter window is given, just like flame

As to the limitations of programs on the Workbench Window, read the developper

Docs. Also note, that a program running in a Workbench Window is MUCH slower than

a program running in a screen, as a lot of optimizations are not possible on the

Workbench. You can assume that a program on a WB Window runs slower than half-speed,

even slower, if the Workbench is in 15/16/24 Bit Mode.

Workbench Mode is available for CyberGraphX, Picasso96, Probench 3 and ECS/AGA. It

is not available for EGS (EGS simply opens a screen anyways, even if you try to

open a Workbench Window).

With V31+, you choose using an extra parameter if a Program with Workbench Window Support

should run in a window or on a screen. The Screenmodes in the rtgmaster Screenmode Reqeuster

are simply giving Window-Sizes then. Starting from V33, it is also possible to control

this with the Screenmode-Requester (if the appliation supports this). An example

of this is provided in the demo flame, if you call it without parameters. Also,

ZhaDoomPPC, which is on Aminet, supports this since V0.5.

About existing rtgmaster applications running on Workbench: It takes the coder about 2 minutes

to add Workbench Support to his program, if he uses rtgmaster V31+. But only, if his program

does not use Doublebuffering. Doublebuffering is not possible on Workbench.

The Workbench Feature in NO WAY slows down the Screen-Code of rtgmaster. Only if you open

a Program on a Workbench Window, it will be slower.

Note: Programs, that change the Palette, while the game is running are CRITICAL for

WB Support. On V31+ it did not work at all, on V35 it works as much as is possible

with Workbench Screens. With ZhaDoom for example it works nicely (Doom does dynamic

Palette changes !!!) For games that do too fast changes, a "Change the WB Palette

while the game is running" mode is provided, this mode can be controlled by the

developper of the game.

1.5   RtgMaster Library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

In the past, there have been some reports of rtgmaster not running on AGA-only

systems, which gave some confusion. I want to solve the confusion now. Actually,

there were several (now solved) problems.

- Early versions of rtgmaster took too much ramlib-space, so that rtgmaster did

not run when tools like MCP were active. I fixed this bug with rtgmaster V24.

Now rtgmaster runs parallel with MCP (Appearently especially many AGA users

use MCP...)

- rtgmaster had a serious bug in the Library Init Code, that made it crash

on some (mostly: AGA-)Systems. This was fixed with rtgmaster V25. On all

other systems it ran just fine.

- rtgmaster V25/V26 had a small bug, making it crash on AGA-only-Systems, fixed

in rtgmaster V27. (Well, before V27 i did not too much testing on AGA-Only

Systems. I changed this now)

There is one more thing to discuss:

rtgmaster seriously needs a CORRECT installed AmigaDOS. When you install your

system using the Workbench 3.x Installation disks, somewhere in your startup-sequence

there will be a

IF EXISTS DEVS:Monitors

IF EXISTS DEVS:Monitors/VGAOnly

DEVS:Monitors/VGAOnly

EndIF

C:List >NIL: DEVS:Monitors/~(#?.info|VGAOnly) TO T:M LFORMAT "DEVS:Monitors/%s"

Execute T:M

EndIF

or a

IF EXISTS DEVS:Monitors

C:List >NIL: DEVS:Monitors/~(#?.info|VGAOnly) TO T:M LFORMAT "DEVS:Monitors/%s"

Execute T:M

EndIF

created. These strange lines install the Screenmodes to the system. If they are

not present, rtgmaster won't run. Actually, this is not a bug. A correct installed

Workbench HAS this two lines in the startup-sequence !!! (They have to be called

before the IPREFS command).

If these lines are not present on your startup-sequence, please add them. BTW,

a GFX Board will not work without these lines (anyways, what software one uses),

because of that such problems only appeared on AGA-Systems. On GFX Board Systems

those lines are present by default.

But well... they are installed by the Installer program on your Workbench Disks,

so they should be there. Also install a monitor-Driver !!! (PAL or NTSC, for

example...)

1.6 RtgMaster Library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

Maybe you did not notice, but: This rtgmaster version is a WarpOS

Mixed/Fat Binary, with both code for PPC and 68k !!!

What does this mean ? Well, of course this version of rtgmaster still

runs on plain 68k Systems (and future versions will also do...), but it has

also code for PPC inside. This code is not activated automatically. In fact,

only doing the Screen refresh on PPC and the rest on 68k would not speed

up a program, in fact it would slow it down, due to the Contextswitches.

And no "Message-System" can help with this. So, if you use stuff like

Genetic Species or Amigadoom or Diversia with rtgmaster, even if you have

a PPC Board, only the usual 68k rtgmaster functions, well known from earlier

versions, will be used.

It would be possible for coders, though, to create games, which run nearly

completely on the PPC, by using the extra PPC Functions of rtgmaster PPC (more

information is found in the developer docs rtgmaster_dev.lha). These functions,

of course, will only run on the PPC. You can do Screen refresh and Keyboard/Mouse

Handling completely PPC Native then, without Contextswitch.

Some notes about my choice of the WarpOS/WarpUP Software for the PPC Part of

rtgmaster:

- WarpOS is very efficient

- WarpOS does not create a task each time a PPC function is called from 68k

- WarpOS is - thanks to StormC - very easy to use, what is NOT the case for

the available compilers for ppc.library

- WarpOS was created in the beginning as the coder was disappointed with the

speed and stability of ppc.library

- Boards from other manufacturers which will soon be manufactured, will support

WarpOS, but not ppc.library

- major Amiga Game firms (and those are the guys that will use rtgmaster PPC)

chose WarpOS as the PPC Software to use also

- Fat/Mixed Binary Support

- No Foreign Elf Executable Format needed

- PPC Shared Library Supported

Ah, in the Goodies-Section i included the old Version of rtgmaster (V27) to

support ppc.library guys like knoble... of course V27 only includes the 68k

Stuff... and some of the latest features of rtgmaster are not included...

but well... i *had* to select one of the two PPC Softwares... and WarpOS

is definitely the better one... and also the one which will soon run on

more different Boards (other manufacturers will release WarpOS-based

PPC Boards, still ...)

1.7   RtgMaster Library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

If you own a Cybervision 64 (not 3D !!!) and some programs that use

rtgmaster have a garbagy screen, here is the explanation for it :

The Cybervision 64 internally looks a bit different as to other

Amiga GFX Boards. There is a certain small thing, that coders have

to do to make GFX Board Code running also on the Cybervision64 (this

maybe takes 3 minutes coding times !!!) Some people have not included

this to their code. If you know of a program that behaves like that,

please give me the email of the coder. I can explain to him, what he

has to do to make his program run on the CV64. This is also explained

inside the Developper Archives of rtgmaster.

1.8 RtgMaster Library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

Welcome to the rtgmaster.library.

There are a lot of Graphics Systems on the Amiga. There is OCS. There is

ECS, there is AGA. There are a lot of Amiga Graphics Board Standards, the

most famous of them being CyberGraphX.

The problem of the Amiga in the last years was, that the hardware was

ahead of the software, especially as to games. There was powerful hardware

to be found, but nobody used it. The guys who created games and demos still

stuck with AGA, the guys who created the Boards did not know anything about

Games.

RtgMaster is a link between the different systems, but it is more than this.

RtgMaster is a system specifically dedicated to game/demo-coding on GFX Boards.

The System includes high-speed GFX Board Support, and also partially ECS/AGA

Backward-Compatibility. The system runs parallel with any existing WB Emulation.

So you can use it, anyways, if you have installed CyberGraphX, Picasso96, EGS

or what else. And it is even more. For developpers there exists special support,

so that they can order a rtgmaster driver or rtgmaster adaption of their game,

if they do not want to bother with the GFX Board Coding part themselves.

What does this mean for you, the user ? Simply install the rtgmaster libraries

and enjoy playing the next generation of Amiga Games. To install it, simply run

the installer script. This will install rtgmaster.library to your system, also

some sublibraries, for the different display systems.

The following projects support rtgmaster (some of them are still unfinished).

Note, that not all of them support the Original Picasso II Software, as the

rtgmaster driver for this WB Emulation is not fully done. This is due to

limitations of the Picasso II Software. Under CyberGraphX, a Picasso II works

fine, though.

Before you start i suggest you read the sections about supported software and

about Amiga GFX Boards, to find out, if your favourite game has a rtgmaster

driver (probably no, up to now) and if your GFX Board is supported (mostly yes).

There are three rtgmaster archives: rtgmaster_user.lha contains the stuff for

users, rtgmaster_dev.lha is the developper archive.

1.9 Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

Name Firm or Group Genre

===

Genetic Species Vulcan Software DOOM-Clone

Genetic Species is a very fast-running DOOM-Clone that supports GFX Boards

through rtgmaster.library and AGA through native AGA code.

3D Games Creator Vulcan Software AB3D II Clone

Cold Blood is a yet to appear DOOM-style game that will blow AB3DII away.

It supports GFX Boards through rtgmaster, AGA through native AGA code.

Note: The game will not be released, but a 3D Construction Kit based on the

Engine will be released - hopefully.

AB3D II peabrain@usa.net AB3D II GFX Board Port

Well, just that... :) Will be released as public domain, but you will

need a full version of the game (commercial) to use the new executable.

Currently in Beta-Testing.

Boulderdaesh geit@DVZ-102.fh-muenster.de Boulderdash Game

FrodoPPC myselves C64 Emulator for PPC

Well, sadly only rtgmaster support for GFX Boards. Frodo needs a bit too

much from c2p's like current rtgmaster c2p can handle. There are also

other rtgmaster-using PPC projects of mine, like WarpView (Image

Viewer for 68k and PPC).

Well, just that :)

There are some more projects in progress, mostly Shareware stuff. It even

might be possible, that there will appear a rtgmaster driver for one of the

AmigaDOS Clones AROS or p-OS in the future, but this is yet to be decided.

PowerPC-enhanced versions of rtgmaster are already planned.

Amigadoom trance@master.echo.ch Doom Port

This is one of the many Doom ports. It supports GFX Boards, AGA and AHI.

It uses rtgmaster.

ZhaDoomPPC Well, myself :) Doom Port for PPC

Well, says it all. 41 fps on a 150 MHz Board, should be around 60-70 fps

on a 200 MHz.

Crystal3D PPC Well, myself :) Nice 3D Engine

Runs at 26-29 fps (68k version of Jyrki Saarinen runs on a 060 at about

10-11 fps). Available on Aminet (now also works on AGA - if you set

enough stack :))

NAPALM ClickBOOM C&C Clone

Well, will hopefully soon be completely coded :) Nice game... was formerly

known as Diversia.

Abuse Hans-Joerg+Thomas 2D Game from PC

Frieden (Port)

WolfPac PPC Guenter Erhart+myselves Note: the WarpUP version with

rtgmaster Support is 50% faster

than the ppc.library version !!!

Probably, Explorer 2260 will also support rtgmaster (PPC).

Maybe also Phoenix, but not sure yet.

1.10   Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

To get information about supported WB Emulations please click on

the links.

CyberGraphX

CyberGraphX 3

Probench 3

EGS

Picasso II Native

Picasso96

Retina WB Emu

Graffiti

ECS/AGA

Other hardware

1.11   Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

CyberGraphX 2

CyberGraphX 2 is probably the most used WB Emulation for Amiga GFX Boards.

It is one of the best WB Emulations out there, but it lacks specific support

for games. rtgmaster fills that gap. rtgmaster runs together with all CyberGraphX

Boards that run NON-SEGMENTED. You might wonder what that limitation is about.

The Commodore A2410 Board for example is a segmented Board. Segmented Boards

lack the feature of Direct Access. Most Game Authors use Direct Access in their

Games, so supporting those Boards would make no sense. Direct Access is much faster

than all other methods, anyways. It might be possible that the Domino Board is

also segmented. I do not know this, so i can't tell you, if rtgmaster supports

the Domino or not. All other CyberGraphX Boards i know of are non-segmented.

CyberGraphX 2 Support needs libs:rtgmaster.library, libs:rtg/rtgCGX.library and

your CyberGraphX 2 Software installed. Installation is done by the Installers of

RtgMaster and of CyberGraphX.

1.12   Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

CyberGraphX 3

CyberGraphX 3 is the most recent version of CyberGraphX, but up to now it does

not support any other boards than the Cybervision 64 and the Cybervision/3D.

RtgMaster always supports all NON-SEGMENTED CyberGraphX 3 Boards.

It is one of the best WB Emulations out there, but it lacks specific support

for games. rtgmaster fills that gap.

You might wonder what that limitation about NON-SEGMENTED is about.

The Commodore A2410 Board for example is a segmented Board. Segmented Boards

lack the feature of Direct Access. Most Game Authors use Direct Access in their

Games, so supporting those Boards would make no sense. Direct Access is much faster

than all other methods, anyways.

CyberGraphX 3 Support needs libs:rtgmaster.library, libs:rtg/rtgCGX.library and

your CyberGraphX 3 Software installed. Installation is done by the Installers of

RtgMaster and of CyberGraphX.

1.13   Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

Probench 3

Probench is probably one of the first WB Emulations that exist at all. It is only

used by the Boards Domino, Merlin and Merlin II, so it is quite an exote. Starting

with Probench 3, there is some sort of partially-working CyberGraphX Emulation.

RtgMaster runs together with Probench 3, if you have at least the Upgrade Package 7

running. Earlier versions might work or not, but probably not. I do not know, if

rtgmaster runs together with the Domino, as the Domino might still be a segmented

GFX Board. Segmented Boards are old technology, that is not compatible with the

way most games are coded. Because of that rtgmaster does not support them. If the

Domino runs in Non-Segmented Mode, rtgmaster will support it, of course.

rtgmaster does not run with Probench 2 or earlier.

Probench 3 Support needs libs:rtgmaster.library, libs:rtg/rtgCGX.library and your

Probench 3 Software installed. Installation is done by the installers of RtgMaster

and of Probench.

1.14 Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

EGS

EGS was a quite popular WB Emulation at its time. To tell the truth, the whole

rtgmaster project started with EGS. rtgmaster needs at least EGS System 6, the

most current version done by Viona Developpment is EGS System 7. EGS was dropped

by Viona later, and someone else took it up, releasing a new version called

EGS Plus. I never really tested rtgmaster with EGS Plus. I do not know if it works.

If someone knows, tell me, i do no longer own a EGS Board.

rtgmaster.library supports the following EGS Boards (not all of them tested, some

of them might be segmented Boards, and rtgmaster never works with segmented Boards) :

Piccolo

Piccolo SD64

EGS Spectrum

Rainbow 3

Rainbow 2

EGS 110 from GVP

bsc Graffity (do not confuse with Graffiti, this is something else)

You might wonder, why rtgmaster does not support segmented Boards like the A2410.

This is because those Boards lack a special feature needed for game programming.

Segmented Boards are only the very old boards, anyways.

I heard somewhere, that the old Board Visiona also used EGS. rtgmaster might

run on it or not. If someone still uses this Board, please contact me.

Under EGS it is possible, that the mousepointer of an rtgmaster application starts

looking strange. Don't worry. This is normal, because of an unfinished part in

the driver. Asides from that, rtgmaster runs fine under EGS.

EGS Support needs libs:rtgmaster.library, libs:rtg/rtgEGS.library and your EGS

Software insralled. Installation is done by the Installers of RtgMaster and EGS.

1.15 Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

Picasso II Native WB Emulation

The Picasso II Native WB Emulation is one of the first WB Emulations. It is only

available on the Picasso II and the Picasso II+ Boards. There is limited rtgmaster

Support for this WB Emulation, limited only, because this WB Emulation does not

support all rtgmaster features. Especially the Keyboard-Functions of rtgmaster

are not supported. So probably most Software won't support this sublibrary.

Please consider updating to CyberGraphX or Picasso96. These WB Emulations have
full rtgmaster Support.

Picasso II Native Support needs libs:rtgmaster.library, libs:rtg/rtgPICA.library
and your Picasso II/II+ Native Software installed. Installation is done by the
installers of RtgMaster and of the Picasso Software.

1.16   Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games
Picasso96

Picasso96 is a new WB Emulation standard. With the exception of the Cybervision/3D
nearly all Boards have a Picasso96 Driver. And a CV/3D Driver is currently in
developpement.

Until just recently, Picasso96 did not have the feature called "Doublebuffering". In
one of the latest Picasso96 versions this was fixed. If you have the latest version,
install rtgP96.library instead of rtgCGX.library, then finally Doublebuffering will
work on your system. If you do not have the latest version, exchange rtgP96.library
by rtgCGX.library manually. Don'þ install both at a time, or you will get all
Screenmodes twice, and Screenmode Save will bring strange results. I really recommend
updating to the latest Picasso96 version, as soon games might appear, that won't
run without Doublebuffering. The Doublebuffering of P96 is more efficient than that
of CGX, BTW...

Picasso96 Support needs libs:rtgmaster.library, libs:rtg/rtgP96.library
(or rtgCGX.library for older Picasso96 versions) and your
Picasso96 Software installed. Installation is done by the Installers of RtgMaster
and of Picasso96.

1.17   Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games
The Retina WB Emulation

The Retina WB Emulation was used by the Boards Retina BLT Z3, Retina Z2 and
by the DraCo. There are now CyberGraphX Drivers for Retina BLT Z3 and the
DraCo, though. Retina WB Emulation is not supported by rtgmaster. If someone wants to
do support for it, i could give him developper docs to support it, though. (A new
rtgmaster sublibrary had to be created, this takes about 1 week of coding, maybe
less. Myself i can't do it, as i do not have a Retina that would be needed for testing).
rtgmaster in no way supports the Retina Z2, as the Retina Z2 is a segmented Board.
Segmented Boards miss some features needed for Game programming. They are quite
old boards, anyways.

1.18 Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

The Graffiti

There is not yet Graffiti Support for rtgmaster. It is planned, though. My problem is,

i do not have a Graffiti, and it would also not run on my system, as i do not have

a 15 kHz monitor (i use 15 kHz modes through a internal flickerfixer). If someone

wants to help with the Graffiti Support, please contact me.

Latest News: I just was contacted by someone who said he might do Graffiti-Support for

rtgmaster...

1.19 Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

Other Hardware

There are some other very old Boards. For example the Opalvision or the Firecracker.

RtgMaster does not support them. Most of these Boards not even have a real WB Emulation,

only some special drivers for some programs. A RtgMaster Driver might be possible

for some of those Boards, so if you have such a Board and would be interesting in

doing a driver, please contact me. Most of those Boards probably are segmented Boards,

though, and segmented Boards miss some feature needed for fast Amiga GFX Board Games.

In the future there will be some new Boards not yet listed here, that WILL be supported.

There will be a special version of the Picasso IV that will run through PCI on a special

Turbo-Board that ships with a PCI slot. This is one of the next Boards that will be supported.

As this Board probably uses Picasso96, there won't be a problem, probably.

Also, after Phase 5 announced a CAIPIRINHA Board for the Cyberstorm PPC, there might be

CAIPIRINHA Support for rtgmaster in the future. But as i do not know much about

CAIPIRINHA yet, i can't tell.

1.20 Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

ECS/AGA

rtgmaster supports also ECS/AGA. The problem is only, that the fastest possible function

of rtgmaster, CopyRtgPixelArray, won't run on ECS/AGA, as it assumes a chunky display. Only

the slower function CallRtgC2P will support it. But with some minutes work, a rtgmaster

program runs on ECS/AGA with no problems. Most rtgmaster programs feature native AGA Support,

that is probably faster, though. About the ECS Support there is a special problem. If a

rtgmaster program uses 256 colors, it principially runs on ECS, but 192 of the colors are

simply ignored and get Black. So the result might look strange on ECS.

ECS/AGA support needs libs:rtgmaster.library and libs:rtg/rtgAMI.library (installed by the

rtgmaster installation script). Also it needs a monitor driver like PAL or NTSC in the

devs:monitors directory. Without this you won't get any ECS/AGA Screenmodes.

1.21   Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games
To use rtgmaster.library, simply start an executable using rtgmaster.library.
You can then choose a Screenmode. If you save it, it will be saved to the local
Directory, and the next time you start a rtgmaster program from this directory,
the Screenmode-Requester will only popup, if you press SHIFT while starting the
program. If you have any problems using rtgmaster, please check out the section
about Amiga GFX Boards, to check out, if your GFX Board Software is installed
correctly.

1.22   Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games
Benchmarks and Demos
Provided demos are in the Demos Directory.
These are :
(remember to run these at 30000 stack at least, some of these demos require
more stack...). If you have problems with ramlib, install the MCP Ramlib
Patch !!!
flame
Flame is a Plasma effect. It runs on all Systems. It is coded nearly completely
in C (the main-Plasma-Loop is in ASM). As default it runs on a Screen, if you
add the parameter Window it runs on a Workbench Window.
flamme
Flamme is another Plasma Effect. It runs on all Systems, but it has to be
started from the Shell. It does not work from Workbench. It is coded in ASM.
Mandel
Mandel is a Mandelbrot set. It runs on GFX Board Systems. It is coded in C.
I coded it the way that it always runs on a Workbench Window.
Moon was removed, as it did not run on 060, and i had no time (yet)recoding it.
Mywolf
Mywolf is a Wolf3D style texturemapping engine. It runs on all Systems.
It is coded completely in C. The only current rtgmaster c2p with that
this demo runs is GD. As it is the only c2p, that currently supports
c2p'ing "not-Full-Screen".
There are some more demos in the developper archive. But those are mostly
not that impressive.
Benchmarks :
Flame
Flamme
Moon
Mywolf

1.23 Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

Benchmarks of Flame

Machine GFX System 320x200 160x120

==

A4000/030+Cybervision CyberGraphX 24 fps 30 fps

A4000/030 AGA 10 fps 10 fps

A2000/030+Picasso II Picasso WB-Emu 15 fps 24 fps

A4000/040+PiccoloSD64 EGS 34 fps 63 fps

A4000/040+PiccoloSD64 CyberGraphX 34 fps 63 fps

A4000/040 AGA (020opt.c2p) 14 fps 16 fps

A4000/060+Cybervision CyberGraphX 69 fps 136 fps

A4000/060+Retina Z3 CyberGraphX 50 fps 118 fps

A4000/060 AGA 29 fps 31 fps

A4000/040 AGA (040opt.c2p) 18 fps 22 fps

A3000/030+Piccolo EGS 22 fps 30 fps

A3000/030+Piccolo CyberGraphX 22 fps 30 fps

A4000/040+Cybervision CyberGraphX 35 fps 77 fps

A2000/040+Picasso(33MHz) CyberGraphX 19 fps 50 fps

A2000/030+SD64 CyberGraphX 17 fps 26 fps

A2000/060+SD64 CyberGraphX 26 fps 77 fps

A4000/040/40MHz+Cyberv. CyberGraphX 60 fps 105 fps

68030 25 MHz+RetinaZ3 CyberGraphX 21 fps

A1200/030 50 MHz AGA 11 fps 19 fps

A2000/030 50 MHz+Picasso Picasso WB Emu 21 fps

A4000/040 25 MHz+Ret.Z3 CyberGraphX 29 fps

A4000/040 40 MHz+Ret.Z3 CyberGraphX 34 fps 90 fps

A3000T 25 MHz + SD64 CyberGraphX 22 fps

A4000/030 25 MHz + Merlin II Probench3.0 21 fps

A4000/060 50 MHz + Merlin II Probench3.0 51 fps

A3000/040 25 MHz ECS 64 colors 19 fps 23 fps

A4000/040 40 MHz+CV/3D CyberGraphX 3 37 fps 80 fps

A2000/030 25 MHz+Domino Picasso96 18 fps

Note: These are the result of the OLD version of flame. The new version

from V24+ of flame is faster on GFX Boards, as it uses a Fastram Buffer,

which the older version did not do... !!!

1.24 Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

Benchmarks of Flamme

Machine GFX System 320x200

===

A4000/040 40 Mhz CV/3D CyberGraphX 3 74 fps

A4000/040 40 MHz SD64 CyberGraphX 102 fps

A4000/040 40 MHz AGA 23 fps

A4000/040 40 MHz AGA (040opt. c2p) 40 fps

A2000/030 25 MHz Domino Picasso96 23 fps

1.25 Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

Benchmarks of Moon

Machine GFX System 320x200

===

A4000/040 40 Mhz CV/3D CyberGraphX 3 8 fps

A4000/040 40 MHz AGA 6 fps

A4000/040 40 MHz AGA (040opt. c2p) 8 fps

A2000/030 25 MHz Domino Picasso96 1 fps

1.26 Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

Benchmarks of Mywolf

Machine GFX System 240x200

===

A4000/040 40 Mhz CV/3D CyberGraphX 3 36 fps

A4000/040 40 MHz AGA 21 fps

A2000/030 25 MHz Domino Picasso96 9 fps

1.27 Rtgmaster.library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

The History of rtgmaster.library

Version Changes

V0.1 First Alpha release (that one with the famous

Screenmode requester that contained more Bugs

than functions :))

V1.0 First Beta Version with the new Screenmode

requester. Only worked with rtgCGX.library.

V2.0 First official Aminet release of rtgmaster.library

Bug in V1.0 about it only loading rtgCGX.library

is fixed in V2.0, many bugfixes, new implemented

stuff and complete rework of the Autodocs !!!

c2p Support, new Screenmoderequeuster...

V3.0 Some Bugs fixed...

V4.0 First version with TCP/IP Support

V5.0 First version with TCP/IP Support with

"One Server - Multiple Clients"

V6.0 A Major Speed enhancement for the function

RunServer. Do not use V5.0 for TCP/IP, use

V6.0... it is really MUCH faster (i throwed

out a LOT of Forbid()/Permit() Stuff, as the

programmers of AmiTCP explained me by email,

how to do this stuff without a single Forbid() :)

V7.0 First version with UDP Support

RunServer does not run with UDP yet, though...

V8.0 UDP Support finished

V9.0 Finally not-fixed-resolution c2p works (gd

and gdecs c2p are provided), due to a bugfix.

V10.0 Text/Font Support added, "Automatic ECS Support"

added (every AGA c2p supports ECS, too...)

V11.0 Expanded features of CopyRtgPixelArray

V11 did not run on some systems with Cybergraphics.library

V40.92 ... V12.0 fixed that, though...

V12.0 Added RDCMP for Input Handling

V13.0 Fixed "RtgBlit will crash under EGS with Minterm

0xc0 and willdo strange things when blitting to

Buffer 2" Bug

Removed d6/d7 Parameters of CopyRtgPixelArray

(this time it is final !!!), Recompiling/Assemblong

needed,sorry...

Fixed Installer Script and some minor Bugs

OffX/OffY parameters of CopyRtgPixelArray

implemented for rtgCGX.library and rtgEGS.library.

Sadly, rtgPICA.library still crashes for unimplemented

calls (for example RDCMP is not yet implemented for

Picasso II, only for the other three sublibs, but

the rtgPICA.library is currently in question anyways,

as some stuff is NOT POSSIBLE using that WB Emulation !!!)

BTW, does someone know how to access the VGA Registers

of some boards (information about SD64 and CV64 !!!) ?

I really would like a Mode X Support to rtgmaster, if

this is possible...

V14.0 Fixed the "Crash on some system with smr_PlanarSupport or

smr_ProgramUsesC2P =0" bug

Fixed the Screen Depth Bug with 16 Bit Piccolo SD64 Screens

libs:rtgc2p is now default for c2p algorithms

SrcWidth/SrcHeight of CopyRtgPixelArray removed again, and

THIS TIME the function CopyRtgPixelArray will stay as it is

As many people use rtgmaster to convert some PC stuff to Amiga,

i included the asmconv program, that converts Intel ASM to

Motorola ASM.

V15.0 Changed rtgCGX.library, so that it runs on both CyberGraphX 2 and

CyberGraphX 3 (for Cybervision/3D Support). Still, rtgmaster.library

won't run with cgxsystem.library versions smaller than 41.1 (41.0 had

a serious bug in the LockBitmapTagList call). rtgPICA.library now no

longer crashes, if a pointer, text or RDCMP function was called. It does

not do anything, nevertheless. rtgCGX.library MIGHT run with Picasso96

Software, maybe not, i do not know, up to now, but will test, as soon

as possible (maybe someone can tell me ?) Removed rtggadgets sources,

added RtgGadTools.library (which replaces the rtggadgets sources).

V16.0 Added flickerfree DBuffering to rtgCGX.library (only does its job

for CyberGraphX 3, for CyberGraphX 2 it is ignored, as CGX 2 can't

REALLY do Flickerfree buffering currently). Added support for mp_sigbit

to all sublibs with exception of rtgPICA.library (yet to do), added

gamecoderhelp for game coders in goodies directory.

V17.0 Fixed bug concerning new V16.0 features of RtgInitRDCMP

Updated Autodocs&Includes. Best: Do not use V16.0 anymore,

as programs might use the new feature.

V20.0 Complete rework of the Package to make it more professional,

split into User, Driver and Developper Archive

V21.0 Update of rtgCGX.library (bug in 15/16/24 Bit modes fixed)

Completely new Installer script, as it seems that the "Installer Example"

lha from some BBS that i used to do the first installer scripts used
copyrighted material. I removed the old installer scripts completely.
Thanks to Robert C. Reiswig for reporting. (I also offered him to
alternatively overtake the developpement of the scripts, but he did
not answer to my mail, so i had to think of something new... so i
took a whole afternoon to rewrite the scripts from the beginning...
BTW, these new Scripts now finally WORK !!!)

V22.0 Some internal changes, mainly. Added note about CV64 problems and
of how to fix them. Added workaround for Doublebuffering problems
under CyberGraphX 3 V55. Note: Doublebuffering function might change
again in a new version released in some weeks. For the end-user
that won't make a difference, though.

V23.0 Under OS3.0 SwitchScreens will now run 2000% faster than with the
old version (only of ECS/AGA sublibrary). Also, there are some bugs
fixed, especially the bugs concerning rtgmaster and MCP. The fixed
version of rtgEGS.library is still not tested, so anyone who still
has installed EGS, please test and email me, if it runs. rtgPICA.library
still does not work with MCP, but as nearly nobody uses this sublibrary
anymore, anyways, i moved this sublibrary to the new Goodies directory.
Install it on your own risk.

V24.0 A lot of internal updates, among others it now runs without setpatch
or devs:monitors drivers running. Removed rtgmaster_driv.lha as it
was not very useful at all, and also buggy. Speedup in flame demo.

V25.0 Internal version (also was given to some people on the net).
Fixed a serious problem with the library init of some of the libs.
Actually this bug was in since day one, and i did not notice, as this
bug only appeared on very few Amigas (not on mine). Well, now it is fixed.

V26.0 A lot of minor Bugfixes concerning rtgAMI.library (for example concerning
FillRtgRect). Added rtgP96.library (Nearly the same like rtgCGX.library,
but supports Picasso96 Style Doublebuffering... use this lib only with
Picasso96, and do not install rtgCGX.library and rtgP96.library at the
same time, else you will get all Screenmodes twice, and Save Screenmode
will give strange effects. Also you need a quite new version of Picasso96,
older versions did not support Doublebuffering). Fixed "PAL Modes appear
twice" Bug. rtgmaster no longer crashes, if a .info file is inside libs:rtg.

V27.0 Finally fixed it, so that it runs on ALL AGA-only systems, also. Added info
about past AGA-only problems (mostly the problem is a incorrect
startup-sequence or a missing monitor-driver). Added info about upcoming
rtgmaster with additional PPC Support (of course it also runs on a 68k

Amiga !!! Fat Binary !!!)

V34.0 Added PPC Support (executables run on both 68k+PPC !!!), Workbench+Public

Screen Window Support (much slower than on Screen), Software Sprite Support

and much more... (look at Developper Docs for more info...)

V35.0 "WB Window Mode" or "Screen Mode" choosable using the Screenmode Requester,

if an application supports this (not many rtgmaster applications do so until

now, hopefully this will change). Zorro3-Detection bug with CV/3D fixed,

WB Window Mode much optimized (especially on PPC, using PPC Assembler, thanks

to Sam Jordan for help), now also supports Dynamic Palettechanges (if it

is not overused, rtgmaster now supports this as much as is possible in a

WB Window). Small bugfixes, as usual...

V37.0 Mainly bugfixes. Special thanks to marusa@vadium.sk for ongoing reports :)

V38.0 Bugfix concerning RtgSetFont, Bugfix concerning CyberGraphX, added Support

for vbcc-WarpOS PPC-Compiler

V40.0 Added the functions RtgScreenToFront (needed for NAPALM) and RtgConvert

(making 24 Bit stuff more easy), "Abuse bugfix" for rtgP96.library,

Mousemove bugfix for rtgCGX.library...

V41.0 Fixed some bugs that caused crashes on some systems.

Added mandelppc demo (needs WarpOS Installed)

Added MCPramlibpatch to the archive

V42.0 Added rtgmaster<->Warp3D interface

Fixed GetRtgScreenData MouseX/Y Bug in rtgAMI.library (but best

use RtgInitRDCMP anyways for Mouse-Access...)

Hopefully fixed rtgCGX.library 16/24 Bit Bug (happened with CV64

and CV/PPC Boards, should now work on those Boards... :))

Added new highspeed c2p Module "Azure" (after the name of the coder)

Added possibility to access Screen/Window for most sublibs

1.28   RtgMaster Library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

Some basic notes :

the original rtg.library was developped on an idea of John Hendrikx. He later

gave developpement to me and i made the rtgmaster.library out of it. Most work

(main library, rtgCGX.library, rtgEGS.library, rtgAMI.library, Docs)

was done by myself, Steffen P. Haeuser.

- The rtgPICA.library and the rtggad.library were done by Hans-Joerg Frieden

- Some of the examples were done by Hans-Joerg&Thomas Frieden

- The Moon Example was done by Olaf Asholz

- The Screenmode Requester was done by Wolfram Schenk

- The x0 to x0 ASM converter was done by Nikolaus Mausz

The original installer scripts were done based on some "installer examples" found on different BBS systems. I was notified some weeks ago, that those "examples" in fact used copyrighted work of Robert C. Reiswig. I offered Robert to overtake the developpement of the rtgmaster installer script and to notify him in the docs. As he did not answer to my mail after over a week, i simply rewrote the installer scripts without using those infamous examples. If i had known at the beginning, that those "examples" used Copyrighted material, i would never have used them. The Uploader of the Examples Archive did not say anything about that.

Authors and Copyright

This section is mainly interesting for Developpers, but i also include it to the user archive. (Well, take this part not too seriously... of COURSE you can use rtgmaster for free... but if you want to give me some few money/free games back, i won't say no... also i offer help for PPC Conversions of your 68k Games, if you are interested...)

User Information

rtgmaster.library is done by Steffen P. Häuser (that's me). Some of the sublibraries are done by other persons. I take no guarantee that it works on your system. Also i don't take guarantee that it not damages your system (don't be upset, this is only a standard disclaimer ... of course this software should work on your system, and it won't damage it... but to keep trouble away i included this standard disclaimer.

Basic Developper License

Developpers can include any part of this archive to their programs, as long as the part they include is still functional. They should read the stuff below, and do like it says. Principially, rtgmaster.library is for free, but i would appreciate some good will to give me at least a free copy of the program using it. Exact informations for different sorts of software are listed below.

Freeware/PD Developpers

I would appreciate being mentioned in the Credits or Docs of your program. Asides from that you can use rtgmaster.library for free.

Shareware Developper

I would appreciate being mentioned in the Credits or Docs of your program. I would appreciate a free copy of your program, if this is ok for you. Asides from that you can use rtgmaster.library for free.

Commercial Developper

I would appreciate being mentioned in the Credits/Docs and a free version of your program (if this is OK for you/your publisher). I also would appreciate some extra-bucks from your publisher, if this is OK for him. If it is not okay

for him, a free game will be ok also. Give my email to your publisher,

so that i can clear things up with him. My Email is MagicSN@Birdland.es.bawue.de.

Developper - Extra Support

If you are a Developper of a Commercial Game, want it to run on a GFX Board,

but do not want to have to bother with writing the GFX Board Part of the Code

yourselves, i can do this for you. Simply mail your specifications for the

needed functions to MagicSN@Birdland.es.bawue.de and i will do the job for you.

In this case, we should definitely speak about a free Game and some extra Bucks.

Maybe $100 or something like that. But well, this is open to discussion. But

think about it, $100 definitely will come in with the sales for the GFX Board

Version. Of course will be cheaper for Shareware programs.

Well, if your publisher does not want to pay me, i probably will make the GFX

Board Version anyways, but then he is a skinflint !!!

My Address, if email is not possible :

Steffen P. Haeuser

Limburgstr. 127

73265 Dettingen/Teck

Germany

Tel. 07021-51787

Co-Sysop of Birdland BBS (07021-861920/862428/862429 and some other numbers)

MagicSN@Birdland.es.bawue.de

1.29   RtgMaster Library V42.0

The RtgMaster Library for GFX Board Using Demos/Games

c2p Algorithms

The rtgmaster c2p format is currently not optimal. It probably will

change in the future, but that should not bother the user. It is only to

the user to know, that the ECS/AGA Support currently is not speed-optimal,

because of this problems. But luckily most rtgmaster-using programs also

support native AGA Support.

Currently there are this c2p :

Azure: The probably fastest rtgmaster c2p. Slightly faster than Suzy/cpu040.

Coded by Azure, adapted to rtgmaster by Rady Marusa (the NAPALM Coder).

No Doublebuffering needed (but supported, of course).

Suzy: It is optimized for 030, but on 060 it

even outperforms the 040 c2p. It only supports Fullscreen c2p.

Games/Demos that do Smaller-Than-Fullscreen-c2p won't run with this

c2p.

ecs: As fast as Suzy, but for ECS. It is a true ECS c2p, it does not

leave higher colors out, it c2ps to 64 colors. The program still

needs an (optional) 64 Color Color-Table to look good, of course.

Supports Smaller-than-Fullscreen and Y Destination Offset.

Leony: This is a 2x1 Pixelsize c2p. It doubles horizontally. You need

programs specially coded for 2x1 to be able to use this c2p (try

the flamme demo...). Supports Smaller-than-Fullscreen and X and

Y Destination Offset.

040 : 040 optimized, needs a 040/060 to run. Only runs in 320x200.

On some 060 Boards this one does not run.

GD : 020 optimized. Runs in all resolution. Currently the only

rtgmaster c2p that supports c2p'ing stuff smaller than

Fullscreen.

Chunky4 : 030 optimized. On 040 and above, this c2p is the slowest one,

only supports 320x200.

cpu040: Another ultra-fast c2p, based on code by Mikael Kalms. Only is

fast on 040/060. But there it is the fastest one.

Suzy, Ecs and Leony flicker, if they c2p to the front screen without Doublebuffering.

As they are the fastest c2p available for rtgmaster, c2p should ALWAYS be coded to

c2p to the Backscreen and perform Doublebuffering after this. (More info in the

Developper Docs...)

Note: These are 68k c2p. Currently, only one c2p for the PPC exists, a direct port

of a c2p very similar to 040, and it is always used on PPC-side. The PPC c2p only

supports Fullscreen-c2p, but all resolutions.