

Rotor

COLLABORATORS

	<i>TITLE :</i> Rotor		
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REVISION HISTORY

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Chapter 1

Rotor

1.1 Rotor V1.01 - Manual

Rotor V1.01 - Manual

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1.2 Rotor/Synopsis

NAME

SYS:WBStartup/Rotor

Synopsis

Rotor

[CX_PRIORITY/N/K](#) =<System Priority>

CX_POPKEY/K =<Hot Key Description String>

CX_POPUP/S =<YES | NO>

BLANKKEY/K =<Hot Key Description String>

SECONDS=TIMEOUT/N/K =<1 - 3600>

CLIENTTIMEOUT/N/K =<1 - 60>

DISPLAY/K =<Display Description String>

CYCLE/S =<YES | NO>

MOUSEBLANKMETHOD/K =<Hardware | FreeSprite>

CHANGE/N/K =<1 - 200>

TRAIL/N/K =<1 - 200>

1.3 Rotor/Description

Description

A Screenblanker with high security which does not burn in the graphic into the screen when CPU is really busy.

It's funny to watch, runs only under Amiga OS Release 2.04 or newer.

Rotor was inspired by a flightsimulator. The routine which was used to simulate the spinning rotor of a plane is use in this blanker.

The effects are somewhat mesmerizing and spindizzy.

1.4 Rotor/Source

Source

The source code is included, it can be compiled with SAS-C 5.10a (or newer) or with the registered version of Dice V2.06.40 (or newer).

The source is included to give you a chance to use the Client/Server model of Rotor, or to look how we've done the Commodity Interface.

Please don't spread your improved versions of Rotor under the name of Rotor, because this may confuse the public and it's not fair.

1.5 Rotor/Copyright

Copyright

Copyright 1991,1992,1993 by the Authors.

Rotor V1.01 is freely distributable.

Rotor V1.01 is free to be spread on public-domain and shareware disks especially on Fred Fish's AmigaLibDisks, as long as they are sold for a reasonable charge that is less than US \$6 or DM 8.- .

For use in commercial products the permission of the authors is required.
Rotor V1.01 may be copied and distributed via electronic networks such as the Internet, also it may be held available on anonymous ftp-servers, mail-boxes or BBS's.

The Copyright is still by the Authors.

The source may be changed or improved. Please DON'T spread your own version of Rotor under the name of Rotor.

Just send me a note what you've changed, and if you really think it's necessary to spread your own version, use another name.

The author is not responsible for anything which may happen to you, while using Rotor. Especially for any hypnosis trauma...

1.6 Rotor/Author & Support

Author & Support

Author of the Client, and source-holder of Rotor:

Markus Illenseer # Graphic routines

Kurt-Schumacherstr. 16 # Documentation

D-4800 Bielefeld 1 # Dice Support

Germany

INTERNET: markus@techfak.uni-bielefeld.de

ZERBERUS: markus%techfak.uni-bielefeld.de@uucp.zer

IRC: ill

Author of the Server:

Matthias Scheler # Server-Client model

Alter Milchhof 10 # User Interface

D-4400 Münster # SAS/C Support

Germany

INTERNET: tron@uni-paderborn.de

ZERBERUS: tron%uni-paderborn.de@uucp.zer

IRC: Tron

SUPPORT FTP ADDRESS:

amiga.physik.unizh.ch [130.60.80.80] anonymous access.

(Thus any AmiNet site around the world)

Please first refer to **KNOWN PROBLEMS** below, before you contact me for a Bug-report, any comment is welcomed of course. Feel free to send a donation, some flowers or a postcard.

1.7 Rotor/Changes

Changes

Initial release V1.0. 13.3.1993

V1.01 fixes a Bug in the detection for the screenheights and involves the new feature Cycle for Colorcycling. Also, some default values have been changed. 20.3.1993

1.8 Rotor/Purpose & Theory

Purpose & Theory

Rotor is a screenblanker. The graphic during blanking phase is loosely based upon Patrick J. Naughton's «Rotor» for X11 Windowing System.

A screen blanker's goal should be to blank (disable) the screen output in order to prevent burning images into the monitor's phosphor.

As it is boring just to disable the screen, and as the Amiga can handle multitasking, we could also draw some funny stuff while blanking the screen. The only problem about that: when we draw something, we must take care that our animations don't burn themselves into the monitor.

This usually happens, when the screenblanker has not enough time to draw, so the graphics rest on the same place. When the screenblanker has not enough CPU time, it's because there is another CPU-intensive program, such as a raytracer or C-compiler, running.

As the screenblanker isn't important for the user, we found a way to manage both cases: Screenblanker has CPU time or not.

When he has CPU time, the blanker draws the funny graphics, when he hasn't, the screenblanker-draw routine is disabled and the screen is really blanked (black) until he gains back CPU time.

This is done with a simple server-client model. The server runs with a normal priority, but just has a WaitPort()-loop (No real CPU-use !) to detect the time-out and to detect the amount of CPU time.

The client is started when the server reached the TIMEOUT, the client runs with a low priority. When the server reached the CLIENTTIMEOUT and remarks that the client wasn't able to draw anything, then the screen is really blanked.

There was a discussion on comp.sys.amiga.misc (Usenet) for screenblankers, at all, we found that Rotor completely fits on the demanded features and requirements. Except for Cpu-usage.

1.9 Rotor/Version

Version

Rotor V1.01

As Rotor can be compiled with DICE _and_ (or) SAS/C, you can detect the Version with: (CLI) "Version Rotor FULL"

It will show you the used compiler. Default is SAS-C.

Also the size of the binary should differ:

17688 Bytes for the DICE version.

17204 Bytes for the SAS/C version.

1.10 Rotor/Starting

Starting

Rotor is a COMMODITY, therefore it _only_ runs under WB Release 2.0 (V37.175) and newer. A Commodity is normally started in the "SYS:WBStartup" drawer. So it will be automatically started on the workbench startup (LoadWB, usually in "S:Startup-Sequence").

So, just copy "Rotor" and "Rotor.info" to "SYS:WBStartup", or click and move the icon to the drawer.

To get Rotor started without rebooting now, double-click the icon.

If the Tool Types weren't changed yet, a window shows up. Double-click once more, if the window doesn't show up.

This is the **Edit-Window** of Rotor.

Now click on the Gadget **Hide** or the 'Close-Gadget' to close the window.

Rotor is now started. After 60 seconds the screen will be blanked, of course only when the user doesn't touch the keyboard or the mouse (or other Input-event's occur).

You can start Rotor from the CLI or another Shell.

For example you can start Rotor in the S:User-Startup:

Run >NIL: <NIL: Rotor CX_POPUP=NO

Rotor supports ReadArgs(). For a small help on the command line arguments, start Rotor with a '?' as Parameter.

1.11 Rotor/Arguments

Arguments

As every good Commodity, Rotor supports Tool Type entries.

Click the Rotor.info and press "Right Amiga i" (or use the Workbench Menu Item 'Information') to change or add a Tool Type entry.

In fact this is no longer necessary, Rotor supports a

Save Config now, which does save all parameters into the Tool Types of the icon.

In the ToolType list there is (per default) entered:

DONOTWAIT # Tell WB to not wait on a return

CX_PRIORITY=0 # Priority in "commodities.library"'s queue

CX_POPUP=YES # Show up the window on start

CX_POPKEY=ctrl alt s # Edit Window Hot Key

BLANKKEY=ctrl alt b # Immediate Blank Hot Key

TIMEOUT=60 # Time after which Rotor blanks

CLIENTTIMEOUT=5 # Time after which the Client is disabled

DISPLAY=PAL:Hires # The Resolution of the Display

CYCLE=YES # Enables the color cycling

MOUSEBLANKMETHOD=FreeSprite # What way to use for Mouseblanking

CHANGE=20 # How often the pattern may change

TRAIL=100 # The trail (length) of the patterns

These Tool Types are the normal way to give arguments for Commodities and pure Workbench programs.

Please refer also to your AmigaDOS Manual (Section Workbench Programms especially chapter "The WBStartup Drawer") to get an idea of the Tool Types entries.

1.12 Rotor/Tool Types

Tool Types

DONOTWAIT

When started from WBStartup, let WB know that it doesn't have to wait for Rotor. Is not a Tool Type entry for Rotor, but for te WB.

CX_PRIORITY=<-128 - 129>

Priority in "commodities.library"'s input-queue

CX_POPUP=<YES | NO>

When Rotor is started, the **Edit Window** may show up when set to 'YES' or any (!) other String than 'NO'.

CX_POPKEY=<Hot Key>

Please see below for the **Hotkeys**.

The hot key opens the **Edit Window** of Rotor.

BLANKKEY=<Hot Key>

Please see below for the **Hotkeys**.

The hot key immediatly blanks the screen.

TIMEOUT=<1 - 3600>

This is the timeout counter in seconds.

During this time NO input from the user must occur in order to start the blanker.

Usual time is about 60 secs.

CLIENTTIMEOUT=<1 - 6>

After this time, the server disables the screen, he has then remarked that the client can't draw anything due of CPU time.

Usual time is about 5 secs.

DISPLAY=<Display Type>

Please see below for the **Display Types**.

Here you can change the size of the screen on which Rotors draws.

CYCLE=<YES | NO>

Enables or disables the color cycling during the blank phase.

MOUSEBLANKMETHOD=<Hardware | FreeSprite>

Verison V1.01 of Rotor always switch of the mouse pointer by using the FreeSprite-routine. This works fine with normal graphic modes, should even work on the new VGA boards.

When switching to "Hardware" Rotor uses the DMA Bit.

Attention: "FreeSprite" damages the mouse pointer on AGA computers, so use the "Hardware" Flag.

CHANGE=<1 - 200>

How often the current pattern will be used. The higher the number, the longer the pattern will be drawn. Sometimes nice to use a high number, as some interference pattern will appear.

TRAIL=<1 - 200>

The length of the trail of the pattern. The higher the number, the longer the trail of the pattern. The more memory will be eaten.

NOTE:

The Tool Type Entries should be written in upper-cases.

NOTE:

For compatibility reasons, the Tool Type 'SECONDS' is supported, which is equal to 'TIMEOUT'. If you use the [Save Config](#) option, 'TIMEOUT' is used.

1.13 Rotor/Hot Keys

Hot Key

Refer to your AmigaDOS Manual (Section The Extras Programs, The Commodities Drawer) to get a valid list of the available hot keys, the following may obsolete on a new "commodities.library" version.

The Hot Keys can be edited with the String-Gadgets in the [Edit-Window](#) of Rotor. The Syntax and Correctness is checked.

SYNOPSIS: [<qualifier> [<qualifier>...]] <key>

Qualifier keywords (Press and hold one or more qualifier)

alt either Alt key

ralt right Alt key

lalt left Alt key

shift either Shift key

rshift right Shift key

lshift left Shift key

capslock Caps Lock key

rcommand right Amiga key

lcommand left Amiga key

control Control key

numericpad Enables the use of a key on the numeric keypad

rbutton Click (and hold) the right mouse button

midbutton Click (and hold) the middle mouse button

(only avail for mice with a connected third button!)

leftbutton Click (and hold) the left mouse button

newprefs Preferences changed

diskremoved Disk removed

diskinserted Disk inserted

Keys (to be pressed and released, only ONE Key can be chosen)

a .. z, 0 .. 9, etc. Normal keys

f1 .. f10 Function keys

up, down, left, right Cursor keys

help Help key

del Delete key

return Return key

enter Enter key

(MUST be combined with 'numericpad'!)

backspace Backspace key

esc Escape key

space Space key

comma Comma key

upstroke Upstroke key

Examples

lalt ralt return

rcommand f10

alt x

lalt numericpad enter

NOTE: Choose your hotkeys carefully, because Commodities have a high priority in the input events chain (i.e. will override existing definitions). Also some hotkeys don't make sense or do collide with other tools or functions of the WB.

NOTE: The Workbench screen (or the default PubScreen, if this one has activated the Shanghai-mode) will be moved to front before starting the tool via HotKey.

NOTE: When a combination of qualifiers and keys is illegal, Rotor will start, but the Hot Key won't work.

Example for illegal combinations:

lalt a b # Two keys specified

control rcommand lcommand # Reboots the System, Oops!

lbutton # No key specified

If you edit the Hot Key's in the **Edit-Window**, the Combination will be checked. If invalid, the old Hot Key is still used.

NOTE: Due to a bug in the commodities library, it is impossible to use a Mousebutton w/o a Qualifier and a Key. (ParseIX() doesn't set the ix_QualMask field right)

1.14 Rotor/Edit Window

Edit Window

When the CX_POPUP is set to 'YES' and Rotor is being started or when the hot key was pressed, a window shows up on the Workbench.

Normally, the workbench is moved to the front.

I've tested Rotor's Edit Window under many circumstances, please give me a short note when you have a problem with it.

You will see some Gadgets and a Scroll-List.

The values inside the Text-Gadgets are via default set to the supplied Arguments in the Tool Types or CLI-Parameters.

On a wrong Enter, the value will be reset to the old value.

You will notice, that some Gadget have names with one character underlined. The underlined character refers to the key on the keyboard and will alter the entry. Use Shift to alter the entry in the other direction.

Gadgets:

Keys in bold type are short-cuts. With them you can access the gadgets with the keyboard w/o moving the mouse. In Slider- and Cycle-Gadgets, the short-cut key will move the slider to the right, use Shift and the key to move the slider to the left.

Timeout:

The specified value for the timeout of the blanker. After this time (in seconds) the Rotor shows up. Value between 1 and 3600.

Client Timeout:

The time the server gives to the client for not being able to draw anything, then the screen will be blanked really to prevent burn-ins.

Value between 1 and 60.

Popkey:

Enter a valid Hot Key Description String. See below for the **Hotkeys**. This Hot Key opens the Edit Window.

Blank Key:

Enter a valid Hot Key Description String. See below for the **Hotkeys**. This Hot Key immediately blanks the screen.

Mouseblankmethod

From within version V1.3 of ASwarm II the mouse pointer is being switched off using the FreeSprite-routine.

This works fine with normal graphic modes, should even work on the new VGA boards.

When switching to "Hardware" ASwarm II uses the DMA Bit.

Attention: "FreeSprite" damages the mouse pointer on AGA computers, so use the "Hardware" Flag.

Change:

Slider Gadget to vary the pattern changes.

Trail:

Slider Gadget to change the length of the pattern trail.

Hide:

Hide the window. All the new entered values will be activated on the next blank.

Blank:

Blank immediately. All the new entered values will be activated.

Quit:

Exit Rotor. (Use 'Hide' to close the 'Edit-Window')

Display Mode:

(Please refer to the notes below!) Choose a desired Mode for the Display during blank-time.

Use the scroll-bar to show up other available modes. This depends on the used system.

If you only see the System Default Mode, then you have wrongly installed your system. Refer to 'Monitors' in your AmigaDOS Manual.

menu items:

Menu items can also be used via the keyboard, use the shown Command Keys.

Project-Menu:

Load Config : Only available on Workbench-Start (either Double-Click or Sys:WBStartup-drawer). Loads the Configuration stored in the Tool Types in the Icon.

Save Config: Only available on Workbench-Start. Saves the actual (!) configuration in the Tool Types of the Icon. This will overwrite all existing Tool Type Entries.

It's no longer necessary to edit the Tool Type Entries.

About: Shows up the version and Copyright.

Hide: Hides the Edit-Window.

Quit: Exit Rotor.

Edit Menu:

Reset To Defaults: Resets all parameters to buildt-in Default Values.

1.15 Rotor/Commodities Exchange

Commodities Exchange

With the Exchange Tool, you can temporarily stop Rotor with DISABLE, restart it with ENABLE, remove Rotor with KILL (as would do a Quit in the Edit-Window), SHOW up the Edit-Window, and HIDE the Edit-Window.

The Exchange Tool is a comfort way to remove or dis/enable Rotor.

Please refer to the AmigaDOS Manual (Section AmigaDOS Reference and Workbench Programms) for further docs on Exchange Tool.

1.16 Rotor/Display Modes

Display Modes

Please, please, please have care here !!!!"

We are NOT responsible for ANY user-error.

The given list depends on the used System.

All newer Amigas, such as A500+ , A3000 do have the ECS Denise for extended Screen Modes (Not all Amiga's with Kick 2.0 on ROM do have a ECS Denise..). Of course you can start the desired Modes, but not all modes are available on all MONITORS !

Please do refer to your Manual of the Monitor and to the AmigaDOS Manual (Section Workbench Programms, AddMonitor) for more informations.

Why ? Simply because you can DESTROY your Monitor!

Here is a list of the (normally given) ECS Display Modes:

This list may be obsolete when a new workbench is released.

NTSC:Lores

NTSC:Hires

NTSC:SuperHires

NTSC:Lores-Interlaced

NTSC:Hires-Interlaced

NTSC:SuperHires-Interlaced

PAL:Lores

PAL:Hires

PAL:SuperHires

PAL:Lores-Interlaced

PAL:Hires-Interlaced

PAL:SuperHires-Interlaced

VGA-ExtraLores # -

VGA-ExtraLores-Interlaced #

VGA-Lores #

VGA-Lores-Interlaced # Multiscan Monitor needed

Productivity #

Productivity-Interlaced # -

A2024_10Hz #

A2024_15Hz # A2024 needed.

Other Modes are available from 3rd. Party, but not mentioned.

Overscan is used for all modes, adjust your Overscan-size with the ScreenMode Preference Tool.

This list will only be available if the icon called "Mode_Names" supplied with Workbench 2.0 is in the WBStartup directory of your boot drive.

This Mode_Names may also be obsolete in new versions of the workbench.

NOTE:

DON'T use VGA-Modes on a NON-Multisync or NON-VGA-Monitor

DON'T even test Modes if you aren't sure about your Monitor-capabilities.

As the original xlock runs on a X11-Workstation, and as those ones have high graphics resolutions, I prefer Hires-Interlaced, as this Mode comes near to them. Rotor uses 1 color.

NOTE:

Again, be careful please.

NOTE:

The above list will be COMPLETELY different if you use WB 3.0 on one of the new AGA Amigas (A1200/A4000).

1.17 Rotor/Known Problems

Known Problems

I do know of some problems and strange behaviour, some of them aren't strange anymore, when you read this:

- Are you running ARQ 1.66 or below ?

(A replacement Tool for the system requestors).

Then you may try this:

Change the timeout to a low value, e.g. 5 secs, then type in the CLI: wait 10 <RETURN> (do not wait for the prompt)

dir bafasel: <RETURN> (device blafasel: nonexistent)

Rotor will blank as usual, but then ARQ pops up a requester ON the Rotor-Screen !! You can't close the Screen until you click on 'Abort'. And Rotor can't blank the screen either anymore ! (It's ScreenClose() Command waits for the successful return...)

This is a BUG in ARQ ! It's dangerous in some cases. It may burn in the requestor...

Get the newest version of ARQ (V1.78) and the problem will vanish.

- You are running a C-Compiler or a raytracer. Rotor goes blank, but doesn't show any pattern, and during disk-access Rotor comes up for a while.

This is not a Bug, this is the FEATURE of Rotor !! This is the way Rotor blanks when high Cpu-use happens on the startup. And during disk-access the Cpu-time is usually less, so Rotor may find time to draw something.

- Collision with other Blankers. Well, in fact you can run as many Blankers as you want. Such as DMouse, Spliner, FracBlanc and of course ASwarm II. Rotor does always try to move it's screen to front, when it detects to be behind some other screens.

- When a disk is inserted, Rotor closes the screen (dis-blanks).

This is normal. Disk-replacement is detected as an input Event. As all input events shall disable the Blanker this one should, too. And this event is obvious, the user is alive :-)

- The window doesn't open if the hotkey is pressed. Perhaps you have supplied a wrong hotkey description. Use the Commodities Exchange Tool to open the **Edit Window**. The Hot Key will appear in the Gadget 'Pop Key'. You can test the hotkey there. If an incorrect hotkey was submitted, the old hotkey will reappear.

- Rotor shows up the window though the Tool Type CX_POPUP is set to 'NO'. This happens when Rotor is started twice.

(Double-click (or call from CLI) = start, another double-click (or call from CLI) opens the window)

- Rotor is damn slow. Huh .. sorry :-) The Author has a fast machine.. Rotor runs best on high speed machines. Then the effect of a spinning rotor is nice.

- Rotor makes noise when it blanks the screen. This may happen when a Display Mode is chosen, which is not of the size of the since then active screen. Nothing dangerous.

- Rotor makes flickers on the Monitor when it blanks the Screen.

This happen when Rotor blanks on a PAL-Screen, but the since then or then active Screen is or was NTSC. (Or vice versa)

The Monitor needs a bit time to synchronize again. Nothing dangerous. Same for VGA, MULTISCAN, A2024, etc.

- There is a 70Hz hack. This hack has problems with the productivity Environment. No Bug of Rotor. WB 3.0 and WB 2.1 offer a "Euro 72" monitor which will make Rotor work with 70HZ without any problems.

- There are some guys who don't start the workbench, those may wonder that they only can start a Hires-Screen. No magic here, the WB must read the Mode_Name in order to get the right resolutions.

The screenmode-preferences tool seems to have hard-coded resolutions.

As we want only to use the supported screenmodes, you have to use the workbench. Don't tell me about some 30 Kb the Workbench uses!

With WB 2.1 and 3.0 this problem has vanished, too. Just add the monitors to your system.

- Some of those Power- Pro- and whatever-Tracker have serious problems, when Rotor blanks. In fact they do have problems with all blankers.

As for PowerTracker i know for sure, it's it's own fault, because this programm does NOT open an Intuition-Screen, but a CopperList. And then it believes it does own the whole system.. *sigh*

- The 'DOMINO' Graphics Board didn't allowed to blank the mouse-pointer during the blank times. This was done due to the emulation of the Workbench of the DOMINO, as that one didn't check for the DMA-Bit. Has been surrounded with the MOUSEBLANK option.

- The 'RETINA' Graphics Board had the problem, that none of the MOUSEBLANK options did work. I believe a newer release of the 'RETINA' Software does fix this.

(I wonder what happen, if we see RTG one day...)

1.18 Rotor/Credits

Credits

Matthias Scheler, whom i thank for the great work in ASwarm II V1.0 upto V1.4. Rotor is based on ASwarm II V1.4 (which is not out, as I write this :-). In fact I was astonished how easy Rotor fits into the environment we created for ASwarm. Hence, you may see some more blankers in near future :)

Patrick J. Naughton for his Rotor routine available for X11.

Rotor has improved so much, that I must say it's only loosely based upon Rotor from Patrick . If you ever happen to be on an X11 System with a new version of xlock, try it: 'xlock -mod rotor'

Matthew Dillon for DICE. So I/we could make Rotor be compilable in the most common low-cost C-Compiler for Amiga.(Only registered version)

Greetings to Stefan Becker, german and european distributor of DICE, who couldn't be convinced to use any of my Blankers... yet :-) !

SAS/C group for well done work. As yet the SAS version of Rotor is faster and shorter...

Karl Bihlmeier and his SO, who made me work on Rotor during a Party at Cologne/Kalk. They are collectors of screenblankers :)

Markus Illenseer

March 1993
