

in

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Chapter 1

in

1.1 Matrix Documentation

Matrix

version 1.4
5 october 2000

doc revision : 4 (7 october 2000)

Menu :

Description

Requirements

Installation

Usage

Other info

History

Future

Off topic :

Too many crashes ?

Install Enforcer in your startup-sequence !

1.2 Description

Matrix is a screen blanker with the following features:

- system friendly (tested with Enforcer, WipeOut and PatchWork)
-

- works on OCS/ECS/AGA and graphic cards
- handles DPMS

What is DPMS ?

This is a power consumption reduction system supported by most recent monitors.

There are three levels of power consumption reduction:

- Standby (light reduction)
- Suspend (greater reduction)
- Off (maximum reduction)

On my monitor (AcerView 77c), the normal power consumption is 110 W.

In DPMS_StandBy it falls to 15 W.

In DPMS_Suspend and DPMS_Off it is only 5 W.

Once in DPMS, the monitor needs some time to go back to a normal display; so it's better not to set a too short time for the DPMS starting. The display will take longer to come back when the power reduction is greater; hence the point in having several levels of DPMS.

1.3 Requirements

Matrix requires :

- Kickstart 3.1 or better
- A 68020 or better
- Only for DPMS : CGX or P96 (and a monitor that handles it !)

1.4 Installation

Simply drag Matrix into the WBStartup drawer to install it.

Then, if you wish, you can modify the tooltypes to change the default settings. (select its icon then the "Icons->Information" menu).

Matrix can also be run in the user-startup. You must then use the "Run" command to let the Shell execution go on :

```
Run >NIL: Matrix
```

More more information about the settings, see the "Usage" section.

1.5 Usage

To start Matrix, double-click on its icon or launch it from a Shell.

Arguments are taken from the ToolTypes or the command line.
They are:

TimeOut

Inactivity time in seconds before the blanker starts.

DPMS_StandBy

Inactivity time in seconds before "Standby" DPMS.

DPMS_Suspend

Inactivity time in seconds before "Suspend" DPMS.

DPMS_Off

Inactivity time in seconds before "PowerOff" DPMS.

* NOTE WELL *

Do **NOT** use DPMS if the manual of your monitor doesn't explicitly states that it supports DPMS. That is to say : always let a '(' at the beginning of the tooltype lines containing "DPMS".

Moreover, Picasso96 or Cybergraphics must be installed for DPMS to function (but I already said this).

* END OF NOTE WELL *

NoMouseCheck

Prevents a mouse move from stopping the blanking. Can be usefull for very sensible mice.

The other ToolTypes deal with graphical aspect of the blanker:

Speed

Speed of the animation from 1 (fastest) to 50 (slowest)

Density

Percentage of screen filling..

CharWidth/CharHeight

Zoom percentage of the characters (between 4 and 100).

Light

Light percentage of the characters (between 0 (black) and 200).

UpsideDown

Set to "YES" to make characters go up ("NO" to make them go down..).

ThreadsLength

Average length of the characters trails.

ModeID

Mode of the screen opened by the blanker. This can be a decimal number or an hexadecimal number if it starts with "0x". If no ModeID is given, the blanker will use the same screenmode as the Workbench. To find a particular ModeID, you can use the utility GetModeID given with Visage, or Scout (ScreenMode section).

The standard "CX_PRIORITY" and "STARTPRI" ToolTypes are also here. You can find their description in your Amiga manual

If you run Matrix from a Shell, the parameters are the same as the ToolTypes. For example :

```
Run >NIL: Matrix timeout=150 speed=1
```

To stop the program, three methods :

- 1 - run it another time
- 2 - within Exchange, select it in the list and clic on "Remove"
- 3 - send it a CTRL-C, for example with the Break command:

```
break `status com=matrix`
```

(this example won't work if Matrix was run from the WB)

By the way, if you click on "Hide" or "Show" in Exchange, this will start the blanker. To stop it, then, mouse moves are not recognised, so you need to press a key.

Note : for now, Matrix exits if it can't open its screen when it is time to blank (it can happen when almost all the RAM is used). This probably isn't the best behaviour that can come to mind, and I'll deal with it when I have the time..

1.6 Miscellaneous information

The compiler :

VBCC and PhxAss (by Volker Barthelmann and Frank Wille)

The text editor :

CygnusEd 4.20 (by Bruce Dawson and Olaf Barthel)

The shell :

KingCON (by David Larsson and a little bit Mikolaj Calusinski)

The sky :

Black (it's the night)

The author :

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The thanks :

those mentionned in the History (SIL^PPC, ATOMiK, Tex and Zapek),
those who told me Matrix was great,
the one who told me he'd still use MTX,
those I forgot,
those who don't use Outlook Express like pigs.

1.7 History

History (backward) :

5 october 2k, v1.4

- Added the "NoMouseCheck" option which prevents mouse moves from stopping the blanking. [request by Zapek].

1 october 2k, v1.3

- The program now asks for graphics.library v40 now, instead of v39, since it uses WriteChunkyPixels() ! (before it would have crashed when run under OS3.0 I guess.. stupid me !)

- Minor improvement in the blanking start via Exchange.

- AmigaGuide doc.

08 september 2k, v1.2

- Clicking on "Show" or "Hide" in Exchange now starts the blanker, which is handy for trying new ToolTypes settings. To stop blanking, you have to press a key (mouse moves aren't taken into account). [idea by Tex :)]

05 september 2k, v1.1

- Correction of the problem which could lead to a green palette after stopping the DPMS on some systems. [reported by SIL and ATOMIK :)]

- Does not start blanking when the time is set.

03 september 2k, v1.0

- Added DPMS.

early 2000...

- Working version.

25 december 1999

- Development started.

1.8 ze Future : tada tatatamm

In the future, cars will fly and Matrix will feature:

- A settings window with preview (if I find the time to make it)
- Hotkeys to open this window or start the blanker
- If someone asks, stopping the blanker when a window opens
- If someone asks (and I find how to do it), DPMS without graphic board
- A better behaviour when the screen cannot be opened
- Source code.

1.9 Kill them all!

Fed up of crashes with an unknown source ?

There is something that can help you find problems : installing Enforcer (and/or other similar programs) in your startup-sequence.

I'm using :

- SegTracker
- Enforcer
- WipeOut (not permanently because it slows down the system)
- PatchWork
- BlowUp
- Sashimi (displays the output of the other programs)

But there are also :

- CyberGuard (similar to Enforcer, for phase5 boards)
 - Mungwall (similar to WipeOut but older)
 - TNT (similar to BlowUp)
 - GuardianAngelRemix (to be used with Enforcer and Mungwall)
-

- MuForce (needs MMU library)
- MuGuardianAngel (needs MMU library)

These programs are meant to be used only by programmers, but since many of them release bugged software, it has become usefull for the end user to install them. You can find them on the Amiga Developer CD or on Aminet.

Most of the time a MMU is required, but not for all of these programs. For example, you can still use BlowUp + WipeOut.

These programs detect illegal operations :

- memory read/write in an illegal location (Enforcer/Cyberguard)
- read/write in unallocated memory/out of bounds (Mungwall/WipeOut,GuardianAngelRemix)
- bad parameters passed to an OS function (PatchWork)

The aim here isn't to continue using bad programs without crashing; it is to see rapidly which software behaves incorrectly.

So, when you see that a program makes Enforcer hits (or PatchWork hits, etc.), you can stop using it to prevent crashes/problems, and inform the author, giving him the hits you got, so that he can debug his program !

To give you an idea of how to use these tools, here are the relevant parts of my startup-sequence:

```
[...ROM and OS3.5 modules remap...]
```

```
SetPatch44 QUIET NOROMUPDATE
Run >NIL: Apps:Programmation/Tools/SegTracker
Patches/MCP/Tools/PatchControl
```

```
[...some patches...]
```

```
APPS:Programmation/Tools/Sashimi >NIL: RECOVER=RAM:Sashimi.out
If EXISTS RAM:Sashimi.out
  Echo "*N- END OF RECOVERY -*N" >>RAM:Sashimi.out
EndIf
TestLMB
If WARN
  Run <>NIL: WipeOut NAMETAG PRESIZE=128 POSTSIZE=64 NOCONSISTENCECHECK ↔
  AREGCHECK STACKCHECK
EndIf
RUN <>NIL: Enforcer DATESTAMP LED=0 RAWIO BUFFERSIZE=32000 AREGCHECK STACKCHECK ↔
  STACKLINES=2
Run <>NIL: Sashimi >>RAM:Sashimi.out BUFK=128 NOPROMPT
RUN <>NIL: PatchWork NOPERMIT MINOS=40 LEVEL=3 AREGCHECK STACKCHECK STACKLINES=2
Run <>NIL: BlowUp STACKCHECK AREGCHECK NOBANNER
StackAttack MIN=8000 ADD=4000

;Version >NIL:
```

```
;AddBuffers >NIL: DF0: 15
FailAt 21

[...]

LoadWB

[...]

If EXISTS RAM:Sashimi.out
  Type RAM:Sashimi.out >"CON:66/16/564/84/Sashimi hits during startup/ALT66 ↔
    /16/564/320/AUTO/CLOSE/WAIT/INACTIVE"
EndIf
Sashimi >NIL: OFF
Run >NIL: Sashimi CONSOLE BUFK=64 NOPROMPT ASKEXIT ASKSAVE WINDOW="CON ↔
  :466/16/164/84/Sashimi [Ctrl]+E=Empty [Ctrl]+F=File [Ctrl]+D=Reset console/ ↔
  ALT66/16/564/320/AUTO/CLOSE/WAIT/INACTIVE"

EndCLI >NIL:
```

This startup-sequence lets me :

- know which programs make hits (thanks to SegTracker which is launched very early), including programs run in the startup-sequence.
- display hits that occurred during the startup-sequence execution, but after the WB screen has opened (because otherwise it would prevent IPrefs from changing the screen prefs..).
- get hits that lead to a crash, thanks to the RECOVER option of Sashimi.

Don't forget to read these programs documentations with care, though, if you don't want to be in trouble !

PatchWork thinks some things are dangerous while they don't seem to be so. Many programs seem to bend the autodocs rules without immediate consequences... So, if you don't want to be annoyed with numerous hits (notably while using MUI apps), don't let PatchWork run permanently.

On the other hand, I strongly recommend it for testing your own programs ! (along with Enforcer + WipeOut or Enforcer + Mungwall + GuardianAngelRemix)

Hoping to see fewer bugged software in the future... ;)