

ReadMe

COLLABORATORS

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

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Chapter 1

ReadMe

1.1 ReadMe.guide

ReadMe.guide

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Please read the complete ReadMe.guide before you start NEMAC IV!

Contents:

- What is NEMAC 4
- Requirements
- Copyright/Legal Stuff
- Directory of NEMAC 4
  
- How to Start NEMAC 4
- Preferences
  - The Game
- Story of NEMAC 4
- Some Hints
- Notes
  
- Things to come
- How to Order NEMAC 4
- Details of the Engine
- Thanks to ...

### 1.2 What is NEMAC 4

NEMAC 4 is a 3D action game (or is it a VR game?) with features like leaving multitasking/system untouched, support of OCS/ECS/AGA, Gfx boards, using any suitable screenmode, window resizing and more ...

This demo version is restricted to 4 levels. If you like the game we would recommend that you order the full version: How to Order NEMAC 4.

### 1.3 The .config file

---

You can do additional preferences for i-glasses! or Graffiti in the ".config" file that is in the NEMAC\_4 directory.

These are the possible commands:

```
IGL-BAUD
IGL-TFILTER
IGL-MFILTER
IGL-SMOOTH
IGL-PRE
DEVICE
```

```
GRA-WINLEFT
```

GRA-WINLEFT <x> is the only one command for Graffiti. This hardware may possibly need another screen position in horizontal direction. Our prototype needed often another value than it is written in the documentation. So we decided to make this configurable. You can enter (positive and negative) numbers. First you should try to use the values given in the Graffiti documentation. If these are not suitable you should experiment a little bit. Please note that a softscroll value of 1 is 2 for this command! Always use even numbers. ("GRA\_WINLEFT 2")

IGL-BAUD <x> is the baud rate you want to use for communications with your i-glasses! The default value is 19200 baud and that should only be altered when your serial device or cabling has difficulties at this speed. The baud rate should be as high as possible to get a good mean value of the headtracker, but it may not be greater than 19200 baud.

IGL-TFILTER <x> and IGL-MFILTER <x> are the i-glasses! tilt and magnetic filtering. Here you can enter values between 0 and 7. What these filters exactly do depends obviously on the version of your i-glasses! and you should read the documentation for further information. Our i-glasses! ran best with values of 7 for both commands.

IGL-SMOOTH <x> and IGL-PRE <x> are commands for our own headtracker soothing routines. This was necessary because the headtracker gives inaccurate values for the heading direction. If you enter values of 0, smoothing is disabled. IGL-SMOOTH means from how many values a mean value is calculated. This should be between 0 and 20. IGL-PRE precalculates the heading from the actual movement and should have a value between 0 and 6. If you are dissatisfied with the default values you might experiment a little bit, but, it is very difficult to try to get accurate values from inaccurate ones. :-)

DEVICE <name>: You can enter a name of a alternative serial device which is connected with your i-glasses!

## 1.4 Directory of NEMAC IV

Table of directory contents:

```
NEMAC_4.info
NEMAC_4 (Verzeichnis)
  NEMAC_4
```

```
NEMAC_4.info
maze.cld
  Orderform
  Orderform.info
  ReadMe.guide
  ReadMe.guide.info
```

NEMAC\_4 is the game, maze.cld the database needed by the game.

Starting NEMAC 4

## 1.5 How to Start NEMAC 4

NEMAC\_4 can be started by a double click on the icon via Workbench or in a shell. If you start it from a shell, you have to cd into that directory, because otherwise the maze.cld can not be found.

If you want to save screenshots (be careful, an extra Buffer is allocated!), you have to start it from a shell with the option s<name>!<x-size>!<y-size>. If you start it up for example typing "NEMAC\_4 spic!320!256", every time you press "s" in the game a snapshot of the window will be saved, named "pic.0001", "pic.0002" and so on, sized 320x256 pixels. The screenshot is saved in the actual directory, so copy it to your harddisk first!

If you started the game, the Preferences requester appears on the default public screen.

## 1.6 Preferences

If you start NEMAC IV, the preferences requester appears:

```
  Select Screenmode
<Selected Screenmode>
```

```
Close Workbench
Chunky To Planar Modus
Memory size
i-glasses! Mode
Keyboard Config
```

```
Save           USE           Quit
```

---

## 1.7 <Selected Screenmode>

Here the current selected screenmode is shown by name.

---

## 1.8 Select Screenmode

If you click this button, a screenmode requester appears.

In the left window the suitable screenmodes found on your Amiga are shown, in the right one you can see some informations about the current selected screenmode (frequencies, number of colours etc.)

All screenmodes more than 160 pixels width and more than 128 lines high, extra halfbrite mode or a depth of 8 bitplanes are shown.

Please have a look at the frequencies of the selected screenmode. If they go over the ones in your monitor's specification you have a good chance to destroy it.

## 1.9 Close Workbench

Closes the Workbench if no other program runs on the Workbench screen. This gives you some bytes of Chip Memory if you are short on RAM.

## 1.10 Chunky To Planar Modus

Chunky 2 Planar mode: Here you can select the method of converting the rendered chunky data into the screen's bitplane mode. CPU+Blitter is recommended for all Amigas with a CPU < 68060 :-) CPU+Blitter is disabled for Amigas with the old Blitter, because it is not capable of moving the required amount of memory.

Chunky to planar means the method of converting the chunky raw data so that you can see it on screen. The picture that is rendered lies in chunky raw format in memory, that means that every one byte represents one pixel. If you use bitplane-orientated screens, these pixels must be spread over eight bytes.

If you have selected a gfx-board screenmode or Graffiti output, this button is disabled because no conversion is needed.

## 1.11 Memory size

LARGE: The program tries to allocate 1.7 MB RAM. Here you can achieve best graphics detail.

SMALL: Now the program just tries to get 840 KB RAM. Now the textures and monsters have less detail so they fit into this tiny amount of memory :-)

AUTO: If you have selected this option, the program first tries to allocate 1.7 MB, and if this fails, 840KB with the corresponding loss in detail.

---

## 1.12 i-glasses! Mode

This button gives you six options:

Off: Nothing of the i-glasses! is supported  
Use: 3D output for i-glasses! is enabled  
Use/Trk: 3D output for i-glasses! and the headtracker are enabled,  
you can look left and right, but don't run in the direction  
you look  
Use/Hd Trk: 3D output for i-glasses! and the headtracker are enabled and  
you run always the direction you look.  
Tracker: Only the headtracker is enabled, you can look left and right,  
but don't run in the direction you look  
Head Trk: Only the headtracker is enabled and you run always the  
direction you look.

To get a correct 3D output, please make sure that an INTERLACE mode is selected that the i-glasses! can display (i.e. PAL or NTSC interlace)

## 1.13 Save

Here the current preferences are saved to ENV:NEMAC\_4.prefs and ENVARC:NEMAC\_4.prefs.

## 1.14 Use

Here you start the game with the current preferences.

## 1.15 Quit

Never press this button :-)

## 1.16 The Main Menu

The main menu looks like this:

START NEW GAME - Starts a new game at the first level.  
LOAD OLD GAME - here you can load and play an old saved game.  
                  Make your selection using cursor up/down,  
                  Shift and cursor up/down for jumping a page  
                  forward/backwards and <RETURN> for selecting  
                  a game. If you press <ESC> you come back to the  
                  main menu.  
INTRO              - Shows the intro once again.  
QUIT               - Quits immediately

Loading of a level takes about 10 seconds, because 1 to 2 MB of data must be read and remapped to the current colour map.

## 1.17 The Game

If the level is loaded, you will 'wake up' in the starting room. On the screen you see how many ammunition, what door codes and how many life energy you have.

By pressing <right> key you turn right, by pressing the <left> key you turn left, of course. By pressing the <speedup> key you run faster.

If you press the <strafe> key and hit the <left> or <right> key, you will go left or right, not turn.

If you shoot, please keep in mind that the bombs do not explode when they hit the ground, they explode by pressing the <ex bombs> key in the order of throwing them out. Of course, bombs can also attached to monsters and objects. It might appear that a bomb doesn't explode immediately. If that occurs it will do so if it thinks it is the right time to do it :-)  
This is not a bug, it's a feature.

Barrels can be moved around if you stand in front of them.

Switches often start actions over a large distance (e.g. letting walls appear or vanish). They can be demolished by a explosion that is near enough. If this happens, the action is started, but not more reversible.

When starting up the game, you first see the intro. If you hit the <RETURN> key, the next part of the intro comes at once. By hitting any other key, you get to the Main Menu.

Between the levels a statistics is shown with total and level information. You get to the Level Menu by hitting any key.

In the options menu you can set the window size and other parameters. You get into that menu by pressing the <ESC> key during the game.

If you are dead, press the <RETURN> key, if you want to start the level up again using the last known status (not in level one) or press the <SPACE> key if you want to start up with standard status.

By pressing the <G> key during the game you can adjust the gamma correction (sort of brightening) in five levels.

Pause is witched on hitting the key <P>. If the game is in pause mode, it is in wait state, i.e. no CPU time is wasted.

## 1.18 The Level Menu

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You can select:

- Next Level You are transported to the next level.
- Save Game The current game standings are saved.
- Replay Level Statistics are discarded and you replay the last level.
- Exit Quit game and go back to the main menu.

## 1.19 Keyboard Configuration

You can define the keyboard configuration for yourself. If you click on the button, another window is opened where the current definitions are shown. Right from the short description there is another small button that enables key recording. Any key you hit now will be used for the specified function. Some keys are predefined and cannot be used for playing (see below).

On the bottom of the window there are four buttons:

- Default The default configuration will be loaded.
- Last saved The last saved configuration will be loaded.
- Cancel The definitions are discarded.
- OK The definitions you made will be checked and then you go back to the preferences requester. The first three weapons may use the same key, everything else has to use a different key.

These are the functions you can define:

Chain gun Aha.  
Plasma gun The same :-)  
Grenades: Guess what  
Bombs: And here?  
Forward: Go forward  
Backward: Go backward  
Left: Turn left  
Right: Turn right  
Ex bombs: Bombs explode in the order you threwed them.  
Fetch bomb: Here you can collect the bombs you have already throw out.  
Speedup: Lets you faster get away from trouble.  
Strafe: Force sidestep  
Strafe L: Special key for only going left  
Strafe R: The same to the right  
Cross: With thiskey you can switch on any crosswires you like :-)  
This might help you aiming at monsters a little bit.  
Map on/off: Turn on auto-map  
Map zoom +: Zoom the map in  
Map zoom -: Zoom the map out  
Ground map: Texturemapping for ground and ceiling on/off  
Switch On: Press button

Using Joystick or Mouse

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If you want to use joystick (port 2) or mouse (port 1), you have to click on one of the checkboxes. You can only use either joystick or mouse or none of them.

To use any function click on the box of the function, so that it is

in "record mode" and then click on the joystick/mouse button you want to use. In mouse mode the walking functions are fixed to the mouse of course.

How to quit

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You can quit the game by choosing 'Exit' in the options menu.

Notes

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The weapons may be fired all at once if you have enough ammunition.

Because of a bug in the A1200-keyboard the program can not notice hitting a key while another is pressed. The default key definitions are made keeping that in mind, so that the problems should be minimized.

Predefined Keys

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|         |                                                          |
|---------|----------------------------------------------------------|
| <ESC>   | Options Menu                                             |
| <P>     | Pause                                                    |
| <S>     | Save screenshots (must be enabled with argument startup) |
| <G>     | Gamma correction                                         |
| <SPACE> | Start up again when you are dead                         |

## 1.20 Options Screen

The options menu looks like this:

|                   |                                                                                                                                                                                                                                                                                  |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WINDOW SIZE       | - Here you can resize the window on the screen. This can be done in steps of 8 pixels in each direction by using the cursor keys. By pressing <SHIFT> while resizing, the steps are 32 pixels. If you use Picasso/CyberGraphX output, the horizontal steps are always 32 pixels. |
| DETAIL LEVEL      | - (not while using picasso)<br>The pixel size can be set depending on the chunky 2 planar method. CPU+Blitter: 1x1 pixel or 2x2 pixel, CPU C2P 1x1 or 1x2 pixel, Graffiti 1x1, 1x2, 2x1 or 2x2 pixels. The window size will be adapted on the pixel size.                        |
| SOUND FX          | - ON/OFF                                                                                                                                                                                                                                                                         |
| EXIT TO MAIN MENU | - Quit the game and go back to the main menu                                                                                                                                                                                                                                     |

## 1.21 Things to come

Support of EGS-library and Retina is planned for the future. You can also use CyberGraphX if your graphics board is supported.

---

## 1.22 Some Hints

If a monster is shooting at you, it is better to strafe left and right while shooting back. So the monster can't hit you as much.

When you stand in a room with many monsters, before running quickly away you should shoot at a monster standing in the background. When it starts shooting more heavily it hits the other monsters which will blow it up and maybe themselves too. So the level becomes a little bit easier.

Doors that are not locked by a key code can be opened by shooting at them.

The weapons can be all be fired the same time, if you have the right ammunition.

The ground and ceiling texture mapping can be switched off by the <ground map> key. This raises the rendered speed.

If you have difficulties in starting the program because of insufficient RAM, you ← should

- Boot your Amiga without startup sequence
- Because the game needs preferences data from "ENV:" and "ENVARC:", make sure that both assigns exist and are assigned correctly
- Change the directory to that one containing NEMAC 4
- Start the game

## 1.23 Story of NEMAC IV

Nemac IV -- The story  
-----

In 2048 the superpowers decided to hand global defense over to computers. The technicians of the three ruling alliances built one headquarter for each of them. Each headquarter was connected with the others to coordinate all decisions with the other alliances.

The essential part of each HQ was a neural computer, with the ability to analyse the global situation within seconds. The tactical reactions that could influence the life of millions came out faster than a bullet hits its target.

The three megacomputers were called NEMAC I - III.

But the system was not untouchable.

During the North - South Wars 2057-2065 a commando unit slipped through all defenses and was able to hit one of the HQ's. Dispute about competence and the human Factor paralysed the system when it was most needed.

Only Nemac II managed to avoid the worst by massive employment of conventional units and strategic nuclear weapons. The principle of

---

computer control had shown its efficiency.

In the troublous time of the years 2066 to 2073 the whole earth was like a big barrel full of gunpowder.

The new founded alliance NSS decided to build a central command unit which was designed to react fully independent to a possible attack. All automatic combat units and the complete nuclear potential were controlled by this HQ. The command unit was named like its brain, the most powerful neural computer ever created. Nemacs IV.

#### The Structure of Nemacs IV

-----

Nemacs IV is a bunker, reaching several hundred meters down into solid granite. The lowest level contains a fusion reactor that provides independent power supply.

Embedded in the system are all communication and defense satellites giving it control over all military movements. Nemacs IV and all nuclear defense installations run fully autonomous.

The structure of the bunker, as much as the power of the defensive installations make a direct assault on Nemacs IV virtually impossible. Nor the bunker itself neither its periphery can be destroyed by a nuclear attack.

The parts of the central computer are spread over the whole building. The destruction of single components has no influence on the functionality of the system because of the ability of the neural net to take over tasks from destroyed parts similar to the human brain but a thousand times faster.

To avoid an assault by a commando team or an army that has taken the first levels, the floors were built displaced. There is no direct way down.

The essential parts of the computer are situated in deeper levels. They are protected by automated combat units, that keep commandos from proceeding into Nemacs IV.

Given the theoretical situation, that it is taken by the enemy Nemacs IV would give destruction tasks to all its units, fire all its missiles and subsequently initiate the selfdestruction sequence.

#### The Problem

-----

Just before Nemacs IV was completed its systems should have been tested by running a simulation. The program simulated a situation in which enemy parachute troops have taken key positions in our country and in which various command levels have been infiltrated or sabotaged. Additionally simulated a broad scale assault.

They only forgot one thing. They didn't tell Nemacs IV that this was only a simulated conflict.

---

## The Situation

-----

Nemac IV took full control of the defense installations, as he should do, in case of a conflict.

As the data he received from his surveillance drones differed from that of the simulation he decided that must have been disrupted by the enemy.

50 milliseconds after the simulation had been started Nemac IV launched a fullscale counterattack.

5 seconds later all human beings within the bunker had been classified as enemies because of their behaviour. Only ten seconds later there was no living human being within the walls of the bunker.

Four of the five external control rooms also received the status: Infiltrated by enemy forces. They were obliterated by a massive blast of conventional missiles. Control room 5 is unknown to the computer.

There is no more chance to prevent a war. The conventional units were stopped but the computer will soon start to fire its nuclear weapons because of a lack of feedback from his troops.

We only must prevent him from blowing up our own territories, assuming that there are enemy forces.

One of the control rooms was able to disable the internal surveillance cameras and communication lines just before it was blown away.

Therefore Nemac IV has no control of his defense installations and no information on what is going on inside of the bunker. But all the automated combat units are still fully operational.

## The Mission

-----

During the first testphase a FIKM-7 unit has been equipped with a remote control to destroy combat drones that are out of control.

This unit is still fully operational and unknown to Nemac IV.

We believe that the computer sees no direct threat for him in the moment, that means as long as the surveillance outside the bunker doesn't sense an attack.

All documents are inside the bunker or in buildings in its nearer region. An intrusion into this area could be mistaken as an attack.

YOU are to guide the FIKM-7 unit down to the reactor to blow it up.

We have only one chance.

---

We count on you.

FAILURE IS NOT AN OPTION

## 1.24 How to Order

You can order the full version of NEMAC IV by writing to this address:

Martin Schlott  
Ludwig-Thoma-Str. 35  
93051 Regensburg  
Germany

Contact via E-Mail:  
oliver.groth@rz.fh-regensburg.d400.de  
alexander.goller@rz.fh-regensburg.d400.de

Please read the file English-Orderform first and send it correctly filled to us.

If you order the full version of NEMAC IV you get:

- 30 Levels
- more monsters, more extras, more riddles
- more animations + ending sequence
- last but not least a good conscience, because this program was very very much work for us

## 1.25 Copyright/Legal Stuff

Copyright

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For the programm NEMAC IV and the manual according to it:  
Copyright (C) 1994-1996, Martin Schlott, Oliver groth & Stefan Heinsen.  
All Rights reserved.

Liability

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By installing or starting NEMAC IV you agree to this declaration:

THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDER AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.

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#### Distribution

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It is allowed to distribute the demo version of NEMAC IV on any data medium and to make it available on bulletin boards or other network compounds if the original directory structure will be kept.

It is of course allowed to distribute these files in a packed archive file.

#### Credits

-----

Idea & Concept     Martin Schlott  
                  Oliver Groth  
                  Stefan Heinsen  
Textures         Michael Amend  
                  Alex Grasso  
                  Oliver Groth  
Music            Stefan Schulz  
Raytracing & Monster   Oliver Groth  
Programming     Oliver Groth  
                  Stefan Heinsen  
                  Martin Schlott  
Levels          Oliver Groth  
                  Stefan Heinsen  
                  Martin Schlott  
                  Stefan Holländer

The Picasso II support routines are by VillageTronic, Hannover, Germany.

If you need graphics, please contact:

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97846 Partenstein  
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## 1.26 Thanks to ...

We want to thank:

- Alex Grasso
- Steffen P. Häuser

- Michael Amend
- Stefan Holländer
- Stefan Schulz
- Executor from IRC #amigager
- IRC #amigager for many good tips
- Aminet, those who maintain the sites and those who wrote the software and uploaded it.
- Star Trek :-)

## 1.27 Details of the Engine

This programm is fully system friendly. Multitasking keeps untouched.

This game should run on every Amiga that has the specifications that are required.

The graphic output adapts automatically to the possibilities and bitmap depth of your computer!

Nearly every screen with nearly every frequency can be selected. That means that everyone can play the game on his favourite screen mode. It does NOT just open a standard PAL or NTSC screen.

The keyboard definition is conforme to your keymap loaded.

The synchronisation of the game is independent from computer speed, because it is just not synchronized by building a frame.

Textures can be scaled absolutely free in x- and y-direction on walls and everything else without time loss.

On 68060 CPUs there appears a problem: This processor does not have the MULS.L assembler directives (which appeared with the 68020) on chip. Because of our program is using this directives very often, every time the CPU should execute it, the program is trapped and a software emulation interpretes this directives. So this program will run on an 68060 not as fast as you might expect. In the full version this will be fixed.

## 1.28 Requirements

You need a computer with following specifications:

- An Amiga :-)
  - A MC68020 CPU or better
  - Amiga OS 2.0 or better
  - At least 2 MB continous Memory, Fast RAM is recommended, but not necessary
  - Graphics: This program runs on AGA- AND OCS/ECS-Amiga, i.e. on all types of Amigas that meet the requirements above, not only on A1200 and A4000. Besides, it supports Graffiti, i-glasses!, Picasso II and CyberGraphX.
-

## 1.29 Notes

This demo comes with four levels. Level 3 and 4 are very hard, I know it. They are for them who like it and will in the full version appear much later than level 3 or 4.

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