

ReadMe

COLLABORATORS

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REVISION HISTORY

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Chapter 1

ReadMe

1.1 ReadMe.guide

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

Contents:

```
What is NEMAC 4
Requirements
Copyright/Legal Stuff
Install NEMAC IV
How to Start NEMAC 4
Preferences
The Main Menu
How to Play
Directory of NEMAC IV
Things to come
Bugs
Story of NEMAC IV
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 Install NEMAC IV

This game/demo is shipped in three archives/disks:

nemac4d1.lha

```
NEMAC_4.info
NEMAC_4 (Directory)
  NEMAC_4
  NEMAC_4.info
  Deutsch-Bestellformular
  Deutsch-Bestellformular.info
  Deutsch-Install.txt
  Deutsch-Install.txt.info
  Deutsch-LiesMich.guide
  Deutsch-LiesMich.guide.info
  English-Install.txt
  English-Install.txt.info
  English-Orderform
  English-Orderform.info
  English-ReadMe.guide
  English-ReadMe.guide.info
  InstallMe
  InstallMe.info
  maze.0001
```

nemac4d2.lha

```
NEMAC_4 (Directory)
  maze.0002
```

nemac4d3.lha

```
NEMAC_4 (Directory)
  maze.0003
```

Maze.CLD has to be joined to one file before starting the game. This is done by the small "InstallMe"-batchfile. This batch joins the three parts together, deletes the three original files and itself :-)

If you want to use Graffiti or i-glasses! you should also read the part about the

.config file

.

1.4 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
JOYSTICK
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. :-)

JOYSTICK is without any parameter and enables playing by joystick if the headtracker is enabled. We thought it is better if you can play standing and not sitting in front of your keyboard. Gives a better feeling :-)
This has to be enabled by a command, because getting joystick data isn't as easy as you might think if you want it in a system friendly way. So this needs some CPU time.

Up - Run forward
Back - Run backward
Fire - Fire chain gun
Right - Fire grenades
Left - Plasmagun

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

1.5 Directory of NEMAC IV

Table of directory contents:

```
NEMAC_4.info
NEMAC_4 (Verzeichnis)
  NEMAC_4
  NEMAC_4.info
  maze.cld
    Deutsch-Bestellformular
    Deutsch-Bestellformular.info
    Deutsch-Install.txt
    Deutsch-Install.txt.info
    Deutsch-LiesMich.guide
    Deutsch-LiesMich.guide.info
    English-Install.txt
    English-Install.txt.info
    English-Orderform
    English-Orderform.info
    English-ReadMe.guide
    English-ReadMe.guide.info
```

NEMAC_4 is the game, maze.cld the database needed by the game.

Starting NEMAC 4

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

1.7 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
```

1.8 <Selected Screenmode>

Here the current selected screenmode is shown by name.

1.9 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 and less than 640 pixels wide and more than 200 lines high, extra halfbrite mode or a depth of 8 bitplanes are shown.

Warning: Even the screenmodes of gfx boards are shown and can be selected. Therefore that most of them are unknown to us and might be selected most of them are not supported yet. The chunky 2 planar conversion might not detect an installed gfx-board and might probably crash your machine.

Just Picasso II is supported at the moment. Others will follow.
More about gfx-boards in

Things to come
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.

1.10 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.

1.11 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.

1.12 Memory size

LARGE: The program tries to allocate 2.7 MB RAM. Here you can achieve best graphics detail.

SMALL: Now the program just tries to get 900 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 2.7 MB, and if this fails, 900KB with the corresponding loss in detail.

1.13 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)

1.14 Save

Here the current preferences are saved to ENV:NEMAC_4.prefs and ENVARC:NEMAC_4.prefs.

1.15 Use

Here you start the game with the current preferences.

1.16 Quit

Never press this button :-)

1.17 The Main Menu

When yo started the game, first you see the intro. There you will see one small animation (demo version) and four pictures. To get into the main menu, just press any key.

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 immidately
```

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.

1.18 How to Play

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 and turn 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.

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.

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.

If you stand in front of a door that doesn't open immediately, move just a little bit to the left and to the right. 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.

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

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.

In the

options menu

you can set the window size and

other parameters.

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, i.e. <ESC>, 'S' for saving screenshots and 'P' for pausing. Of course your current keymap is used.

On the right 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?
Ex bombs: Bombs explode in the order you throwed them.
Fetch bomb: Here you can collect the bombs you have already throw out.
Cross: With thiskey you can switch on any crosswires you like :-)
 This might help you aiming at monsters a little bit.
Forward: Go forward
Backward: Go backward
Right: Turn right
Left: Turn left
Map on/off: Turn on auto-map
Map zoom +: Zoom the map in
Map zoom -: Zoom the map out
Speedup: Lets you faster get away from trouble.
Strafe: Force sidestep
Ground map: Texturemapping for ground and ceiling on/off
En switch: Press button

How to quit:

You can quit the game by choosing 'Exit' in the options menu or by hitting the right mouse button.

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.

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 output, the horizontal steps are always 32 pixels.
- DETAIL LEVEL - (not while using picasso)
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

The full version of NEMAC IV will contain about 30 Levels.

Support of Cybergraphics and EGS-library is planned for the future, Retina possibly will come also.

Many new graphics and sounds are already in work now.

The engine will be developed further and occuring bugs will be fixed.

1.22 Bugs

NOTE: The program is at this time just a beta version. It is possible that ↵
bugs might appear that are not found by now. And possibly bugs might appear which will crash your machine.

So, before you start the game, save first all important data to disk and close all applications.

If bugs appear, please write us how it looked like, how it happened, if it can be reproduced and how, your hardware coniguration and what software is running on your system. Our address you can find in
here
.

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. Nemac IV.

The structure of Nemac IV

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

Imbed in the system are all communication and defense satellites giving it control over all military movements. Nemac 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 Nemac 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 displayed. 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

Nemacs 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 Nemacs 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 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 presinct. 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 any of the addresses below:

Post:

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

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 any of the addresses.

1.25 Copyright/Legal Stuff

Copyright

For the programm NEMAC IV and the manual according to it:
Copyright (C) 1994-1995, Martin Schlott, Oliver groth & Stefan Heinsen.
All Rights reserved.

Liability

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.

IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Distribution

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.

The textures of this game are made by Alex Grasso and Michael Amend, the music by Stefan Schulz.

1.26 Dank an ...

We want to thank:

- Alex Grasso
- Steffen P. Häuser
- Michael Amend
- 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. Do you know any other game of this type that does the same?

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.

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 continuous Memory, Fast RAM is recommended, but not necessary
 - A Harddisk with 3 MB (full version 4 MB) free space.

 - 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! and Picasso II.
-