

ANES

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COLLABORATORS

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

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Chapter 1

ANES

1.1 -÷×÷- A/NES -÷×÷-

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-$\div$- Amiga Nintendo Emulator -$ \div$-
          Version 0.93b
          SHAREWARE

      Development started:
          8:th of May 1997

          Created by:

          Morgan Johansson
          Fredrik Schultz

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Documentation

The authors cannot be held responsible for any possible damage caused by this program. You are using it at your own risk!

1.2 -÷×÷- A/NES -÷×÷-

Welcome to A/NES - Amiga Nintendo 8-bit emulator.

Introduction

A short introduction to A/NES...

Requirements

What do you need to run this..?

Installation

Shouldn't be a problem...

Registered User?

Read this if you're a registered user.

Features

Controls

If you don't already know them...

Register

Authors

How you can contact us...

Comments

Comments from the public.

Future

What will the future be?

History

Link to the past ;)

Bugs

Still some to fix...

FAQ

Frequently Asked Questions

Is this legal?

A legal notice found on the Net...

Greetings to

1.3 -÷×÷- A/NES - Registered Users -÷×÷-

Information for registered users

The keyfile you've got, should be placed
in your S: directory and nowhere else.

If you have installed your keyfile correctly
you should be able to hear sound and you should

be able to use a cd32 joystick.
These features were both enabled for all users
in the previous versions, but not anymore.

1.4 -:-x:- A/NES What's new? -:-x:-

Features

- Full 6502 emulation (incl. ALL timings!)
- Battery backup
- Nice looking gui! :)
- Sound support (registered users only!)
- OCS/ECS support! (AGA recommended!)
- Splitscreen scrolling
- CD32 joystick support (registered users only!)
- XPK support
- Supports mappers 1,2,3,4,7,9,11 (more or less)
- Written in 100% 680x0 assembler code

Note! A/NES only supports loading of XPK packed ROM
files, not battery save files (*.sav).

1.5 -:-x:- A/NES Controls -:-x:-

JOYSTICK 1

ENTER - Start
RIGHT SHIFT - Select
LEFT CTRL - A
LEFT ALT - B
ARROWKEYS - Guess what? :)

ESCAPE - Abort emulation

or if you've got a CD32 compatible joystick:

YELLOW - Start
GREEN - Select
RED - A
BLUE - B

Joystick 2 is not yet emulated, but soon.

If you abort the emulation (by pressing ESCAPE),
remember there is no way to continue the emulation
where you left it. This will be implemented in a
later version of A/NES.

1.6 -÷×÷- A/NES Bugs -÷×÷-

Reporting bugs

Please report bugs to us that causes your computer to behave strangely. (See our addresses elsewhere in this guide file).

BUT! Don't report about non-working ROMS!

Many things is NOT emulated properly / yet, so please have patience...

When reporting bugs to us, don't forget to mention:

* Your complete machine setup! (cpu, ram, PAL/NTSC?, etc)

And anything else that may be usefull for us to know..

Known bugs/problems

- * Problems with some MMC's (caused by lack of good documentation).
- * Scrolling wrong / flickers.
- * The sound is sometimes horrible! ;)
- * Sprites sometimes appear on strange places or flickers.

- * CPU emulation bugs
 - * Compability problems with NTSC, hopefully soon fixed!

1.7 -÷×÷- A/NES Requires -÷×÷-

Requirements

- OCS/ECS/AGA chipset (AGA is recommended for best performance)
- 68020+
- ~2Mb of Memory
- reqtools.library
- lowlevel.library (if you want CD32 joypad support!)
- xpkmaster.library (for loading XPK files!)

Using CD32 joypads also, from now on, requires a registered version of A/NES.

A/NES sometimes have problems to run on unexpanded A1200 machines, so a fastram expansion is a good thing to have.

NOTE! You can not view the NES title if your ROM

files are packed with XPK.

1.8 -÷×÷- A/NES Registration -÷×÷-

How to register

A/NES from now on is Shareware. We have spent alot of time developing this piece of software so we think it's time we get something back instead of just giving..

Here is the shareware price and the following currencies are accepted:

- * 100 SEK
- * \$15 US

NOTE! Only cash is accepted! (No coins please!)
If you want to send your money in some other currencie, please contact us first!

Sending us SEK is prefered since that saves us alot of trouble and you will get your keyfile even faster.

When registering A/NES you will get a personal keyfile of A/NES which you must not spread.

When you send the money to us, do not forget to mention in your letter:

- * Your complete name and address.
- * Your e-mail address
- * Computer (Cpu, memory, etc.)

People with e-mail will get their keyfiles into their e-mailbox.

For questions, send an e-mail / snail-mail to the addresses found in the "author" section.

Why should I register?

By registering this program you help keeping this project alive and you show us your support. Also, more registrations will make us work faster! :)

Send the registration fee to:

FREDRIK SCHULTZ
ÖSTRAVÄGEN 12
715 31 ODENSBACKEN

SWEDEN

And if everything is alright, you'll receive your keyfile within just a couple of days.

1.9 -÷×÷- A/NES Introduction-÷×÷-

Introduction

It all started a day in may in the year of 1997. I was watching Nesticle on a PC machine and started to wonder why there wasn't any decent NES emulator for Amiga... So I (Morgan) and my friend Fredrik started this little project.

We had never done anything like this before so it was a challenge.

The CPU emulation (it's incredible fast) was written from scratch in 68020 assembly language and everything else concerning the emulation is also written in assembly.

Enjoy it, and remember, if you like it and use it, register!

1.10 -÷×÷- A/NES -÷×÷-

The Legalities of Console Copying and Emulation
3-11-97, Copyright Anthony DiPasquale
<http://www.pce.net/anthony>, anthony@pce.net

1. Is it legal to create an emulator?

There has been some discussion on this. To create an emulator one must have a high level of knowledge of the source platform to be emulated, and the target platform the emulator runs on. To find out info about the source, usually takes reverse engineering, of the original console, which may be considered illegal.

2. Is it illegal to run/use an emulator?

This goes along with the above question. There is debate around this as well. The general rule to follow is: You are allowed to own/run an emulator, as long as you actually own a corresponding hardware device. Example, you own a game boy, so you are allowed to run a game boy emulator on your computer.

3. Is downloading ROM images illegal?

No, it is not, as long as you own a hardware copy of each rom image you download. If you download images you do not own a copy of, you are committing piracy. By now, I'm sure Nintendo has realized that all the game boy game roms have been being illegally copied, that being one of the most popular emulators, and they do not seem to care. Chances are if you copy a Coleco, Atari, Sega Master System, etc, it wouldn't matter too much. The general rule is: If the company is no

longer collecting royalties, they probably won't mind. Who would pay \$30 for a Coleco Vision ROM nowadays when you can go out and get the latest CD Rom game for about the same? Most people don't pirate roms because they are too cheap, they do it because they may miss an old game that you could no longer purchase even if you wanted to.

4. Is storing/distributing ROM images illegal?

It may not necessarily be illegal, it is more up to the person who downloads the image then the person who provides it. It is a questionable practice, and I wouldn't recommend it. Even though you may see various web pages and FTP sites doing it, that doesn't make it legal.

1.11 -÷×÷- Comments -÷×÷-

Here are some comments from the public concerning A/NES..

"So, A/NES is going shareware? Then I'll play Nesticle instead."
And we thought this kind of creatures died along time ago...
We had wrong.

"c000000000000000000001!"

"Keep up the good work!"

"Why register a shareware emulator when there are several freeware-ones?"

By registering A/NES you show us your support in our project, and the chances of this project to continue increases. Without YOUR support, A/NES will die!

.... more to come

1.12 -÷×÷- How 2 A/NES -÷×÷-

Installation

Copy the nintendo.font into your FONTS: assign and copy the rest of the files to a suitable directory.

Ta-da! :)

An installation script will probably be added later for this purpose...

1.13 -÷×÷- The future of A/NES -÷×÷-

The future (?)

- * More speed!
- * Rewrite code in PowerPC assembly language. (we're still waiting for a PPC assembler though...)
- * Rewrite graphics for use with the CV/BV-PPC graphicsboard.
- * Other nice features, that will be available soon...

1.14 -÷×÷- A/NES History-÷×÷-

History

 Version: Released:

- | | | |
|-------|----------|---|
| 0.93b | 22/11-97 | <ul style="list-style-type: none"> * CPU emulation partly rewritten to improve performance on MMC-based games. * Now less memory hungry (~1Mb!) * Mapper 4 improved. |
| 0.92b | 8/11-97 | <ul style="list-style-type: none"> * Versionstring is now correct! (oops!) ;) |
| 0.91b | 8/11-97 | <ul style="list-style-type: none"> * GUI font-bug fixed (silly!). * Bugfixed mapper 1. * Lots of other small fixes. |
| 0.90b | 1/11-97 | <ul style="list-style-type: none"> * Sprites rewritten (MUCH faster). * Splitscreen scrolling. * Sound code rewritten. * Now in theory works on ECS! * Bank switching code optimised. * Minor code cleanup. * GUI rewritten! * A/NES is STILL shareware, so register today! |
| 0.36b | 28/9-97 | <ul style="list-style-type: none"> * Major CPU bugfix! * Small fixes (as usual!) |
| 0.35b | 21/9-97 | <ul style="list-style-type: none"> * Now supports XPK packed files! * A/NES doesn't eat 1mb of fast memory anymore when started from an icon. ;) * Small changes here and there. * Small soundfixes. * Internal version for registered users only! |
| 0.34b | 13/9-97 | <ul style="list-style-type: none"> * Small joypad bug fixed. * Keyfiles are now supported. * Minor speedup and fixes |
-

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- in the spriteroutines.
 - * Bank-switching code optimized.
 - * Triangle Wave soundchannel implemented.
 - * Minor optimisation in PPU code.
- 0.33b 3/9-97 * A small (but major) CPU-bug fixed!
- 0.32b 31/8-97 * Sound support! (partial)
- 0.31b 23/8-97 * FAST version included!
- 0.30b 5/8-97 * Mapper #4 is now partly supported!
- 0.29b 3/8-97 * Major improvements in the graphic routines, resulting in an incredible speedup in some games.
- 0.28b 27/7-97 * A register wasn't properly emulated. Fixed now! (some games works alot better!)
- 0.27b 19/7-97 * Mappper #1 emulation improved but not yet perfect.
- 0.26b 13/7-97 * Keyboard handler a little bit improved.

- * CD32 joypad support!
 - * A spriteregister wasn't properly emulated. Fixed now!
 - * Mapper #11 supported.
 - * Small fixes.
 - * A/NES is SHAREWARE! Support us!
 - * Mapper #7 supported.
 - * Mapper #9 now fully supported.
 - * Minor changes and bugfixes.
 - * Minor fixes.
 - * Battery backup functions added!
 - * Mapper #1 emulation improved and bugfixed (ALOT)!
 - * The filerequester now remembers where you "left it" the last time (saved in S:ANES.prefs).
 - * Small CPU emulation bugs fixed.
 - * 8x16 sprites supported.
 - * Some emulation bugs fixed.
 - * GUI changes/fixes.
 - * File requester routines bug-fixed once again.
 - * And some other changes...
 - * File requester should now work properly (phew!)
 - * ESCAPE is now used to abort
-

the emulation.

0.25b 12/7-97 * Damn! Bugfixing the previous version resulted in another bug. The "cannot click any button" bug should now have been removed

0.24b 12/7-97 * Major improvements in the keyboard handler!
* Mapper #1 partly supported!
* Minor GUI fixes.
* Small CPU bugs fixed.

0.23b 8/7-97 * Minor fixes.
* Some GUI-NTSC problems fixed.

0.22b 8/7-97 * Shouldn't crash anymore if started from an icon.

0.21b 6/7-97 * Fixed some minor stupid bugs!
* 50 FPS speed limit for fast computers. (Could cause very annoying flickering if framerate was more than 50FPS).
* We're still at SCC'97 and we have just found out that we won the democompo! :)

0.20b 6/7-97 * Released at the SCC '97 party held in Köping, Sweden.
* Mapper 2 and Mapper 3 supported.
* Many bugfixes.
* Sprite routines optimised.
* Colours now look better.

0.10a 30/6-97 * First official beta release!

1.15 -÷×÷- A/NES -÷×÷-

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guilty of: 6502 CPU emulation
Sound
Mapper support
ROM-handler
Gfx in general
Bugtesting (and finding most of them)

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guilty of: 6502 CPU emulation
GUI
Gfx in general
Sprite & Scrolling
Some bugfixing

Also big thanks to
Dew / Limited Edition - for fixing the keyboard handler!

1.16 -÷×÷- Frequently Asked Questions -÷×÷-

Frequently Asked Questions

Q: A/NES just quits when I try to start it. Why?

A: Check that you have installed the included font in
your FONTS: directory properly.
Do you have enough memory available?

Q: Why do I get an 'XPK ERROR' message?

A: You are trying to load an XPK packed file, that is
either corrupt or simply, you don't have the
xpkmaster.library and it sub-libraries installed in
your LIBS: drawer.

Q: Why is A/NES written in assembler and not C?

A: There is enough slow c-ports out there, don't you think?

Q: I keep getting a "FAILED" message what does that mean?

A: Well, the game has tried to execute an invalid assembler instruction. This is probably not caused by the game itself, it is just caused by bugs in our emulator. :)

Q: It doesn't work correctly on my NTSC system.

A: We are aware of these NTSC problems and we are working on them.

Q: In some games, the graphics looks very strange.

A: Yes. This could be the result of an unsupported (or not an entirely supported) Mapper chip.

Q: Why doesn't A/NES multitask?

A: A/NES doesn't use any system routines because of speed-reasons. Running A/NES in a workbench window would sure be nice, if you have an INCREDIBLE fast machine, but most Amiga users doesn't have that kind of equipment today.

1.17 -÷×÷- A/NES Greetings to: -÷×÷-

Thanks to:

YOshi - Well, thanks for your docfile and for your support!

Marat Fayzullin - Without your NES doc file this wouldn't even exist.

Ville Helin - Thanks for alot of technical information and also for beeing such a nice guy! :)

Dew/LED - Woah! Thanks man for everything!

Fredrik Olsson - Thanx for some bugfixing-hints.

Nate_DAC - For providing us with various usefull information about the 6502.

Bloodlust Software - For Nesticle.

#Amycoders - Thanks for all help.

Everyone - That has supported us this far and believed in this project. Thanks!
