Wzonka-Lad Guide

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COLLABORATORS			
	TITLE : Wzonka-Lad Guide		
ACTION	*NAME*	*DATE*	*SIGNATURE*
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REVISION HISTORY			
NUMBER	DATE	DESCRIPTION	NAME

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Wzonka-Lad Guide

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1.2 Debugging with Wzonka-Lad

```
You can use optcode $ED for debugging purposes. When Wzonka-Lad executes
$ED the power light flashes. Not very ingenious, but helps.
```

1.3 Supported cartridge types

```
List of existing cartridge types:

0 - ROM ONLY                12 - ROM+MBC3+RAM
1 - ROM+MBC1                13 - ROM+MBC3+RAM+BATT
2 - ROM+MBC1+RAM            19 - ROM+MBC5
3 - ROM+MBC1+RAM+BATT       1A - ROM+MBC5+RAM
5 - ROM+MBC                 1B - ROM+MBC5+RAM+BATT
6 - ROM+MBC2+BATTERY        1C x ROM+MBC5+RUMBLE
8 - ROM+RAM                 1D x ROM+MBC5+RUMBLE+SRAM
```

```
 9 - ROM+RAM+BATTERY          1E x ROM+MBC5+RUMBLE+SRAM+BATT
 B * ROM+MMM01                1F * Pocket Camera
 C * ROM+MMM01+SRAM           FD * Bandai TAMA5
 D * ROM+MMM01+SRAM+BATT      FE * Hudson HuC-3
 F * ROM+MBC3+TIMER+BATT      FF x Hudson HuC-1
10 * ROM+MBC3+TIMER+RAM+BATT
11 - ROM+MBC3


 *  not supported by Wzonka-Lad (yet)
 x  partial support (so far)
```

1.4   About version 1.00.00

Wzonka-Lad emulates Game Boy (DMG), and is meant for the people who wish
to develope their own fan software for it. Wzonka-Lad cannot be used to
run licenced (ie. ROM dumps from copyrighted cartridges) programs.
I've also written WLA GB-Z80 macro assembler, which is suitable for
compiling your software to be used with Wzonka-Lad.

There has been a change in the registering policy.

This is the evaluation archive (e). v1.00.00e doesn't use a keyfile, if
one is present, you'll need v1.00.00r for that. Registered users need
to send me email and they'll recieve the latest registered version (r)
of Wzonka-Lad with the reply.

Remember when you use Wzonka-Lad you are doing it on your own
risk. You are fully responsible if something happens to your machine
due to Wzonka-Lad.

If you are moving from v0.8x or older to v0.90 or newer you must delete
the old preference files!

NOTE! Use AHI Paula v4.19 device and DMA 8 bit Stereo mode to obtain
      the best and fastest sounds on any Paula-chip sound system machine!
      v4.19 is much better than the previous drivers (even the difference
      between v4.17 and v4.19 is hearable!!), so get it asap!!!

1.5   Questions

Q: The emulator doesn't work. In fact it quits right after starting.
    No window pops up at all!!

A: You have older than 0.9x preference files in your system. Delete
    ENVARC:Wzonka-Lad.prefs and ENV:Wzonka-Lad.prefs and it'll work.

Q: Programme xxx has corrupted graphics.

A: Try first using Gfx -> Mode -> Full. If the graphics are ok, but
    you want more speed, switch to Gfx -> Mode -> x/153. Use different
    values for x to fix the output. Note that there are some problems

which only Gfx -> Mode -> Full solves, but usually Gfx -> Mode
-> x/153 is ok.

And if you don't legally own the software you are referring to in this
case, then, well, I couldn't care less.

Q: I can't hear any sounds.

A: You'll need a keyfile to get them, so register fast! ;)

Q: If I put Wzonka-Lad on my homepage, will I get a keyfile?

A: Certainly not. I did once give a keyfile for that reason, but
    then I realized the world is filled with homepages, and anyone
    willing can make one by himself.

Q: If I draw MahouWB/Wunderbaum icons for Wzonka-Lad, will I get
    a keyfile?

A: Get real! Luca Longone is the official Wzonka-Lad icon producer. ;)
    But I do take free-of-charge fan art.

Q: If I'll do xxx, will I get a keyfile?

A: Unless the xxx isn't pretty fantastic you can bet your heart out you
    will not get it.

Q: Keyfile!?

A: With home made software.

Q: If I'll send you (the author) copyrighted ROM images, will I get
    a keyfile?

A: No. And please read the documents. I will not answer to mails
    concerning about spreading illegal ROM files. I'll just redirect them
    to BSA for further actions. But I'll do my best to see that your
    mailbox is filled with spam'n'bull in the next 24 hours.

Q: Can I register with Kronas/Deutch Marks/Nuggets/Credits/Copper coins?

A: Sorry, you can register Wzonka-Lad by sending me a piece of software
    you've made yourself as a proof of devotion.

Q: I'm the author of Spanish "Amiga Burrito" magazine. Can I have
    the keyfile for testing?

A: Dear Mr. Nobody, if your magazine doesn't exist you can forget it.

```
Q:  Why are you still supporting Amiga though you've received so
    many letters from cheaters and idiots?

A:  I'm not sure, perhaps I'm a masochist. ;) I like the Amiga OS, and
    there are quite a many nice people, too, but sometimes I wish I
    had never written any software, just because all the lamers and
    lamer wannabes have killed the Amiga with their childish tricks.


Q:  Do you need a shrink?

A:  No, but I bet the shirnk would want to have me. Unfortunately he wouldn't
    get a thing out of me. ;)


Q:  What does Wzonka-Lad mean?

A:  Nothing.
```

1.6 The keyfile

```
                The keyfile must be kept in L: or PROGDIR: (the directory where  ←
                    Wzonka-Lad
executable is) volumes. You can gain a keyfile by
            registering
                .
```

```
With the keyfile you can use the
            sound preferences
             window to select the
preferred AHI output devices and settings. Without the keyfile the
window cannot be accessed and the sounds are not emulated.

You'll also get a chance to use CD$^3$$^2$ and SEGA pads, more than
three XPK libraries, GBS loading and saving and GameGenie (tm)
patch codes when you register!

You must not spread the keyfile as it is not a very nice thing to do.
Keep it to yourself!
```

1.7 Sound emulation

```
You can get yourself the sounds, aka a keyfile by registering. ;)

The emulation is not perfect, but due to the lack of good documents I
cannot enhance it much.

NOTE! Always check out http://www.lysator.liu.se/~lcs/ahi.html (AHI
      homepage) for new updates!
```

NOTE! It's recommended to keep the channel four shut down as the
      emulation for that channel is incomplete. With some software
      channel four works just fine, with some it doesn't. You'll
      just have to find it out.

NOTE! If you are using default Amiga sounds chips for output, use
      Paula DMA 8bit Stereo driver as it gives the best result
      by being fast, clean and sharp in sound. Use Paula driver
      v4.19 or better if possible!

NOTE! Due to the way things work, FAST and WARP executables work best
      with y Hz -mode.

1.8 The three executables

- FULL -->   This one offers a full GB Z80 emulation with all the
             CPU flags. Every GB-Z80 command can access RAM and ROM
             and read/write from/to hardware registers. Even the OAM RAM
             bug is emulated.

- FAST ---> As the name indicated this one is faster, but lacks
             the emulation of H and N flags and the DAA command.
             GB-Z80 CALL, RST and PUSH optcodes can only write
             to RAM, and RET and RETI can only read from RAM.
             RES x, (HL), SET x, (HL), EX HL, (SP), INC (HL),
             DEC (HL), RLC (HL), RRC (HL), RL (HL), RR (HL),
             SLA (HL), SRA (HL), SWAP (HL), SRL (HL), LD (xx), SP,
             LDI (HL), A and LDD (HL),A commands can handle only RAM.

- WARP ----> WARP uses the same GB-Z80 CPU emulation with FAST.
             To make things warp TIMER, CMP and LCD interrupts are
             left away and only VBR interrupt is emulated.

             NOTE! Due to these defects in FAST and WARP executables
                   some software may have errors with sounds, graphics
                   and/or compability.

1.9 Shareware happyoo da!

                There has been a change in the policy; If you want to register ↩
                   Wzonka-Lad,
you'll have to send me a proof that you are writing software to Game Boy.
No whining. A piece of your own stuff is more than sufficient.

The Following features are only available for registered users:

- Sounds
- GameGenie patch codes
- GBS saving and loading (realtime and snapshotting)
- More than three XPK libraries
- CD^3^{2} joypad, SEGA pads with 2 and 4 buttons and 2 button joystick
  controllers

If I ever see a pirated version of
              Wzonka-Lad
               or a keyfile in public
distribution, I will stop working.

By registering you won't only get the missing features, you'll support Amiga
and ensure that Wzonka-Lad is developed in the future.

1.10   20 Recent ROM images menu

               This menu list is only available via
             Menu window
             .
The 20 recently loaded ROM images are displayed on this menu.
Selecting a name from the list will reload the ROM image.

NOTE! 31 characters of the file name are saved with this list.
      Note also that the data is loaded from the selected default
      rom image storage directory.

The list is saved on exit to the prefs file.

1.11   20 Favourite ROM images menu

                This menu list is created from an external file, which is not
modified by the emulator. This is also only accessable via

             Menu window
             .

Inside this menu you can place the 20 favourite ROMs of yours. The
names are in ASCII, located in favourites/favourites.list.

favourites/favourites.list file is loaded on every start up and the
menu will be shown only if it is available. It must be located in
PROGDIR:favourites/!!!

You can edit the file with your normal text editor.

NOTE! The instructions for editing are inside favourites/favourites.list!

1.12   The tools directory

               - prefs_to_cfg --> Converts
             Wzonka-Lad
              .prefs files to

```
                          Virtual GameBoy .CFG files. SYNTAX:

                          prefs_to_cfg "[INPUT NAME]" [OUTPUT NAME] [ENTER]

                          NOTE! Background colours are also extracted as window
                                colours to create a whole .CFG file.



   - gbs_to_sav   --> Converts
                 Wzonka-Lad
                  .gbs files to
                          Virtual GameBoy .SAV files. SYNTAX:

                          gbs_to_sav [INPUT NAME] [OUTPUT NAME] [ENTER]

                          NOTE! It's up to you to check out if the cartridge
                                has got battery backed RAM. The best way to
                                check this out is to run VGB with the desired
                                rom image and look if it searching for .SAV file.

                          NOTE! This utility is made to extract battery RAM data
                                from .GBS files to be used with VGB.

                          NOTE! Loader supports xpk packed files!



  - sav_to_gbs   --> Converts Virtual Gameboy .SAV files to
                 Wzonka-Lad
                                     .GBS files. SYNTAX:

                          sav_to_gbs [INPUT NAME] [OUTPUT NAME] [ENTER]
```

1.13 Copyrights

If you are doing an article or a review of
                Wzonka-Lad
                 then
you must send me a copy of the magazine!

If
                Wzonka-Lad
                 is put on a cd, then you must send me a copy of it.

If you've registered
                Wzonka-Lad
                 and you've recieved a keyfile,
it must not leave your computer. You are not allowed to spread the
keyfile.

Generally, if
                Wzonka-Lad
                 is involved in something I must be told. ;)

Game Boy is naturally copyrighted by Nintendo.

If any of these rules is broken I will stop developing of
                Wzonka-Lad
                 .

1.14   Installing

Installing the emulator would not be easier; Just click on the icon
and Installer (tm) does the job for you.

Thanks to Lennart Johannesson (95lenjo@ostrabo.uddevalla.se) for
the script. Without him we wouldn't have the option of automatic
installation. ;) Cheers!

1.15   Read me before anything!

                Read the documents first before sending me any mail!!!

Do not send me mail about the following things. If you do send me mail
with one of the listed subjects included I will not answer to your
mail.

I don't want to hear about

- Requests for ROM images.
- SEGA PAD's behaviour. Contact the library's
                author
                , it's not my fault.

PS. If something seems to be wrong when first trying out a new version of

```
        Wzonka-Lad
          , delete the old prefs file first, before sending me
  mail. If that doesn't help, then please write me a line or two.
```

But do write about

- Emulator bugs.
- Brilliant ideas (brilliant = exceptionally good).
- Current compability with your gfx/sfx card (with system configuration).
- How much you like this emulator. ^_^ Or how little. ;P
- Features you'd like to see in the future releases (these must, too, be
  brilliant suggestions aswell).

1.16 Requirements

                          Real Requirements:

- MC68020+
- About 3MB of memory.
- reqtools.library version 38+
- wzonka.font for the screen (zapot or topaz fonts will do it if wzonka font
  isn't found, but the view is optimized for wzonka font).
- OS3.0 (OS3.0 routines are used!).
- AHI sound system installed, any version of this will do fine, but the newer
  the better. Only used in the registered version of
                Wzonka-Lad
                  .

                          Things good to have:

- Keyfile to hear the sounds.
- A cd32 compatible joypad.
- lowlevel.library for the cd32 joypad routines.
- controlpad.library if you are using a Sega controlpad alternatively.
  NOTE! You need an CP-1 CONTROL PAD ADAPTER to utilize all the buttons.
  Get ControlPad.lha from Aminet for more details.
- A fast CPU (030/50 MHz should guarantee enjoyable usability in
  all graphics modes, I guess). At least my 030/50 plays most of the software
  at ok speed (with FAST emulation, that is).
- xpkmaster.library and some good sub libraries to pack the rom images
  and ram snapshots with.
- NewIcons system to see the excellent Wzonka-Lad newicon icons!
- A Graphics card, OS3.1 and 060+ if you are really going to use the Workbench
  window drivers.

1.17 Snapshots

Wzonka-Lad allows you to save a snapshot of the RAM to disk. ←
                This way
you can freeze the Game Boy and continue the game later.

Please make the files end to .GBS to indicate that the format really
is
              Wzonka-Lad
              's own snapshot format.

1.18 Controls


```
                    A              B            START        SELECT      (PAUSE)

KEYBOARD:    left alt    left shift   right shift   right alt    p / esc
CD32 PAD:    blue        red          yellow        green        pause
SEGA 4B :    a           b            start         c            p / esc
SEGA 2B :    fire 1      fire 2       right shift   right alt    p / esc
JOY 1B  :    fire        left shift   right shift   right alt    p / esc
JOY 2B  :    fire 1      fire 2       right shift   right alt    p / esc
```


If you have a keyfile, the following keys apply to all control modes:


```
TMP GBS :     1     2     3     4     5
SAVE GBS:    F1    F2    F3    F4    F5
LOAD GBS:    F6    F7    F8    F9    F10
```


In CD32 PAD mode you can use the following buttons to load/save TMP GBS 1
file in realtime:


```
TMP GBS1:       SAVE       LOAD
CD32 PAD:     reverse    forward
```


Note that these five GBS files are saved into T: and have names
Wzonka-Lad.RT.GBS(1-5).GBS. Wzonka-Lad will delete all these
temporary GBS files on exit.

1.19 Menu window


```
              ROM
```

```
- Load          -->    Load a ROM image.
- Run           --->   Start / continue the emulation.
- Reset         ---->  Reset the emulator.
```

                   NOTE! Resetting does the following things:

```
                                         1) Battery RAM is saved.
                                         2) Emulator is reset.
                                         3) Battery RAM is loaded.
                                         4) ROM's preferences are loaded and used.

                             NOTE! Resetting does not:
                                         1) Clear any installed GameGenie patches. If you
                                            want a 100% fresh ROM, you'll have to reload it.


    - Info          -----> Display ROM information data.

    GBS

    - Load          -->    Load a RAM snapshot file (.GBS).
    - Save          --->   Save                               .

                           Check out
                  controller
                   preferences info for
                           runtime shortcuts for GBS loading and saving!

    Edit

    - Gfx           -->    Edit
                  graphics
                   preferences.
    - Sfx           --->
                  audio
                                    .
    - Prefs         ---->
                  universal
                                   .
    - Misc          ----->
                  misc
                                     .


    <Misc>

    - About         -->    Display emulator information.
    - Status line   --->   Displays misc info.
```

1.20   Misc settings

```
    Misc

    - Multitasking             -->    Executes exec.library/Forbid() at the beginning
                                      of the emulation loop, and ends the emulation
                                      loop to an exec.library/Permit() call.

                                      These two procedures control the multitasking.
                                      With this box unchecked you can turn off the
                                      multitasking with system routines to gain a
                                      little speed.
```

```
                                    Disabling the multitasking and enabling the
                                    sounds is not recommended, though testing
                                    results show that it's ok. ^_^

 - OS screen speed limit ---> Uses graphics.library/WaitTOF() to sync the
                                    screen drawing into the beam. Use this only
                                    if you've got a very fast Amiga and software
                                    runs far too fast on the OS screen you use.

 - Bitmaps in FAST RAM   ----> Place all bitmaps to FAST RAM instead of
                                    CHIP RAM in OS Screen and Window modes.

                                    All displayable bitmaps should be placed in
                                    CHIP RAM, but graphics cards and AmigaOS
                                    GUI hacks might work with FAST RAM'ed
                                    bitmaps. Use at your own risk!

GameGenie patch code

 - <The three boxes>     -->  Put three letters/digits into every three
                                    boxes. Currently only the older version of
                                    GameGenie codes is supported, so nine
                                    digits are needed.

 - Patch                 ---> Patch the ROM file with the provided code.

                                    NOTE! You can use as many cheats per ROM
                                         as you like as long as they don't alter
                                         the same memory location. You can
                                         discard the patches by reloading the
                                         ROM file. Resetting doesn't clear
                                         the patches!

 - <List of codes>       ----> ROM related GameGenie patch codes are obtained
                                    from the game_genie/game_genie.list file.
                                    Press one of these and the corresponding code
                                    is inserted into the three boxes above.
```

1.21 Visual settings

```
                Mode

 - Full       -->  Process graphics data every scanline. Slow.
 - x/153      ---> Draw the whole screen on scanline x. Fast.

 Driver

   AGA

   - PAL      -->  Output to a PAL hardware screen.
   - NTSC     --->            NTSC              .

   Screen
```

```
- Select   --> Select the used screenmode.

Window

- Solid    --> Use a fixed 160x144 window.
- Scalable ---> Turn on the window scaling. Window width must
               be a multiplication of 16 (Wzonka-Lad fixes this
               automatically). You had better have a graphics
               card and a fast CPU to use the window driver!

Variables

- x          --> The scanline where the screen will be drawned if
               x/153 mode is used.
- Frame skip ---> The amount of skipped frames.

Colours

- Obtain    -->  Fetch the colour values from the
             Palette Editor
             .
- Load      ---> When unchecked this button disables colour data loading
               from ROM's own preference file. If you have a very
               nice colour scheme saved as default and don't want to
               use the ugly predefined palettes, but still need the
               ROM's variable x and frameskip, uncheck this.
```

1.22 Sound settings

```
Master

- Audio  -->  Disable / enable audio.
- Volume --->  Change the master volume (ranging from 1 to 16).

Audio

  Quality

  - High -->   Perform the best audio emulation available. Slow.

  - Low  --->  Leave out envelope and frequency sweeps. Fast.

               High and Low modes update the sound output when
               the registers are written into. Doing this you'll
               gain very accurate emulation, but it costs some
               speed by breaking the emulation.

  - y Hz ----> Update the sound information y times a second.
               The bigger the y, the more often the sounds
               will be updated, and the more slower the emulation.

               AmiGameBoy is using a sound emulation very similiar to
               this mode with y = 60 (?).
```

```
                    NOTE! Realtime changing effects for eg. channel three
                          (sample) can't be heard with this mode as they
                          update the sample buffer more than 60 times
                          a second (usually >100 times faster).


  Channels


  - Turn   -->   Disable / enable channel.


  AHI mode


  - Select -->   Select the AHI driver and playback frequency.


  Variables


  - y      -->   Ranging from 1 to 60, this value is the amount
                 of times to update the sound registers in a
                 second. The bigger the better the audio will
                 be, but the slower the emulation is going to get.
```

1.23 Preferences

```
  Paths


  - ROM     -->      Set the path for ROM images       .
  - GBS     --->                      GBS files        .
  - Prefs   ---->                     ROM .prefs files.
  - Battery ----->                    ROM .sav files   .
  - Get     ------> Use a requester the select the path.


  XPK packing when saving


    Battery RAM


    - On  -->       Use the selected XPK library to pack the battery
                    backed RAM.
    - Off --->      Don't pack battery backed RAM's.


    GBS


    - On  -->       Use the selected XPK library to pack the RAM snapshot.
    - Off --->      Don't pack RAM snapshots.


    <List of XPK libraries>


    - Select the used XPK library.


  Controller


    <List of controlling methods>


    - Select the used controlling method.


  Save preferences
```

```
 – Default -->       Save the preferences as default ones. Everything is
                     saved to ENVARC:Wzonka-Lad.prefs
 – ROM     --->      Save ROM image preferences. Only the colours,
                     variable x and framskip value are saved.

RAM

  Battery

  – On  -->          Save battery backed RAM to a file.
  – Off --->         Onboard battery has run out of power. ;)
```

1.24 Rom images

You can run only unlicenced software. By that I don't mean to agitate
people to infringe any copyright laws. Wzonka-Lad is targetted for
people who wish to develope and test Game Boy fan software on Amiga machines.

Wzonka-Lad is by no means a competitor for the professional developement
software. I wanted to help individuals who wish to write their own software
for the best hand held console there is. At least I do enjoy coding
for Game Boy. ;)

Here's what Wzonka-Lad does to check the legality of the software (If you
have an idea of how to do it better, then please tell me):

```
-------------------------------------------------------------------------
```
The area $104-$133, where the Nintendo logo lies encrypted in licenced
products, must be filled with zeroes. Also the complement check and checksum
computing must succeed. Otherwise the software cannot be run. Keep that in
mind when you write your own software.
```
-------------------------------------------------------------------------
```

WLA (GB-Z80 macro assembler I've written) comes packed with a sufficient
include file to create software that works with Wzonka-Lad.

1.25 Emulation

                 Not very far from perfect. ;) There are two things that are not ←
                 done
in the graphics emulation. Sprites to h/w window priority and colour changes
on a scanline basis are left out for your's sake. They would eat up too
much resources.

It's a real Game Boy emulation this time, no fakes here! ;)

Runs a lot faster than the medicore unix-port Virtual GameBoy, which is
though a far better emulator in the terms of compability.

Here is some misc
              information
               about the emulator programme.

1.26 Things to do

```
Very imminent additions:

- Fix all the bugs.
- More compability.
- Two player support via direct modem connection (TCP/IP is too slow and
  sophisticated to be of any use).
- Enhance the sound quality.
- Sound saving to a file plus an external player.

To be done:

- Speed up the cybergraphics drivers alot!
- Code a sound driver banging directly Amiga's Paula chip get gain
  more speed and quality on machines without soundcards.
- Select a background image to be displayed inside the Wzonka-Lad WB game
  window.
- ColourGB support.
```

1.27 Information

```
- 100% assembler code.
- Assembled with PhxAss MC680x0/68851/6888x Macro Assembler v4.38
  Copyright 1991-98 by Frank Wille.
- 020+ instructions used. Very little additional memory access while
  doing the Z80 emulation (With FAST and WARP executables the amount of
  memory accesses is divided by ~seven).
- GB-Z80 instruction timings 100% supported.

- Uses optionally Sega ControlPad Library, Copyright ©1995 by Joseph
  Carlson and Randall Richards <xrichard@csu.fullerton.edu>.
```

1.28 Thanks to

```
              Thanks to the following people:

Jarkko Vatjus-Anttila, Marcel de Kogel, Marat Fayzyllin, Chaos-Knight,
Hans Guijt, Morgan Johansson, Brothers Sandgren, Luca Longone,
Lennart Johannesson, Paul Barker, Jon Åslund, Jeff Frohwein, Sampo Kytömäki,
Sebastian Schlesinger, D. Domínguez, Jussi Lindgren, Mr. A, Mr. B, Tim Favro,
Noca$h, Rodnay Zaks, Joona Palaste and those poor people I've forgotten. ;)

"Nocash GMB Diag" was used in the making of this product. Thanks again!
```

1.29   The author

```
I'm happily living here in Finland. Age is 21 and I'm studying information
technology at the Helsinki University of Technology.

Now I have a summer job at Napa OY, and I'm studying at the university
so there's very little time for anything else at the moment. ;(

Stuff used for developement: A1200/030/50MHz (+FPU) + 16MB'S OF FAST
                             + 400MB HD + CD$^3$$^2$ JOYPAD + "DRACULA X" -
                             AUDIO CD ;) + LOADS OF ANIME TAPES + WINUAE.

NOTE! UNCOUNTED ANIME TAPES WERE WATCHED DURING THE TIME WHICH SHOULD HAVE
      BEEN USED TO CODING/STUDYING. ;)

      REGISTER WZONKA-LAD and support my anime hobby! ^_^


                      --> Free commercial <--

                  Disney's bullshit! GET ANIME NOW! ;)

      Did you know that Disney cloned Jungle Taitei anime
      and gave it the name "Lion King"? Ok, they didn't 100%
      duplicate it as the main character's name is Simba, not Kimba
      like in Jungle Taitei's English version which was released
      in the 60's. Nice one!

      I just wonder where Walt copied Mickey and Donald from...
      They just might be original characters as they suck bad.


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  www:   http://www.hut.fi/~vhelin (The page with information about
                                   Wzonka-Lad and other ~normal stuff).

         http://www.niksula.cs.hut.fi/~tursas (This is for people capable
                                              of reading Finnish. Take a
                                              look at my school related
                                              home page ;).
```

1.30   Final Words

```
If you think you could improve some parts of the program, then let
me know.


                         Help wanted:
```

If anyone has very good information about GB's sound channel 4, well, I
could use some help here.

Mappers MMM01, MBC3+TIMER, MBC4(?), TAMA5 and HUC3 information anyone?
Weird, but legal ROM sizes?

1.31   Wzonka-Lad

So, where does this silly name come from? Many have guessed that Wzonka
stands for Game and Lad for Boy in Finnish, but that's not it!
Wzonka-Lad is the first name that came into my mind when it was time
to choose a title for this emulator. I often like to name things like this.
Anyway, it's much better than something like "MagiGB", "GoggleBoy" or
"AmiGameBoy", well not better than "GoggleBoy", but anyway. ;)

Damn, I should have chosen that one... ;)

1.32   Wzonka-Lad Palette Editor 1.10

                    In General

          The Palette Editor

          Features

          Compability

          Requirements

          History

          Usage
                    Gadgets

      .iff

        - Load   -->   Load colours from an iff file. Only the
                               first 8 colours are processed.

      .prefs

        - Load   -->   Load colours from a Wzonka-Lad .prefs file.
        - Save   --->   Save colours to a Wzonka-Lad .prefs file.

      .cfg

        - Load   -->   Load colours from a VGB .cfg file.
        - Save   --->   Save colours to a VGB .cfg file. Note that
                               -xc(0-3) tags are used.

```
                  Wzonka-Lad

             - Obtain       -->    Obtain colours from
               Wzonka-Lad
                the Emulator.

               Wzonka-Lad
                must be running in the background,
                               or this gadget will be shadowed. To have this
                               button activated you need
               Wzonka-Lad
                version
                               0.90 or greater.

          Background and Sprite colours

             - Interpolate -->   Compute the two colours between the first
                                 and the last one to form a smooth slide
                                 of shades.

             - <            -->   Copy colour to left.
             - >            --->                    right.

             - R            -->   Change the amount of Red in that colour.
             - G            --->                              Green          .
             - B            ---->                             Blue           .
```

1.33 Usage

```
               Use the
             sliders
              and
             interpolate
              and
             copy
              gadgets to alter the colour
 values, and save, load and
             obtain
              gadgets to exhange data with
 external processes.
```

You can check out the effect of the current palette on Wzonka-Lad the
Emulator's game window by looking at the two provided example images
located at the bottom of the Wzonka-Lad Palette Editor window. Note
that if your Workbench hasn't got enough pens available, some of the
colours will not show correctly. By using Wzonka-Lad with Screen or AGA
modes this problem is solved, because they don't rely on Workbench's
dimensions.

1.34 History

```
1.10 (25.05.99)
"Colours"-label is now known as "Wzonka-Lad" for better logic.

1.09 (14.02.99)
Cleaned up the code, less memory references.

1.08 (29.11.98)
Changed the example pictures.

1.07 (15.07.98)
Recompiled for faster CPUs with optimizations.

1.06 (19.05.98)
Palette Editor does now FindPort() 75% less often. Deadlock's propability
to occur now is 99% smaller if the user closes Wzonka-Lad and rapidly
presses Palette Editor's obtain button.

1.05 (05.12.97)
Added iff palette loading. When idle, the CPU usage is only 20% of
what it used to be. Fixed a bug that might cause Palette Editor
to fail to locate Wzonka-Lad.

1.04 (17.10.97)
The background bitmap was one scaline too short. When pressing the
colour copy gadget the RGB values were not copied if the visible
colour on Workbench screen was same in the both units.

1.03 (10.10.97)
Fixed a grave bug in gfx routines. If OS3.1 and chunky to planar
conversion hardware are detected, the example images will be drawn
with WriteChunkyPixels() instead of WritePixelArray8(). Simplified
the font sensitivity code a lot. Changed the example images. First
public release.

1.02 (04.10.97)
Now the .prefs directory is loaded from Wzonka-Lad.prefs.

1.01 (04.10.97)
Added font sensitivity to the GUI.

1.00 (04.10.97)
Initial release for internal beta testing.
```

1.35 Requirements

```
Wzonka-Lad Palette Editor requires

- OS 3.0.
- Wzonka.font, Zapot.font or Topaz.font.
- A mouse. ;)

If you want to edit Wzonka-Lad .prefs files, you need some of them
previously saved with Wzonka-Lad. Note that Wzonka-Lad Palette
Editor cannot create .prefs files from nothing as they contain more
```

```
data than just the palette.
```

1.36 Compability

```
                Wzonka-Lad Palette Editor is compatible with all the versions of

            Wzonka-Lad
              . VGB compability is greatly extended to support almost
all the colour values and options.

Supported VGB .cfg colour tags:

-c(0-3)           -bc(0-3)           -backgroundcolor(0-3)
                  -wc(0-3)           -windowcolor(0-3)
                  -sc(0-3)           -spritecolor(0-3)


Supported VGB .cfg colour names:

yellow, green, brown, black, cyan, red, white, pink, blue,
orange, magenta, dkcyan, dkmagenta, dkcyan, dkgreen, dkred,
dkblue, gray and dkgray.

NOTE! I have no exact 24-bit values for gray and dkgray, so
      I had to use my imagination to add the support for those
      colours. If you have the true values for gray or dkgray
      (or something else, that's completely missing from the
      previous list), please send me a note.

NOTE! -wc(0-3) and -windowcolor(0-3) are ignored if -c(0-3),
      -bc(0-3) or -backgroundcolor(0-3) tags are found. If not,
      then the backgroung colour is obtained from window colour
      tags.

NOTE! As Wzonka-Lad doesn't support window colour editing, the
      background colours are outputted as window colours, too.
```

1.37 Wzonka-Lad Palette Editor

```
People who are not interested in messing around with colour values
can forget Wzonka-Lad Palette Editor, the emulator will work without
it very nicely, indeed. But those who'd love to create wild colour
schemes for different software to suit their tastes Wzonka-Lad Palette
Editor will be the perfect tool.

Forget unimaginative hex values. Wzonka-Lad Palette Editor will
provide you with all the gadgets and example images required for
fast and easy colour editing.
```

1.38 Features

```
Wzonka-Lad Palette Editor
```

- Applies intelligent pen allocating/deallocating scheme to
  achieve the best results.
- Allows you to select and edit the colours used by Wzonka-Lad.
- Is 100% asm code.
- Is free of any charge. ;) No keyfile is required to use Wzonka-Lad
  Palette Editor to the maximum.
- Is fully multitasking.
- Window is font sensitive.
- Runs inside a window on Workbench screen.
- Shows you the results in real time without even starting the
  emulator.
- Supports Wzonka-Lad .prefs, VGB .cfg and Amiga .iff files.
- Uses gadtools.library for the GUI.

1.39 History

```
v1.00.00 (25-May-99)
ROM+MBC5+RUMBLE(+SRAM+BATTERY)-mappers are now emulated, but the rumble
device emulation is not implemented. Optimized scanline emulation loop.
MBC3's clock I/O was emulated, but the clock itself wasn't. Now it is.
Enhanced sound channel 4 emulation. When the Game Boy screen is turned off
all the data is cleared instead of doing nothing in AGA mode. Palette
emulation came one frame too early in AGA modes. When the size of the
battery RAM was bigger than 8kb the active bank wasn't saved. Main menu
window functions can now be accessed with keyboard. Interleaved $xx and
$CBxx optcode routines in FULL CPU emulation, like it was done in FAST
earlier, resulting in a smaller executable. Enhanced Info-window data
display. Wzonka-Lad can now only be used in testing unlicenced software
(ie. the programmes you and your friends have written). Read the
documentation for further information.

v0.ab.cd
Forget the past.
```