



# RetroArch Android (v0.9.8.4) - Cores Manual

Hans Kristian Arntzen, Daniel De Matteis

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## 1 Introduction

Listed below are all the cores that RetroArch Android supports.

- SNES9x Next  
Used for: playing SNES games (Super Nintendo Entertainment System)  
Author(s): SNES9x team, OV2, Bearoso, zones, Squarepusher (fork)  
Recommended system requirements: ARM Cortex A9 multi-core device (and up)  
Extensions: "smc|fig|sfc|gd3|gd7|dx2|bsx|swc|zip|SMC|FIG|SFC|BSX|GD3|GD7|DX2|SWC|ZIP"
- VBA Next  
Used for: playing Game Boy Advance games  
Recommended system requirements: ARM Cortex A9 multi-core based device (and up)  
Author(s): Forgotten, VBA-M team, Squarepusher (fork)  
Extensions: "gba|GBA|zip|ZIP"
- FCEUmm  
Used for: playing NES games (Nintendo Entertainment System)  
Author(s): CaH4e3, original FCEU authors  
Extensions: "fds|FDS|zip|ZIP|nes|NES|unif|UNIF"
- NESTopia  
Used for: playing NES games (Nintendo Entertainment System)

Author(s): Marty

Extensions supported: "nes|NES|zip|ZIP|fds|FDS"

- Gambatte

Used for: playing GameBoy / GameBoy Color games

Author(s): Sinamas

Extensions supported: "gb|gbc|dmg|zip|GB|GBC|DMG|ZIP"

- Final Burn Alpha

Used for: playing arcade games

Author(s): Dave, FBA Team (Barry Harris & co)

Extensions supported: "zip|ZIP"

- Genesis Plus GX

Used for: playing Sega Genesis / Master System / Game Gear / Sega CD games

Author(s): Charles McDonald, ekeeke

Extensions supported: "md|smd|bin|cue|gen|zip|MD|SMD|bin|iso|ISO|CUE|GEN|ZIP|sms|SMS|gg|GG|sg|SG"

- NX Engine

Used for: playing Cave Story / Doukutsu Monogatari

Author(s): Caitlin Shaw (rogueeve)

Extensions supported: "exe|EXE|zip|ZIP"

- PCSX ReARMed

Used for: playing PlayStation1 games

Author(s): PCSX Team, Notaz, Exophase (GPU plugin)

Extensions supported: "bin|cue|img|mdf|pbp|cbn"

- Prboom

Used for: playing Doom, Doom 2, Ultimate Doom, Final Doom, and mods

Author(s): Various

Extensions supported: "WAD|wad|IWAD|iwad"

- Mednafen NGP

Used for: playing Neo Geo Pocket Color games

Author(s): Original Neopop authors, Ryphecha

Extensions supported: "ngp|NGP|ngc|NGC|zip|ZIP"

- Mednafen WonderSwan

Used for: playing WonderSwan / WonderSwan Color / WonderSwan Crystal games

Author(s): Original Cygne authors, Ryphecha

Extensions supported: "ws|WS|wsc|WSC|zip|ZIP"

- Mednafen Virtual Boy

Used for: playing Virtual Boy games

Author: Ryphecha

Extensions supported: "vb|VB|vboy|VBOY|bin|BIN|zip|ZIP"

- Mednafen PC Engine  
Used for: playing PC Engine / Supergrafx 16 / PC Engine CD games  
Author: Ryphecha  
Extensions supported: "pce|PCE|sgx|SGX|cue|CUE|zip|ZIP"

We'll go over each of these.

## 1.1 SNES9x Next

**Version:** v1.52.3

**Android performance:** This emulator should run at fullspeed on an Android device with a dual-core ARM Cortex A9-based CPU.

### 1.1.1 CHANGELOG

#### v1.52.4

- Speed optimizations for Star Fox 1 / Star Wing - now makes them fast enough for fullspeed gameplay on Wii.

#### v1.52.3

- Fixed DKC2 graphics inaccuracies
- Fixed issue that could corrupt memory addresses over time - found while deiniting Super Mario Kart.
- Updated to use RGB565 as pixel format.
- Speed hacks for Final Fantasy III/VI - makes it fullspeed for Wii.
- Fixed Super Double Dragon input issue.

## 1.2 VBA Next

**Version:** v1.0.2

**Android performance:** This emulator needs at least a dual-core ARM Cortex A9-based CPU and up.

### 1.2.1 CHANGELOG

#### v1.0.2

- Added Pokemon Emerald to built-in vbaover - fixes white screen
- Lessens RAM footprint - makes Mother 3 fit into memory on Wii.
- More consistent syncing.
- Updated to use RGB565 as pixel format.

## 1.3 FCEUmm

**Version:** 98.13 SVN

**Android performance:** This emulator has been tested to run at fullspeed on an ARM Cortex A8 single-core CPU. Your mileage may vary on slower devices.

### 1.3.1 CHANGELOG

**For 0.9.8 point release**

- Upgraded to latest SVN (r134)
- Updated to use RGB565 as pixel format.

## 1.4 NESTopia

**Version:** 1.44

**Android performance:** This emulator has been tested to run at fullspeed on an ARM Cortex A8 single-core CPU. Your mileage may vary on slower devices.

### 1.4.1 NOTES

- There might still be an audio desync that happen at the half hour mark. Ever since NESTopia 1.36 some kind of APU bug has been inadvertently introduced. We will be researching this.
- For Famicom Disk System games - Y Button will switch sides of a disk.  
- If you get any problems of the sort DISK A / B ERR 07' - pressing Y button again or letting it run its course should do it.
- Famicom Disk System loading is slow, so you might be tempted to fast forward through most of it. However, I'd advise caution when doing so and to savestate regularly in case 'fast forwarding' can negatively affect disk loading.

### 1.4.2 CHANGELOG

**For 0.9.8.3 point release**

- Famicom Disk System support. For Android users - put disksys.rom into the same folder as the FDS ROM you're trying to load. For everyone else - put disksys.rom into your system directory.

**For 0.9.8 point release**

- New port

## 1.5 Gambatte

**Version:** 0.50

**Android performance:** This emulator has been tested to run at fullspeed on an ARM Cortex A8 single-core CPU. Your mileage may vary on slower devices.

### 1.5.1 CHANGELOG

**For 0.9.8 point release**

- Now makes use of GBC BIOS color palettes.
- Can also make use of custom color palettes.
- Updated to use RGBX8888 as pixel format.

## 1.6 Final Burn Alpha

**Version:** 0.2.97.28

**Android performance:** Performance varies based on the game you're trying to play. Systems like CPS2 and Neogeo have been tested to run at fullspeed on an ARM Cortex A8 single-core CPU. CPS3 needs a dual-core ARM Cortex A9-based CPU for fullspeed gameplay. Your mileage may vary on slower devices.

### 1.6.1 NOTES

- Some games might be stuck in Service mode right now on big-endian systems (ie. PS3/360/Wii). Some games that come to mind are Psikyo SH2 games and Taito games like Darius 2. We will be trying to fix this issue soon and release a point update for it.
- Button combos ingame:
  - RetroPad L2 + RetroPad R2 + RetroPad L + RetroPad R + Select = Service Menu button
  - RetroPad L2 + RetroPad R2 + RetroPad L + RetroPad R + Start = Diagnostic button
  - RetroPad L2 + RetroPad R2 + RetroPad L + RetroPad R + Left = Reset button
  - RetroPad L2 + RetroPad R2 + RetroPad L + RetroPad R + Right = DIP A Pressed
  - RetroPad L2 + RetroPad R2 + RetroPad L + RetroPad R + Up = DIP B Pressed
  - RetroPad L2 + RetroPad R2 + RetroPad L + RetroPad R + Down = Test Pressed
- Savestates are hooked up but games can't have their 'state restored' after unloading the game and loading it again.

- If you want to play Warzard or Red Earth and you happen to get a 'No CD-ROM drive' message - do the 'Reset' combo (see above) - it should work then.

### 1.6.2 CHANGELOG

#### For 0.9.8 point release

- Upgraded to 0.2.97.28.
- Controls have been revised - most of the controls should now be properly hooked up.
- Button combos have been changed -  
RetroPad L2 + RetroPad R2 + RetroPad L + RetroPad R + Select = Service Menu button  
RetroPad L2 + RetroPad R2 + RetroPad L + RetroPad R + Start = Diagnostic button  
RetroPad L2 + RetroPad R2 + RetroPad L + RetroPad R + Left = Reset button  
RetroPad L2 + RetroPad R2 + RetroPad L + RetroPad R + Right = DIP A Pressed  
RetroPad L2 + RetroPad R2 + RetroPad L + RetroPad R + Up = DIP B Pressed  
RetroPad L2 + RetroPad R2 + RetroPad L + RetroPad R + Down = Test Pressed
- Uses RGBX8888 as a color format for Psikyo SH2 games and RGB565 for everything else.

## 1.7 Genesis Plus GX

### Version: 1.7.3

**Android performance:** This emulator has been tested to run regular Genesis and Sega CD games at fullspeed on an ARM Cortex A8 single-core CPU. Virtua Racing runs at half realtime speed on the same hardware and thus needs better system requirements. Your mileage may vary on slower devices.

#### 1.7.1 NOTES

- FOR ANDROID: To play Sega CD/Mega CD games, you will need Sega CD BIOS files in the same directory as the game you want to play. They should be named as follows: bios\_CD\_E.bin (for EU BIOS), bios\_CD\_U.bin (for US BIOS), bios\_CD\_J.bin (for Japanese BIOS)
- FOR EVERYTHING ELSE: To play Sega CD/Mega CD games, you will need Sega CD BIOS files in the same directory as the game you want to play. They should be named as follows: bios\_CD\_E.bin (for EU BIOS), bios\_CD\_U.bin (for US BIOS), bios\_CD\_J.bin (for Japanese BIOS).

## 1.7.2 CHANGELOG

### For 0.9.8 point release

- Upgraded to 1.7.3 ( might report 1.7.1 but is really 1.7.3).
- Updated to use RGB565.

## 1.8 NX Engine

**Version:** 1.0.4

**Android performance:** This game has been tested to run at fullspeed on an ARM Cortex A8 single-core CPU. Sound syncing however is currently not correct. Your mileage may vary on slower devices.

### 1.8.1 HOW TO USE

You need to copy all the 'datafiles' directory in the repository over. Start the core with doukutsu.exe - it should properly extract the needed archives from the EXE on initial boot. From there on it will use those extracted asset files.

### 1.8.2 NOTES

- NXEngine is not released yet on consoles - sound is currently corrupt on big-endian consoles (Xbox 1/360/PS3/Wii). Will need to research what is up here.
- Savestates are not hooked up - therefore rewind is also not possible.

### 1.8.3 CHANGELOG

#### For 0.9.8 point release

- Upgraded to 1.0.4.
- Did major changes to path handling code and got rid of the hardcoded paths - should now handle paths correctly on \_WIN32 targets.
- Fixed save files not working.
- Updated to use RGB565.

## 1.9 PCSX ReARMed

**Version:** r18

**Android performance:** This emulator has been tested to run most games at fullspeed on an ARM Cortex A8 single-core CPU. Higher-resolution interlaced games like Tekken 3 and Tobal 2 require higher system specs (Cortex A9 and up). Your mileage may vary on slower devices.



### 1.9.1 NOTES

- PCSX ReARMed supports the loading of EBOOT (pbp) files as well.
- Although PCSX ReARMed comes with built-in HLE BIOS code, you're recommended to still put BIOS files in the system directory (on Android there is no 'system directory', so instead you put the BIOS files in the same directory as the image you're trying to load). Some of the BIOS files used are: scph1001.bin, scph5500.bin, scph5501.bin, scph5502.bin, scph7502.bin.
- If an image might not load correctly, try it with and without BIOS files in the 'system directory' (read above note about 'system directory' as well).
- This is an ARM architecture-centric port right now - it is not of much use on other architectures and therefore consoles.

### 1.9.2 CHANGELOG

#### For 0.9.8 point release

- New port.

## 1.10 Prboom

**Version:** 2.5.0

**Android performance:** This game engine has been tested to run most games at fullspeed on an ARM Cortex A8 single-core CPU. Your mileage may vary on slower devices.

### 1.10.1 NOTES

- You need to have prboom.wad in the same directory as the Doom WAD file you're going to load.
- Savestates are currently not hooked up, and therefore rewind is not possible.
- Re-entrancy does not work correctly yet - don't try to load a second WAD file. Instead, exit prboom first and then launch it again (only applies to consoles).
- This is the only Doom port in existence right now where you have the option to play at variable framerates. The option exists to play at 35, 40, 50 and 60fps. Doom originally ran at 35fps due to performance reasons and the slow CPUs available at the time.

### 1.10.2 CHANGELOG

#### For 0.9.8 point release

- Now uses RGB565 as pixel format.

### 1.10.3 SOUNDTRACK LIST

Prboom supports MP3 soundtracks. The files must be in the same directory as the WAD file and should be correctly named.

DOOM 1  
e1m1.mp3  
e1m2.mp3  
e1m3.mp3  
e1m4.mp3  
e1m5.mp3  
e1m6.mp3  
e1m7.mp3  
e1m8.mp3  
e1m9.mp3  
e2m1.mp3  
e2m2.mp3  
e2m3.mp3  
e2m4.mp3  
e2m5.mp3  
e2m6.mp3  
e2m7.mp3  
e2m8.mp3  
e2m9.mp3  
e3m1.mp3  
e3m2.mp3  
e3m3.mp3  
e3m4.mp3  
e3m5.mp3  
e3m6.mp3  
e3m7.mp3  
e3m8.mp3  
intermid1.mp3  
intro.mp3  
bunny.mp3  
victor.mp3

DOOM 2  
stalks.mp3

runnin.mp3  
countd.mp3  
betwee.mp3  
doom.mp3  
the\_da.mp3  
shawn.mp3  
ddtblu.mp3  
in\_cit.mp3  
dead.mp3  
romero.mp3  
messag.mp3  
ampie.mp3  
tense.mp3  
openin.mp3  
evil.mp3  
ultima.mp3  
read\_m.mp3  
dm2ttl.mp3  
dm2int.mp3

## 1.11 Mednafen NGP

**Version:** 0.9.28

**Android performance:** This emulator has been tested to run at fullspeed on an ARM Cortex A8 single-core CPU. Your mileage may vary on slower devices.

### 1.11.1 CHANGELOG

**For 0.9.8 point release**

- New port.

## 1.12 Mednafen Wonderswan

**Version:** 0.9.28

**Android performance:** This emulator has been tested to run at fullspeed on an ARM Cortex A8 single-core CPU. Your mileage may vary on slower devices.

### 1.12.1 NOTES

- The music is incorrect on Xbox 360. This seems to be a 360-specific bug.
- Because Wonderswan has a 75Hz refresh rate, V-sync is specifically disabled for this core so that the framerate and sound is as it should be - that's why you might notice some negligible tearing.

### 1.12.2 CHANGELOG

#### For 0.9.8 point release

- Upgraded to 0.9.28 version.
- Fixes save file issues on MSVC-based consoles (Xbox 1/360).
- Now uses RGB565 as a pixel format.

## 1.13 Mednafen Virtual Boy

**Version:** 0.9.28

**Android performance:** You will need at least a Cortex A9 CPU and/or higher for this.

### 1.13.1 NOTES

- This is not released yet for Xbox 1 and 360 because there are numerous game compatibility-breaking issues right now.

### 1.13.2 CHANGELOG

#### For 0.9.8 point release

- New port.

## 1.14 Mednafen PC Engine

**Version:** 0.9.28

**Android performance:** This emulator has been tested to run at fullspeed on an ARM Cortex A8 single-core CPU. Your mileage may vary on slower devices.

### 1.14.1 NOTES

- FOR ANDROID USERS: You will need a BIOS file called 'syscard3.pce' placed in the same directory as the ISO/CUE you want to play to be able to play PC Engine CD games.
- FOR ANYBODY ELSE: You will need a BIOS file called 'syscard3.pce' in your system directory in order to be able to play PC Engine CD games.

### 1.14.2 CHANGELOG

#### For 0.9.8 point release

- Upgraded to 0.9.28.
- Fixes save file issues on MSVC-based consoles (Xbox 1/360).
- Updated to use RGB565 as pixel format.

## 2 About Us

Homepage: <http://www.libretro.org>

IRC: #retroarch at freenode

Github (libretro organization): <https://github.com/libretro>

RetroArch @ Github: <https://github.com/Themaister/RetroArch>

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