

# NEOCD·RX

*NeoCD RX* is a Neo Geo CD / Neo Geo CDZ emulator by NiuuS, running on the GameCube, Wii, and Wii U's Virtual Wii. This is a fork of *NeoGeo CD Redux* (Infact), a port to the Wii of the *NEO-CD REDUX* emulator for the GameCube, originally coded by Softdev. It also includes pieces from *NeoCD-Wii* (Wiimpathy / Jacobean), and *NeoCD Redux Unofficial* (megalomaniac). *NEO-CD REDUX* was itself based on *NeoCD/SDL 0.3.1* (Foster) and *NeoGeo CDZ* (NJ) emulator, which are source ports of the original *NeoCD* emulator (Fabrice Martinez).

## FEATURES

- Z80 emulator core 3.6
- M68000 emulator core 3.3
- Wii Remote, Wii Remote Plus, Wii Remote+Nunchuk, and GameCube controller support
- SD/SDHC, USB, WKF (GameCube), IDE-EXI V1, DVD support
- UStealth USB devices support
- Region select for uncut content and extra languages (USA / Europe / Japan)
- Neo Geo CD Virtual Memory Card (8KiB battery-backed SRAM chip) support. Save directly to SD/USB or to your physical GameCube card for max nostalgia!
- Sound FX / Music 3-Band equalizer
- Super fast loading times. Original console weakness is no more!

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## INSTALLATION AND USE

To use NeoCD-RX on the Wii / Wii U's Virtual Wii, you will need to extract the "**apps**" and "**NeoCDRX**" folders (directories) from the .zip directly to the root of your SD or USB media. It comes pre-packaged in the Homebrew Channel format, also compatible with the official forwarders. Then, you need to place your game files and music tracks into individually named folders inside the "**\NeoCDRX\games**" directory (an in-depth explanation for this in the correspondent section further below). For the GameCube port, you only need to take care of the "**NeoCDRX**" folder included.

Finally, you need to obtain a proper dump of the Neo Geo CD / Neo Geo CDZ console BIOS. Copy the file inside the "**\NeoCDRX\bios**" directory and name it "**NeoCD.bin**". The emulator only works with the following:

Neo Geo CDZ BIOS (NeoCD.bin)	
Size: 524.288 bytes	CRC32: DF9DE490
MD5: F39572AF7584CB5B3F70AE8CC848ABA2	
SHA-1: 7BB26D1E5D1E930515219CB18BCDE5B7B23E2EDA	

Neo Geo CDZ BIOS (NeoCD.bin)	
Size: 524.288 bytes	CRC32: 33697892
MD5: 11526D58D4C524DAEF7D5D677DC6B004	
SHA-1: B0F1C4FA8D4492A04431805F6537138B842B549F	

Once you are done, you can proceed to run the emulator. Additionally, you can install the NeoCD-RX Forwarder Channel in your *Wii* or *vWii* System Menu, or the special NeoCD-RX Channel for *Wii U*, which reads the configuration and necessary files from your device "**\NeoCDRX**" folder, be it SD or USB.

## CONFIGURATION

To configure NeoCD-RX, press 'A' on the "**Settings**" box. This will bring up a screen where you can configure "**Region**", "**Save Device**", and "**FX / Music Equalizer**".

- "**Region**" will allow you to change the emulated console region, to access other languages and in some cases, change or uncensor game content (fatalities, blood, difficulty, lives, title screens, etc.). Reload the game (not reset) for the setting to take effect.
- "**Save Device**" offers two options, use "**SD/USB**" to save the SRAM memory (sort of a virtual memory card implemented inside the real Neo Geo CD console) directly to the media drive, or use "**MEM Card**" to save to a physical GameCube Memory Card, as you would on a real Neo Geo AES, to take your progress to another console, or just for the nostalgia factor.
- "**FX / Music Equalizer**" allows you to raise the volume on sound FX or MP3 tracks, or raise the gain in Low / Mid / High frequencies to your liking.

## PREPARING THE GAMES FOR USE WITH THE EMULATOR

For every game disc, you need to create a subdirectory inside the included "`\NeoCDRX\games`" named whatever you like, and copy all the game data files there. Inside this folder, create another subdirectory called "`mp3`", where you have to copy your music tracks. **IMPORTANT:** even if you won't use the music, the folder is needed.

The music tracks need to be encoded from the original CD's Red Book standard 44.1 kHz WAV, to MP3 format (128kbps minimum, or better), named exactly "`TrackXX.mp3`" where `XX` is a number that always starts at `02`, as the data track is always `01`. Free CD audio ripping software is readily available.

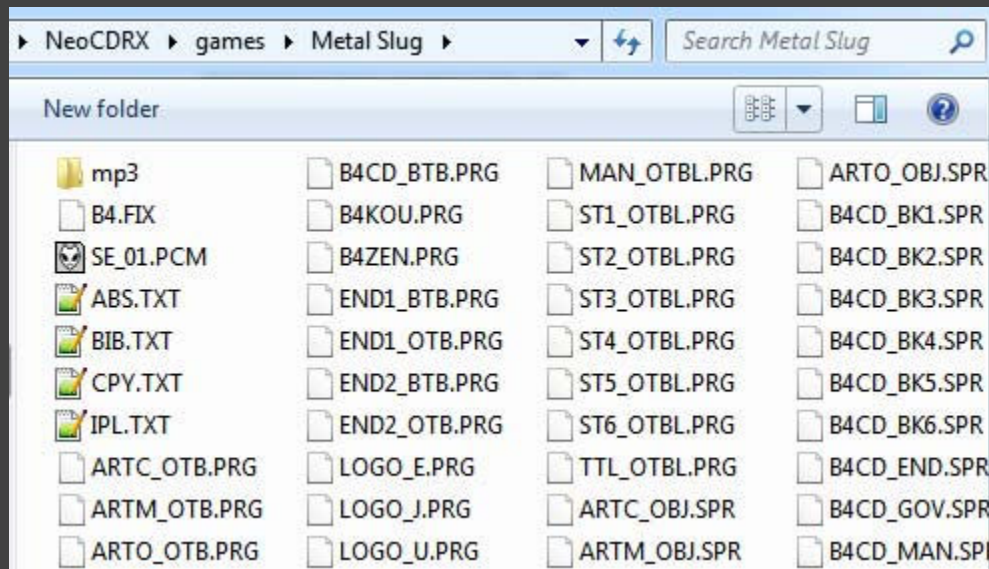
Let's illustrate it with an example. With "`METAL SLUG 2`", you should have the following directory tree:

```
/ NEOCDRX / GAMES / METAL SLUG 2 / IPL.TXT and all the game data files
/ NEOCDRX / GAMES / METAL SLUG 2 / MP3 / TRACK02.MP3
/ NEOCDRX / GAMES / METAL SLUG 2 / MP3 / TRACK03.MP3
/ NEOCDRX / GAMES / METAL SLUG 2 / MP3 / TRACK04.MP3
```

... and so on for all music tracks. Capitalization is ignored for files and folders.

If you already have a backup of your games, in formats like CUE+BIN, CCD+IMG+SUB, etc., then mount your virtual CDs, copy-paste the contents like previously described, and rip + rename the music files. Again, free software on Mac / PC is available for everything described.

After this, you are more than ready to start playing. Each game folder you make will be treated by the emulator as a full CD. You should end up with a folder looking like this in your SD/USB drive:



## SUPPORTED CONTROLLERS AND DEFAULT MAPPINGS



GAMECUBE CONTROLLER	NEO GEO CONTROLLER
B	A
A	B
Y	C
X	D
Z	Select
START	Start
L	Return to emulator
Dpad / Analogue Stick	Up, Down, Left, Right



WII REMOTE CONTROLLER	NEO GEO CONTROLLER
1	A
2	B
B	C
A	D
MINUS (-)	Select
PLUS (+)	Start
HOME	Return to emulator
Dpad (horizontal)	Up, Down, Left, Right



WII REMOTE + NUNCHUK	NEO GEO CONTROLLER
A	A
B	B
PLUS (+)	C
1	D
MINUS (-)	Select
PLUS (+)	Start
HOME	Return to emulator
Analog Stick	Up, Down, Left, Right



WII CLASSIC CONTROLLER	NEO GEO CONTROLLER
B	A
A	B
Y	C
X	D
MINUS (-)	Select
PLUS (+)	Start
HOME	Return to emulator
Dpad	Up, Down, Left, Right
UNSUPPORTED, BUT PLANNED	



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## EMULATOR MAPPINGS

<i>Force saving to Virtual Memory Card (while in-game, for the games that support it)</i>	"R" button (GameCube controller), "PLUS (+)" and "MINUS (-)" buttons together (Wii Remote / Wii Remote+Nunchuk)
<i>Navigation</i>	Dpad or Left Analog Stick (GameCube controller), Dpad (Horizontal Wii Remote), Dpad or Nunchuk Analog Stick (Wii Remote+Nunchuk)
<i>Enter directory or Menu option / Change setting</i>	"A" button (GameCube controller), button "2" (Wii Remote / Wii Remote+Nunchuk)
<i>Go back from any Menu</i>	"B" button (GameCube controller), button "1" (Wii Remote / Wii Remote+Nunchuk)
<i>Go back from Game List</i>	"Z" button (GameCube controller), button "HOME" (Wii Remote / Wii Remote+Nunchuk)
<i>Navigate one page forward on the Game List (when you have more than 8 titles)</i>	"R" button (GameCube controller), "PLUS (+)" button (Wii Remote / Wii Remote+Nunchuk)
<i>Navigate one page backwards on the Game List (when you have more than 8 titles)</i>	"L" button (GameCube controller), "MINUS (-)" button (Wii Remote / Wii Remote+Nunchuk)
<i>Mount and run a valid game directory</i>	"A" button (GameCube controller), button "2" (Wii Remote / Wii Remote+Nunchuk)
<i>Failsafe video mode (Force Menu to 480i with Component / Digital cable)</i>	Hold "L" button right before the emulator is loading to activate

## MAKING A NEO GEO DVD COMPILATION

After preparing your CDs to play as per the section "PREPARING THE GAMES FOR USE WITH THE EMULATOR", you can copy those folders straight to the DVD root, or to the original folder structure. This time, folder names are limited to 8 characters. Make sure to copy the BIOS too, you can "DVD:\NeoCDRX\bios" or just "DVD:\bios".

Let's illustrate it with an example. With "SAMSHO2", you should have the following directory tree:

DVD: / BIOS / NEOCD.BIN

DVD: / NEOCDRX / GAMES / SAMSHO2 / IPL.TXT and all the game data files

DVD: / NEOCDRX / GAMES / SAMSHO2 / MP3 / TRACK02.MP3

DVD: / NEOCDRX / GAMES / SAMSHO2 / MP3 / TRACK03.MP3

DVD: / NEOCDRX / GAMES / SAMSHO2 / MP3 / TRACK04.MP3

... and so on for all music tracks.

Compile the Data DVD using MODE1/2048 and the ISO9660 file system. Burn the final DVD-R with all your games at the lowest speed possible to improve disc reading on your GameCube / Wii.

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## RECENT CHANGELOG

*[1.0.02 - April 03, 2023]*

- First release.
- Fully working SDHC & USB support. You shouldn't see the emulator complaining again about the BIOS not being found, if you already have the proper file in the correct folder, specially on USB devices.
- Virtual Neo Geo Memory Card saving is fixed again. Use SD/USB or the GameCube Memory Card, the latter also works on Wii (backwards compatible unit).
- Fixed GameCube controller analog stick support. It wasn't working on Wii, only when used on a GameCube console.
- Rearranged internal menus for future expansion.
- Some tidying up.

## NEO GEO CD EXCLUSIVE TITLES

ENGLISH	JAPANESE (HEPBURN ROMANIZATION)
<i>ADK World</i>	<b>ADKワールド</b> (ADK Special)
<i>Bang<sup>2</sup> Busters</i>	(Bang Bang Busters)
<i>Crossed Swords II</i>	<b>クロススウォード II</b>
<i>Ironclad: Tesshō Rusha</i>	<b>超鉄ブリキンガー</b> (Super Iron Brikinger / Chōtetsu Brikin'ger)
<i>Idol Mahjong Final Romance 2</i>	<b>アイドル麻雀 ファイナルロマンス 2</b>
<i>Neo Geo CD Special</i>	<b>ネオジオCDスペシャル</b>
<i>Samurai Shodown: Tales of the Bushido</i>	<b>真説サムライスピリッツ武士道烈伝</b> (Shinsetsu Samurai Spirits Bushidō Retsuden)
<i>The King of Fighters '96: Neo Geo Collection</i>	<b>ザ・キング・オブ・ファイターズ '96</b> <b>ネオジオコレクション</b>
<i>Treasure of the Caribbean</i>	(Caribe no Zaihō)
<i>Zinrick</i>	<b>押し出しジントリック</b> (Oshidashi Zentrix)

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## CREDITS & THANKS

*NeoCD-Wii* (Wiimpathy / Jacobeian)  
*NeoCD Redux Unofficial* (megalomaniac)  
*NeoGeo CD Redux* (Infact)  
*NEO-CD REDUX* (softdev)  
*NeoCD/SDL 0.3.1* (Foster)  
*NeoGeo CDZ* (NJ)  
*NeoCD 0.8* (Fabrice Martinez)  
**M68000 C Core** (Karl Stenerud)  
**MAME Z80 C Core** (Juergen Buchmueller)  
**Sound Core** (MAMEDev.org)  
**The EQ Cookbook** (Neil C / Etanza Systems)  
**The EQ Cookbook** (float only version code - Shagkur)  
**WKF & IDE-EXI V1** (code from Swiss GC - emu\_kidid)  
**libMAD** (Underbit Technologies)  
**libZ** (zlib.org)  
**TehSkeen forum** (2006-2009)  
**NeoCDRX emu bg - Style 1** (catar1n0)  
NeoCDRX design

## RELEVANT LINKS

\* **Newest/Latest NeoCDRX release at:**  
<https://github.com/niuus/NeoCDRX/>  
\* **M68000 C Core**  
<https://github.com/kstenerud/Musashi>  
\* **MAME Z80 C Core**  
<https://github.com/mamedev/mame/tree/master/src/devices/cpu/z80>  
\* **Swiss GC**  
<https://github.com/emukidid/swiss-gc>

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## UPDATE HISTORY (PRE-RX)

### 07/18/2013: (Unofficial 0.1.52A.2)

- Minor Audio fix to improve MP3 playback (experimental)
- New menu added to select save.bin location
  - . Default search location ( SDGECKO:/neocd/save.bin )
  - . if file not found then try again, choose save location to SD GECKO or MEMCARD
  - . avoid endless loop message "Please insert save device"
  - ... unless save device does not exist, or /neocd dir does not exist, then thats your problem
- PAL video mode now defaults to 60Hz 480i/480p

#### [WII]

- First version (of this code) with Native Wii support (not to be confused with NeoCD-Wii)
  - . Native Wii dol (no need to boot into GC mode)
  - . USB Support added
  - . DVD support confirmed working
  - . Wiimote, Nunchuck, and Classic Controller support added (seems to work)
  - . GC Controller Support for Wii (only when no wiimote detected for Player 1 or Player 2)

#### [NGC]

- WKF support added
  - . load roms from FAT formatted SD card in WKF SLOT only. Roms location ( WKF:/neocd/roms/ )
  - . WKF Flatmode detection added for users with DVD + WKF.
  - ... If WKF is not in Flatmode message prompt will be displayed to remove WKF SD card
  - . no write support, save files and progress to SD Gecko or MEMCARD only

#### [NGC/Wii]

- IDE-EXI support added. Thanks emu\_kidid for borrowed swiss WKF & IDE-EXI code
  - . load roms from FAT formatted HDD
  - . roms location ( IDE:/neocd/roms/ )
  - . SlotA or SlotB autodetection
  - . write support not yet added, save files and progress to SD Gecko or MEMCARD only

### 03/13/2013: (Unofficial 0.1.52A.1)

#### [NGC]

- Based on NeoCD Redux 0.1.52A.
- Thanks to infact and his efforts and work posted on github.
- Various code changes to supress "most" compiler warnings
- Minor Audio Rewrite:
  - . "Glitchy" Audio introduced due to latest devkitppc/libogc incompatibility
  - . removed original audio threading code to fix the issue
- Added Automatic TV mode detection (based on GC IPL version)
- Added Progressive Video display / Component cable auto detect. Supported video types: 480i/480p, 576i/576p  
<< need feedback to confirm if any issues with PAL video mode (slowdowns or audio)
- Added Safemode Menu display:
  - . Force Menu to display 480i video with Digital Component cable (CRT SDTV compatibility)
  - . Hold L TRIGGER during bootup to activate
- SDHC support
- Menu enhancements: New Menu (almost complete rewrite of old code)
- Graphical improvements < thanks infact & NEOCD - Wii
- Now supports both SD and DVD loading
  - . Fixed MP3 playback < thanks NEOCD - Wii
  - . also added/modified ability to correctly play mp3 audio from SD and DVD
  - ... old code only had compatibility for one or the other (hence, reason for previous multiple version distributions)
  - . BIOS must be located on chosen media
- BIOS search locations: /neocd/bios/NeoCD.bin -- /bios/NeoCD.bin
  - . allowed original bios location to keep backwards compatibility with my old DVDs
- Title FileBrowser now defaults to display contents from /neocd/roms/ << (yes i know it uses CDs not ROMs)
  - . example: /neocd/roms/metalslug
  - . browser will default to / for DVD or if /neocd/roms is not located on SD card



- MEM Card no longer required for "Save File":
  - . Save File will now default to SD card /neocd/save.bin << thanks infact
  - . option added in menu to use MEM CARD
- Minor controller changes:
  - . L Trigger will return to main menu, R Trigger will save file

#### 08/02/2007: (0.1.52A)

- Corrected directory navigation.

The attached redux32.7z contains a GameCube only version of redux. The only difference is that the higher bus rate (32Mhz) is used.

#### 07/30/2007: (0.1.52)

What's new? Nothing much - only it now works on SD too! Fortunately, the NeoGeoCDs contain 8.3 formatted filenames, which fits elm-chan's TinyFATFS perfectly! Follow the instructions for DVD - same rules apply. The compiled binary is for SD in SLOT A only. Enjoy!

#### 04/08/2007: (0.1.51)

- \* Wii 64bit DVD offsets added

The attached version include the modifications referred to by dvdkiller44. If you have a Wii, and need to use 4.7Gb DVD - use this one. If you have a GC, you're fine with 0.1.50

#### 03/27/2007: (0.1.50)

- \* Mutex locking MP3 / Data reads

#### (0.1.48)

- \* More FIX memory corrections. Fixes KOF99 load screens in particular.
- \* CDDA command interpreter updated.
- \* Streams interface initialised to clean position.
- \* SDLoad reload added as Z from in game menu.

#### (0.1.45)

- \* Full loading screen support - finally!
- \* New GC audio mixer and 'The EQ Cookbook'
- \* Audio and region options added to Option Menu
- \* ISO parsing corrections for multi-level directories
- \* Correction of FIX memory uploads
- \* Sprite banking restricted (KOF 99)
- \* Samurai Spirits RPG patch removed. No longer needed.
- \* Startup.bin removed. Data is now populated by BIOS load.

#### 03/13/2007: (0.1.36)

- \* Partial loading screen support
- Load screens from the original game are now displayed while loading.  
The speed is considerably wrong, as the NeoGeoCD expects small 2k sector reads, and increments internally per sector.  
The NeoCD/SDL way is to load the entire file in one hit.  
Still, looks better to me ;)
- \* Corrected CDDA check, confirmed with BIOS
  - \* Numerous code cleanups
  - \* Added safeguard to all cdrom\_load\_xxx\_file
  - \* Changed porting code rendering
  - \* Corrected ISO9660 path tables for Nero Burning ROM

#### (0.1.0)

Initial release

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