

# Nintendo DS

The Nintendo DS is a very popular handheld game console produced by Nintendo, released in 2004 in Japan and North America and 2005 for the rest of the world.



DS stands for "Dual Screen", with this distinctive new feature to handheld games: two LCD screens working in tandem (the bottom one being a touchscreen).

This system scrapes metadata for the "nds" group(s) and loads the nds set from the currently selected theme, if available.

## Quick reference

- **Accepted ROM formats:** .nds, .bin, .zip, .7z
- **Folder:** /userdata/roms/nds

Emulators
<a href="#">libretro: DeSmuME</a>
<a href="#">libretro: melonDS</a>
<a href="#">melonDS</a>
<a href="#">DraStic</a>

## BIOS

These BIOS files are required for any NDS emulation:

**v33** and below:

MD5 checksum	Share file path	Description
94bc5094607c5e6598d50472c52f27f2	bios/firmware.bin	NDS firmware
df692a80a5b1bc90728bc3dfc76cd948	bios/bios7.bin	NDS ARM7 BIOS
a392174eb3e572fed6447e956bde4b25	bios/bios9.bin	NDS ARM9 BIOS

**v34:**

MD5 checksum	Share file path	Description
94bc5094607c5e6598d50472c52f27f2	bios/dsfirmware.bin	NDS firmware
df692a80a5b1bc90728bc3dfc76cd948	bios/biosnds7.bin	NDS ARM7 BIOS
a392174eb3e572fed6447e956bde4b25	bios/biosnds9.bin	NDS ARM9 BIOS


**v35** and above:

MD5 checksum	Share file path	Description
94bc5094607c5e6598d50472c52f27f2	bios/firmware.bin	NDS firmware
df692a80a5b1bc90728bc3dfc76cd948	bios/bios7.bin	NDS ARM7 BIOS


MD5 checksum	Share file path	Description
a392174eb3e572fed6447e956bde4b25	bios/bios9.bin	NDS ARM9 BIOS

If you'd like to optionally emulate DSi specifically, you'll also need these:

**v34** and below:

MD5 checksum	Share file path	Description
559dae4ea78eb9d67702c56c1d791e81	bios/biosdsi7.bin	DSi ARM7 BIOS
87b665fce118f76251271c3732532777	bios/biosdsi9.bin	DSi ARM9 BIOS
74f23348012d7b3e1cc216c47192ffeb	bios/dsifirmware.bin	DSi firmware
d71edf897ddd06bf335feeb68edeb272	bios/dsinand.bin	DSi NAND
 <b>Fix Me!</b>	bios/dsi_sd_card.bin	DSi SD card (if wanting to emulate the SD card as well)

**v35** and above:

MD5 checksum	Share file path	Description
559dae4ea78eb9d67702c56c1d791e81	bios/dsi_bios7.bin	DSi ARM7 BIOS
87b665fce118f76251271c3732532777	bios/dsi_bios9.bin	DSi ARM9 BIOS
74f23348012d7b3e1cc216c47192ffeb	bios/dsi_firmware.bin	DSi firmware
d71edf897ddd06bf335feeb68edeb272	bios/dsi_nand.bin	DSi NAND
 <b>Fix Me!</b>	bios/dsi_sd_card.bin	DSi SD card (if wanting to emulate the SD card as well)

## ROMs


Place your Nintendo DS ROMs in /userdata/roms/nds.

## Emulators

### RetroArch

[RetroArch](#) (formerly SSNES), is a ubiquitous frontend that can run multiple “cores”, which are essentially the emulators themselves. The most common cores use the [libretro](#) API, so that's why cores run in RetroArch in Batocera are referred to as “libretro: (core name)”. RetroArch aims to unify the feature set of all libretro cores and offer a universal, familiar interface independent of platform.

### RetroArch configuration

RetroArch offers a **Quick Menu** accessed by pressing [HOTKEY] +  which can be used to alter various things like [RetroArch and core options](#), and [controller mapping](#). Most RetroArch related settings can be altered from Batocera's EmulationStation.

Standardized features available to all libretro cores: `nds.videomode`, `nds.ratio`, `nds.smooth`,

nds.shaders, nds.pixel\_perfect, nds.decoration, nds.game\_translation

ES setting name batocera.conf_key	Description ⇒ ES option key_value
<b>Settings that apply to all cores of this emulator</b>	
<b>GRAPHICS BACKEND</b> nds.gfxbackend	Choose your graphics rendering ⇒ OpenGL opengl, Vulkan vulkan.
<b>AUDIO LATENCY</b> nds.audio_latency	Audio latency in milliseconds, turn it up if you hear crackles ⇒ 256 256, 192 192, 128 128, 64 64, 32 32, 16 16, 8 8.
<b>THREADED VIDEO</b> nds.video_threaded	Improves performance at the cost of latency and more video stuttering. Use only if full speed cannot be obtained otherwise. ⇒ On true, Off false.

### libretro: DeSmuME

A libretro port of the prolific DeSmuME DS emulator.

### libretro: DeSmuME configuration

ES setting name batocera.conf_key	Description ⇒ ES option key_value
<b>Settings that apply to all systems this core supports</b>	
<b>VIDEO RESOLUTION</b> global.internal_resolution_desmume	Improve the fidelity of 3D models (does not affect 2D sprites) ⇒ 256×192 256×192, 512×384 512×384, 768×576 768×576, 1024×768 1024×768, 1280×960 1280×960, 1536×1152 1536×1152, 1792×1344 1792×1344, 2048×1536 2048×1536, 2304×1728 2304×1728, 2560×1920 2560×1920.
<b>TEXTURE UPSCALING (XBRZ)</b> global.texture_scaling	Upscales textures on 3D objects ⇒ Off 1, 2x 2, 4x 4.
<b>TEXTURE SMOOTHING</b> global.texture_smoothing	Smooths out textures on 3D objects ⇒ Off disabled, On enabled.
<b>ANTI-ALIASING (MSAA)</b> global.multisampling	Smooth out jagged edges on 3D object polygons ⇒ Off disabled, 2x 2, 4x 4, 8x 8, 16x 16, 32x 32.
<b>SCREEN LAYOUT</b> global.screens_layout	Allows you to arrange the DS screens ⇒ top/bottom top/bottom, bottom/top bottom/top, left/right left/right, right/left right/left, top only top only, bottom only bottom only, quick switch quick switch, hybrid/top hybrid/top, hybrid/bottom hybrid/bottom.
<b>FRAMESKIP</b> global.frameskip_desmume	Skip frames to improve performance (smoothness) ⇒ Off 0, 1 1, 2 2, 3 3, 4 4, 5 5, 6 6, 7 7, 8 8, 9 9.

## libretro: melonDS

An up-and-coming Nintendo DS emulator by StapleButter, ported to libretro. Still in its early phases but its game compatibility is already comparable to DeSmuME.

### libretro: melonDS configuration

ES setting name batocera.conf_key	Description ⇒ ES option key_value
<b>Settings that apply to all systems this core supports</b>	
<b>SKIP DS SYSTEM MENU</b> global.melonds_boot_directly	Use it to configure options like time and language ⇒ Off disabled, On enabled.
<b>SCREEN LAYOUT</b> global.melonds_screen_layout	Allows you to arrange the DS screens ⇒ top/bottom Top/Bottom, bottom/top Bottom/Top, left/right Left/Right, right/left Right/Left, top only Top Only, bottom only Bottom Only, hybrid top ratio 2 Hybrid Top-Ratio2, hybrid top ratio 3 Hybrid Top-Ratio3, hybrid bottom ratio 2 Hybrid Bottom-Ratio2, hybrid bottom ratio 3 Hybrid Bottom-Ratio3.

## melonDS

An up-and-coming Nintendo DS emulator by StapleButter. Still in its early phases but its game compatibility is already comparable to DeSmuME.

### melonDS configuration

Standardized features available to this emulator: nds.videomode

## DraStic

A standalone closed-source NDS emulator that originally started out as a paid app on Android. A free version of this is used on Raspberry Pi builds.

If you're curious as to why, click here.

To quote Exophase:

It's on Raspberry Pi because I released the port for it, as a semi-closed beta. I asked people not to distribute it but since I did link to it publicly somewhere it was basically inevitable. It still would have been nice if maintainers of a major front end didn't decide to incorporate it prematurely. That said, I still plan to release an "official" first version although at this point the lines have been really blurred as to what that even means.

As for why they get to use it for free, I guess I don't have much of an answer for that other than that it's simply up to my discretion and I don't think the RPi ecosystem or community is a good fit for paid apps. This isn't completely without precedent, I released the Pandora

version of DraStic (which the RPi one is more similar to than the Android) without charging, and before the Android version.

Source: [Posted by Exophase on the drastic-ds.com forum at Wed Feb 01, 2017 2:47 am.](#)

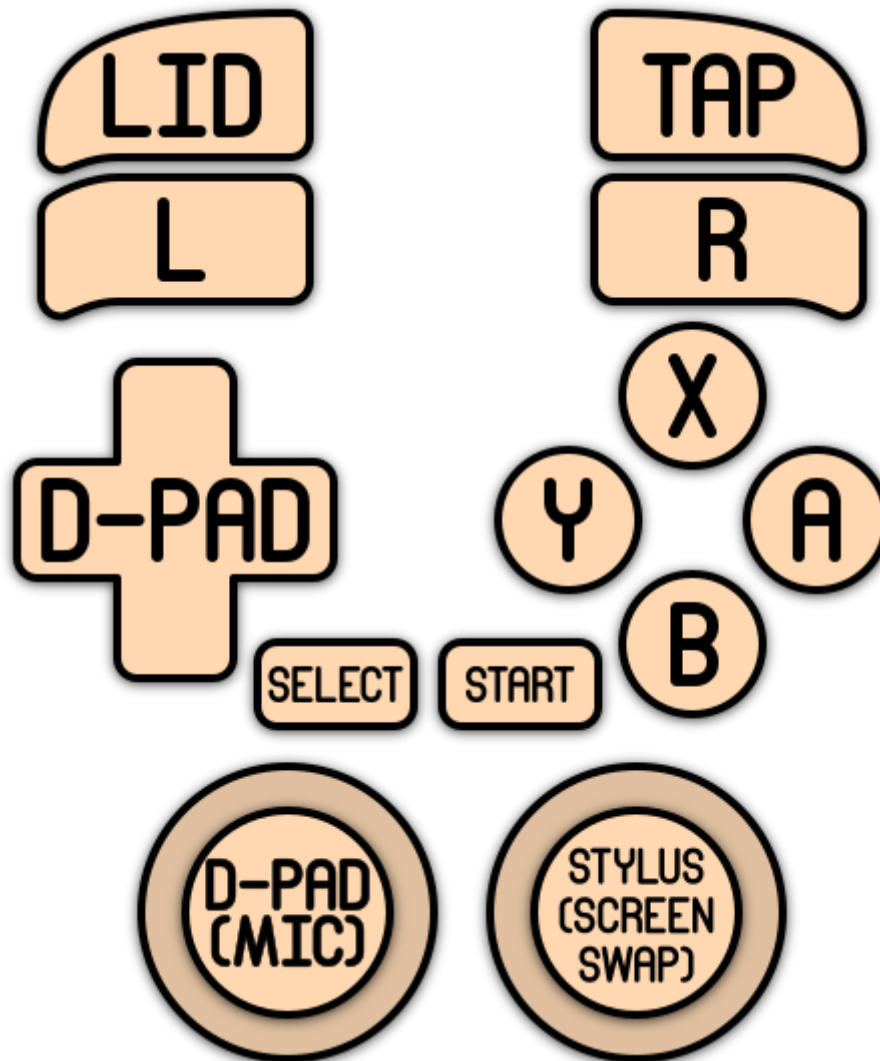
## DraStic configuration

Standardized features available to this emulator: `nds.videomode`

ES setting name batocera.conf_key	Description ⇒ ES option key_value
<b>Settings that apply to this emulator</b>	
<b>HI-RES</b> <code>nds.drastic_hires</code>	Improve the fidelity of 3D models ⇒ Off 0, On 1.
<b>THREADED 3D</b> <code>nds.drastic_threaded</code>	Improves performance in 3D games (can cause glitches) ⇒ Off 0, On 1.
<b>FIX 2D SCREEN</b> <code>nds.drastic_fix2d</code>	Fix main 2D Screen to follow action ⇒ Off 0, On 1.

## Controls

Here are the default Nintendo DS's controls shown on a [Batocera Retropad](#):



## Troubleshooting

### Why are my DS games in a different language?

Sometimes you want to launch an NDS game, but the language doesn't match the one you set in Batocera (like by default, you have Spanish for many EU games). That's because the NDS emulator manages its own language.

To fix that, go to the **ADVANCED SYSTEM OPTIONS** for the NDS and set **SKIP DS SYSTEM MENU** to **OFF**. This will enable you to get into the Nintendo DS system menu and set the language you want to use for the games. Click on the tiny "DS" icon at the bottom center of the screen with either the stylus or via D-pad navigation.

Once this is done, you can set "Skip DS system menu" back to **AUTO**, the language you set will be used for all your games.

### Further troubleshooting

For DraStic specific issues, check [their FAQ](#) first (although it is focused on the Android version, it can still be quite helpful).

For further troubleshooting, refer to the [generic support pages](#).

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