DCLXVI) OLD MAN SABA'S N64 EMULATION APPRECIATION STATION [IT'S A PEACEFUL LIFE EDITION]

Emulators? Really? Man of your PC specs?

It's a peaceful life

For Windows PC users who desire the simple, "it-just-works" experience out of the box, the standalone emulator Mupen64Plus is the gold standard for emulating Castlevania 64 (and all other N64 titles). It's fully compatible with Windows 7/8/10, and the devs maintain an active Discord community to help with tips, tricks, and troubleshooting. The menus offer options for upscaling, enhanced texture filtering, and the like, but most games will play flawlessly on the vast majority of hardware configs without your needing to toggle any of the menu options.

There's a version for Android as well: Mupen64Plus FZ. Sadly, there are no N64 emulators for Apple's iOS, and there probably never will be. Apple does not allow emulators on its official storefront, so you'll need to THINK DIFFERENT™ and figure out how to jailbreak your iPhone and sideload emulators if you want to play on the go.

But N64 emulation is tricky, even in 2022. So if your PC struggles with Mupen64Plus and you need an alternative emulator that works well on potato hardware, check out Project64. Project64 also has an active Discord server, and the retro-gaming website FantasyAnime maintains an excellent step-by-step guide on setup and configuration.

For Mac users, currently the OpenEmu frontend is the best way to emulate N64 games on Apple laptops and desktops. User-inputs are handled through a GUI, while different system cores emulate on the backend – all with full plug-and-play support for modern gamepads. There is a robust OpenEmu wiki and user guide that should help answer most questions, as well as an active Discord community.

Now, I already know what the next burning question is: "How about the Windows power users who like to spend as much time changing their menu configurations as actually *playing* their games??" Don't worry, because I've got you covered – that's what RetroArch is for.

In terms of compatibility, customizability, and sheer flexibility, RetroArch is THE best way to emulate the Nintendo 64. (As well as pretty much every other retro system out there.) But it's also incredibly confusing, because its frontend can be charitably described as "looking like that faux UNIX system from Jurassic Park." A crash-course in RetroArch is far outside of the scope of this doc; however, there are loads of useful written tutorials and YouTube videos that will get you started.

So, for all the RetroArch grognards who didn't immediately skim past this doc, or for anyone who's interested in learning how to use RetroArch, here are my recommended settings I used to emulate Castlevania on the N64, via the **Vulkan graphics driver** and the **Mupen64Plus-NEXT emulator core**:

Part 1: Emulator settings – Dynarec CPU core, ParaLLEl RDP plugin, HLE RSP plugin

Options   01-06 11:19

Angrylion
Configure Angrylion Options.

CPU Core   Dynarec
Select the R4300 CPU Backend, use Interpreter for best compability

RDP Plugin   ParaLLEl-RDP
Select a RDP Plugin, use Angrylion (if available) for best compability, GLideN64 for Performance

RSP Plugin   HLE
Select a RSP Plugin, use HLE for best performance, ParaLLEl for best LLE Performance and CXD4 as LLE fallback

Frame Duplication   OFF
Enable Frame duplication to improve smoothing on low-end. Different from frameskip.

Framerate   Original
Fullspeed will enforce Count per Op 1 and FBEmu settings, this will break some games!

VI Refresh (Overclock)   Auto
Select a VI Refresh clock, Auto does not impact behaviour, other values override CountPerScanline.

Disable Expansion Pak   OFF
Force disable Expansion Pak (might improve performance for some games while reducing emulation accuracy, will break games that require it).

Ignore emulated TLB Exceptions   Don't Ignore
(HACK) Ignore emulated TLB Exceptions, this might fix some broken romhacks. This option might be removed in the future.

Count Per Op   0
Count per Op is used to approximate the Counter reg, 0 will use the embedded Database (or default to 2). Changing this will break stuff!

Count Per Op Divider (Overclock)   0
Denominator for Count per Op (allowing sub-1 Count per Op in practice). Changing this can break stuff!

1.9.11 - Mupen64Plus-Next (2.4-Vulkan 350f90a)   Search Back OK

Part 2: ParaLLEl-RDP plugin settings

ParaLLEl-RDP   01-06 11:21

Synchronous RDP   ON
Enable full accuracy for CPU accessed frame buffers.

Crop overscan   0
Crop pixels around edge of screen.

VI Divot filter   ON
Allow VI divot filter, cleans up stray black pixels.

VI Gamma dither   ON
Allow VI gamma dither.

VI anti-aliasing   OFF
Allow VI anti-aliased fetch filter, smooths polygon edges.

VI bilinear   OFF
Allow VI bilinear scaling on scanout.

VI dither filter   ON
Allow VI de-dither filter, recovers significant color depth.

Upscaling factor (restart)   2x
Apply internal upscaling factor.

SSAA framebuffer effects (restart)   OFF
Super sample framebuffer effects. May introduce artifacts.

Dither SSAA framebuffer effects (restart)   ON
Dither super sampled framebuffer effects.

Downsampling factor   OFF

1.9.11 - Mupen64Plus-Next (2.4-Vulkan 350f90a)   Search Back OK