Sega NAOMI

The Sega NAOMI (stands for “New Arcade Operation Machine Idea”) is a arcade developed by Sega. It was released in 1998. Designed to be the successor to the Model 3, it uses similar architecture to that of the Dreamcast. Because of this, emulation of NAOMI games is usually best done with a Dreamcast emulator (modifications have already been made to allow for this in Flycast, for instance). Features arcade games like Crazy Taxi, Dead or Alive 2 and Samba de Amigo.

Although “NAOMI” can refer to multiple different types of boards released by Sega during this time period, Batocera specifically refers to just the original NAOMI board released in 1998 when mentioning “NAOMI” (at least for now).

Due to the similarity between NAOMI and the Dreamcast, most games were also ported to the Dreamcast, and a few even getting ported to other consoles of the generation. It may be easier to attempt to emulate those than their arcade counterparts.

For those interested in the hardware aspect, here's a cool article about it on Sega Retro.

This system scrapes metadata for the “naomi” and “arcade” groups and loads the `naomi` set from the currently selected theme, if available.



Quick reference

- **Accepted ROM formats:** `.lst`, `.bin`, `.dat`, `.zip`, `.7z`
- **Folder:** `/userdata/roms/naomi`

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BIOS

MD5 checksum	Share file path	Description
eb4099aeb42ef089cfe94f8fe95e51f6	bios/naomi.zip	

ROMs

Place your Sega NAOMI ROMs in `/userdata/roms/naomi`.

User-friendly compatibility list for Flycast.

If you're willing to search through code, here's the list of all the expected ROM hashes.

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: `naomi.videomode`, `naomi.ratio`, `naomi.smooth`, `naomi.shaders`, `naomi.pixel_perfect`, `naomi.decoration`, `naomi.game_translation`

ES setting name `batocera.conf_key`	Description ⇒ ES option `key_value`
Settings that apply to all cores of this emulator	
GRAPHICS BACKEND `naomi.gfxbackend`	Choose your graphics rendering ⇒ OpenGL `opengl`, Vulkan `vulkan`.
AUDIO LATENCY `naomi.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.
THREADED VIDEO `naomi.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: Flycast

A fork of a fork of a fork... this is an identical version of standalone Flycast but inside of a libretro core. Makes use of RetroArch's features.

libretro: Flycast configuration

ES setting name `batocera.conf_key`	Description ⇒ ES option `key_value`
Settings that apply to all systems this core supports	
SYNCHRONOUS RENDERING `global.reicast_synchronous_rendering`	Wait for the GPU to render frames instead of skipping ⇒ Off `disabled`, On `enabled`.
VIDEO RESOLUTION `global.reicast_internal_resolution`	Improve the fidelity of 3D models (does not affect 2D sprites) ⇒ 640×480 `640×480`, 800×600 `800×600`, 960×720 `960×720`, 1024×768 `1024×768`, 1280×960 `1280×960`, 1440×1080 `1440×1080`, 1600×1200 `1600×1200`, 1920×1440 `1920×1440`, 2560×1920 `2560×1920`, 3200×2400 `3200×2400`, 3840×2880 `3840×2880`, 4480×3360 `4480×3360`, 5120×3840 `5120×3840`, 5760×4320 `5760×4320`, 6400×4800 `6400×4800`, 7040×5280 `7040×5280`, 7680×5760 `7680×5760`.
TEXTURE MIP-MAPPING (BLUR) `global.reicast_mipmapping`	Smooths out textures on 3D objects ⇒ Off `disabled`, On `enabled`.
ANISOTROPIC FILTERING `global.reicast_anisotropic_filtering`	Enhance the quality of distant perspective textures ⇒ Off `False`, 2x 2, 4x 4, 8x 8, 16x 16.
TEXTURE UPSCALING (XBRZ) `global.reicast_texupscale`	Upscaling 2D pixel art graphics (2D Games Only) ⇒ Off `False`, 2x 2x, 4x 4x, 6x 6x.
RENDER TO TEXTURE UPSCALING `global.reicast_render_to_texture_upscaling`	Upscaling textures resolution on 3D objetcs ⇒ Off 1x, 2x 2x, 3x 3x, 4x 4x, 8x 8x.

ES setting name batocera.conf_key	**Description ⇒ ES option key_value**
FRAME SKIP global.reicast_frame_skipping	Skip frames to improve performance (smoothness) ⇒ Off disabled, 1 1, 2 2, 3 3, 4 4, 5 5, 6 6.
FORCE WINDOWS CE MODE global.reicast_force_wince	Enable full MMU emulation for Windows CE games ⇒ Off disabled, On enabled.
WIDESCREEN CHEAT (PRIORITY) global.reicast_widescreen_cheats	You must use a 16/9 RATIO and disable BEZEL ⇒ Off disabled, On enabled.
WIDESCREEN HACK global.reicast_widescreen_hack	You must use a 16/9 RATIO and disable BEZEL ⇒ Off disabled, On enabled.
CONTROLLER 1 TYPE global.controller1_dc	Select Gamepad, Keyboard, Mouse or Light Gun ⇒ Gamepad 1, Keyboard 3, Mouse 2, Light Gun 4.
CONTROLLER 2 TYPE global.controller2_dc	Select Gamepad, Keyboard, Mouse or Light Gun ⇒ Gamepad 1, Keyboard 3, Mouse 2, Light Gun 4.
CONTROLLER 3 TYPE global.controller3_dc	Select Gamepad, Keyboard, Mouse or Light Gun ⇒ Gamepad 1, Keyboard 3, Mouse 2, Light Gun 4.
CONTROLLER 4 TYPE global.controller4_dc	Select Gamepad, Keyboard, Mouse or Light Gun ⇒ Gamepad 1, Keyboard 3, Mouse 2, Light Gun 4.
Settings specific to atomiswave	
SCREEN ORIENTATION atomiswave.screen_rotation_atomiswave	Rotate screen for some arcade games ⇒ Horizontal horizontal, Vertical vertical.
Settings specific to naomi	
SCREEN ORIENTATION naomi.screen_rotation_naomi	Rotate screen for some arcade games ⇒ Horizontal horizontal, Vertical vertical.

All other settings can be configured from RetroArch's **Quick Menu** → **Options** ([HOTKEY] +).

Flycast

Flycast is a fork of Reicast (which itself is a fork of nullDC). A highly compatible and accurate standalone Dreamcast emulator.

Flycast can also be used to run NAOMI arcade games due to being nearly identical hardware. Not all NAOMI games are compatible yet but most of them are.

Flycast configuration

Standardized features available to all cores of this emulator: `naomi.videomode`, `naomi.ratio`

Flycast cannot be configured in EmulationStation; all other configuration must be done via the `flycast-config` in the Applications folder (`[F1]` on the systems screen).

Controls

How does this even work?

Here are the default Sega Naomi's controls shown on a Batocera Retropad:



Troubleshooting

Further troubleshooting

For further troubleshooting, refer to the generic support pages.

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