This article needs some TLC. Read at your own risk.

Magnavox Odyssey²

The Magnavox Odyssey² is a second-generation home videogame console developed by Magnavox - Philips, as a follow-up to the first home videogame console ever, the Magnavox Odyssey. The Magnavox Odyssey² was released in 1978 for $179.99 USD ($475 in 2021).

This system scrapes metadata for the “odyssey2” group and loads the `odyssey2` set from the currently selected theme, if available.



Quick reference

- **Emulator:** RetroArch
- **Core:** libretro: O2EM
- **Folder:** `/userdata/roms/o2em`
- **Accepted ROM formats:** `.bin`, `.zip`, `.7z`

BIOS

There is conflicting information about whether BIOS is required or not!

MD5 checksum	Share file path	Description
`562d5ebf9e030a40d6fabfc2f33139fd`	`o2rom.bin`	Odyssey2 BIOS - G7000 model
`f1071cdb0b6b10dde94d3bc8a6146387`	`c52.bin`	Videopac+ French BIOS - G7000 model
`c500ff71236068e0dc0d0603d265ae76`	`g7400.bin`	Videopac+ European BIOS - G7400 model
`279008e4a0db2dc5f1c048853b033828`	`jopac.bin`	Videopac+ French BIOS - G7400 model

ROMs

Place your Magnavox Odyssey² ROMs in `/userdata/roms/o2em`.

Place your Videopac+ ROMs in `/userdata/roms/videopacplus`.

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: `odyssey2.videomode`, `odyssey2.ratio`, `odyssey2.smooth`, `odyssey2.shaders`, `odyssey2.pixel_perfect`, `odyssey2.decoration`, `odyssey2.game_translation`

ES setting name `batocera.conf_key`	**Description ⇒ ES option `key_value`**
Settings that apply to all cores of this emulator	
GRAPHICS BACKEND `odyssey2.gfxbackend`	Choose your graphics rendering ⇒ OpenGL `opengl`, Vulkan `vulkan`.
AUDIO LATENCY `odyssey2.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 `odyssey2.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: O2EM

O2EM is an open-source Magnavox Odyssey² emulator. This is the libretro port of that.

libretro: O2EM configuration

ES setting name `batocera.conf_key`	Description ⇒ ES option `key_value`
Settings that apply to all systems this core supports	
EMULATED HARDWARE `global.o2em_bios`	Choose what Odyssey/Videopac system to emulate ⇒ Odyssey 2 (NTSC) `o2rom.bin`, Videopac G7000 (European) `c52.bin`, Videopac+ G7400 (European) `g7400.bin`, Videopac+ G7400 (France) `jopac.bin`.
CONSOLE REGION `global.o2em_region`	To force 60hz or 50hz if the auto detection fail ⇒ Autodetect `autodetect`, NTSC `NTSC`, PAL `PAL`.
SWAP GAMEPADS `global.o2em_swap_gamepads`	Some games accept player 1 input from controller 2 ⇒ Off `disabled`, On `enabled`.
CROP OVERSCAN `global.o2em_crop_overscan`	Remove the border around the edges of the screen ⇒ Off `disabled`, On `enabled`.
GHOSTING EFFECT `global.o2em_mix_frames`	Simulate CRT phosphor ghosting effects ⇒ Off `disabled`, Simple `mix`, Ghosting (65%) `ghost_65`, Ghosting (75%) `ghost_75`, Ghosting (85%) `ghost_85`, Ghosting (95%) `ghost_95`.
AUDIO FILTER `global.o2em_low_pass_range`	Soften the hash sound effect from some games ⇒ Off `0`, 10% `10`, 20% `20`, 30% `30`, 40% `40`, 50% `50`, 60% `60`, 70% `70`, 80% `80`, 90% `90`.

Voice samples

New to Batocera **v32**, a recent update to libretro: O2EM added sample support for emulating the voice synthesis module. Download the samples from O2EM's homepage (hover over “Misc” near the top of the page) and extract them into `/userdata/bios/voice`. Sid the Spellbinder requires its own pack, but if you're not intending on playing that game they're not required.

To confirm they are loaded correctly, K.C.'s Krazy Chase! plays a voice sample almost immediately after starting a game.

Controls

The Magnavox Odyssey² used both a standard joystick controller with a single button and the built-in keyboard. The keyboard is already mapped to your default keyboard but most games utilized just the joystick.

In some games, for example UFO/Satellite Attack, the player order is swapped. This can be solved by switching the player order for the affected games, or by saving a manual remap with the controller IDs swapped.

Here are the default Magnavox Odyssey²'s controls shown on a Batocera Retropad:

Troubleshooting

Further troubleshooting

For further troubleshooting, refer to the generic support pages.

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