Nintendo Wii

The Nintendo Wii is a console developed by Nintendo. It was released on November the 19th, 2006 and retailed for $249.99 USD.

The Wii sports a IBM PowerPC CPU at 729 MHz with 88MB of RAM, and a GPU infamously created by ATI (Wii consoles have “ATI” printed on its shell) dubbed the “Hollywood” chip. Its internal architecture is very similar to its predecessor, the GameCube, so Dolphin supports running both Wii and GameCube games. In fact, some GameCube games can be more difficult to run than Wii games.

Dolphin is pretty much the only Wii emulator.

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



Quick reference

- **Accepted ROM formats:** `.gcm`, `.iso`, `.gcz`, `.ciso`, `.wbfs`, `.wad`, `.rvz`, `.elf`, `.dol`, `.m3u`, `.json`
- **Folder:** `/userdata/roms/wii`

Emulators
Dolphin
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BIOS

The libretro version of Dolphin requires its NAND to be stored in `bios/dolphin-emu/Sys`.

The standalone version will generate the needed files on first launch.

ROMs

Some users have reported issues with using regular traditional controllers as Wiimotes in Wii games if the game loaded has the `.cc.rvz` extension. Renaming this extension to `.nkit.iso` solved the issue for them (no actual conversion was done, just renaming).

Place your Wii ROMs in `/userdata/roms/wii`.

If you have a Riivolution patch, first create its JSON file as outlined on the Dolphin emulator page.

Emulators

Dolphin

For general information about the Dolphin Emulator itself, you can also visit the Dolphin emulator page instead.

Dolphin configuration

ES setting name `batocera.conf key`	**Description ⇒ ES option key `value`**
Settings that apply to all cores of this emulator	
GRAPHICS BACKEND `wii.gfxbackend`	Choose your graphics rendering ⇒ OpenGL `OGL`, Vulkan `Vulkan`.

ES setting name `batocera.conf` key	Description ⇒ ES option key `value`
UBERSHADERS `wii.ubershaders`	Improve performance with Ubershaders. Ubershaders take advantage of your GPU to avoid in-game stutters as it generates shaders for the first time; this can happen when a certain special effect shows on the screen or a new model is rendered. Hybrid ubershaders are preferred, it will use the GPU accelerated ubershader if available to avoid stutter, otherwise it will fall back to traditional shader generation. Exclusive ubershaders will only use ubershaders, only activate this option if you have an extremely powerful GPU. Normally there is no downside to activating ubershaders, however it does increase the minimum requirements out of your GPU to run. On especially weak hardware, such as SBCs, ubershaders are disabled by default. They can still be manually turned on, but you may encounter *more* stutter if on an SBC. Skip draw is a hack that opts to take a different approach altogether: don't display the object in game if its shader hasn't compiled yet. Obviously, this can result in visual glitches, but may be the best option performance-wise if your hardware is extremely weak.; asynchronous is preferred, synchronous is more compatible ⇒ No Ubershaders `no_ubershader`, Exclusive Ubershaders `exclusive_ubershader`, Hybrid Ubershaders `hybrid_ubershader`, Skip Drawing `skip_draw`.
PRE-CACHE SHADERS `wii.wait_for_shaders`	Wait for shaders to compile completely before starting the game, can reduce micro-freezes ⇒ Off (default) `0`, On `1`.
PERFORMANCE HACKS `gamecube.perf_hacks`	Increase emulator performance, at the cost of accuracy/stability. Settings set to “True” with this option: Defer EFB copies to RAM `DeferEFBCopies`, Scaled EFB Copy `EFBScaledCopy`, EFB Copies `EFBToTextureEnable`, Skip Presenting Duplicate Frames `SkipDuplicateXFBs`, XFB copies `XFBToTextureEnable`, Force Texture Filtering `ForceFiltering`, Arbitrary Mipmap Detection `ArbitraryMipmapDetection`, Disable Copy Filter `DisableCopyFilter`, Force 24-Bit Color `ForceTrueColor`. Settings set to “False” with this option: Bounding Box `BBoxEnable`, Ignore Format Changes `EFBEmulateFormatChanges`. ⇒ Off `0`, On `1`.
USE PAD PROFILES `wii.use_pad_profiles`	Search for custom configured joystick profiles ⇒ Off `0`, On `1`.
VIDEO RESOLUTION `wii.internal_resolution`	Improve the fidelity of 3D models (does not affect 2D sprites) ⇒ 1x native (640×528) 1, 2x 720p (1280×1056) 2, 3x 1080p (1920×1584) 3, 4x 1440p (2560×2112) 4, 5x (3200×2640) 5, 6x 4K (3840×3168) 6, 7x (4480×3696) 7, 8x 5K (5120×4224) 8.
ANISOTROPIC FILTERING `wii.anisotropic_filtering`	Enhance the quality of distant perspective textures ⇒ Off `0`, 2x `1`, 4x `2`, 8x `3`, 16x `4`.
DUAL CORE MODE `wii.dual_core`	Usually not much faster than single core mode ⇒ Off `0`, On `1`.

ES setting name `batocera.conf` key	**Description ⇒ ES option key `value`**
GPU SYNC `wii.gpu_sync`	Speed hack for dual core mode to fix some glitches ⇒ Off `0`, On 1.
ANTI-ALIASING `wii.antialiasing`	Smooth out jagged edges on 3D object polygons ⇒ Off `0`, 2x 2, 4x 4, 8x 8.
ANTI-ALIASING MODE `wii.use_ssaa`	Toggle MSAA/SSAA. Depends on anti-aliasing being enabled. ⇒ MSAA (default) `0`, SSAA 1.
HIRES TEXTURES `wii.hires_textures`	Use HD texture packs ⇒ Off `0`, On 1.
WIDESCREEN HACK `wii.widescreen_hack`	You must use a 16/9 RATIO to work ⇒ Off `0`, On 1.
ENABLE CHEATS `wii.enable_cheats`	To use game cheats or 16/9 Aspect Ratio Fix codes ⇒ Off `0`, On 1.
MEMORY MANAGEMENT UNIT `wii.enable_mmu`	Allows many games to boot and work properly ⇒ Off `0`, On 1.
FAST DISK SPEED `wii.enable_fastdisc`	Speeds up disc speed to remove any loading ⇒ Off `0`, On 1.
VSYNC `wii.vsync`	Fix the heavy screen tearing in games (CPU heavy) ⇒ Off `0`, On 1.
DUALSHOCK MOTION CONTROL `wii.dsmotion`	Emulate the Wii pointer with your DS4's gyroscope ⇒ Off `0`, On 1.
MOUSE AS IR WIIMOTE `wii.mouseir`	Emulate the Wiimote IR control with a mouse ⇒ Off `0`, On 1.
RUMBLE `wii.rumble`	To use vibration on games with Rumble mode ⇒ Off `0`, On 1.
Settings specific to `wii`	
EMULATE WIIMOTE `wii.emulatedwiimotes`	Use your gamepad like a vertical Wiimote in game ⇒ Off `0`, On 1.
CUSTOMIZE WIIMOTE & GAMEPAD `wii.controller_mode`	Emulate a Wiimote Sideway with L2 for Shake and Nunchuk on R-stick ⇒ Off `disabled`, Classic Controller `cc`, Wiimote Sideway `side`, Wiimote Sideway + Swing `is`, Wiimote Sideway + Tilt `it`, Wiimote Sideway + Nunchuk `in`.

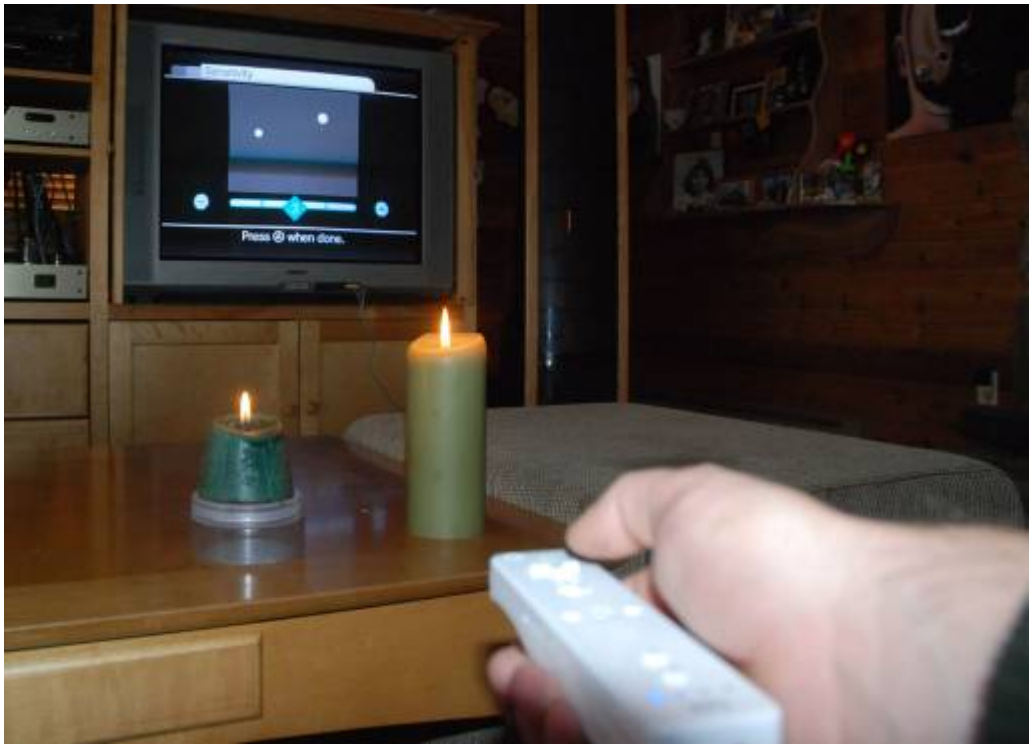
RetroArch

RetroArch has its own page.

libretro: Dolphin

There's nothing here to configure. Use RetroArch's Quick Menu for now.

Controllers for the Wii



There are multiple choices for controllers and connections for playing Wii on Batocera:

- Native Wiimote using native Bluetooth: Use original Wiimote controllers with either a native Bluetooth receiver.
- Native Wiimote using a Dolphinbar: Use original Wiimote controllers with a Dolphinbar.
- Emulated Wiimote/Classic controller with a gamepad: Use a standard gamepad to emulate a Wiimote for the emulated game.
- Emulated GameCube controller with a gamepad: Use standard gamepads for classic/GameCube controller-compatible games. This is the default mode.

Native Wiimote using native Bluetooth

When Dolphin is launched, put the Wiimote into pair mode and it will pair. That's it. Use the IR bar as you would a normal Wii, place it either at the top or bottom of the TV screen and point at it for the on-screen Wiimote cursor.

This will work for as long as the Bluetooth dongle itself supports communicating with the Wiimote.

An ordinary controller (or keyboard) will be required to navigate menus when outside of the emulated Wii game, as the Wiimote itself cannot be used for this.

This method cannot be used simultaneously with pairing the Wiimote in EmulationStation (the main menu).

(Fix Me! unless you choose the “gamepad” option for the wiimote gun settings? Needs confirmation)

Native Wiimote using a Dolphinbar



The Dolphinbar acts as an intermediary body between the machine and the Wiimote. It also includes IR LEDs which automatically shut off when not in use. Its Bluetooth module is the most unresponsive of all the available options, usage of native Bluetooth connection instead is usually more responsive.

An ordinary controller (or keyboard) will be required to navigate menus when outside of the emulated Wii game, as the Wiimote itself cannot be used for this.

1. Connect your **DolphinBar** with USB to the machine.
2. Press the right (Fix Me! MODE?) button to switch to **MODE 4**, the passthrough mode.
3. Launch any Wii game from ES using a traditional controller.
    - **To permanently pair the Wiimote:**
    1. On the Wiimote, hold down the red sync button inside of the battery compartment. The LEDs will begin flashing.
    - **To only temporarily pair the Wiimote:**
    1. On the Wiimote, hold down buttons [1] + [2]. The LEDs will begin flashing.
4. Wait until the LEDs stop flashing. Once they do, the Wiimote is connected to the emulated Wii system.

Repeat for each **Wiimote** desired.

For more info, refer to the Dolphinbar-specific page.

Do the same limitations about pairing in ES apply here?

What does the light gun page for Dolphinbar have to do with this? Maybe the link to it should be removed.

There's a SYNC button on the Dolphinbar itself. What does that do in this context? Is it required to be pressed or does Batocera automatically put the Dolphinbar into pairing mode once Dolphin is launched? Is the button just a passthrough for the Dolphin hotkey which automatically puts the emulated Wii into its sync mode?

Using Bluetooth passthrough

This is not required to use Wiimotes regularly with Bluetooth adapters. Dolphin works fine using its emulated Bluetooth connections in most cases.

Doing this will render your Bluetooth module inoperable with anything that *isn't* Dolphin, including navigating the EmulationStation front-end! Be sure to have a different way of navigating the menus prepared.

A keyboard and mouse are required to initially configure this.

If instead you'd like to utilize Dolphin's Bluetooth passthrough feature, do the following:

1. Go to the `dolphin-emu-config` application in **Files** (`[F1]` in system list) → **Applications**.
2. Go to **Options** → **Configuration** → **Wii** and add your Bluetooth module to the **Whitelisted USB Passthrough Devices** box.

   You can test for this by plugging in your Bluetooth USB dongle and seeing which device appears, if that's what you're using.

3. Close the configuration window, then launch a Wii game directly from Dolphin (double-click one of the Wii games on the list).
4. Press `[Alt]` + `[Tab]` to go back to the Dolphin menu.
5. Go to **Options** → **Controller Settings** and under **Passthrough a Bluetooth adapter** click **Sync**.
6. Press the red `[SYNC]` button on the underside of your Wiimote. You can either remove the battery cover to get to it or use a toothpick to press it through the hole in the cover.

   You can press `[Alt]` + `[Tab]` again to get in-game and confirm that your controller is working.

7. Go to **Emulation** → **Stop** to stop the game.
8. Exit Dolphin.

You can now use Bluetooth passthrough with Dolphin after launching the game from Batocera!

Emulated Wiimote/Classic controller with a gamepad

If you don't have any **Wiimote** controllers and want to use a regular controller, it's possible (by turning on the emulation of Wiimotes, see below), but you will be limited to games already made for Wii Classic Controller and GC Controller or you will have to figure out which settings are best for your controller (and you will definitely not have the same user experience, as with a Wiimote + Nunchuk), see pre-built modifications below.

There has to be a way to set this option from ES. If not, I should code it in.

You can turn on the emulation of Wiimotes by going to advanced system settings for the Nintendo Wii > Emulate Wiimote to “On”. You can also manually edit your `batocera.conf` file in `/userdata/system/` (or `system` in the SHARE NFS network drive) and turn on `wii.emulatedwiimotes=1` like so:

```
  ## wiimotes
  ## real wiimotes must not be paired with batocera.linux system so that
they can work with the wii emulator
```

```
## set emulatedwiimotes to 1 to emulate wiimotes with standard pads
wii.emulatedwiimotes=1
```

Removing the # at the line start will 'uncomment' the line.

Now your controllers will be recognized like **Wiimotes** to play games, but if you try games like **Super Mario Galaxy** or **New Super Mario Bros** you will be stuck when it will ask you to connect a Nunchuk or to shake/swing your Wiimote (to fly with your hat in New Super Mario Bros or to twist in Super Mario Galaxy). To be able to use such functionalities with your standard pad, you need to use the pre-built modifications (see further down).

Default key mapping

Below is the default key mapping for Dolphin/Wii games. This is as if you are using a Wiimote in **vertical orientation**.

Key	Wii Function	Key	Wii Function	Key	Wii Function	Key	Wii Function
x	Buttons/2	y	Buttons/1	a	Buttons/B	b	Buttons/A
l1/pageup	Buttons/-	l2/pagedown	Buttons/+	select	Buttons/Home	start	
joystick1up	IR/Up	joystick1left	IR/Left	joystick1down	IR/Down	joystick1right	IR/Right
joystick2up	Tilt/Forward	joystick2left	Tilt/Left	joystick2down	Tilt/Down	joystick2right	Tilt/Right

But playing with your gamepad in vertical orientation is really crappy...

Pre-built modifications

Pre-built modifications have been baked into the configuration utility in order to support various games and remote orientation, functionalities (like tilt/swing) and Nunchuk emulation. In order to use these modifications you need to **rename** the ROM file to include one of the following extensions in the filename, as described below. You need to change the ROM filename, like for example New `Super Mario Bros.side.iso` or `Super Mario Galaxy.ns.iso`.

- **.side.** - Enables the controller to operate as a **sideways wiimote**. The following changes to the default configuration are enabled:

Key	Wii Function	Key	Wii Function	Key	Wii Function	Key	Wii Function
x	Buttons/B	y	Buttons/A	a	Buttons/1	b	Buttons/2

- **.cc.** - Enables the controller to operate as a **classic controller**. The game must support the classic controller. The following changes to the default configuration are enabled:

Key	Wii Function	Key	Wii Function	Key	Wii Function	Key	Wii Function
x	Buttons/X	y	Buttons/Y	a	Buttons/A	b	Buttons/B
select	Buttons/-	start	Buttons/+	l1/pageup	Triggers/L	r1/pagedown	Triggers/R
l2	Buttons/ZL	r2	Buttons/ZR				
up	Classic/D-Pad/Up	down	Classic/D-Pad/Down	left	Classic/D-Pad/Left	right	Classic/D-Pad/Right
joystick1up	Classic/Left Stick/Up	joystick1down	Classic/Left Stick/Left	joystick2up	Classic/Right Stick/Up	joystick2left	Classic/Right Stick/Left

- **.XX.** - Enables the controller to operate with the left joystick as function represented by the first character and the right joystick functioning as represented by the second character. The options are as follows:

Code	Function	Description
i	infrared	Infrared Options. In this option, the selected joystick will act as if you were moving the infrared around
s	swing	In this option, the selected joystick will act as if you were swinging it in the direction you're pushing the joystick
t	tilt	In this option, the selected joystick will act as if you were tilting it in the direction you're pushing the joystick
n	nunchuk	In this option, the selected joystick will act as the joystick on the nunchuk and l2 = C and r2 = Z

- **Custom** - Create an additional CFG file placed in the same directory as the ROM itself to be able to custom configure the controls. The file name needs to be named the same as the ROM with `.cfg` added to the end.

Available Batocera Retropad controls:

- 'a'
- 'b'
- 'x'
- 'y'
- 'pageup'
- 'pagedown'
- 'l2'
- 'r2'
- 'select'
- 'start'
- 'up'
- 'down'
- 'left'
- 'right'
- 'joystick1up'
- 'joystick1down'
- 'joystick1left'
- 'joystick1right'
- 'joystick2up'
- 'joystick2down'
- 'joystick2left'
- 'joystick2right'

Functions are laid out in the `[<Controller>/]<Input type>/<Input value>` syntax. If no controller is specified, the Wiimote is assumed. Available functions:

Controller	Button input type	Motion input type	Stick input type	IMU input type
'Wiimote/<Buttons|D-Pad|IR|Tilt|Swing>'	'Buttons/A'	'IR/Up'	'Main Stick/Up'	'IMUGyroscope/Pitch Up'
'Nunchuck/<Buttons|Stick>'	'Buttons/B'	'IR/Down'	'Main Stick/Down'	'IMUGyroscope/Pitch Down'

Controller	Button input type	Motion input type	Stick input type	IMU input type
'Classic/<Buttons|Left Stick|Right Stick>'	'Buttons/1'	'IR/Left'	'Main Stick/Left'	'IMUGyroscope/Roll Left'
	'Buttons/2'	'IR/Right'	'Main Stick/Right'	'IMUGyroscope/Roll Right'
	'Buttons/-'	'Tilt/Forward'	'Left Stick/Up'	'IMUGyroscope/Yaw Left'
	'Buttons/+'	'Tilt/ 🔧 Fix Me! '	'Left Stick/Down'	'IMUGyroscope/Yaw Right'
	'Buttons/Home'	'Tilt/Left'	'Left Stick/Left'	'IMUIR/Recenter'
	'D-Pad/Up'	'Tilt/Right'	'Left Stick/Right'	'IMUAccelerometer/Left'
	'D-Pad/Down'	'Swing/Up'	'Right Stick/Up'	'IMUAccelerometer/Right'
	'D-Pad/Left'	'Swing/Down'	'Right Stick/Down'	'IMUAccelerometer/Forward'
	'D-Pad/Right'	'Swing/Left'	'Right Stick/Left'	'IMUAccelerometer/Backward'
	'Buttons/Hotkey'	'Swing/Right'	'Right Stick/Right'	'IMUAccelerometer/Up'
	'Buttons/C'	'Shake/X'	'Stick/Up'	'IMUAccelerometer/Down'
	'Buttons/Z'	'Shake/Y'	'Stick/Down'	
		'Shake/Z'	'Stick/Left'	
			'Stick/Right'	

More syntax can be found on Dolphin wiki's controller INI page.

For example, to create a custom controller profile for `New Super Mario Bros.iso` in `/userdata/roms/wii`, the following file should be placed in `/userdata/roms/wii`:

New Super Mario Bros.iso.cfg

```
'r2':'Shake/Z'
'pageup':'Tilt/Left'
'pagedown':'Tilt/Right'
'select':'Buttons/-'
'start':'Buttons/+'
```

NEW: From the **5.26+ (beta 14/04/2020)** you can now **SHAKE** in game with **L2** Key, for example to play New Super Mario World while using **.side.** Wiimote orientation.

Classic Controller compatible games list

The following Wii games are compatible with the Classic Controller, and you can play them with this patch.

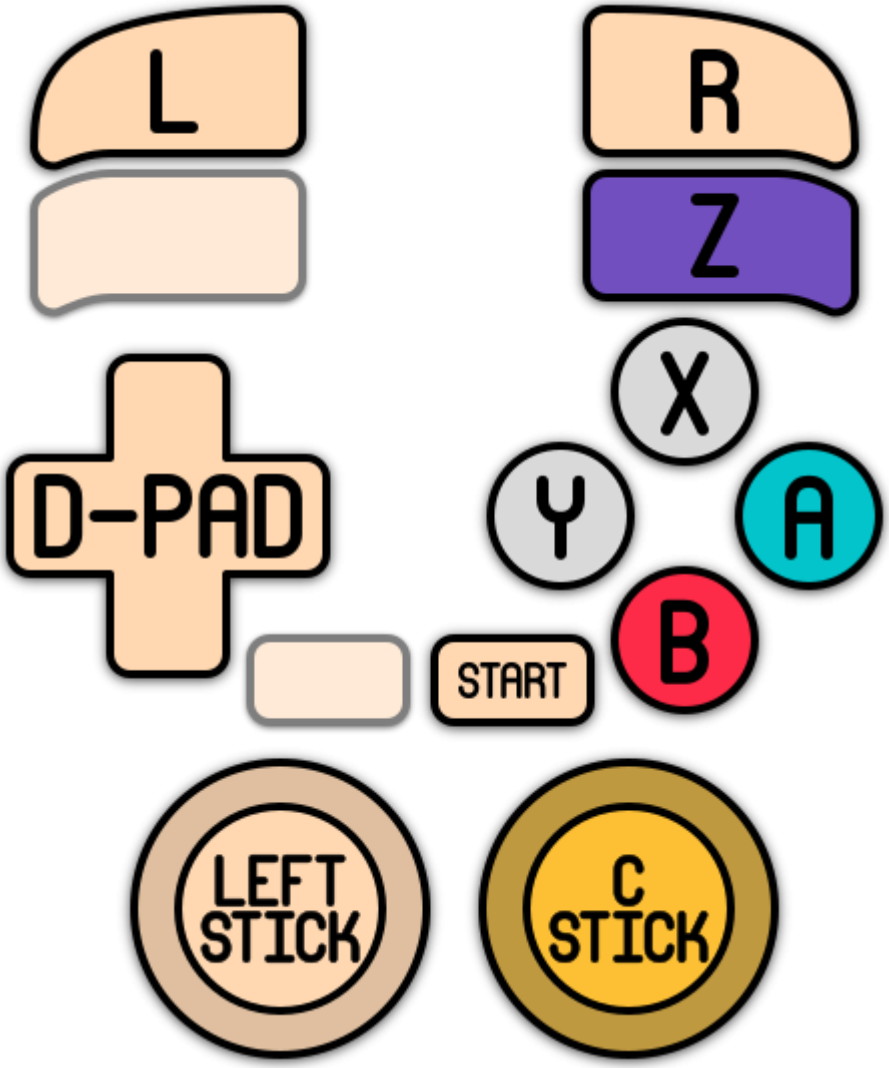
```
Blast Works: Build Trade Destroy
Bleach: Versus Crusade
Call of Duty: Black Ops
```

```
Call of Duty: Modern Warfare 3
Castlevania Judgment
Dokapon Kingdom
Dragon Ball Z: Budokai Tenkaichi 2
Dragon Ball Z: Budokai Tenkaichi 3
Fifa 09
Fifa 10
Fifa 15
Final Fantasy Crystal Chronicles: Echoes of Time
Fire Emblem: Radiant Dawn
Geometry Wars Galaxies
G.I. Joe: The Rise of Cobra
Grim Adventures of Billy & Mandy, The
Guilty Gear XX Accent Core
Harvest Moon: Tree of Tranquility
Kirby's Dream Collection
Mario Kart Wii
MLB Power Pros
MLB Power Pros 2008
Mortal Kombat: Armageddon
Monster Hunter Tri
Muramasa: The Demon Blade
MySims Racing
Naruto: Clash of Ninja Revolution 1
Naruto Shippuden: Clash of Ninja Revolution 3
Naruto Shippuuden Gekitou! Ninja Taisen EX
Naruto Shippuuden Gekitou! Ninja Taisen EX2
Naruto Shippuuden Gekitou! Ninja Taisen EX3
Need for Speed: Undercover
Newer Super Mario Bros Wii [HACK]
NHL 2k10
NiGHTS: Journey of Dreams
No More Heroes 2
Opoona
Pro Evolution Soccer 2009
Rampage: Total Destruction
Resident Evil Archives: Resident Evil
Resident Evil 4 Wii Edition
Rune Factory Frontier
Samurai Shodown Anthology
Sengoku Basara: Samurai Heroes
SNK Arcade Classics Vol. 1
Sonic Colors
Sonic Unleashed
SpongeBob's Truth or Square
Super Mario Kart Wii
Super Smash Bros. Brawl
Taiko No Tatsujin
Tatsunoko vs. Capcom: Cross Generation of Heroes
Teenage Mutant Ninja Turtles: Smash-Up
Tetris Party Deluxe
```

```
The Last Story
TNA Impact
Ultimate Shooting Collection
WWE SmackDown vs. Raw 2010
Victorious Boxers Revolution
Virtual Console Games
Pro Evolution Soccer 2010 ???????
Xenoblade Chronicles
Zhu Zhu Pets: Featuring the Wild Bunch
```

Emulated GameCube controller with a gamepad

This is the default mode, when nothing else is configured. Shown on a Batocera RetroPad:



Troubleshooting

There are infrequent frame-drops in my games despite them running at full-

speed most of the time

Your GPU might not be strong enough to calculate the caches in real-time while playing. This can be worked around by activating the **PRE-CACHE SHADERS** **`wii.wait_for_shaders`** setting, at the cost of having to wait a while on your next launch of the game (one time only).

It's still happening!

For exceptionally weak hardware, it might also be worth turning off **UBERSHADERS** **`wii.ubershaders`** altogether.

I have X problem with Y game

Dolphin has a great and informative wiki, usually detailing which settings may need to be altered to avoid issues in certain games. Search for your game on it here: https://wiki.dolphin-emu.org/index.php?title=Main_Page

Further troubleshooting

For further troubleshooting, refer to the generic support pages.

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