

# MSU-MD

MSU-MD is the MegaCD driver for msu-like interfacing with CD hardware for MegaDrive/Genesis.



## Quick reference

- **Emulator:** [RetroArch](#)
- **Cores available:** [libretro: genesisplusgx](#)
- **Folder:** /userdata/roms/megadrive-msu (/userdata/roms/msu-md up to Batocera 42)
- **Accepted ROM formats:** .md, .zip, .7z, .squashfs

## BIOS

MD5 checksum	Share file path	Description
e66fa1dc5820d254611fdcdba0662372	bios/bios_CD_E.bin	
854b9150240a198070150e4566ae1290	bios/bios_CD_U.bin	
278a9397d192149e84e820ac621a8edd	bios/bios_CD_J.bin	

## ROMs


Place your MSU-MD ROMs in /userdata/roms/megadrive-msu.

## 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.

### libretro: Genesisplusgx

A good all-around emulator. It can run Sega Genesis/Megadrive, Sega Master System, Sega/Mega CD and Game Gear games, but lacks 32X and Pico support. It is also the only emulator to support Lock-On technology, but can only be activated in RetroArch's **Quick Menu** ( [HOTKEY] +  ) (correct as of v31). After resetting the game, Lock-On will be activated. By default, Batocera will reset this setting after exiting the game. This can be changed on a per-game basis by using RetroArch's Overrides. There are patches available for ROMs that set the flag to boot into their Lock-On ROMs instead, so this is not strictly required to play those games.

### libretro: Genesisplusgx configuration

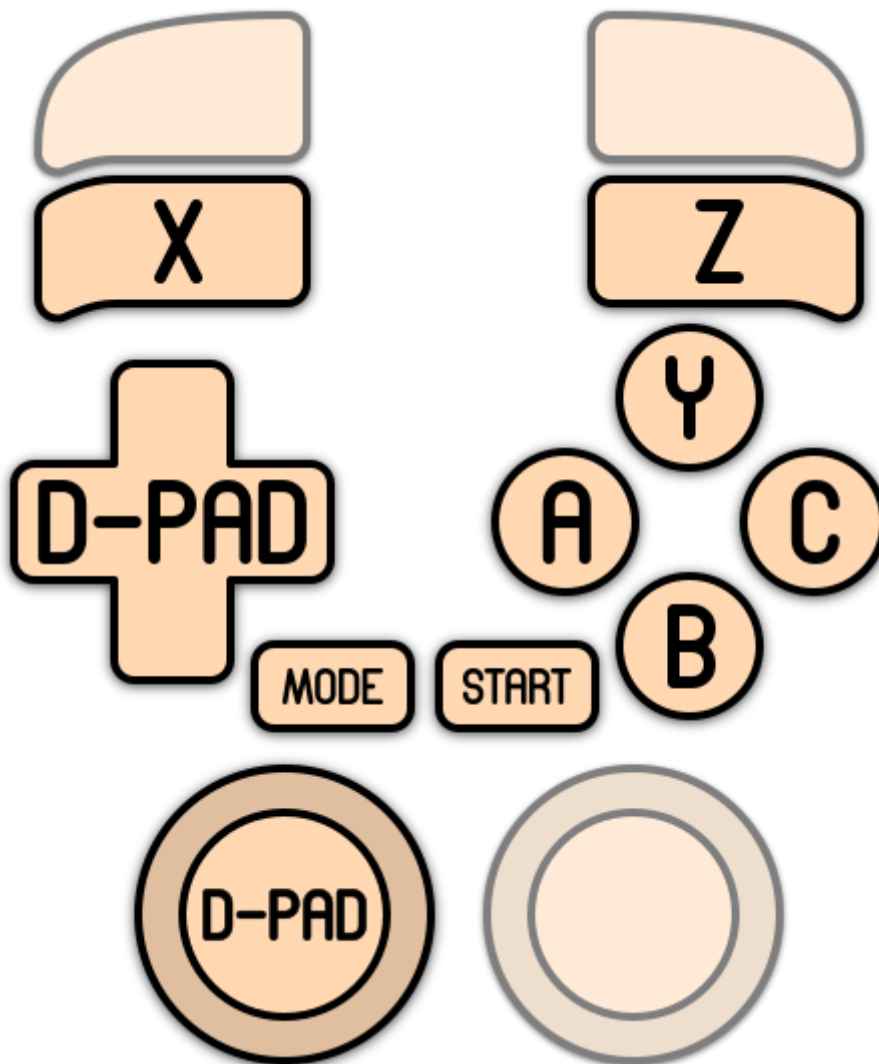
ES setting name batocera.conf_key	Description ⇒ ES option key_value
<b>Settings that apply to all systems this core supports</b>	
<b>REDUCE SPRITE FLICKERING</b> global.gpgx_no_sprite_limit	The Megadrive/Genesis can only draw ~80 sprites per horizontal line at a time, and any more will be mitigated by rapidly flickering between them each frame. This setting removes that limitation. Some games rely on the limit to mask certain sprites, but is generally not noticeable when removed. ⇒ Off disabled, On enabled.
<b>Settings specific to megadrive</b>	
<b>NTSC FILTER</b> megadrive.gpgx_blargg_filter_md	GenesisPlusGX has the Blarg NTSC filter built-in as a feature, unrelated to the shader selected within Batocera. This applies only to Megadrive/Genesis games. Batocera's or RetroArch's preset shaders can be used instead. ⇒ Off False, Composite (color bleeding + artifacts) composite, SVideo (color bleeding only) svideo, RGB (crisp image) rgb.
<b>SHOW LIGHTGUN CROSSHAIR</b> megadrive.gun_cursor_md	Shows crosshairs for Menacer and Justifiers devices. This applies only to Megadrive/Genesis games. ⇒ Off disabled, On enabled.

ES setting name batocera.conf_key	Description ⇒ ES option key_value
<b>CONTROLLER 1 TYPE</b> megadrive.controller1_md	The Megadrive/Genesis has many types of peripherals, notably a 6-button controller that some games require to be fully functional and a few lightguns. This is also where you would set your multi-tap on, if required. ⇒ Joypad Auto 1, Joypad 3 Button 257, Joypad 6 Button 513, Joypad 3 Button + 4-WayPlay 1025, Joypad 6 Button + 4-WayPlay 1281, Joypad 3 Button + Teamplayer 1537, Joypad 6 Button + Teamplayer 1793, Mouse 2.
<b>CONTROLLER 2 TYPE</b> megadrive.controller2_md	Same as above but also has the Menacer Light Gun and Konami Justifiers available. ⇒ Joypad Auto 1, Joypad 3 Button 257, Joypad 6 Button 513, Joypad 3 Button + 4-WayPlay 1025, Joypad 6 Button + 4-WayPlay 1281, Joypad 3 Button + Teamplayer 1537, Joypad 6 Button + Teamplayer 1793, Mouse 2, Menacer Light Gun 516, Konami Justifiers 772.
<b>Settings specific to mastersystem</b>	
<b>NTSC FILTER</b> mastersystem.gpgx_blargg_filter_ms	GenesisPlusGX has the Blarg NTSC filter built-in as a feature, unrelated to the shader selected within Batocera. This applies only to Master System games. Batocera's or RetroArch's preset shaders can be used instead. ⇒ Off False, Composite (color bleeding + artifacts) composite, SVideo (color bleeding only) svideo, RGB (crisp image) rgb.
<b>FM CHIP (YM2413)</b> mastersystem.ym2413	Enhanced sound output support for compatible games. ⇒ Autodetect automatic, Off disabled, On (forced) enabled.
<b>SHOW LIGHTGUN CROSSHAIR</b> mastersystem.gun_cursor_ms	Shows crosshairs for Menacer and Justifiers devices. This applies only to Master System games. ⇒ Off disabled, On enabled.
<b>CONTROLLER 1 TYPE</b> mastersystem.controller1_ms	Select 2 button controller, Lightgun or Multitap. ⇒ Joypad 2 Button 769, Joypad 2 Button + Master Tap 2049, Light Phaser 260, Paddle Control 261.
<b>CONTROLLER 2 TYPE</b> mastersystem.controller2_ms	Select 2 button controller, Lightgun or Multitap. ⇒ Joypad 2 Button 769, Joypad 2 Button + Master Tap 2049, Light Phaser 260, Paddle Control 261.
<b>Settings specific to gamegear</b>	
<b>LCD GHOSTING FILTER</b> gamegear.lcd_filter	Simulate LCD ghosting effects. ⇒ Off disabled, On enabled.

ES setting name batocera.conf_key	Description ⇒ ES option key_value
<b>EXTENDED SCREEN</b> gamegear.gg_extra	Extend the game screen area like on a Master System. ⇒ Off disabled, On enabled.

## Controls

Here are the MSU-MD controls shown on a Batocera Retropad:



## Troubleshooting

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

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Last update: **2026/03/27 10:23**



