Add games/BIOS files to Batocera

Batocera will only show the systems for which ROMs are installed for. As more ROMs are added for different systems, more systems will be shown. To update the game list, press [START] and go to **GAME SETTINGS → UPDATE GAMELISTS**.

Batocera is shipped with a selection of free ROMs - games that are freely available and that can be legally distributed. You can also install additional free games from the Content Downloader. All artwork is pre-scraped for use with themes, including video previews. These can be used to test that everything is working correctly. If you'd like to add your own ROMs and BIOS files, read on.

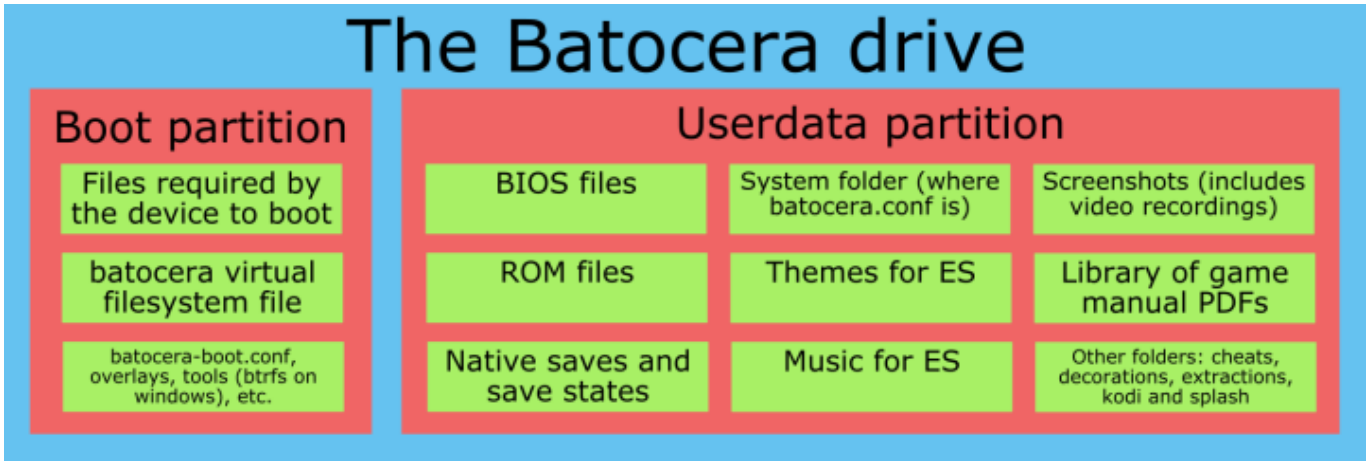
If you've got a large set of ROMs and would like to cut down on duplicates/languages you don't need, you can use external tools such as Romulus alongside unexpectedpanda's retool utility. For arcade games specifically, it's recommended to first read the dedicated arcade guide first. Then, a tool such as Voljega's BestArcade can be used to create a curated set.

If you've already copied your ROMs over to Batocera and would like to cut down in a simpler manner, you can use tools that can be run inside of Batocera such as andrebrait's 1g1r-romset-generator instead. Just follow the instructions from its Getting Started guide, installing the script to a folder in Batocera's network share and running the commands via SSH.

If you are coming from Retrobat, there is a community script that can automate the process. Most folders are identical between the projects, though.

Accessing Batocera's drive to add files

If you would like to add your own ROMs and BIOS files, you must first gain a way to access Batocera's userdata partition (labelled as SHARE). It is separate from the boot partition, as can be seen in this infographic:



Once access to the SHARE is gained, refer to the BIOS and ROM sections below.

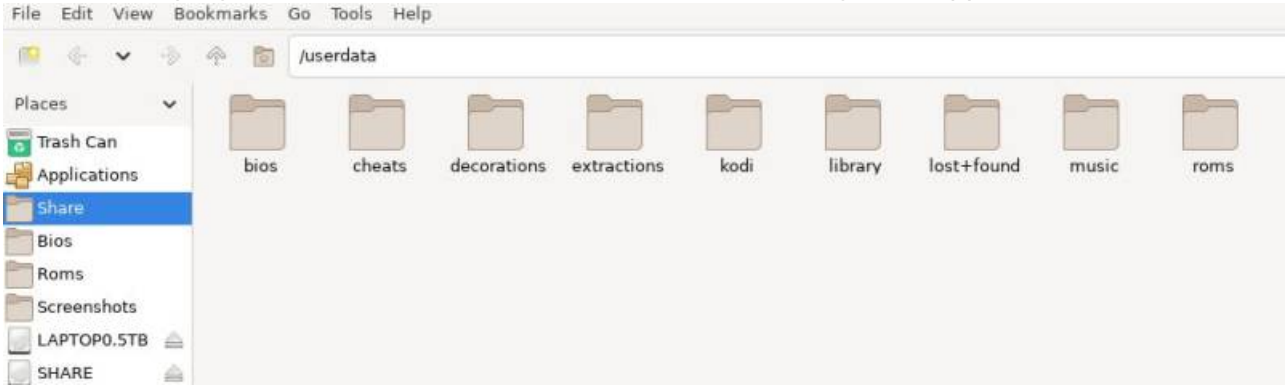
Batocera accommodates for multiple ways to access its drives, which can be categorized into three categories:

- Transferring the data while Batocera is running (the easiest method for most situations)
- Copying directly from another machine onto the Batocera drive; and
- Using an external storage.

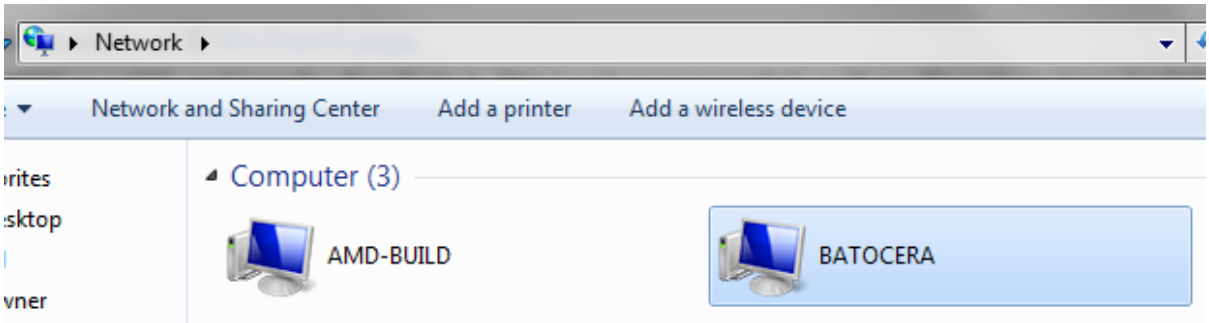
While Batocera is running

These methods require Batocera to be up and running first.

- On x86 and x86_64 platforms, open the built-in file manager ([F1] on the system list) or OD-Commander and transfer the data using the Batocera machine itself. eg. put all your ROMs onto a USB drive, plug it into the Batocera machine while it's running and copy them over.



- Add them from a different computer while Batocera is running, through the network share. This share is turned on by default, nothing needs to be done in Batocera. To connect to it from a different machine:
  1. Open your file explorer of choice and find its “Network” section. If using Android, CX File Explorer is a free app which supports this.
  2. Find the **BATOCERA** share. If it's not appearing, directly type `\\BATOCERA` (under Windows or MacOS) or `smb://BATOCERA.local` (under Linux) in the address bar to directly navigate to it. If your router doesn't support hostnames properly (many old routers do not), type in the IP address of the Batocera machine instead of the hostname (for example, `\\192.168.1.2`). You can find Batocera's IP address under **MAIN MENU → NETWORK SETTINGS → IP ADDRESS**.

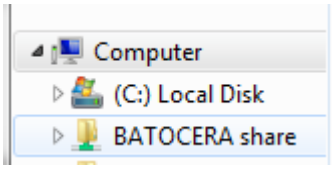


     If you are having trouble access the network share, be sure to check out the network issues page.

     In case **BATOCERA** is not appearing on the “Network” section, but you can still access it via its hostname, it's possible to create a permanent shortcut to that network location:

     - **On Windows:**
       1. Open “This Computer” and right click an empty space. Select **Add a network location**.

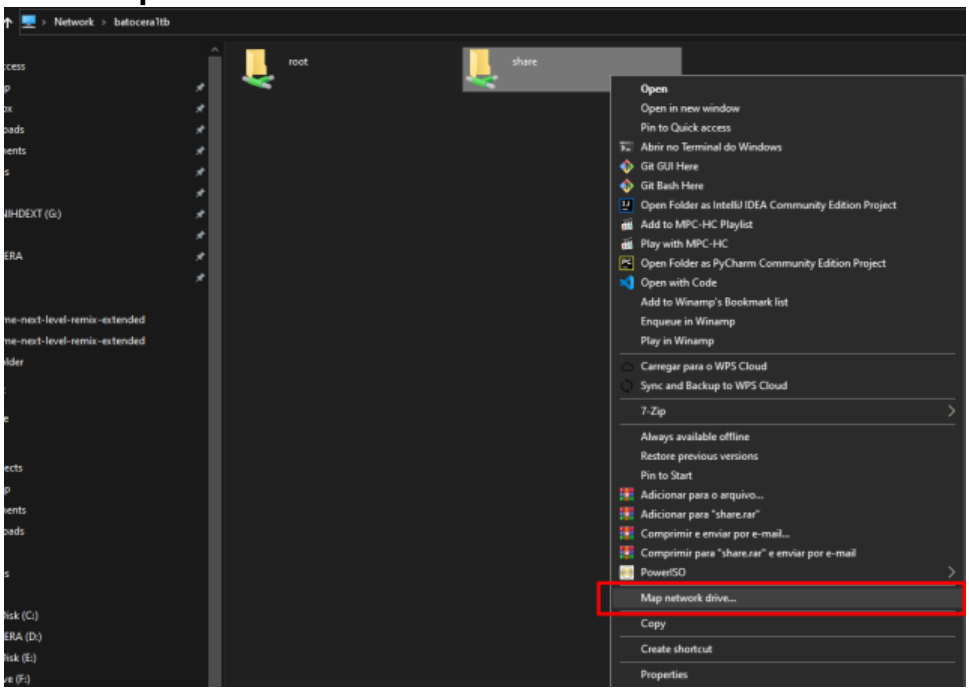
2. Click **Next** twice.
3. Type in the address from which you can access the Batocera share and click **Next**.
4. Give the shortcut a custom name if you wish, then click **Next** again.
5. Click **Finish** and the network location shall now appear in **This Computer**



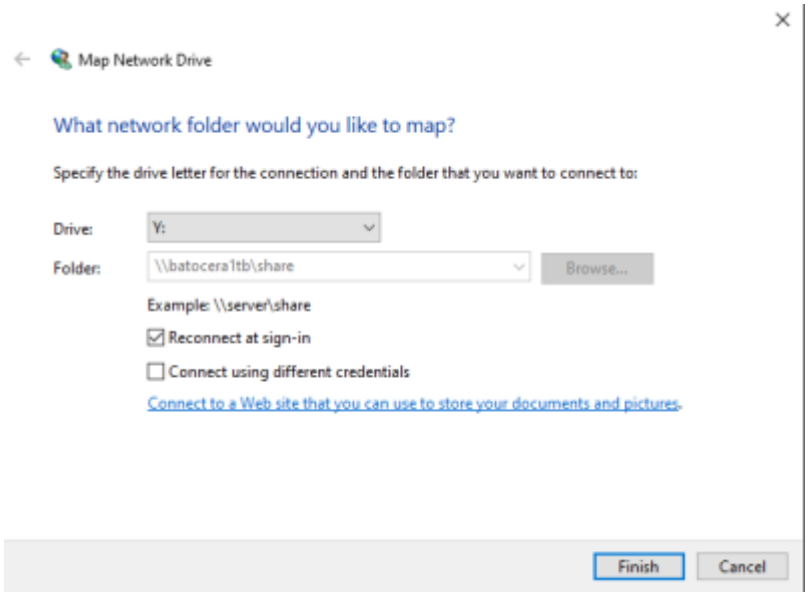
- **On Linux:**
  1. Open your preferred file manager.
  2. Mount the network share however way it's normally done.
  3. The share should appear in the sidebar, right click and select the equivalent of “bookmark” or “pin”.
  4. The share will now always be available in the sidebar.

To instead map the hostname itself as a network drive

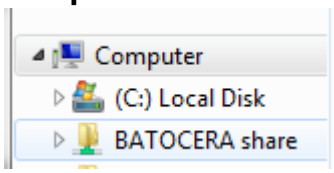
- **On Windows:**
  1. Navigate to \\BATOCERA (in case the host name is not working and you'd still like to use this method, you can just enter the IP address here, but you'd also need to assign Batocera a static IP address from your router, which is outside of the scope of this guide)
  2. Right click on Batocera's “share” share
  3. Select **Map Network Drive...**



  4. Select a letter for the drive and confirm with **Finish**

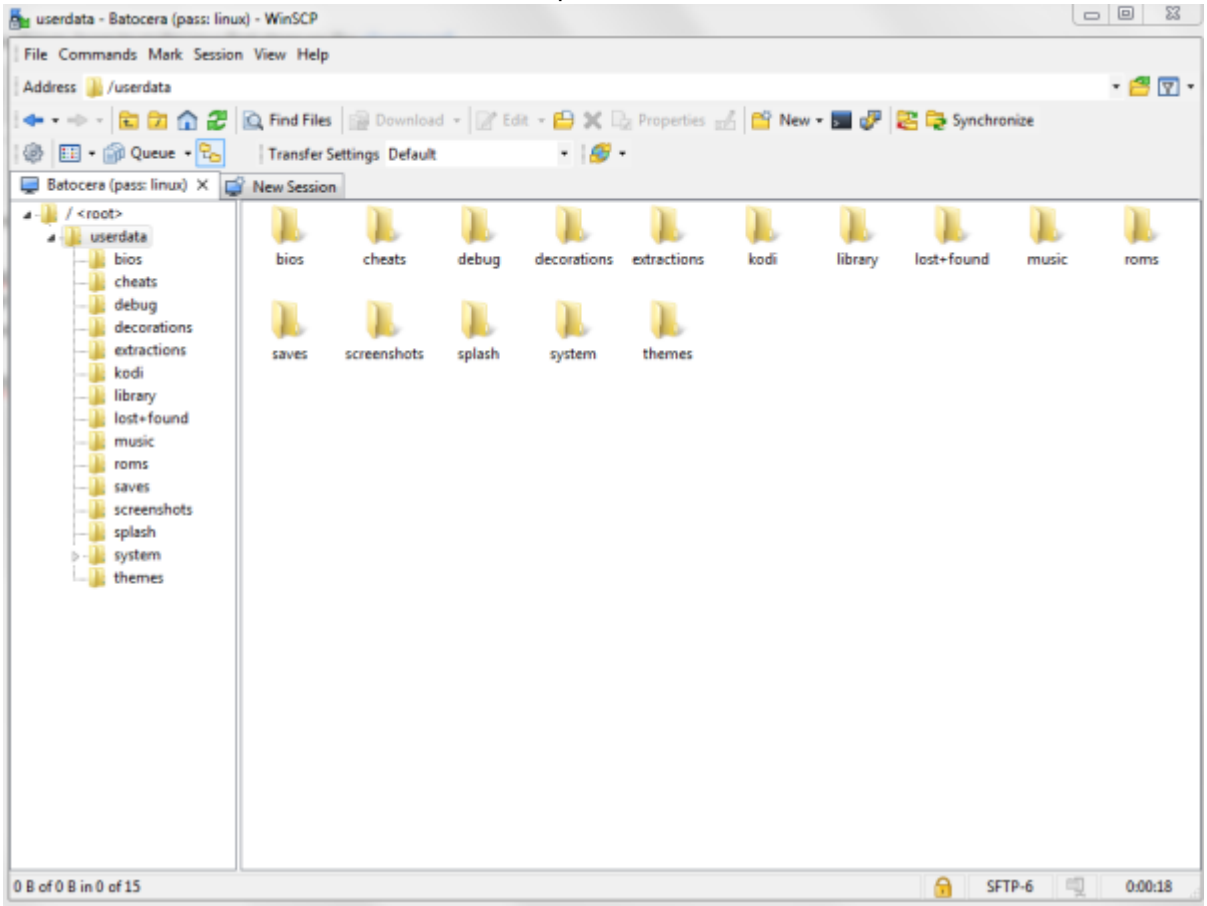


5. The drive mapped to Batocera's SHARE will now be available in **This Computer**



- **On Linux:**
  1. Fix Me! (just search up “fstab” for your OS)

- Use WinSCP to transfer from another computer to the Batocera machine via SSH/SFTP.



- As an alternative to the built-in file manager, Midnight Commander can be used in an SSH terminal to copy files. To use it, sign in via SSH and run `mc`.

Todo: add screenshot of MC

- If you know your way around SSH/terminal, the `cp` and `mv` commands can also be used directly.

Copying directly from another OS

This is by plugging the Batocera drive into another machine (or from another OS on the same machine), and copying your files from there directly onto the SHARE partition.

If using any of these methods, be sure to boot Batocera at least once to allow it to auto-expand the userdata partition to fill the rest of the drive. Otherwise, it will only be 512 MB large!

- Directly copy the ROM/BIOS files onto the **userdata** partition on a computer that can natively write to ext4 filesystems (any OS that supports the ext4 filesystem should work).
  - When the Batocera drive is connected, two partitions will appear. One labelled BATOCERA, which is the boot partition, and another labelled SHARE, which is the userdata partition. Copy your games/BIOS files appropriately into the SHARE partition.

    Be warned that there have been user reports of Windows/iOS failing to copy over the data successfully when interacting with Linux-formatted partitions, resulting in weird issues such as files disappearing. For most users, this is not an issue. If you have any doubts, use Batocera itself to copy the data over while it's running.

    If you are using Windows 11 (or Windows 10 Insider Build 20211) or above, its WSL 2 feature allows for the mounting of ext4 filesystems:

    1. Open a PowerShell window with administrator privileges
    2. If WSL is currently disabled, type in `Enable-WindowsOptionalFeature -Online -FeatureName Microsoft-Windows-Subsystem-Linux` and press `[Enter]`. Restart the computer when prompted. After restarting, open Powershell with administrative privileges again.
    3. List all currently available disks to mount by typing in `wmic diskdrive list brief` and pressing `[Enter]`

       ```
       PS C:\Windows\system32> wmic diskdrive list brief
       Caption                      DeviceID            Model                        Partitions  Size
       KINGSTON SA2000M81000G       \\.\PHYSICALDRIVE0  KINGSTON SA2000M81000G       3           1000202273280
       iXpand Flash Drive USB Device  \\.\PHYSICALDRIVE1  iXpand Flash Drive USB Device  2           31914086400
       ```

    4. Then type `wsl --mount <DiskPath>` (where `<DiskPath>` is replaced with the intended disk, for example `wsl --mount \\.\PHYSICALDRIVE1`) and press `[Enter]` again
    5. The partition will now appear in the sidebar of file explorer under the “Linux” group (or alternatively manually navigate to `\wsl$`)
    6. To unmount the disk, type `wsl --unmount <Diskpath>`

    For a simpler solution, Disk Genius can be used to read and write to ext4 partitions. The free trial only allows “small” files to be copied over.

    Alternatively, an ext4 Windows system driver can be installed from one of the modules at this French page.

If you are using iOS (Mac), it is recommended to use the network transfer method (followed by the virtual machine method mentioned in the next bullet point). If you are already familiar with the inner workings of iOS, have built software from its source before, have homebrewed your system and are okay with introducing instability to your system, a native solution to read ext4 partitions is available. macFUSE with fuse-ext2 can be used to read and write to ext4 partitions. A very brief guide (this is untested, refer to the Github page to be aware of the proper method, to quote the driver one last time "This is experimental code, opening rw a real file system could be dangerous for your data. Please add "-o ro" if you want to open the file system image in read-only mode, or "-o rw+" if you accept the risk to test this module"):

1. Install Homebrew for your system. This will not be covered as it is its own ordeal, not intended for regular users anyway.
2. Install macfuse: `brew install --cask macfuse`
3. Install fuse-ext2: brew method or manual compilation.
4. Discover which disk it is that contains the Batocera userdata: `diskutil list`
5. Mount the disk (where `/tmp/test-fs.ext4` is the path to the disk desired):

```
/opt/gnu/sbin/mkfs.ext4 /tmp/test-fs.ext4
mkdir -p ~/mnt/fuse-ext2.test-fs.ext4
fuse-ext2 /tmp/fuse-ext2.test-fs.ext4 ~/mnt/fuse-ext2.test-fs.ext4 -o rw+,allow_other,uid=501,gid=20
```

- Use a virtual machine of an OS which can natively read ext4 filesystems, along with a plugin that allows transfer between the virtual machine and the host system. Oracle Virtualbox, VMWare and if you have Windows Pro or superior editions use its built-in virtual machine tool, Hyper-V.
- Format your **userdata** partition to an older filesystem compatible with more OS's, such as NTFS or exFAT, and copy the files directly to it. This is not recommended, as those filesystems have limitations.
- In Batocera **5.26** and higher, format your **userdata** partition to BTRFS and transfer directly to it.

  On Windows, you can install the btrfs_for_windows driver from the `tools/` folder on the Batocera drive. Check its readme on how to install it. If using secure boot, an additional workaround is needed.

  "For the very latest versions of Windows 10, Microsoft introduced more onerous requirements for signing, which seemingly aren't available for open-source drivers. To work around this, go to `HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\CI\Policy` in Regedit, create a new DWORD value called `UpgradedSystem` and set to 1, and reboot. Or you could always just turn off Secure Boot in your BIOS settings."

Using an external storage

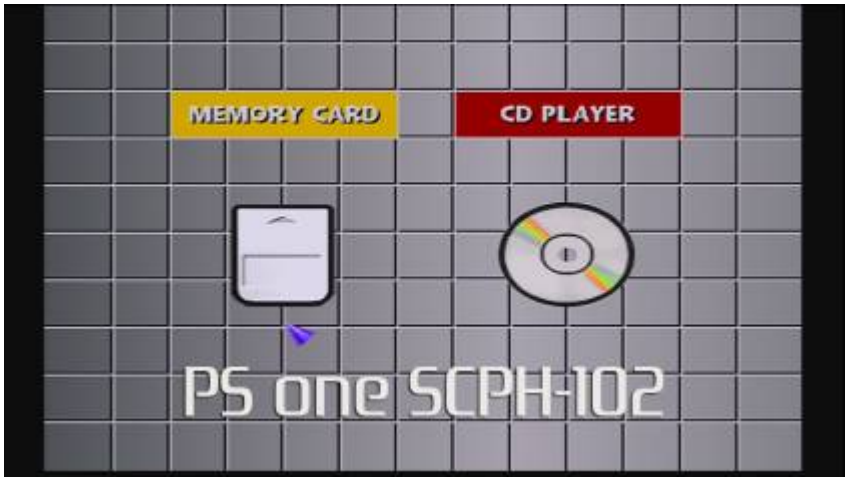
Alternatively, you can skip having to access Batocera's internal drive all together by instead commanding Batocera to use an external storage.

- Use an external drive for storage. The same limitations about filesystems still apply, but this is easier to reformat to another file system with.

- Use a Network Access Storage (NAS). The same limitations about filesystems still apply, but this is easier to reformat to another file system with.

Adding BIOS files

BIOS files are files required for some emulators to operate correctly. For example, some of the PlayStation and the NeoGeo games require a BIOS file to work.



All of these go into the `bios/` folder in the SHARE partition.

BIOS files are copyrighted and are therefore not included with Batocera. We can not legally distribute them, so you will need to supply your own.

What about arcade games? For arcade emulators, it's a little more complicated: many arcade boards were designed for one specific game, or just a few games. And most cases, you don't need BIOS files, but you might still need some specific additional files as described on this page. For other arcade systems, like Atomiswave or Naomi, they need a proper BIOS file, as listed below.

List of BIOS files that are suitable

You can use the `md5sum` command to get the checksum of your files. But the easiest way is to check **MISSING BIOS** from the **SYSTEM SETTINGS** menu, it will show you the required path and md5sum of every BIOS file needed for each system. This is always up to date with your current version.

You can find a text document of the BIOS files required by your system when connected via SSH at `/usr/share/batocera/datainit/bios/readme.txt`. Use `more /usr/share/batocera/datainit/bios/readme.txt` to quickly scroll through it (`[Space]` to scroll, `[Q]` to quit).

You can ask Batocera to check your still missing BIOS files with `batocera-systems` (takes a while to process, give it a minute or two). Not all “missing” BIOS files are required, most emulators will still run without them and you don't need the BIOS files for any system you aren't intended on playing.

You can find the current list of required and soon-to-be-implemented BIOS files directly on the Github repository.

Here a the compatible md5 and filenames per system, last updated Batocera **v33**:

Click to expand the list.

```
    # ---------- Atari ---------- #
    # https://docs.libretro.com/library/atari800/#bios
    "atari5200": { "name": "Atari 5200 / Atari 800", "biosFiles": [ {
"md5": "281f20ea4320404ec820fb7ec0693b38", "file": "bios/5200.rom"
},
                                                                   {
"md5": "06daac977823773a3eea3422fd26a703", "file": "bios/ATARIXL.ROM"
},
                                                                   {
"md5": "0bac0c6a50104045d902df4503a4c30b", "file":
"bios/ATARIBAS.ROM"},
                                                                   {
"md5": "eb1f32f5d9f382db1bbfb8d7f9cb343a", "file":
"bios/ATARIOSA.ROM"},
                                                                   {
"md5": "a3e8d617c95d08031fe1b20d541434b2", "file": "bios/ATARIOSB.ROM"}
] },

    #
https://github.com/libretro/libretro-super/blob/master/dist/info/hatari
_libretro.info
    "atarist": { "name": "Atari ST", "biosFiles": [ { "md5":
"c1c57ce48e8ee4135885cee9e63a68a2", "file": "bios/tos.img"}, # TOS 1.02
US
                             # Atari ST / STf / STfm
                             { "md5":
"25789a649faff0a1176dc7d9b98105c0", "file": "bios/tos100fr.img"},
                             { "md5":
"c87a52c277f7952b41c639fc7bf0a43b", "file": "bios/tos100uk.img"},
                             { "md5":
"d0f682ee6237497004339fb02172638b", "file": "bios/tos100us.img"},

                             { "md5":
"a622cc35d8d78703905592dfaa4d2ccb", "file": "bios/tos102de.img"},
                             { "md5":
"d6521785627d20c51edc566808a6bf28", "file": "bios/tos102fr.img"},
                             { "md5":
"b2a8570de2e850c5acf81cb80512d9f6", "file": "bios/tos102uk.img"},
                             #{ "md5":
"c1c57ce48e8ee4135885cee9e63a68a2", "file": "bios/tos102us.img"},

                             { "md5":
"41b7dae4e24735f330b63ad923a0bfbc", "file": "bios/tos104de.img"},
```

```
                                { "md5":
"143343f7b8e0b1162af206fe8f46b002", "file": "bios/tos104es.img"},
                                { "md5":
"0087e2707c57efa2106a0aa7576655c0", "file": "bios/tos104fr.img"},
                                #{ "md5":
"52248cc70ae48b3050e197e270917130", "file": "bios/tos104nl.img"},
                                #{ "md5":
"7c040857bdcfcd7d748ca82205463efa", "file": "bios/tos104se.img"},
                                { "md5":
"036c5ae4f885cbf62c9bed651c6c58a8", "file": "bios/tos104uk.img"},
                                { "md5":
"736adb2dc835df4d323191fdc8926cc9", "file": "bios/tos104us.img"},

                                # Atari STe
                                { "md5":
"992bac38e01633a529121a2a65f0779e", "file": "bios/tos106de.img"},
                                { "md5":
"30f69d70fe7c210300ed83f991b12de9", "file": "bios/tos106es.img"},
                                { "md5":
"bc7b224d0dc3f0cc14c8897db89c5787", "file": "bios/tos106fr.img"},
                                { "md5":
"6033f2b9364edfed321c6931a8181fd2", "file": "bios/tos106uk.img"},
                                { "md5":
"a0982e760f9807d82667ff5a69e78f6b", "file": "bios/tos106us.img"},

                                { "md5":
"94a75c1c65408d9f974b0463e15a3b11", "file": "bios/tos162de.img"},
                                { "md5":
"ed5fbaabe0219092df74c6c14cea3f8e", "file": "bios/tos162fr.img"},
                                #{ "md5":
"6f9471098a521214fad1e2c6f2dd3d08", "file": "bios/tos162se.img"},
                                { "md5":
"1cbc4f55295e469fc8cd72b7efdea1da", "file": "bios/tos162uk.img"},
                                { "md5":
"febb00ba8784798293a7ae709a1dafcb", "file": "bios/tos162us.img"},

                                # Atari Mega STe
                                { "md5":
"7aeabdc25f8134590e25643a405210ca", "file": "bios/tos205de.img"},
                                { "md5":
"7449b131681f1dfe62ebed1392847057", "file": "bios/tos205es.img"},
                                { "md5":
"61b620ad951815a25cb37895c81a947c", "file": "bios/tos205fr.img"},
                                { "md5":
"7e87d8fe7e24e0b4c55ad1b7955beae3", "file": "bios/tos205it.img"},
                                #{ "md5":
"1c92855316a33faee602b8007f22d2cb", "file": "bios/tos205se.img"},
                                { "md5":
"7cdd45b6aac66a21bfb357d9334e46db", "file": "bios/tos205us.img"},

                                { "md5":
```

```
"0604dbb85928f0598d04144a8b554bbe", "file": "bios/tos206de.img"},
                              { "md5":
"b2873004a408b8db36321f98daafa251", "file": "bios/tos206fr.img"},
                              { "md5":
"4a0d4f282c3f2a0196681adf88862dd4", "file": "bios/tos206.img"},
                              #{ "md5":
"332fe3803a7e20cd625b27a69f07ae69", "file": "bios/tos206ru.img"},
                              #{ "md5":
"a7dc40dc5c1086bce1a8f3d44fd29051", "file": "bios/tos206se.img"},
                              { "md5":
"e690bec90d902024beed549d22150755", "file": "bios/tos206uk.img"},
                              { "md5":
"c9093f27159e7d13ac0d1501a95e53d4", "file": "bios/tos206us.img"},

                              # Atari TT
                              { "md5":
"066f39a7ea5789d5afd59dd7b3104fa6", "file": "bios/tos306de.img"},
                              { "md5":
"dd1010ec566efbd71047d6c4919feba5", "file": "bios/tos306uk.img"},

                              # Atari Falcon
                              { "md5":
"ed2647936ce4bd283c4d7dfd7ae09d1c", "file": "bios/tos400.img"},
                              { "md5":
"9e880168d0a004f7f5e852be758f39e4", "file": "bios/tos402.img"},
                              { "md5":
"e5ea0f216fb446f1c4a4f476bc5f03d4", "file": "bios/tos404.img"} ] },

    # https://docs.libretro.com/library/beetle_handy/#bios
    "lynx": { "name": "Lynx", "biosFiles": [ { "md5":
"fcd403db69f54290b51035d82f835e7b", "file": "bios/lynxboot.img"} ] },

    # ---------- Magnavox and Philips ---------- #
    # https://docs.libretro.com/library/o2em/#bios
    "o2em": { "name": "Odyssey 2", "biosFiles": [ { "md5":
"562d5ebf9e030a40d6fabfc2f33139fd", "file": "bios/o2rom.bin" },
                                                   { "md5":
"f1071cdb0b6b10dde94d3bc8a6146387", "file": "bios/c52.bin"   },
                                                   { "md5":
"c500ff71236068e0dc0d0603d265ae76", "file": "bios/g7400.bin" },
                                                   { "md5":
"279008e4a0db2dc5f1c048853b033828", "file": "bios/jopac.bin" } ] },

    # ---------- Mattel ---------- #
    # https://docs.libretro.com/library/freeintv/#bios
    "intellivision": { "name": "Mattel Intellivision", "biosFiles": [
{ "md5": "62e761035cb657903761800f4437b8af", "file": "bios/exec.bin"
},
{ "md5": "0cd5946c6473e42e8e4c2137785e427f", "file": "bios/grom.bin"
} ] },
```

```
    # ---------- NEC ---------- #
    # https://docs.libretro.com/library/beetle_pce_fast/#bios
    "pcengine":   { "name": "PC Engine", "biosFiles":  [ { "md5":
"38179df8f4ac870017db21ebcbf53114", "file": "bios/syscard3.pce" } ] },

    # https://docs.libretro.com/library/beetle_pc_fx/#bios
    "pcfx":       { "name": "PC-FX", "biosFiles":      [ { "md5":
"08e36edbea28a017f79f8d4f7ff9b6d7", "file": "bios/pcfx.rom"     } ] },

    # https://docs.libretro.com/library/beetle_pce_fast/#bios
    "supergrafx": { "name": "Supergrafx", "biosFiles": [ { "md5":
"38179df8f4ac870017db21ebcbf53114", "file": "bios/syscard3.pce" } ] },

    # ---------- SNK ----------#
    "neogeo":   { "name": "NeoGeo", "biosFiles":    [  { "md5":
"dffb72f116d36d025068b23970a4f6df", "file": "bios/neogeo.zip" } ] },
    "neogeocd": { "name": "NeoGeo CD", "biosFiles": [  { "md5":
"c733b4b7bd30fa849874d96c591c8639", "file": "bios/neocdz.zip" } ] },

    # ---------- Sharp ---------- #
    #
https://github.com/libretro/libretro-super/blob/master/dist/info/px68k_
libretro.info
    "x68000": { "name": "Sharp x68000", "biosFiles": [  { "md5":
"7fd4caabac1d9169e289f0f7bbf71d8e", "file": "bios/keropi/iplrom.dat" },
                                                        { "md5":
"cb0a5cfcf7247a7eab74bb2716260269", "file": "bios/keropi/cgrom.dat"  }
] },

    # ---------- Panasonic, Sanyo and Goldstar ---------- #
    #
https://github.com/libretro/libretro-super/blob/master/dist/info/opera_
libretro.info
    "3do":  { "name": "3DO", "biosFiles": [ { "md5":
"f47264dd47fe30f73ab3c010015c155b", "file": "bios/panafz1.bin"    },
                                            { "md5":
"51f2f43ae2f3508a14d9f56597e2d3ce", "file": "bios/panafz10.bin"},
                                            { "md5":
"8639fd5e549bd6238cfee79e3e749114", "file": "bios/goldstar.bin"} ] },

    # ---------- Sega ---------- #
    # https://docs.libretro.com/library/flycast/#bios
    "dreamcast":    { "name": "Dreamcast", "biosFiles":   [ { "md5":
"e10c53c2f8b90bab96ead2d368858623", "file": "bios/dc_boot.bin"  },
                                                             { "md5":
"0a93f7940c455905bea6e392dfde92a4", "file": "bios/dc_flash.bin" } ] },

    #
https://github.com/libretro/libretro-super/blob/master/dist/info/flycas
t_libretro.info
    "naomi":        { "name": "Naomi", "biosFiles":       [ { "md5":
```

```
"eb4099aeb42ef089cfe94f8fe95e51f6", "file": "bios/naomi.zip"   } ] },

    "atomiswave":   { "name": "Atomiswave", "biosFiles":  [ { "md5":
"0ec5ae5b5a5c4959fa8b43fcf8687f7c", "file": "bios/awbios.zip"  } ] },

    "segacd":       { "name": "Sega CD", "biosFiles":     [ { "md5":
"e66fa1dc5820d254611fdcdba0662372", "file": "bios/bios_CD_E.bin"   },
                                                            { "md5":
"854b9150240a198070150e4566ae1290", "file": "bios/bios_CD_U.bin"   },
                                                            { "md5":
"278a9397d192149e84e820ac621a8edd", "file": "bios/bios_CD_J.bin"   } ]
},

    # https://docs.libretro.com/library/beetle_saturn/#bios
    #
https://github.com/libretro/libretro-super/blob/master/dist/info/yabasa
nshiro_libretro.info
    "saturn":       { "name": "Sega Saturn", "biosFiles": [ { "md5":
"85ec9ca47d8f6807718151cbcca8b964", "file": "bios/sega_101.bin"     },
                                                            { "md5":
"3240872c70984b6cbfda1586cab68dbe", "file": "bios/mpr-17933.bin"    },
                                                            { "md5":
"255113ba943c92a54facd25a10fd780c", "file": "bios/mpr-18811-mx.ic1" },
                                                            { "md5":
"1cd19988d1d72a3e7caa0b73234c96b4", "file": "bios/mpr-19367-mx.ic1" },
                                                            { "md5":
"af5828fdff51384f99b3c4926be27762", "file": "bios/saturn_bios.bin" } ]
},

    # ---------- Sony Computer Entertainment ---------- #
    # https://docs.libretro.com/library/pcsx_rearmed/#bios
    "psx": { "name": "PSX", "biosFiles": [  { "md5":
"c53ca5908936d412331790f4426c6c33", "file": "bios/psxonpsp660.bin" },
                                            { "md5":
"6e3735ff4c7dc899ee98981385f6f3d0", "file": "bios/scph101.bin"     },
                                            { "md5":
"dc2b9bf8da62ec93e868cfd29f0d067d", "file": "bios/scph1001.bin"    },
                                            { "md5":
"8dd7d5296a650fac7319bce665a6a53c", "file": "bios/scph5500.bin"    },
                                            { "md5":
"490f666e1afb15b7362b406ed1cea246", "file": "bios/scph5501.bin"    },
                                            { "md5":
"32736f17079d0b2b7024407c39bd3050", "file": "bios/scph5502.bin"    },
                                            { "md5":
"1e68c231d0896b7eadcad1d7d8e76129", "file": "bios/scph7001.bin"    } ]
},

    #
https://pcsx2.net/config-guide/official-english-pcsx2-configuration-gui
de.html#Bios
    "ps2": { "name": "PS2", "biosFiles": [  { "md5":
```

```
"28922c703cc7d2cf856f177f2985b3a9", "file": "bios/SCPH30004R.bin" },
                                                { "md5":
"3faf7c064a4984f53e2ef5e80ed543bc", "file": "bios/SCPH30004R.MEC" },
                                                { "md5":
"d5ce2c7d119f563ce04bc04dbc3a323e", "file": "bios/scph39001.bin"  },
                                                { "md5":
"3faf7c064a4984f53e2ef5e80ed543bc", "file": "bios/scph39001.MEC"  },
                                                { "md5":
"9a9e8ed7668e6adfc8f7766c08ab9cd0", "file": "bios/EROM.BIN"      },
                                                { "md5":
"44552702b05697a14ccbe2ca22ee7139", "file": "bios/rom1.bin"      },
                                                { "md5":
"b406d05922dac2eaf3c2e68157b1b468", "file": "bios/ROM2.BIN"      } ] },

    # https://www.playstation.com/en-us/support/system-updates/ps3/
    "ps3": { "name": "PS3", "biosFiles": [  { "md5":
"a0b63a3e4ae92ed176d6b9a67ce447f0", "file": "bios/PS3UPDAT.PUP" } ] },

    # ---------- Nintendo ---------- #
    # https://docs.libretro.com/library/fceumm/#bios
    "fds":         { "name": "Nintendo Family Computer Disk System",
"biosFiles": [ { "md5": "ca30b50f880eb660a320674ed365ef7a", "file":
"bios/disksys.rom" } ] },

    # https://docs.libretro.com/library/melonds/#bios
    "nds": { "name": "Nintendo DS", "biosFiles": [  { "md5":
"94bc5094607c5e6598d50472c52f27f2", "file": "bios/dsfirmware.bin" },
                                                { "md5":
"df692a80a5b1bc90728bc3dfc76cd948", "file": "bios/biosnds7.bin" },
                                                { "md5":
"a392174eb3e572fed6447e956bde4b25", "file": "bios/biosnds9.bin" },
                                                { "md5":
"87b665fce118f76251271c3732532777", "file": "bios/biosdsi9.bin" },
                                                { "md5":
"559dae4ea78eb9d67702c56c1d791e81", "file": "bios/biosdsi7.bin" },
                                                { "md5":
"74f23348012d7b3e1cc216c47192ffeb", "file": "bios/dsifirmware.bin" },
                                                { "md5":
"d71edf897ddd06bf335feeb68edeb272", "file": "bios/dsinand.bin" }, ] },

    # https://docs.libretro.com/library/mgba/#bios
    "gba": { "name": "Nintendo Gameboy Advance", "biosFiles": [  {
"md5": "a860e8c0b6d573d191e4ec7db1b1e4f6", "file": "bios/gba_bios.bin"
},
                                                { "md5":
"32fbbd84168d3482956eb3c5051637f5", "file": "bios/gb_bios.bin" }, #
Optional
                                                { "md5":
"dbfce9db9deaa2567f6a84fde55f9680", "file": "bios/gbc_bios.bin" }, #
Optional
                                                { "md5":
```

```
"d574d4f9c12f305074798f54c091a8b4", "file": "bios/sgb_bios.bin" } ] },
# Optional

    # https://docs.libretro.com/library/snes9x/#bios
    "satellaview": { "name": "Satellaview", "biosFiles": [ { "md5":
"96cf17bf589fcbfa6f8de2dc84f19fa2", "file": "bios/BS-X.bin"   } ] },
    "sufami":      { "name": "Sufami", "biosFiles":      [ { "md5":
"d3a44ba7d42a74d3ac58cb9c14c6a5ca", "file": "bios/STBIOS.bin" } ] },

    # https://docs.libretro.com/library/mesen-s/#bios
    "sgb": { "name": "Super Game Boy", "biosFiles": [ { "md5":
"d574d4f9c12f305074798f54c091a8b4", "file": "bios/sgb_boot.bin" },
                                                    { "md5":
"e0430bca9925fb9882148fd2dc2418c1", "file": "bios/sgb2_boot.bin" },
                                                    { "md5":
"b15ddb15721c657d82c5bab6db982ee9", "file": "bios/SGB1.sfc" },
                                                    { "md5":
"8ecd73eb4edf7ed7e81aef1be80031d5", "file": "bios/SGB2.sfc" } ] },
    # ---------- Microsoft ---------- #
    # https://docs.libretro.com/library/fmsx/#bios
    "msx": { "name": "MSX", "biosFiles": [  { "md5":
"364a1a579fe5cb8dba54519bcfcdac0d", "file": "bios/MSX.ROM"      },
                                                    { "md5":
"ec3a01c91f24fbddcbcab0ad301bc9ef", "file": "bios/MSX2.ROM"     },
                                                    { "md5":
"2183c2aff17cf4297bdb496de78c2e8a", "file": "bios/MSX2EXT.ROM"  },
                                                    { "md5":
"847cc025ffae665487940ff2639540e5", "file": "bios/MSX2P.ROM"    },
                                                    { "md5":
"7c8243c71d8f143b2531f01afa6a05dc", "file": "bios/MSX2PEXT.ROM" } ] },

    "xbox": { "name": "Xbox", "biosFiles": [{ "md5":
"d49c52a4102f6df7bcf8d0617ac475ed", "file": "bios/mcpx_1.0.bin" },
                                                    { "md5":
"39cee882148a87f93cb440b99dde3ceb", "file": "bios/Complex_4627.bin" }]
},

    # ---------- Commodore ---------- #
    #
https://github.com/libretro/libretro-super/blob/master/dist/info/puae_l
ibretro.info
    # https://github.com/midwan/amiberry/wiki/Kickstart-ROMs-(BIOS)
    "amiga":  { "name": "Amiga",    "biosFiles":  [ { "md5":
"85ad74194e87c08904327de1a9443b7a", "file": "bios/kick33180.A500"
},
                                                          { "md5":
"82a21c1890cae844b3df741f2762d48d", "file": "bios/kick34005.A500"
},
                                                          { "md5":
"dc10d7bdd1b6f450773dfb558477c230", "file": "bios/kick37175.A500"
},
```

```
                                                    { "md5":
"89da1838a24460e4b93f4f0c5d92d48d", "file": "bios/kick34005.CDTV"
},
                                                    { "md5":
"e40a5dfb3d017ba8779faba30cbd1c8e", "file": "bios/kick40063.A600"
},
                                                    { "md5":
"b7cc148386aa631136f510cd29e42fc3", "file": "bios/kick39106.A1200"
},
                                                    { "md5":
"646773759326fbac3b2311fd8c8793ee", "file": "bios/kick40068.A1200"
},
                                                    { "md5":
"9bdedde6a4f33555b4a270c8ca53297d", "file": "bios/kick40068.A4000"
},
                                                    { "md5":
"5f8924d013dd57a89cf349f4cdedc6b1", "file": "bios/kick40060.CD32"
},
                                                    { "md5":
"bb72565701b1b6faece07d68ea5da639", "file": "bios/kick40060.CD32.ext"
},
                                                    #
https://fs-uae.net/docs/kickstarts
                                                    { "md5":
"82a21c1890cae844b3df741f2762d48d", "file": "bios/amiga-os-130.rom"
},
                                                    { "md5":
"646773759326fbac3b2311fd8c8793ee", "file": "bios/amiga-os-310-
a1200.rom"  },
                                                    { "md5":
"dc10d7bdd1b6f450773dfb558477c230", "file": "bios/amiga-os-204.rom"
},
                                                    { "md5":
"465646c9b6729f77eea5314d1f057951", "file": "bios/amiga-os-205.rom"
},
                                                    { "md5":
"413590e50098a056cfec418d3df0212d", "file": "bios/amiga-os-310-
a3000.rom"  },
                                                    { "md5":
"730888fb1bd9a3606d51f772ed136528", "file": "bios/amiga-os-310.rom"
},
                                                    { "md5":
"85ad74194e87c08904327de1a9443b7a", "file": "bios/amiga-os-120.rom"
},
                                                    { "md5":
"5f8924d013dd57a89cf349f4cdedc6b1", "file": "bios/amiga-os-310-
cd32.rom"   },
                                                    { "md5":
"bb72565701b1b6faece07d68ea5da639", "file": "bios/amiga-ext-310-
cd32.rom"  },
                                                    { "md5":
```

```
"89da1838a24460e4b93f4f0c5d92d48d", "file": "bios/amiga-ext-130-
cdtv.rom"  }] },

    # ---------- NEC PC-8800 ---------- #
    # https://github.com/RetroPie/RetroPie-Setup/wiki/PC-8800
    "pc88":       { "name": "NEC PC-8800", "biosFiles": [   { "md5":
"4f984e04a99d56c4cfe36115415d6eb8", "file": "bios/quasi88/N88.ROM"
},
                                                            { "md5":
"793f86784e5608352a5d7f03f03e0858", "file": "bios/quasi88/N88SUB.ROM"
},
                                                            { "md5":
"2ff07b8769367321128e03924af668a0", "file": "bios/quasi88/N88N.ROM"
},
                                                            { "md5":
"d675a2ca186c6efcd6277b835de4c7e5", "file": "bios/quasi88/N88EXT0.ROM"
},
                                                            { "md5":
"e844534dfe5744b381444dbe61ef1b66", "file": "bios/quasi88/N88EXT1.ROM"
},
                                                            { "md5":
"6548fa45061274dee1ea8ae1e9e93910", "file": "bios/quasi88/N88EXT2.ROM"
},
                                                            { "md5":
"fc4b76a402ba501e6ba6de4b3e8b4273", "file": "bios/quasi88/N88EXT3.ROM"
} ] },

    # ---------- NEC PC-9800 ---------- #
    # https://github.com/RetroPie/RetroPie-Setup/wiki/PC-9800#bios
    "pc98":       { "name": "NEC PC-9800", "biosFiles": [   { "md5":
"e246140dec5124c5e404869a84caefce", "file": "bios/np2kai/BIOS.ROM" },
                                                            { "md5":
"2af6179d7de4893ea0b705c00e9a98d6", "file": "bios/np2kai/FONT.ROM" },
                                                            { "md5":
"caf90f22197aed6f14c471c21e64658d", "file": "bios/np2kai/SOUND.ROM"},
                                                            { "md5":
"e9fc3890963b12cf15d0a2eea5815b72", "file": "bios/np2kai/ITF.ROM"  },
                                                            { "md5":
"7da1e5b7c482d4108d22a5b09631d967", "file": "bios/np2kai/font.bmp" } ]
},
    # ---------- Fairchild ChannelF ---------- #
    # https://github.com/libretro/FreeChaF/blob/master/README.md#bios
    "channelf":  { "name": "Fairchild ChannelF", "biosFiles": [   {
"md5": "ac9804d4c0e9d07e33472e3726ed15c3", "file": "bios/sl31253.bin"
},
                                                                 {
"md5": "da98f4bb3242ab80d76629021bb27585", "file": "bios/sl31254.bin"
},
                                                                 {
"md5": "95d339631d867c8f1d15a5f2ec26069d", "file": "bios/sl90025.bin" }
] },
```

```
    # ---------- Sharp X1 ---------- #
    # https://github.com/libretro/xmil-libretro/blob/master/README.MD
    "x1":  { "name": "Sharp X1", "biosFiles": [   { "md5":
"eeeea1cd29c6e0e8b094790ae969bfa7", "file": "bios/xmil/IPLROM.X1" },
                                                  { "md5":
"56c28adcf1f3a2f87cf3d57c378013f5", "file": "bios/xmil/iplrom.x1t" } ]
},

    # ---------- Fujistu FM-Towns ---------- #
    # https://github.com/captainys/TOWNSEMU
    "fmtowns":  { "name": "Fujistu FM-Towns", "biosFiles": [  { "md5":
"8fa4e553f28cfc0c30a0a1e589799942", "file": "bios/fmtowns/FMT_DIC.ROM"
},
                                    { "md5":
"0585b19930d4a7f4c71bcc8a33746588", "file": "bios/fmtowns/FMT_DOS.ROM"
},
                                    { "md5":
"ac0c7021e9bf48ca84b51ab651169a88", "file": "bios/fmtowns/FMT_F20.ROM"
},
                                    { "md5":
"b91300e55b70227ce98b59c5f02fa8dd", "file": "bios/fmtowns/FMT_FNT.ROM"
},
                                    { "md5":
"86fb6f7280689259f0ca839dd3dd6cde", "file": "bios/fmtowns/FMT_SYS.ROM"
} ] },

    # ---------- Future Pinball ---------- #
    "fpinball":   { "name": "Future Pinball", "biosFiles":  [ { "md5":
"65a8ebf870420316a939ac44fd4c731d", "file": "bios/wsh57/scripten.exe"
} ] },

    # ---------- Super Cassette Vision ---------- #
    "scv":   { "name": "Super Cassette Vision", "biosFiles":  [ {
"md5": "635a978fd40db9a18ee44eff449fc126", "file": "bios/upd7801g.s01"
} ] },

    # ---------- Apple 2 GS ---------- #
    "gsplus":   { "name": "Apple 2 GS", "biosFiles":  [ { "md5":
"20a0334c447cb069a040ae5be1d938df", "file": "bios/ROM1"  } ] },

    # ---------- Zelda Classic ---------- #
    "zc210":   { "name": "Zelda Classic", "biosFiles":  [ { "md5":
"033d7392985841027909c4c32b9f2076", "file": "bios/zcdata.data"  },
                                                  { "md5":
"e0ba7a8634b12cfee4b6760a6f89051a", "file": "bios/zcsf.sf2" } ] },
    # ---------- Apple Mac ---------- #
    "macintosh":   { "name": "Apple Macintosh", "biosFiles":  [ {
"md5": "66223be1497460f1e60885eeb35e03cc", "file": "bios/MacII.ROM"  },
                                                  { "md5":
"2a8a4c7f2a38e0ab0771f59a9a0f1ee4", "file": "bios/MacIIx.ROM" },
                                                  { "md5": "", "file":
```

```
"bios/mac128k.zip" },
                                                    { "md5":
"bc04a4252ee96826c1f41f927c145225", "zippedFile": "342-0220-a.u6d",
"file": "bios/mac128k.zip"},
                                                    { "md5":
"409d8b9a04db15b7bfbbd5fcb931bf2e", "zippedFile": "342-0221-a.u8d",
"file": "bios/mac128k.zip"},
                                                    { "md5": "", "file":
"bios/mackbd_m0110.zip" },
                                                    { "md5":
"9d09a9a51c9ef3ea5719e19db22e7901", "zippedFile": "ip8021h_2173.bin",
"file": "bios/mackbd_m0110.zip"},
                                                    { "md5": "", "file":
"bios/mackbd_m0120.zip" },
                                                    { "md5":
"9d09a9a51c9ef3ea5719e19db22e7901", "zippedFile": "ip8021h_2173.bin",
"file": "bios/mackbd_m0120.zip"},
                                                    { "md5": "", "file":
"bios/mac512k.zip" },
                                                    { "md5":
"b4118b89fa68a913a225f0cf9a751fae", "zippedFile": "342-0220-b.u6d",
"file": "bios/mac512k.zip"},
                                                    { "md5":
"ab4e461833e98ef7106f24455a07769d", "zippedFile": "342-0221-b.u8d",
"file": "bios/mac512k.zip"},
                                                    { "md5": "", "file":
"bios/macplus.zip" },
                                                    { "md5":
"1467a42dee57ac265d063b3f351189fc", "zippedFile": "342-0341-a.u6d",
"file": "bios/macplus.zip"},
                                                    { "md5":
"25b1bf85b3b072d957499cef4d7e313f", "zippedFile": "342-0341-b.u6d",
"file": "bios/macplus.zip"},
                                                    { "md5":
"cf7c3259844245a8967556fa40d81243", "zippedFile": "342-0341-c.u6d",
"file": "bios/macplus.zip"},
                                                    { "md5":
"d5584762b43a9b1cb24a981f9b9b4198", "zippedFile": "342-0342-a.u8d",
"file": "bios/macplus.zip"},
                                                    { "md5":
"f83069fd7ff1fb011958f819cbff4c88", "zippedFile": "342-0342-b.u8d",
"file": "bios/macplus.zip"},
                                                    { "md5":
"875919e2544644cd628f44b5c11db036", "zippedFile": "modplus-harp2.bin",
"file": "bios/macplus.zip"},
                                                    { "md5":
"efcefe8f11c10541a503d48a07878201", "zippedFile": "rominator-20150225-
hi.bin", "file": "bios/macplus.zip"},
                                                    { "md5":
"f4b06da98500df0747a764dfbf1862b9", "zippedFile": "rominator-20150225-
lo.bin", "file": "bios/macplus.zip"},
```

```
                                                { "md5": "", "file":
"bios/macse.zip" },
                                                { "md5":
"9fb38bdcc0d53d9d380897ee53dc1322", "zippedFile": "macse.rom", "file":
"bios/macse.zip"},
                                                { "md5": "", "file":
"bios/macclasc.zip" },
                                                { "md5":
"c229bb677cb41b84b780c9e38a09173e", "zippedFile":
"341-0813__=c=1983-90_apple__japan__910d_d.27c4096_be.ue1", "file":
"bios/macclasc.zip"},
                                                { "md5": "", "file":
"bios/mac2fdhd.zip" },
                                                { "md5":
"2a8a4c7f2a38e0ab0771f59a9a0f1ee4", "zippedFile": "97221136.rom",
"file": "bios/mac2fdhd.zip"},
                                                { "md5": "", "file":
"bios/nb_48gc.zip" },
                                                { "md5":
"1bf16eefb23a1bea02f031f1ef1de528", "zippedFile": "3410801.bin",
"file": "bios/nb_48gc.zip"},
                                                { "md5": "", "file":
"bios/maciix.zip" },
                                                { "md5":
"2a8a4c7f2a38e0ab0771f59a9a0f1ee4", "zippedFile": "97221136.rom",
"file": "bios/maciix.zip"},
                                                { "md5": "", "file":
"bios/maclc3.zip" },
                                                { "md5":
"fa16d49527c4e6e9c0d9e46904133d39", "zippedFile": "ecbbc41c.rom",
"file": "bios/maclc3.zip"},
                                                { "md5": "", "file":
"bios/mackbd_m0110a.zip" },
                                                { "md5":
"9e8ea1552153c5e0f895e247e7d3ec1c", "zippedFile": "341-0332-a.bin",
"file": "bios/mackbd_m0110a.zip"},
                                                { "md5": "", "file":
"bios/nb_image.zip" },
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"93155ac7bad0fec36837252bb1e408f2", "zippedFile": "nb_fake.bin",
"file": "bios/nb_image.zip"},
                                                { "md5": "", "file":
"bios/egret.zip" },
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"96665499f5cf2bb5b4aae6fdaf0a9fb5", "zippedFile": "341s0850.bin",
"file": "bios/egret.zip"},
                                                { "md5":
"b955ecbdf6d2f979f3683dd1d6884643", "zippedFile": "341s0851.bin",
"file": "bios/egret.zip"},
                                                { "md5":
"5035d321c5d5fa1eab5ce6bf986676e4", "zippedFile": "344s0100.bin",
```

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"file": "bios/egret.zip"},
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"bios/macos608.img" },
                                                { "md5": "", "file":
"bios/macos701.img" },
                                                { "md5": "", "file":
"bios/macos75.img" },
                                                { "md5": "", "file":
"bios/mac608.chd" },
                                                { "md5": "", "file":
"bios/mac701.chd" },
                                                { "md5": "", "file":
"bios/mac755.chd" } ] },

    # ---------- Tandy Color Conputer ---------- #
    "coco":   { "name": "Tandy Color Computer", "biosFiles":  [ {
"md5": "", "file": "bios/coco.zip"  },
                                               { "md5":
"a74f3d95b395dad7cdca19d560eeea74", "zippedFile": "bas10.rom", "file":
"bios/coco.zip"} ] },

    # ---------- Tomy Tutor ---------- #
    "tutor":   { "name": "Tomy Tutor", "biosFiles":  [ { "md5": "",
"file": "bios/tutor.zip"  },
                                               { "md5":
"196ba41dd1184fe754390534cc273116", "zippedFile": "tutor1.bin", "file":
"bios/tutor.zip"},
                                               { "md5":
"5770834c10946ac2c3617504ba530884", "zippedFile": "tutor2.bin", "file":
"bios/tutor.zip"} ] },

    # ---------- TI-99 ---------- #
    "ti99":   { "name": "Texas Instruments TI-99", "biosFiles":  [ {
"md5": "", "file": "bios/ti99_4a.zip"  },
                                               { "md5":
"9bb51dfab49b9a7cf832cc1fb6f203e6", "zippedFile": "994a_grom0.u500",
"file": "bios/ti99_4a.zip"},
                                               { "md5":
"7f1864c3dac31c86e2ae6ce43ccead07", "zippedFile": "994a_grom1.u501",
"file": "bios/ti99_4a.zip"},
                                               { "md5":
"a1f77a07243a334e13509a89bff944f2", "zippedFile": "994a_grom2.u502",
"file": "bios/ti99_4a.zip"},
                                               { "md5":
"6f495eef767b3f2821a2ec32d0047891", "zippedFile": "994a_rom_hb.u610",
"file": "bios/ti99_4a.zip"},
                                               { "md5":
"0dcb961cf84c69b2171a565427c7c6c7", "zippedFile": "994a_rom_lb.u611",
"file": "bios/ti99_4a.zip"} ] },
```

```
    # ---------- Bally Astrocade ---------- #
    "astrocde":   { "name": "Bally Astrocade", "biosFiles":  [ { "md5":
"", "file": "bios/astrocde.zip"  },
                                                { "md5":
"7d25a26e5c4841b364cfe6b1735eaf03", "zippedFile": "astro.bin", "file":
"bios/astrocde.zip"}, ] },

    # ---------- Game Master ---------- #
    "gmaster":   { "name": "Hartung Game Master", "biosFiles":  [ {
"md5": "", "file": "bios/gmaster.zip"  },
                                                { "md5":
"6bff08b5e5f96de405cd56d5f04a08f8", "zippedFile": "d78c11agf_e19.u1",
"file": "bios/gmaster.zip"}, ] },

    # ---------- Coleco Adam ---------- #
    "adam":   { "name": "Coleco Adam", "biosFiles":  [ { "md5": "",
"file": "bios/adam.zip"  },
                                                { "md5":
"01bba3bcd46d8a586dd6ec555accc133", "zippedFile": "alf @1 rev 57
e3d5.u8", "file": "bios/adam.zip"},
                                                { "md5":
"feabe33e8f2dab88da1458b4d27f3faa", "zippedFile": "alf @2 rev 57
ae6a.u20", "file": "bios/adam.zip"},
                                                { "md5":
"a720bc872a772ed471fac14e36ec8bcb", "zippedFile": "alf @3 rev 57
8534.u21", "file": "bios/adam.zip"},
                                                { "md5":
"cf10b154f2e006a9740d7653cfc47cab", "zippedFile": "eos 6 rev 57
08dd.u22", "file": "bios/adam.zip"},
                                                { "md5":
"7916bb9635d502366326ec39aea5fc89", "zippedFile": "master rev a
174b.u6", "file": "bios/adam.zip"},
                                                { "md5":
"2c66f5911e5b42b8ebe113403548eee7", "zippedFile": "os7.u2", "file":
"bios/adam.zip"},
                                                { "md5":
"4fe4f6800076ea3d897d4285653447bd", "zippedFile": "wp_r80.rom", "file":
"bios/adam.zip"},
                                                { "md5": "", "file":
"bios/adam_ddp.zip" },
                                                { "md5":
"0423e9e9bf5036aa1e9d656b6a1f842c", "zippedFile": "tape rev a
8865.u24", "file": "bios/adam_ddp.zip"},
                                                { "md5": "", "file":
"bios/adam_fdc.zip" },
                                                { "md5":
"ae12d0b83832b059cb6cb43029bbfdb3", "zippedFile": "1440k micro
innovations hd-dd.u10", "file": "bios/adam_fdc.zip"},
                                                { "md5":
"4c38a7df1e645c8d9f417bf7165c46d0", "zippedFile": "320ta.u10", "file":
"bios/adam_fdc.zip"},
```

```
                                                { "md5":
"afea14c826f3cfbc89b76725a4a41951", "zippedFile": "a720dipi 7607 mmsg
=c= 1988.u10", "file": "bios/adam_fdc.zip"},
                                                { "md5":
"976d2a7d85319d9104bc9ec176fbfa9c", "zippedFile": "adam disk u10 ad 31
rev a 09-27-84.u10", "file": "bios/adam_fdc.zip"},
                                                { "md5":
"29569dc029e95e48907b3c81d636987f", "zippedFile": "dbl2-4.u10", "file":
"bios/adam_fdc.zip"},
                                                { "md5":
"a121855c20a638429bbfcf0448349515", "zippedFile": "doug.u10", "file":
"bios/adam_fdc.zip"},
                                                { "md5":
"e05ababa16e2d5cb92b678cb6e6e2004", "zippedFile": "fastpack
720a,t.u10", "file": "bios/adam_fdc.zip"},
                                                { "md5":
"a1a2a353dea4b8769a2da733822abfdc", "zippedFile": "pmhdfdc.u10",
"file": "bios/adam_fdc.zip"},
                                                { "md5": "", "file":
"bios/adam_kb.zip" },
                                                { "md5":
"d81e0b2bb6b98999541c5f40b489e88f", "zippedFile": "keyboard.u2",
"file": "bios/adam_kb.zip"},
                                                { "md5": "", "file":
"bios/adam_prn.zip" },
                                                { "md5":
"3cdf2fe48ac4224b56f26c03f6c68982", "zippedFile": "printer.u2", "file":
"bios/adam_prn.zip"}, ] },

     # ---------- BBC Micro ---------- #
    "bbc":   { "name": "BBC Micro", "biosFiles":  [ { "md5": "",
"file": "bios/bbcb.zip"  },
                                                { "md5":
"521a197d3623682825f1042c1350feb4", "zippedFile": "basic1.rom", "file":
"bios/bbcb.zip"},
                                                { "md5":
"2cc67be4624df4dc66617742571a8e3d", "zippedFile": "basic2.rom", "file":
"bios/bbcb.zip"},
                                                { "md5":
"0cad3d0cf0d111aca2b158b9b605913f", "zippedFile": "os01.rom", "file":
"bios/bbcb.zip"},
                                                { "md5":
"46f920a170e88bab7faa96cf80b84324", "zippedFile": "os092.rom", "file":
"bios/bbcb.zip"},
                                                { "md5":
"0199bac73f1dbca291582834a3e61122", "zippedFile": "os10.rom", "file":
"bios/bbcb.zip"},
                                                { "md5":
"0a59a5ba15fe8557b5f7fee32bbd393a", "zippedFile": "os12.rom", "file":
"bios/bbcb.zip"},
                                                { "md5":
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"35e9ab10bcf016bd24b4c716add009b9", "zippedFile": "phroma.bin", "file":
"bios/bbcb.zip"},
                                                { "md5": "", "file":
"bios/bbc_acorn8271.zip"  },
                                                { "md5":
"803530149c274994fabc6d28cbe03679", "zippedFile": "dfs090.rom", "file":
"bios/bbc_acorn8271.zip"},
                                                { "md5":
"5a3ddfae96178e025f27bf1f69bfa629", "zippedFile": "dfs098.rom", "file":
"bios/bbc_acorn8271.zip"},
                                                { "md5":
"d636ffb7a80fc29b133d32e4250fbab6", "zippedFile": "dnfs100.rom",
"file": "bios/bbc_acorn8271.zip"},
                                                { "md5":
"5daed103918277e2065dd7e8d23e57a5", "zippedFile": "dnfs120.rom",
"file": "bios/bbc_acorn8271.zip"},
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"79b31feacab0b1ccddf358be5dfb6241", "zippedFile": "wedfs130.rom",
"file": "bios/bbc_acorn8271.zip"},
                                                { "md5":
"24458ace9566a01d255bca16b46a960d", "zippedFile": "wedfs141.rom",
"file": "bios/bbc_acorn8271.zip"},
                                                { "md5":
"6e9356d0a5e7fbabb386824ec370d6f3", "zippedFile": "wedfs142.rom",
"file": "bios/bbc_acorn8271.zip"},
                                                { "md5":
"990b8a9755af25452c85f23ceb344be4", "zippedFile": "wedfs143.rom",
"file": "bios/bbc_acorn8271.zip"},
                                                { "md5":
"1d250b0242e447e9106e8bfd1f27ea84", "zippedFile": "wedfs144.rom",
"file": "bios/bbc_acorn8271.zip"},
                                                { "md5": "", "file":
"bios/saa5050.zip"  },
                                                { "md5":
"8b3c10a2317808ed94d6c6073b5b3327", "zippedFile": "saa5050", "file":
"bios/saa5050.zip"},
                                                { "md5": "", "file":
"bios/mame/samples/bbc.zip"  },
                                                { "md5": "",
"zippedFile": "motoroff.wav", "file": "bios/mame/samples/bbc.zip"},
                                                { "md5": "",
"zippedFile": "motoron.wav", "file": "bios/mame/samples/bbc.zip"} ] },

    # ---------- APF M-1000 ---------- #
    "apfm1000":   { "name": "APF M-1000", "biosFiles":  [ { "md5": "",
"file": "bios/apfm1000.zip"  },
                                                { "md5":
"1f4a976350202ee1e32c2b0477c3fc1b", "zippedFile": "apf_4000.rom",
"file": "bios/apfm1000.zip"},
                                                { "md5":
"b325543b36d37edf3fc20761f00c7a37", "zippedFile": "mod_bios.bin",
```

```
"file": "bios/apfm1000.zip"},
                                                { "md5":
"89a7cfa5469ce24773721d65b28f8544", "zippedFile": "trash-ii.bin",
"file": "bios/apfm1000.zip"} ] },

    # ---------- Fujitsu FM-7 ---------- #
    "fm7":   { "name": "Fujitsu FM-7", "biosFiles":  [ { "md5": "",
"file": "bios/fm7.zip"  },
                                                { "md5":
"9f9b7d5615ecdbde2cd26e9306ffef13", "zippedFile": "boot_bas.rom",
"file": "bios/fm7.zip"},
                                                { "md5":
"18a461ccaf7ef4e8ecad58cecd3a24b3", "zippedFile": "boot_dos_a.rom",
"file": "bios/fm7.zip"},
                                                { "md5":
"6a5da0404b7ee338df9002cdcabc3068", "zippedFile": "fbasic300.rom",
"file": "bios/fm7.zip"},
                                                { "md5":
"a330817f8f7ced752a7bcc8dfba8fd2e", "zippedFile": "kanji.rom", "file":
"bios/fm7.zip"},
                                                { "md5":
"d19ed5923aaae2ec43dffe7a0daa80cb", "zippedFile": "subsys_c.rom",
"file": "bios/fm7.zip"},
                                                { "md5": "", "file":
"bios/fm77av.zip" },
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"71c96a45b78e88a39cb94c1aabd23d8a", "zippedFile": "fbasic30.rom",
"file": "bios/fm77av.zip"},
                                                { "md5":
"e0f4c0ebee60aee83e863826e59ae1de", "zippedFile": "initiate.rom",
"file": "bios/fm77av.zip"},
                                                { "md5":
"ae945a6dfb642b0a5d0529737e8ee5cd", "zippedFile": "subsys_a.rom",
"file": "bios/fm77av.zip"},
                                                { "md5":
"fb83a1a9725c8432acef0c3ce89492e3", "zippedFile": "subsys_b.rom",
"file": "bios/fm77av.zip"},
                                                { "md5":
"7db27dede3e358017d518101850bccfa", "zippedFile": "subsyscg.rom",
"file": "bios/fm77av.zip"} ] },


    # ---------- Epoch Game Pocket Computer ---------- #
    "gamepock":   { "name": "Epoch Game Pocket Computer", "biosFiles":
[ { "md5": "", "file": "bios/gamepock.zip"  },
                                                { "md5":
"a0dd595eafb407a6a4b4ed800005a394", "zippedFile": "egpcboot.bin",
"file": "bios/gamepock.zip"} ] },

    # ---------- Tiger Game.com ---------- #
    "gamecom":   { "name": "Tiger Game.com", "biosFiles":  [ { "md5":
```

```
"", "file": "bios/gamecom.zip"  },
                                                { "md5":
"813364d4863b1d7b7b8fd6a97a416bcf", "zippedFile": "external.bin",
"file": "bios/gamecom.zip"},
                                                { "md5":
"f7bcefb6daf923c8e5ea2eb69f619efe", "zippedFile": "internal.bin",
"file": "bios/gamecom.zip"} ] },

    # ---------- VTech CreatiVision ---------- #
    "crvision":   { "name": "VTech CreatiVision", "biosFiles":  [ {
"md5": "", "file": "bios/crvision.zip"  },
                                                { "md5":
"3b1ef759d8e3fb4071582efd33dd05f9", "zippedFile": "crvision.u20",
"file": "bios/crvision.zip"} ] },

    # ---------- Entex Aventure Vision ---------- #
    "advision":   { "name": "Entex Adventure Vision", "biosFiles":  [ {
"md5": "", "file": "bios/advision.zip"  },
                                                { "md5":
"5729638bd856c475678467a353bd921c", "zippedFile":
"b225__ins8048-11kdp_n.u5", "file": "bios/advision.zip"},
                                                { "md5":
"fc5e71445e4947a9d00eedbc66b13a8f", "zippedFile": "b8223__cop411l-
kcn_n.u8", "file": "bios/advision.zip"} ] },

    # ---------- Bitcorp Gamate ---------- #
    "gamate":   { "name": "Bitcorp Gamate", "biosFiles":  [ { "md5":
"", "file": "bios/gamate.zip"  },
                                                { "md5":
"b411167df6dd563111729296f4c547f6", "zippedFile":
"gamate_bios_bit.bin", "file": "bios/gamate.zip"},
                                                { "md5":
"ef67993a94503c4b7798b5901c7dda52", "zippedFile":
"gamate_bios_umc.bin", "file": "bios/gamate.zip"} ] },

    # ---------- Phillips CD-i ---------- #
    "cdi":   { "name": "Phillips CD-i", "biosFiles":  [ { "md5": "",
"file": "bios/cdimono1.zip"  },
                                                { "md5":
"2969341396aa61e0143dc2351aaa6ef6", "zippedFile": "cdi200.rom", "file":
"bios/cdimono1.zip"},
                                                { "md5":
"ac80a92c988ce07fbd6a8f21ded34cf1", "zippedFile": "cdi220.rom", "file":
"bios/cdimono1.zip"},
                                                { "md5":
"ac0d468be366779c9df633be98da250a", "zippedFile": "cdi220b.rom",
"file": "bios/cdimono1.zip"},
                                                { "md5":
"3e59b8a9a423d3ecd612a32fe4e2d748", "zippedFile":
"zx405037p__cdi_servo_2.1__b43t__llek9215.mc68hc705c8a_withtestrom.7201
", "file": "bios/cdimono1.zip"},
```

```
                                                    { "md5":
"3d20cf7550f1b723158b42a1fd5bac62", "zippedFile":
"zx405042p__cdi_slave_2.0__b43t__zzmk9213.mc68hc705c8a_withtestrom.7206
", "file": "bios/cdimono1.zip"} ] },
    # ---------- Naomi 2 ---------- #
    "naomi2":   { "name": "Naomi 2", "biosFiles":  [ { "md5":
"fc7c2b9363a1e21b9ad42003e165598c", "file": "bios/naomi2.zip"  } ] },

    # ---------- Hikaru ---------- #
    "hikaru":   { "name": "Hikaru", "biosFiles":  [ { "md5":
"aac601811a25d7b31a3d5f3f1f82f338", "file": "bios/hikaru.zip"  } ] },
```

Adding ROMs

The `roms/` folder contains all the folders for all the systems available on your platform. Adding more folders will not add the system to Batocera; if the folder for that system isn't there then the emulator for that system is not present on your platform.

When installing your own ROMs, make sure that you have them in a suitable format for the emulators you are going to use. For example, if you want to add a NES ROM, make sure that your ROM file extension is listed in the `roms/nes/_info.txt` file. For this particular system, acceptable ROM formats are `.7z .nes .zip`, so an acceptable game would be `beans.nes`. You have one `_info.txt` file in each ROM system directory by default. New `_info.txt` files are added as new systems become available. Descriptive names for each system can be found on the system page.

By default, Batocera will hide systems which do not have ROMs present on the drive in the system list. Once ROMs in the right format are added to the appropriate folders and the gamelist is refresh, the new systems will appear.

When multiple emulators are available for the one system, but not all of them accept the same ROM formats, you'll get prompted with a message telling you that your ROM might not be used with the emulator selected when you try to launch a game in an incompatible format. Most of the time, at least. If not sure, refer to the aforementioned `_info.txt` file.

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