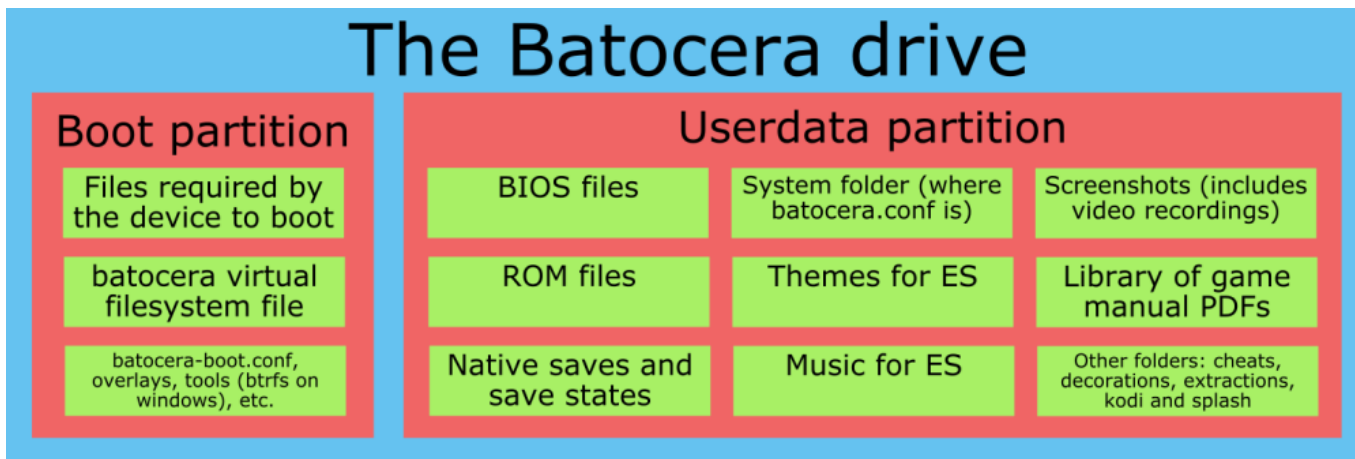



# Overlays

Batocera is like a firmware. It's a huge file at /boot/boot/batocera (it has no extension in its filename) which expands into the virtual file system root on boot. You cannot modify it directly, and for most use cases, you shouldn't need to modify it. All the user data is stored in /userdata/, which is writable. It is the "batocera virtual filesystem file" in the following diagram:



That said, you can utilize overlays to "patch" certain files over the batocera file at boot.

 The boot partition remounting information has been moved to [its own page](#).


## Editing system files


If you need to edit files to assist in making Batocera boot or to set up external storage, refer to [editing the boot partition](#).

For modifications to the regular Batocera virtual file system, you can directly edit the files in their directory while booted (for example if you want to play with the configgen scripts in /usr/lib/python3.9/site-packages/configgen/generators/, change the default platform parameters in /usr/share/batocera/configgen/configgen-defaults-arch.yml or edit the available advanced options in ES in /usr/share/emulationstation/es\_features.cfg). Once the modifications are done, you can save them with the command:

```
batocera-save-overlay
```

This script creates a patch file at /boot/boot/overlay which stores the differences between the current virtual file system and the one stored in /boot/batocera.


 **WARNING:** This overlay file is automatically

 removed at the next upgrade.

If you don't use the `batocera-save-overlay` script, you can still edit the files in `/usr/` but any modification will be lost on reboot.

If you want to remove all your customizations, just remove the `/boot/boot/overlay` file.

By default, Batocera overlay files are limited to 50MB. If your modifications are over 50MB, you can specify the size of the overlay with the command. Keep always a bit of margin, the overlay will embed a few more files than those you were expecting (some system files created on-the-fly at boot time). For example, if you need to save 120MB of data on the system, you can type `batocera-save-overlay 120`.

 This cannot be done for the current (v31) Odroid XU4 version.

## Cases when you don't need to modify the system

Some best practices here:

- You generally don't need to edit `/etc/fstab`, use [configure your external storage](#) or [configure your NAS](#) instead.
- You should not modify `/usr/share/emulationstation/es_systems.cfg`. Instead, follow the instructions at [the customize systems page](#).

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