

## A word of warning

Emulating DOS games is by far the most complicated thing to emulate on Batocera.

If you never used DOS or are not familiar at all with command line and file edition, I suggest to download the ExoDOS Collection and use my [ExoDOSConverter](#) which will generate fully functioning DOS games for you (bugs notwithstanding of course).

If you want to do it manually or want to know more about DOS emulation and tweaking, here's a little run down

Please also note that the different DOS emulators in Batocera are in the process of being reviewed and upgraded, and some of them are a bit twitchy.

For safer result you better stick at the moment with basic dosbox emulator

## DOSBox Emulation : Basic rundown

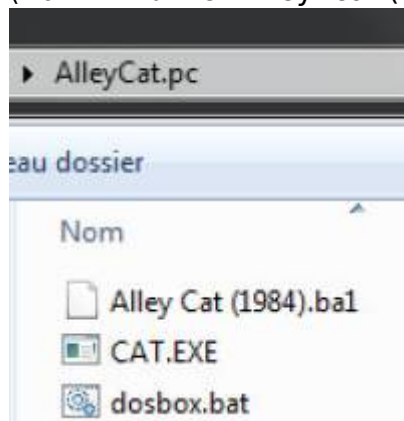
Here's a simple example with the game Alley Cat :

- Start by creating a folder for your game named `AlleyCat.pc`. The first part of the folder name before the `'.'` must have equal or less than 8 characters and avoid special characters.
- Inside it create a `dosbox.bat` file and edit it to call the executable of the game (For big games it's better to install them on your computer before copying them to Batocera). Here for Alley Cat that gives us:

```
C :
CAT . EXE
```

- The `C :` harddrive is set by DOSBOX to your game folder (so here `C :` is equal to the inside of `/batocera/share/roms/dos/AlleyCat.pc`). So is `'.'`
- Reboot or refresh your gamelist to see the game
- To exit the emulator, enter `ctrl+F9` with your keyboard

The content of your `AlleyCat.pc` folder should look like that:  
(Don't mind the `Alley Cat (1984).ba1` file)



## DOSBox Emulation : Advanced rundown

Adding a custom `dosbox.cfg` in your game folder alongside `dosbox.bat` will allow you to specify custom DOSBOX configuration for the game.

Either copy the `dosbox.conf` file from

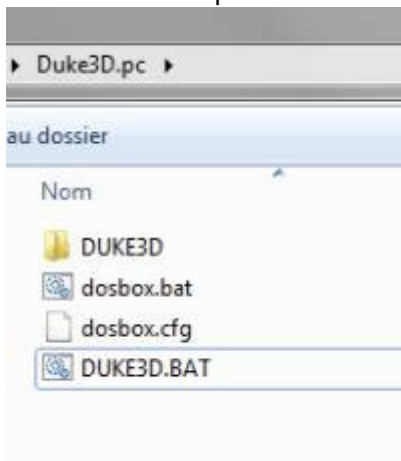
`\batocera\share\system\configs\dosbox\dosbox.conf` (warning : extension in the game folder must be `cfg` not `conf`) or use the following one : <https://pastebin.com/13xrjkw>

Inside this file, the line `mapperfile=mapper.map` will allow you to use a `mapper.map` file to map any control to your gamepad, including mouse !

It can be created from within your game by pressing `ctrl+F1` at any time and will then be saved alongside your `dosbox.cfg` and `dosbox.bat` files.

Some parameters from `dosbox.cfg` can also be put instead at the beginning of your `dosbox.bat` if you don't want to use a custom `dosbox.cfg` but some of them won't work there, everything graphics seems to work, but `mapperfile` doesn't work for instance.

Here's an example of what this more advanced version should look like :



## Converting a DOS game to be used on Batocera

You might want to convert a game already using DOSBox, like when bought on GOG or games from the excellent ExoDOS collection.

If you are using ExoDOS collection, I can only recommend once again [ExoDOSConverter](#)

Anyway, if you want to do it manually, here is the process:

The first step is to copy the content of the game folder.

Then we need to adapt the content of the `dosbox.cfg` and the bat file used to launch the game. Let's take an example with WackyWheels

Do not directly copy the `dosbox.cfg` (or `.conf`) from the original folder as this can lead to crashing bugs not easily debugged, copy the standard one linked above and then if you encounter any trouble, just see if the original `dosbox.cfg` had any special configuration and try to use it to your `dosbox.cfg`

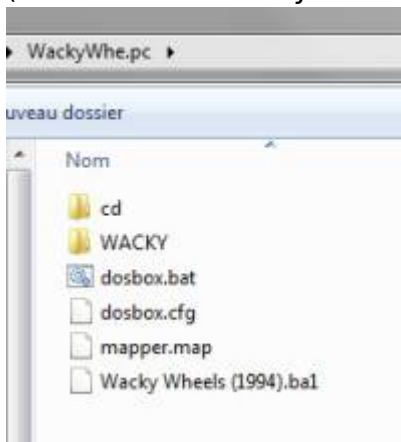
First move the content of the [autoexec] part from the doxbox.cfg part to the beginning of your dosbox.bat and adapt paths. Here we have originally :

```
[autoexec]
cd ..
cd ..
mount c .\games\WackyWhe
imgmount d .\games\WackyWhe\cd\wackywheels.iso -t cdrom
c:
cd wacky
cls
@ww
exit
```

and that will give us in our dosbox.bat on batocera side :

```
imgmount d .\cd\wackyw~1.iso -t cdrom
c:
cd WACKY
pause
WW.EXE
```

The content of your WackyWhe.pc folder should look like that:  
(Don't mind the Wacky Wheels (1994).ba1 file and mapper.map is perfectly optional)



## Explanations :

- C: is already mounted by Batocera DOSBox, so no need for that
- '.' is also set by Batocera DOSBox to the game folder, by using relative paths your game won't be linked to a folder (you can put in a subfolder or in a different distribution)
- exit is removed because Batocera DOSBox takes care of that too
- imgmount path is simplified but we have to convert the longer-than-8-chars name of the iso to a standard DOS name (that is eight characters total with the last two changed to ~1 - ~2 and ~3 etc. if you have several long filenames starting alike). Anyway maybe it's better to rename the filename in that case.
- Long names are not supported in .cue files either so you may have to rename some .cue/.bin files manually and edit the .cue file to set the correct new name for the bin in it. And it is very strict : no special chars, not even upper case characters

- pause command allow you to pause the screen and easily debug DOS instructions, you can remove it after everything works fine (don't put it after the main executable call or you'll see nothing, I know, I've been there ;) )
- @ww is changed to WW . EXE (just the executable file of the game)

That's it !

Some games may use a bat file launcher which you can adapt too, put its instruction after those of dosbox . cfg's [autoexec] if the original game uses both files.

## Troubleshooting

**Image isn't in the right ratio :** For older games, you may have to adjust the `aspect=false` parameter to `aspect=true` to get the correct 4/3 ratio. Be aware that on newer games this may lead to performance problems

**Joystick is moving by itself :** Try modifying `timed=false` to `timed=true`. Can be caused by deadzone too and sadly there is no way to configure deadzone on joystick in DOSBox at the moment

**D-pad is not usable on xbox60 controller through the mapper :** yeah, it is usable in the mapper, but it doesn't seem to work in-game, I know mate :(

**How an i set my joystick's deadzone :** Sadly it doesn't seem to be possible in standard dosbox at the moment

**CD Not Found / CD Driver not present :** you likely forgot to rename cd files with non-dos names (see adv. rundown)

**I can get mount a or mount d to work :** contrary to `imgmount`, `mount` is not able to use 'virtual' path from inside the dosbox machine, so for the `mount` command to work, you need to only use a real local path from the batocera file system. Given that `'.'` is set to the root / directory when DOSBox is launched you have to specify the full absolute path

**The mapper is bugged, it erases my configuration or mix buttons** You're likely victim of the `buttonwrap` parameter in your `dosbox.cfg` conf file. When set to `true`, its wraps buttons with an upper id than the number of joystick buttons emulated, restarting to 0 (5 will be wrapped to 0, 6 to 1, etc...) . Set it to `false` and everything should be fine

## Windows 3.1 emulation

It's also possible to emulate Windows 3.1 games with dosbox, the safest way is to get them from the ExoWin3x collection.





You can also convert them with [ExoDOSConverter](#)

## Controller

Most if not all DOS games offered keyboard controls, as that was the one accessory universally available to all computers. It is perfectly fine to use `pad2key` to bind your physical controller to the

virtual keyboard. However, there was one particular PC gamepad controller that could be plugged into the serial port of a MSDOS machine and was somewhat universal, the Gravis PC Gamepad:



For this reason it might be why you see some “colored circle” controller prompts in some games. Blue = , Red = , Yellow =  and Green = .

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