Smash Box Designer Troubleshooting
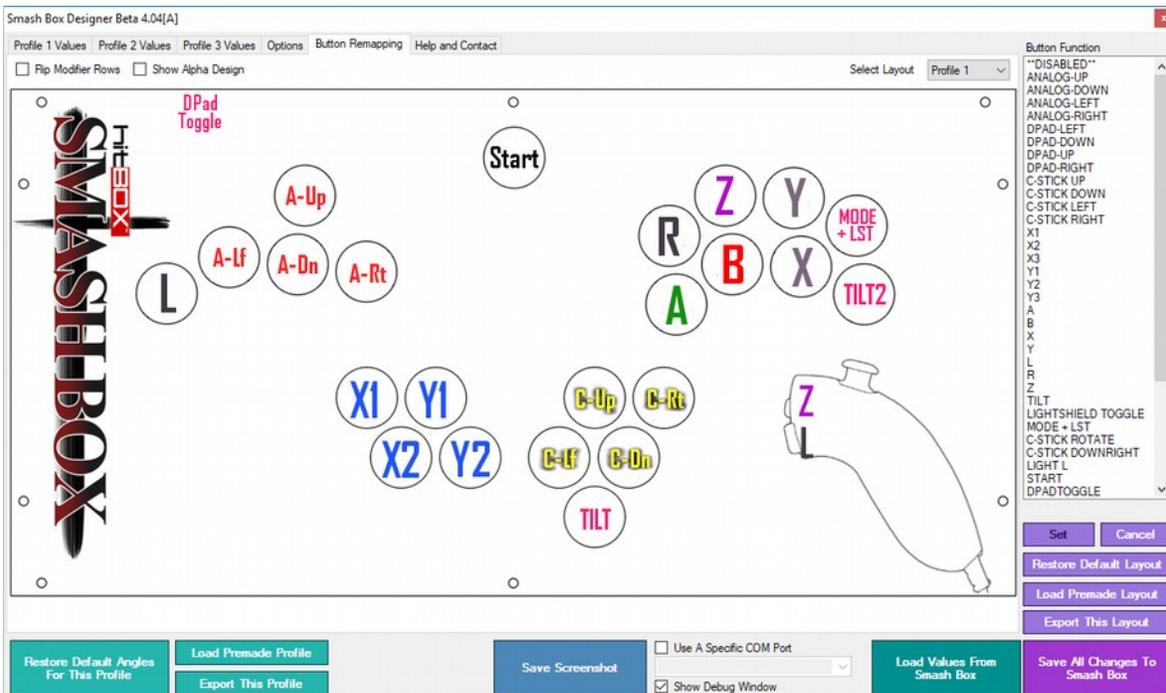
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The Designer Isn't Working: The Short Version

- Install both sets of drivers in the drivers and documentation folder.

- Watch this video: https://www.youtube.com/watch?v=aa8_SRWIQsE

- If you're on a Smash Box from 2021 or newer, ignore the Gen2 Hot Fix.

- Figure out what COM port your Smash Box is.

- Make sure your antivirus/UAC isn't stopping avrdude, avrdude2

- Make sure your computer will run libusb0.dll in the same folder as the Designer.

- If you're using a USB hub that is not externally powered, unplug it. Try every other USB port. Yes, all of them. This is usually the first and easiest fix after specifying your COM port.

Prerequisites for running the Designer software

These are the things you need to have configured to run the Smash Box Designer and firmware updater running on your PC.

- Download the Designer software from our site.
  https://www.hitboxarcade.com/blogs/smash-box/smash-box-downloads

- Unzip the entire folder to somewhere on your computer that you have read/write access to. Ie, not a networked drive.

- **If you try to run the Designer directly from the .zip, it will not load/save from the Smash Box. Avrdude, avrdude2 and libusb0.dll need to be in the same folder as the Designer**
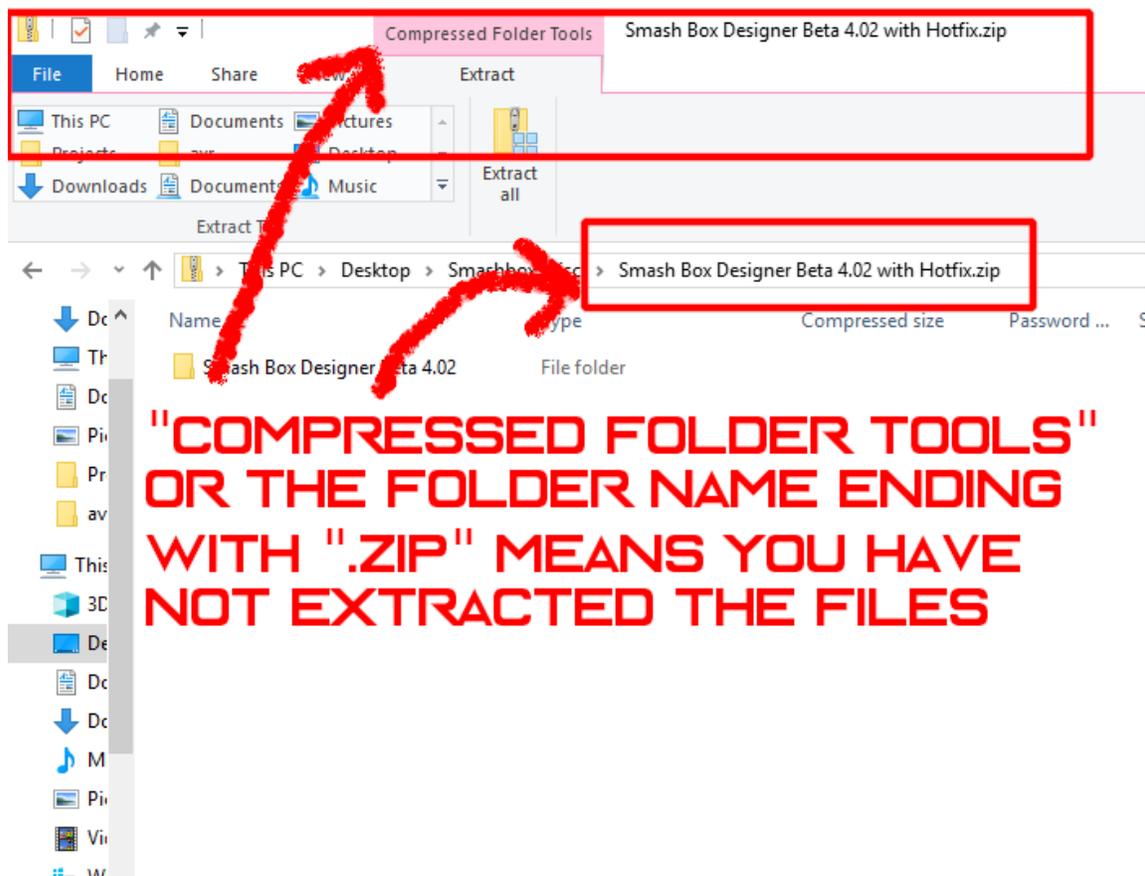
- Your windows group policy needs to allow access to serial communication ports. Not usually an issue for personal computers, but pops up when people try to use the Designer on their work computers.

- Your antivirus, windows defender, and UAC need to allow the Designer, Firmware Updater, avrdude.exe and avrdude2.exe to run with elevated privileges. (Ie, Admin privileges). If you're not sure about it, right-click on each of the mentioned files, go into Properties→Security tab →

Run As Administrator.
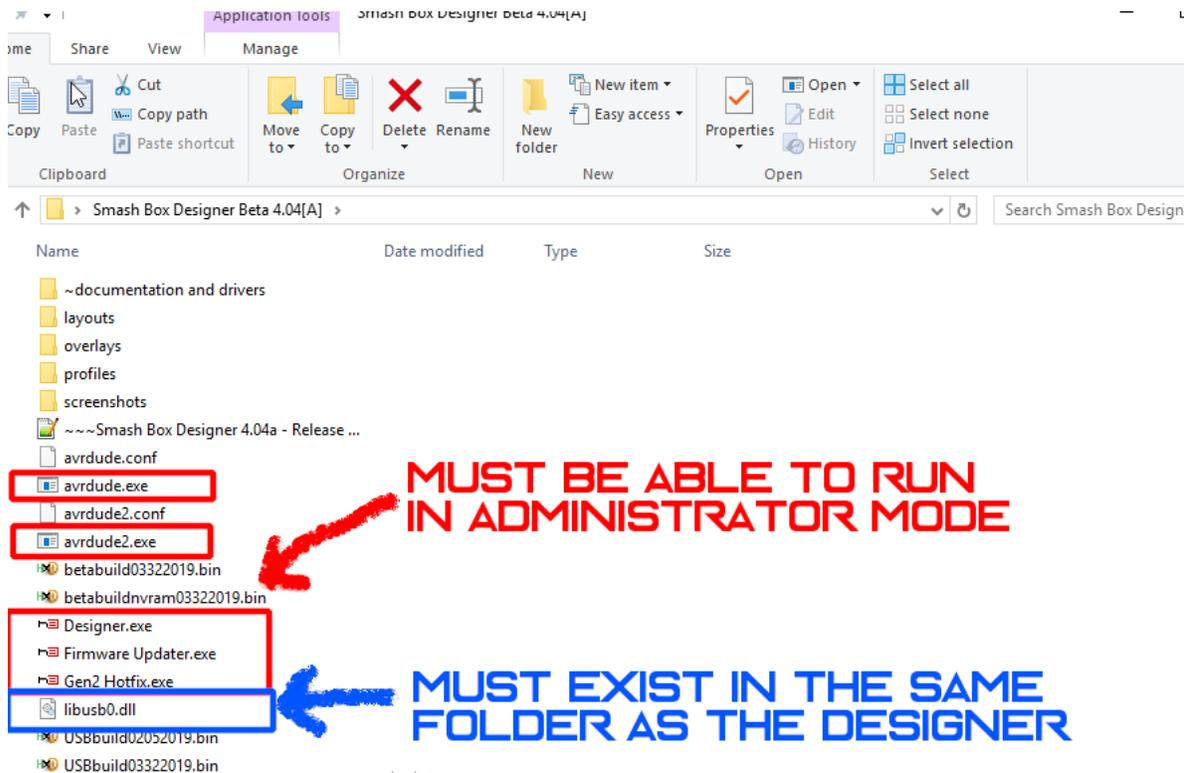
- You need to have the drivers installed. Gen2 require the Teensy drivers (and most PCs already have these drivers). Alpha, Gen1 and Gen3 require you to install the CH340 drivers. You can't talk to the Smash Box without these drivers installed, you may need to install them in windows Safe Mode. There is no harm to having both sets of drivers installed at the same time.

- Avrdude MUST be able to find libusb0.dll in your windows paths. Not usually an issue so long as libusb0.dll and avrdude/avrdude2 are both in the same folder as the Designer. If you're not sure if your windows environment is having trouble finding libusb0.dll, you can copy the DLL in Designer folder to C:\Windows\System32\drivers and C:\Windows\SysWOW64

- The Smash Box must have an assigned COM port. Most PCs don't have any COM devices, and some PCs do. The Designer attempts to connect to the first COM port it finds – if you have ISA bridged video cards, capture cards, specialty audio sound cards, bluetooth or wireless ethernet bridges, you may have multiple COM devices on your PC. In these cases, you will need to know which port your Smash Box is connected to, see the COM Ports section for more info.

Identifying Your Smash Box

Smash Box has had a few hardware changes along the way, most important of which are that the brains of the controller have seen a few revisions. The version of the controller you have will determine what your troubleshooting course will be.

Smash Box Alpha (2017)

Limited edition run, for kickstarter backers who wanted to participate in the initial development of the controller. Only a few of these exist.

Smash Box Kickstarter Fulfillment/Gen1 (early 2018)

The first retail release. Had a non-detachable cable.

Smash Box Gen2 (December 2018 – December 2020)

First batch with a detachable cable. Had rubber screw feet on the bottom. (Earliest versions had slightly different rubber screw feet) Important to note that Gen2 Smash Boxes use a different driver than Alpha, Gen1 and Gen3. Install the Teensy drivers for this board. Most computers already have this driver installed.
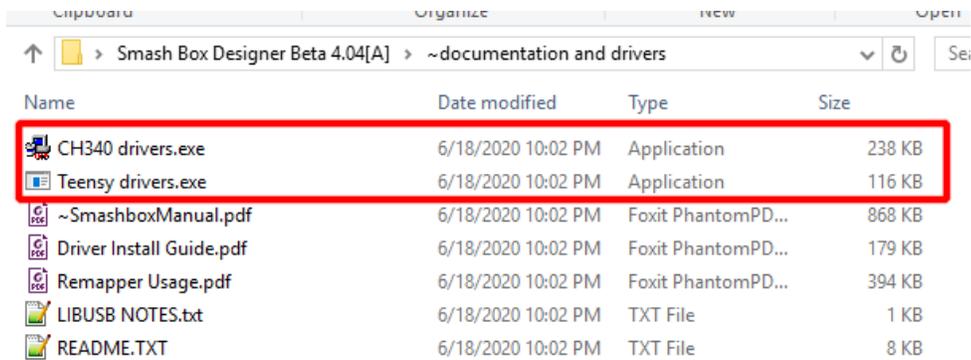
Smash Box Gen3 (December 2020-Present)

Have a new foam bottom instead of rubber feet. Have a brand new wire harness and PCB. Do not have the same board as the gen2 Smash Boxes, so to use on a PC you must use a Gamecube adapter. There may be other PC connectivity solutions in the future.

Device Drivers

You will need to have the Serial Communications drivers installed for the Smash Box to be able to talk to the Designer. They are in the drivers and documentation folder. Specifically labeled "CH340 Drivers.exe" and "Teensy Drivers.exe"

The Alpha, Gen1 and Gen3 Smash Box require the CH340 drivers, only the Gen2 Smash Box requires the Teensy drivers. You can install both sets if you want, they don't interfere with each other.

For gen2 Smash Boxes, the Teensy drivers are actually the standard Serial Communication drivers that ship with Windows 8 and on. You may see a message that says the drivers are already installed. This is not a problem. If your Smash Box shows up in "Other Devices" or has a yellow question mark next to its device listing, it means you do not have correctly installed drivers for it.
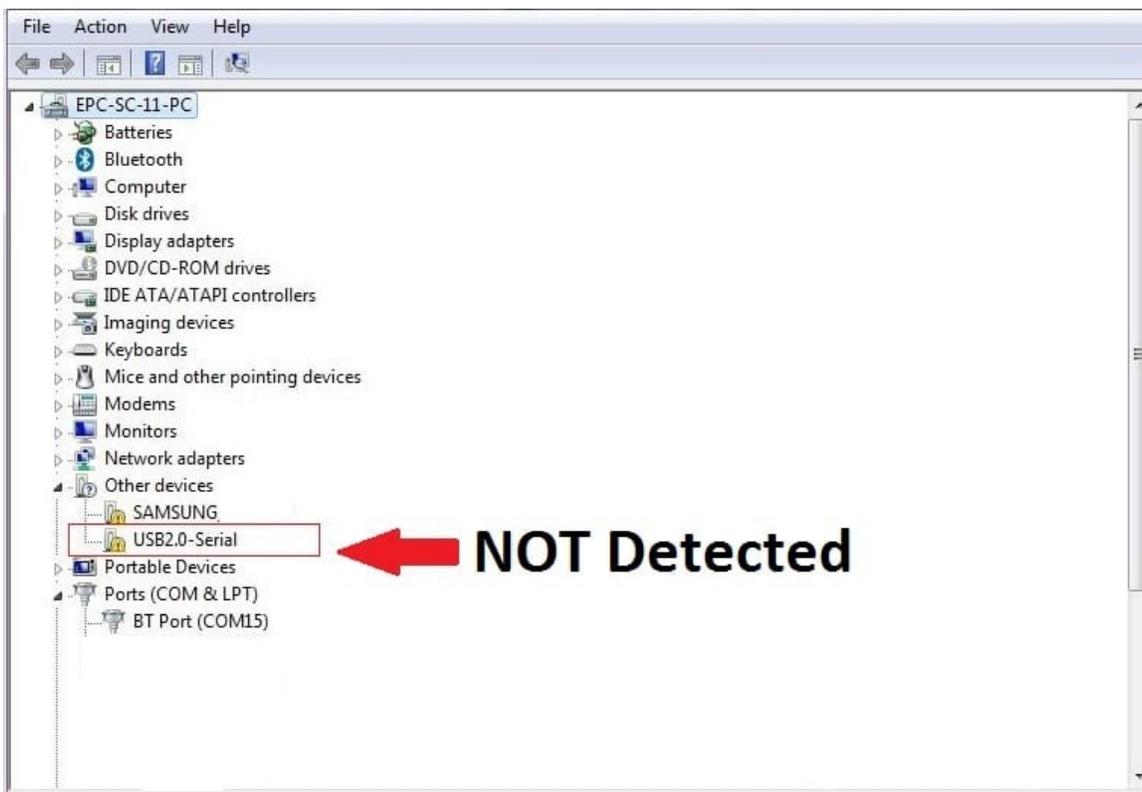
Physical Connection – what side does what

There are 2 sets of connections on the Smash Box. The main connector on the front is the Gamecube port. This is the port that you use the thick, braided cable with our custom overmold to. This port connects to a Gamecube, Wii, or WiiU/Switch Gamecube adapter. Note, we only support the official Nintendo, Mayflash, and Hit Box adapter for use with the WiiU or Switch. For PC connectivity, you will need to use an adapter. Configuring Dolphin for use with the Smash Box is outside of the scope of this document.

The left side of the Smash Box is where you plug your Smash Box into your PC. It's the side with the 2way switch, 3way switch, Nunchuk Port, and USB-B port. Included with your Smash Box is a USB-B to A cable, commonly called a "Printer cable." The Smash Box PCB has narrow voltage tolerances, so please use the included cable or a similarly high-quality USB B cable to program your controller. Low-quality cables cannot carry a high-enough voltage to trigger changes from the Designer.

Specifying COM ports

The Designer tries to save/load from your Smash Box using the first available COM port. For most people this is fine since they have no serial communication devices on their computers. For others, it may be necessary to specify which COM port Windows has assigned to your Smash Box.

To find out what COM port is assigned to your Smash Box:

- On Windows 8 or newer, press Windows Key+X and open the Device Manager.
 On Windows 7 or older - Windows Key + R, type "Devmgmt.msc"
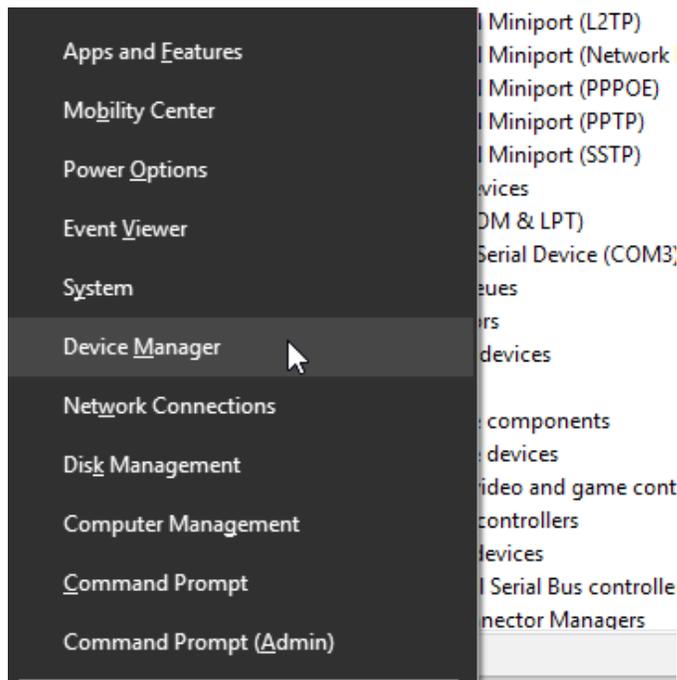
- In the Device Manager, Scroll to the COM & LPT Ports Section. If you have your drivers installed correctly, you should see at least 1 COM device in this list. And that's your Smash Box.
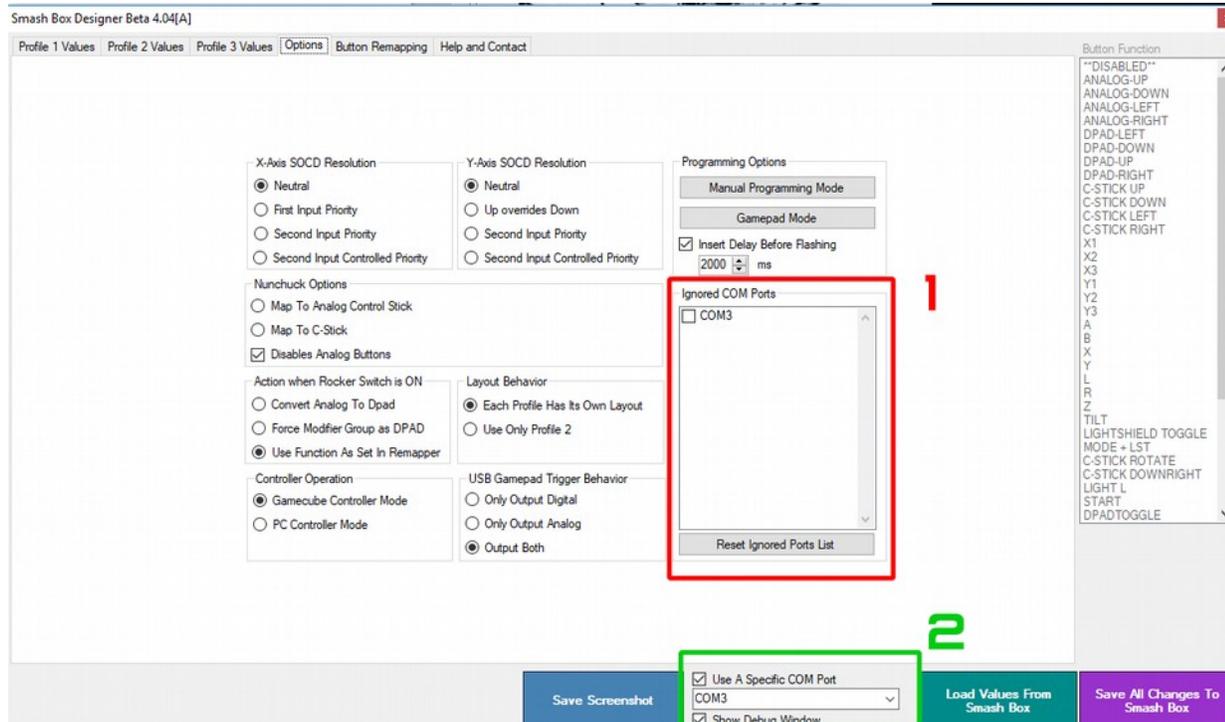
- If you're not sure what COM port your Smash Box is assigned to, unplug it from your PC then plug it back in. Both times, the Device Manger will refresh and whatever *new* device appears in that list is your Smash Box.
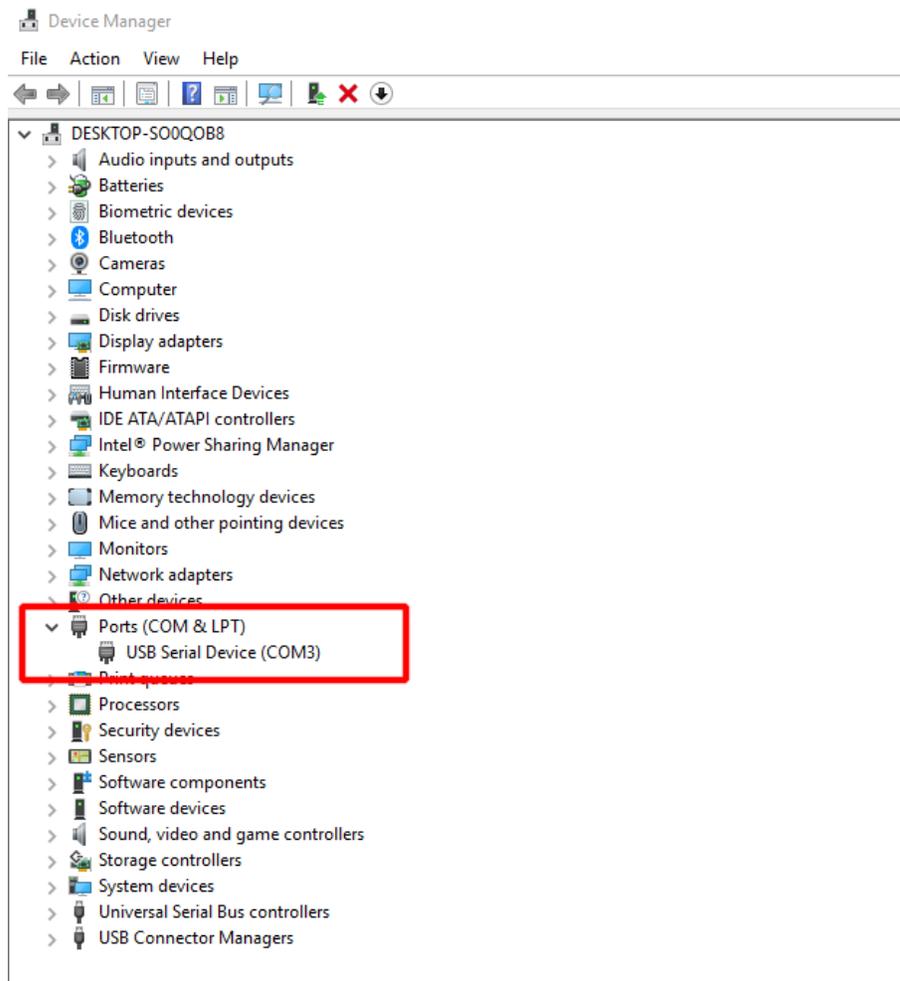
- In the Designer, check the "Specify COM Port" box and select the entry that matches what your Device Manager says your Smash Box is.
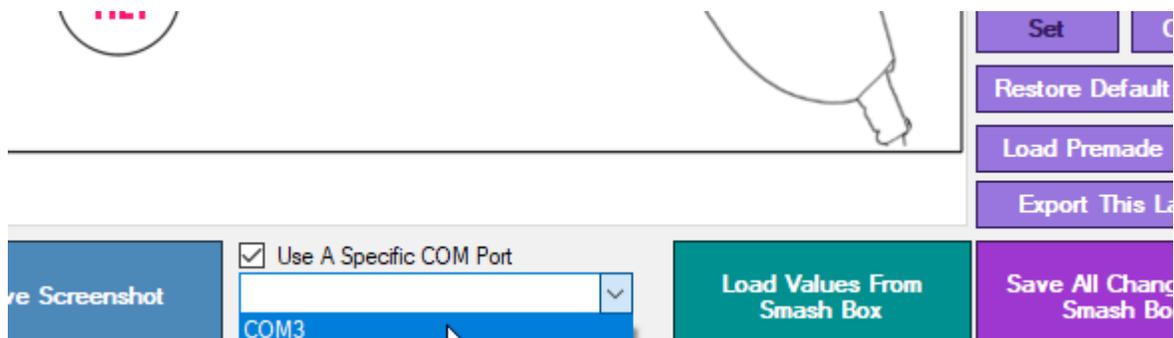
Ignoring Certain COM Ports

Sometimes, COM ports will not enumerate correctly. This will cause the Designer to sometimes pick the wrong COM port when attempting to program the Smash Box. For cases like these, it may be necessary to tell the Designer what COM ports to exclude from its search. These other COM ports are usually PCI expanion port cards, printers or other Serial Communication devices. To have the Designer ignore them, follow these steps.

1. In the "Ignored COM Ports" list box, select all of the ports that ARE NOT your Smash Box.

2. The "Specify COM Port" checkbox will now refresh, pick your Smash Box's assigned COM port.

You may have to combine these steps with the manual programming mode for gen2 Smash Boxes.

Gen2 and the Hotfix (Does not apply to Smash Boxes from Dec. 2020 and on)

Sometimes the Smash Box gen2 bootloader is not correctly flashed at the factory. Smash Boxes with this issue are characterized by not showing up in the Windows USB Gamepads. You can check by pressing Windows+R and typing "joy.cpl" When the bootloader is correctly installed, it will show up in your USB Gamepads as "Smash Box." If you do not see your Gen2 Smash Box in the game controllers list, run the hotfix to fix it. The hotfix has all of the same prerequisites as the Designer (ie, figuring out your COM port, using a good USB port, having avrdude run as administrator)

To open your USB Gamepads Control Panel, Windows Key+R brings up the command window. Type "joy.cpl" into the run command window.
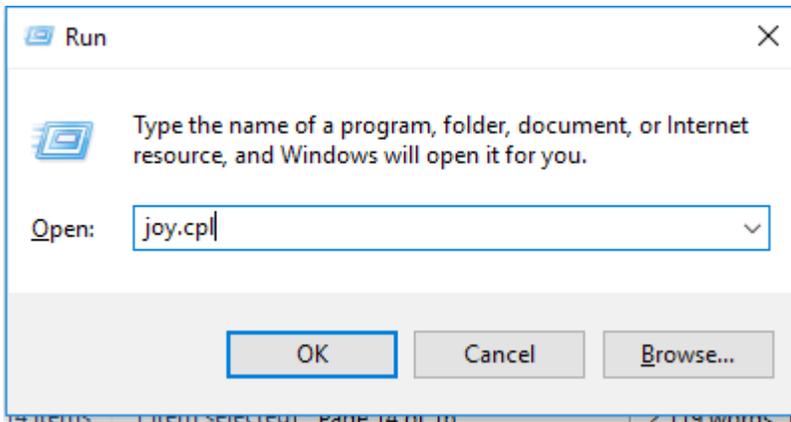
If you have a Gen2 Smash Box, then it will show up in the game controllers list as "Smash Box"
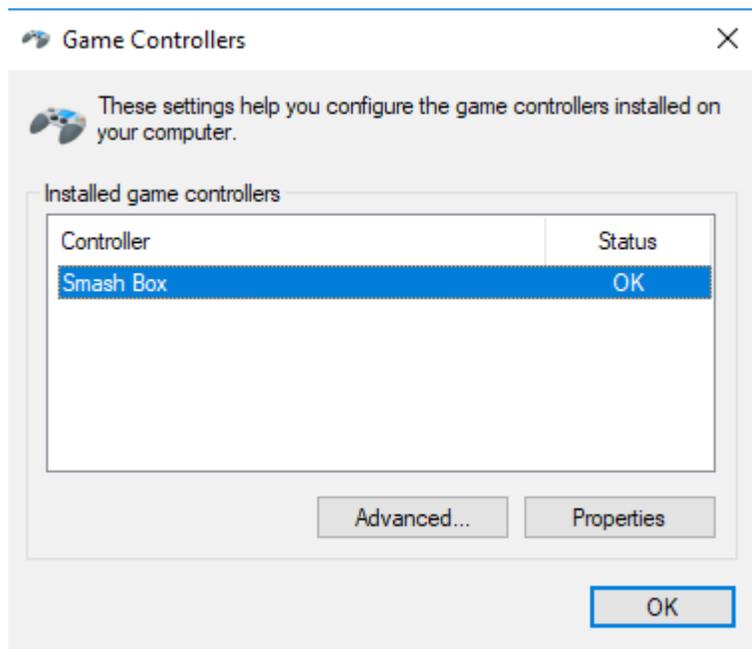
Smash Box Native USB Gamepad

Gen2 Smash Boxes always identify as a USB HID Gamepad. However, it is not able to run as a Gamecube controller and as a USB controller at the same time. By default, the controllers start in Gamecube mode. To make them start in USB mode (and send USB gamepad inputs through the side USB port) you must hold the white button closest to the side USB port as you plug it into your PC. You can also use the Designer to specify USB Gamepad mode as the default operation mode.
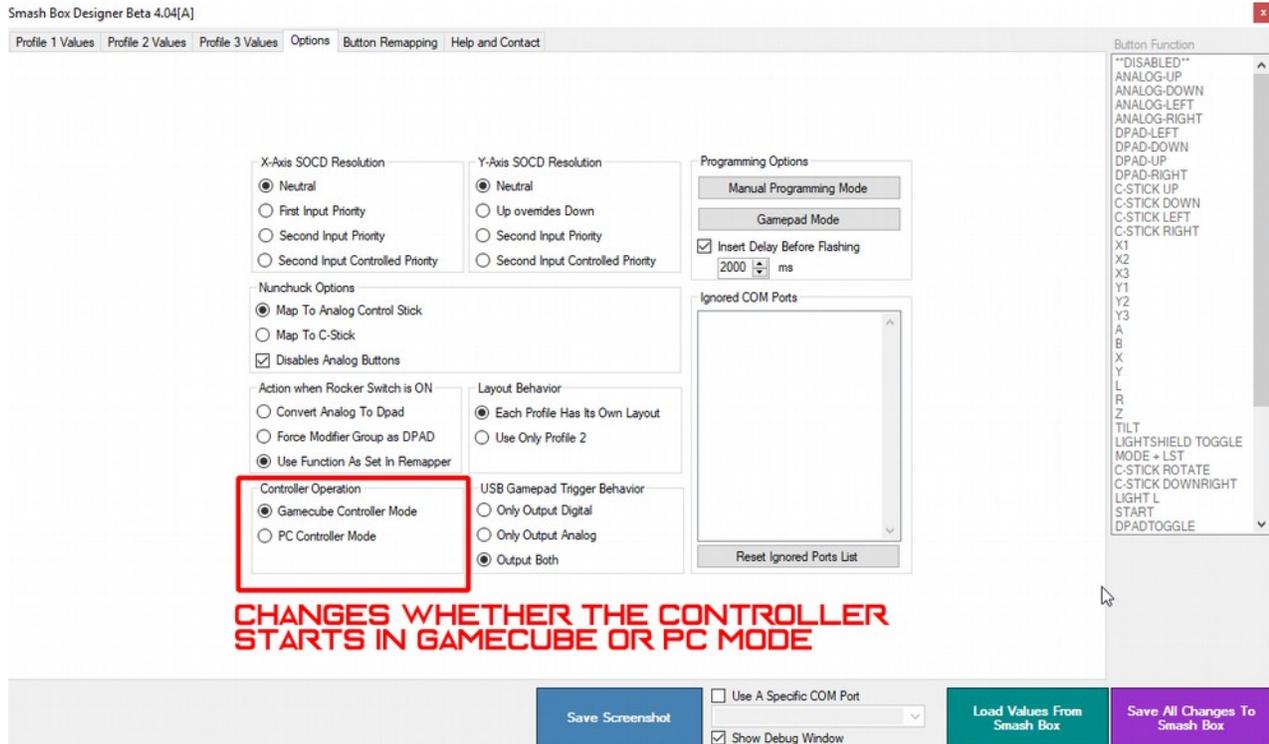
## Gen3 Smash Box has no USB Gamepad connectivity

Due to some changes on the PCB, and the fact that we started including the gamecube adapter with Smash Boxes. Gen3 Smash Boxes (Dec. 2020 – present, have a foam bottom) will not work as USB Gamepads through the side port. If you start the controller in USB gamepad mode or set it to start like that in the Designer, it will not send outputs through its Gamecube port.

Gen2 Smash Box Manual Programming Mode

See the "identifying your Smash Box" section to figure out what generation Smash Box you have.

The Gen2 Smash Box has a unique feature that allows it automatically slip out of Gamepad mode and into USB mode. For some people, this isn't always automatic. Here are the steps for when your windows won't let the Designer change modes automatically.
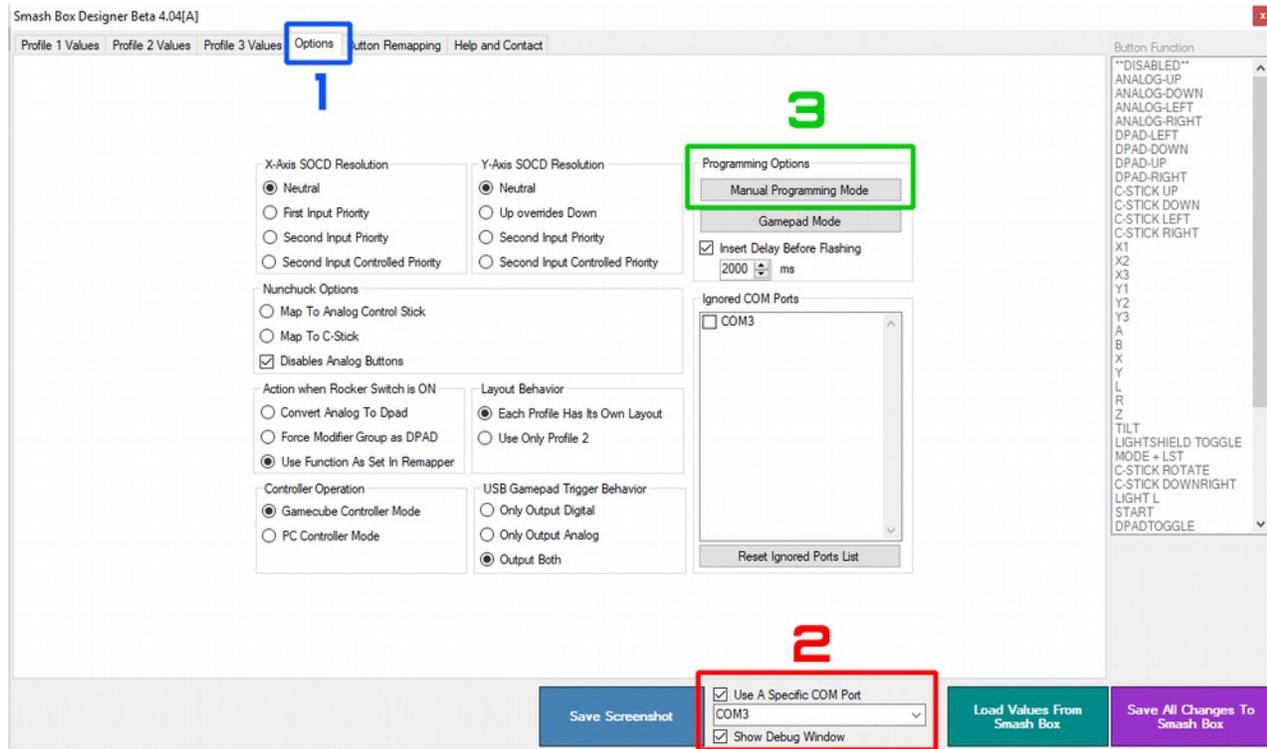
1. Click on the Options tab in the Designer

2. Specify the COM port for your Smash Box

3. Click "Manual Programming Mode" to manually set the Smash Box to Manual Programming Mode. "Smash Box" will now disappear from your USB Game Controllers List.

4. Once in Manual Programming Mode – your Smash Box will be assigned a new COM port. In some cases, windows will install drivers for the Arduino Mega2560.

5. Check your COM Devices again to make sure that the Smash Box has a new COM port assigned to it. If the device shows up with a yellow question mark, it means the drivers were not installed correctly. Use this COM port in the "Specify COM Port" checkbox.

6. When you're ready to load or save from the Smash Box, press the Load or Save button.

7. After saving or loading, your Smash Box will attempt to reset back to USB Gamepad mode. For manual saving/loading, you will need to repeat the previous steps for each flashing attempt.

Low-quality USB ports will not work with the Smash Box

As mentioned above, the Smash Box needs a high-quality signal line to be programmed. Make sure to use USB ports that can provide those signals. These are the configurations that won't always work:

- USB 1.1 ports

- USB Hubs connected through a USB 2.0 port

- USB 2.0 ports that cannot provide a high enough voltage (ports on your PC case, hubs, KVMs)

- Certain USB 3.0/3.1/3.1Gen2 ports

- USB-C port adapters

Configurations that provide the most success:

- USB 2.0 ports directly on your motherboard.

- USB 2.0 hubs connected to USB 3.0 port or USB-C port

- Powered USB 2.0 hubs
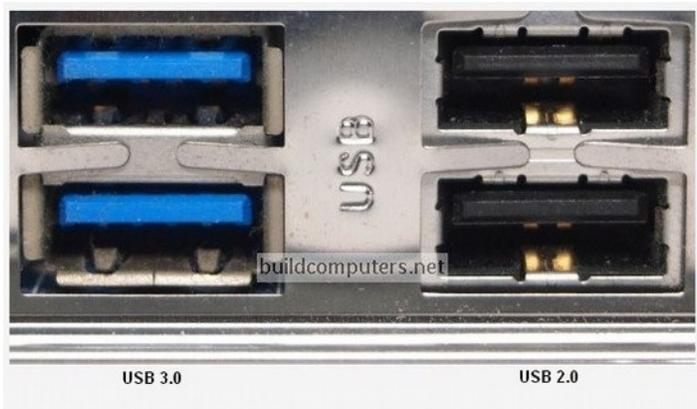
List of supported adapters

The following Gamecube Controller adapters (ie, what you need to play Smash Ultimate or Dolphin/Slippi on PC) work with the Smash Box. **Note that you need to plug in BOTH USB plugs into your console/PC for them to work with the Smash Box.**

These are the only adapters that we officially support for the Smash Box.

- [Hit Box GameCube Controller Adapter](#)
- Official Nintendo Gamecube Controller Adapter for WiiU/Switch
- Mayflash 4-port Gamecube controller adapter

List of adapter brands that don't work with Smash Box

- Nyko
- Hyperkin
- Mayflash 2-port
- Brook Gamecube controller adapters
- Gbros Wireless Gamecube controller adapter. (Technically DOES work with the Smash Box, but it will not give you accurate/consistent angles and has noticeable input lag)
- Assume that any 3rd party controller adapter that isn't listed won't work with Smash Box

Additional Help/Contact

Official Website: https://www.hitboxarcade.com/

Customer Support Email: support@hitboxarcade.com

Discord: https://www.hitboxarcade.com/discord

Twitter: https://twitter.com/Hit_Box

Facebook: https://www.facebook.com/hitboxarcade/