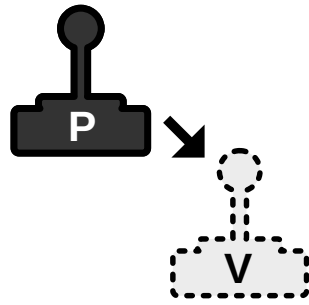


Joy2vJoy



Disclaimer

This software cannot run without the virtual joystick driver **vJoy** being installed and configured. The development of vJoy from the original developer came to an end December 2018, however it have since been picked up by other developer(s), so luckily it is still available. I can however not offer any support if you run into problems with vJoy, however in this manual I will show how its installed/configured, and how you can test it is running as it should. I have used Joy2vJoy with the vJoy driver myself since 2019 and have never had any issues with either.

Outline

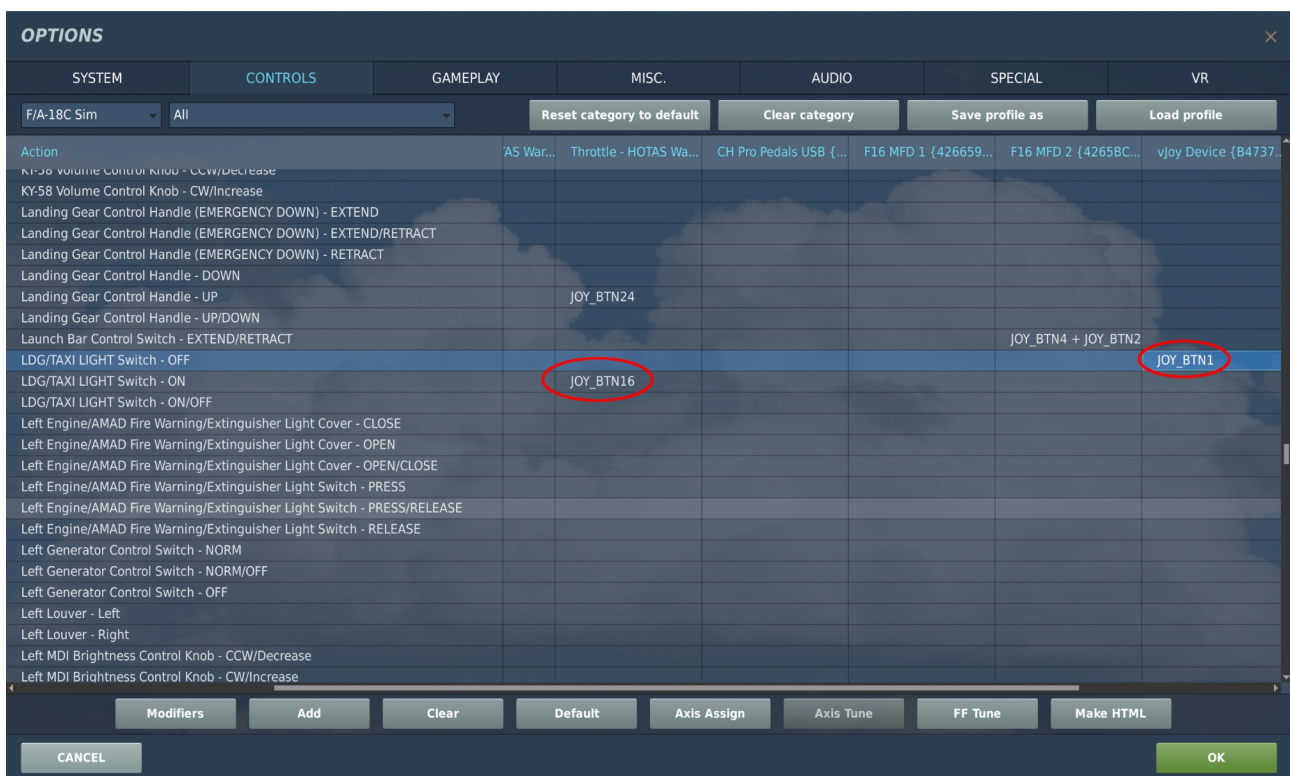
Setting up my controller for the various DCS modules (aircraft) it has always annoyed me that I cannot set an action to be performed when one of the 2- or 3-way switches on the Thrustmaster Warthog Throttle are moved to their off-position (it works out of the box with the DCS A10C, however you cannot make such profiles yourself).

You can however solve this with Target (Thrustmasters scripting tool). I come from a CH-products background before moving on to the Thrustmaster Warthog-combo (stick and throttle). In the past with CH-products I would always make a profile for each simulator/aircraft, and I liked the fact that my profiles would (could) present themselves as multiple virtual devices (e.g. a virtual joystick, a virtual throttle, and a virtual device with additional buttons). However when you make a profile with Target it boils down to a single virtual device with a maximum of 32 buttons, meaning many of the buttons have to send keyboard-combinations to DCS (or whatever simulator). For this single reason I have avoided using Target.

Shortly before releasing the first version of this software I found out I could accomplish what I wanted using either VoiceAttack or JoyToKey. Both can be setup to send a user-defined keyboard-combination when a particular joystick/throttle-button is changed from its ON- to its OFF-position. However going down this path, you have to configure DCS to react to these additional keyboard-commands with the downsides that will introduce.

I knew about vJoy but had never used it. Anyhow it gave me the idea that a program could be made that would monitor the status of the buttons/switches on the physical throttle, and based on what these changed from/to (e.g. a button that was previously ON, but now it switched to OFF), I could use vJoy to set a virtual button to either ON or OFF. E.g. when button 16 on the physical device changes its state (from ON to OFF or vice versa) the state of a virtual button changes to the opposite value (when button 16 on the physical throttle goes to OFF, the virtual button 1 changes to ON, and vice versa).

This following screenshot shows how to set it up in DCS. In this example we are going to configure the 2-way switch on the throttle labeled (ENG L) to control the Landing/Taxi-light of the F18. When this 2-way switch is moved up, it will switch ON button 16 on the physical throttle. With Joy2vJoy running (activated) in the background, it will monitor when button 16 is moved to its OFF position, and when it does it will trigger that button 1 on the virtual vJoy device is set to ON, which is why the Landing/Taxi-light is set to switch off when virtual button 1 is ON:

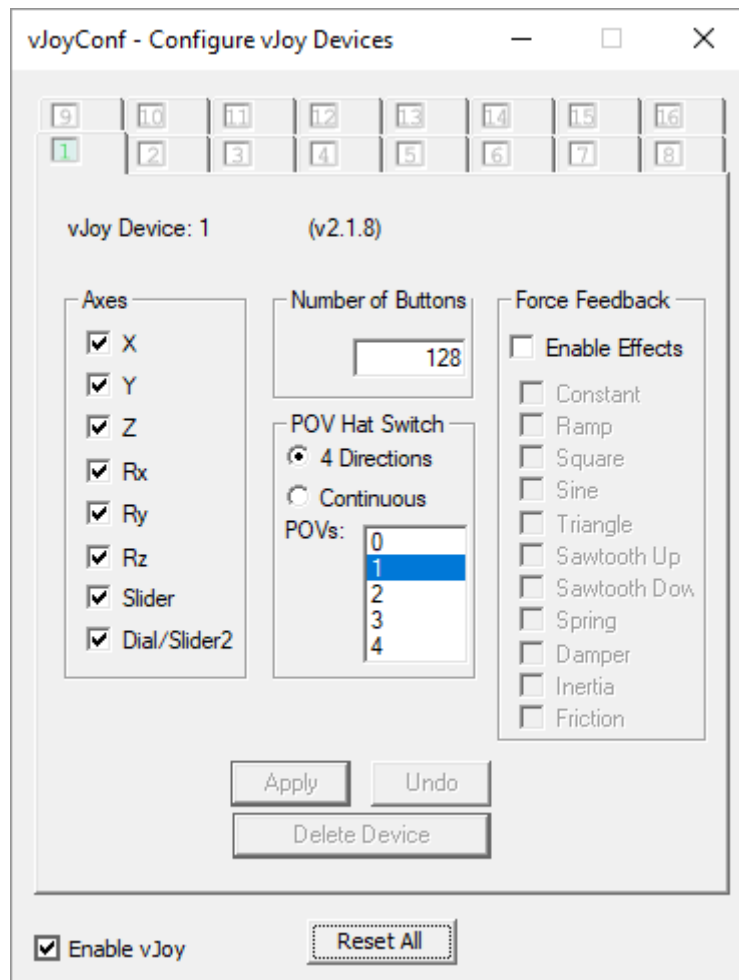


Installation/Configuration of vJoy

If you don't have vJoy installed you first have to do that. vJoy can be downloaded from the vJoy site: <https://github.com/njz3/vJoy/releases>

The installation of vJoy is straight forward (as I recall you don't even need to reboot the PC after installation). To configure vJoy you have to run "Configure vJoy". Simply press-and-hold left WIN-key and then press the Q-key. A search window appears, and here you simply start typing "Configure vJoy" until you see the app, which you then start.

When the vJoy configuration-program starts, you will see 16 tab-sheets in the top of the screen (one for each of 16 possible virtual devices). We only need one, and it have to be the 1st, so click the 1st (labeled "1"). If you see a button labeled "Add Device" click it. In my case I have configured the 1st device with all 8 axis, 128 buttons, 1 hat-switch and no Force Feedback. When you make any changes the "Apply" button becomes active, so press it:



Important: If you create a virtual device with (1 or more) axis, as I did here, DCS will automatic bind these axis to: pitch/roll/yaw (elevator, aileron and rudder). Hence you will have to remove all automatic created axis-binds for each module (aircraft/helicopter) in DCS to these axis on the virtual device (your current axis-binds to your physical devices will NOT be affected in any way – these still exists intact as they should). Alternative simply create the virtual device without any axis.

Please note: If memory serves me well, whenever you create a virtual device, it will be created with a "random" GUID. Hence if you create a device #1, delete it, and create a new device #1, it will be created with a different GUID. Some Sims might detect this as a new/different device, hence previous configured binds in the sim, might no longer work. For this reason I suggest you create the device as you want it (in my case with all axis and 128 buttons) BEFORE you begin to define your binds in whatever Sim you want to use it.

That is all the configuration you have to do. vJoy is now installed as a driver, and we have configured vJoy device #1 with 128 buttons. In my case (as visible in the screen-shot) the device was also configured with 8 axis, and a single POV-hat, however these are currently not being used by Joy2vJoy, so you can disable them if you want to. As vJoy is installed as a driver (and the settings are saved) there is no need to run the vJoy configuration-application unless you later want to add additional devices (*I have 5 vJoy devices, each with 128 buttons, where I use the 1st with Joy2vJoy and the last 4 with my StreamDeck*).

I suggest that you verify your vJoy installation, before using Joy2vJoy. You can use the Win+Q keyboard combination to start "Monitor vJoy" and "vJoy Feeder (Demo)". Clicking the buttons in the vJoy Feeder app, you should see them "light up" in vJoy Monitor. Be sure to shut-down at least the Feeder app BEFORE proceeding, as 2 apps cannot acquire the same vJoy virtual device at the same time (if the virtual device is acquired by the vJoy Feeder app, it cannot be acquired by Joy2vJoy).

Installing Joy2vJoy

Until you are able to install/configure vJoy and verify the installation/configuration using vJoy Feeder and vJoy Monitor there is no need to proceed, as Joy2vJoy will not work if vJoy Feeder/Monitor is not working. I can't offer any support if the vJoy driver will not install/run on your windows installation.

First version of Joy2vJoy was released as an installer, however recent versions have simply been released as a Zip-file. Simply create a folder where you like it, and unzip the content of that Zip-file to that folder. Afterwards you can create a short-cut to run the Joy2vJoy.exe and place it where you want it (*I have a folder on my desktop, with sub-folders for each Sim I use, containing short-cuts for programs I use with those Sims*).

Be sure to close vJoy Feeder BEFORE starting Joy2vJoy. In its current form Joy2vJoy is hard coded to **only function with a Thrustmaster Warthog Throttle** and the **1st vJoy device**, hence there is no configuration necessary for Joy2vJoy.

Arguments (parameters) for Joy2vJoy

In previous versions you had to press the "Activate" button after starting Joy2vJoy, as the program is dormant (inactive) until activated. However since versions 1.02 it will automatic "Activate" when you run the program (hence you have less to do, prior to starting your sim). However the program accepts an argument (parameter) added to the short-cut used to start the program, that can disable this. Likewise you can also add an argument, that will automatic minimize the program on start-up. Third but not least a 3rd argument can be used to check the "Update checkboxes" checkbox on start-up. It's my recommendation that you don't have this checkbox enable while simming, simply to reduce the workload on the CPU, which leaves more CPU-cycles available for the Sim you are running (remember that the physical throttle is scanned multiple times, each second). Here are the 3 arguments that you can use:

Argument	Action
-inactive	Will not <i>press</i> the "Activate" button on start-up, hence you will have to manually press it if using this argument.
-minimize	Will minimize the Joy2vJoy form on start-up
-showcheckboxes	Will check the "Show checkboxes" checkbox on start-up

Running Joy2vJoy

When you start Joy2vJoy it will look for the Thrustmaster Warthog -Throttle and Joystick, and the 1st vJoy device. If found, these will populate the 3 combo-boxes in the top of the screen (the combo-boxes will only list these devices, you cannot choose anything else).

It's not enough that you run Joy2vJoy, to have it work it have to be "Activated". In the first versions of Joy2vJoy you had to manually click the "Activate" button to do this, however since versions 1.02 it will do this automatically, unless disabled with a program-argument (see section above). Remember you have to run the Joy2vJoy program after a reboot of you computer, if you want to use it. Once Joy2vJoy is started and activated (automatic or manual), you can start DCS and use the input from the vJoy virtual device.

Once Joy2vJoy have been activated you can choose to check the "Update check-boxes" checkbox. Once checked, the check-boxes below can be used to monitor both the output from the physical Thrustmaster Warthog Throttle (on the left) and what is being output to the vJoy device (on the right).

Joy2vJoy 1.03

Physical Throttle: Throttle - HOTAS Warthog

Physical Stick: Joystick - HOTAS Warthog

Virtual Device: vJoy[1]

Virtual buttons: Generate region: Only org. (1-32) ☐ Mirror Throttle ☐ Mirror Stick

Initial status: ALL OFF

☒ 1 ☒ 2 ☒ 3 ☒ 4 ☒ 5 ☒ 6 ☒ 7 ☒ 8

☒ 9 ☒ 10 ☒ 11 ☒ 12 ☒ 13 ☒ 14 ☒ 15 ☒ 16

☒ 17 ☒ 18 ☒ 19 ☒ 20 ☒ 21 ☒ 22 ☐ 23 ☐ 24

☐ 25 ☐ 26 ☐ 27 ☐ 28 ☐ 29 ☐ 30 ☐ 31 ☐ 32

☐ 33 ☐ 34 ☐ 35 ☐ 36 ☐ 37 ☐ 38 ☐ 39 ☐ 40

☐ 41 ☐ 42 ☐ 43 ☐ 44 ☐ 45 ☐ 46 ☐ 47 ☐ 48

☐ 49 ☐ 50 ☐ 51 ☐ 52 ☐ 53 ☒ 54 ☐ 55 ☐ 56

☐ 57 ☐ 58 ☐ 59 ☐ 60 ☐ 61 ☐ 62 ☐ 63 ☐ 64

☐ 65 ☐ 66 ☐ 67 ☐ 68 ☐ 69 ☐ 70 ☐ 71 ☐ 72

☐ 73 ☐ 74 ☐ 75 ☐ 76 ☐ 77 ☐ 78 ☐ 79 ☐ 80

☐ 81 ☐ 82 ☐ 83 ☐ 84 ☐ 85 ☐ 86 ☐ 87 ☐ 88

☐ 89 ☐ 90 ☐ 91 ☐ 92 ☐ 93 ☐ 94 ☐ 95 ☐ 96

☐ 97 ☐ 98 ☐ 99 ☐ 100 ☐ 101 ☐ 102 ☐ 103 ☐ 104

☐ 105 ☐ 106 ☐ 107 ☐ 108 ☐ 109 ☐ 110 ☐ 111 ☐ 112

☐ 113 ☐ 114 ☐ 115 ☐ 116 ☐ 117 ☐ 118 ☐ 119 ☐ 120

☐ 121 ☐ 122 ☐ 123 ☐ 124 ☐ 125 ☐ 126 ☐ 127 ☐ 128

Debug

TM-Throttle[42652080-4D22-11E7-8001-444553540000] is Acquired
 TM-Throttle[42652080-4D22-11E7-8001-444553540000] has 32 buttons
 TM-Joystick[4266A720-4D22-11E7-8004-444553540000] is Acquired
 TM-Joystick[4266A720-4D22-11E7-8004-444553540000] has 19 buttons
 vJoy[1] is Acquired
 vJoy[1] has 128 buttons

Once you have figured out how it works, I suggest you unchecked the "Update checkboxes" checkbox, so it will not affect performance while you run DCS. The physical joystick is scanned multiple times each second, so theoretical - if enabled - the program might have to update the checkboxes multiple times also. Joy2vJoy have been written to have a very low impact on your system, so your frame-rate/sim-experience is not affected.

TIP: Since version 1.03 tool-tips/hint-windows have been added to all the physical/virtual checkboxes. So hovering the mouse over the physical/mirrored check-boxes the tool tip will tell you the name of the button on the physical throttle/joystick. Likewise hovering the mouse over the virtual buttons that are generate on behalf of the state of the throttle buttons, the tool-tip will describe which physical buttons are used to generate the state of the virtual button.

Joy2vJoy needs to be running and be activated while you run DCS (or what other simulator you might be using). So be sure to only minimize the program, and not close it until you don't need it. Since version 1.02 you can choose to add a **-minimize** argument to the short-cut used to start Joy2vJoy, so it automatically will minimize on startup.

Using Joy2vJoy in DCS (or other simulators)

Joy2vJoy will not affect the normal output from the Thrustmaster Warthog Throttle. Hence all buttons (moved to their various ON-positions) will still send their button-presses to DCS (or whatever) as they have always done.

When configuring your controls in DCS you have a column for each attached/detected device, so beside having a column for your Warthog Throttle, -Stick, Rudder-pedals, or whatever else you might have connected, you will also see a column for each vJoy device (if you have more than one). Hence you will be using this vJoy column when you attach Actions to the virtual buttons (just as you attach actions to the physical buttons).

This following table will show which physical buttons will affect which virtual buttons. In case with the 2-way switches only a single physical button will affect a single virtual button. However when it comes to the 3-way switches, they have a physical button in the "up" position and another physical button in the "down" position. When either of these goes from "ON" to "OFF" they will trigger the same virtual button to go ON (hence you can now bind an action to this "OFF-position" of the physical button, by using a virtual button going "ON". Likewise if either physical button goes "ON", the virtual button will go "OFF" (the virtual button will only be "ON" when both of the physical are "OFF").

Regarding the 2 motor (3-way) switches I was very much in doubt how I wanted to set it up. Had it been "a normal" 3-way switch I would have made the center (off-position) going active when moving out of the down- or the up-position. However as the up position is only momentary (it will not stay in the up position, it will return to off when you let go of the switch). I decided that going into/out-of the up position will not affect the virtual button.

Virtual #	Physical #	Physical Name	Remark (V=Virtual/P=Physical)
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1	16	Eng L	V1-ON = P16-OFF
2	17	Eng R	V2-ON = P17-OFF
3	18	Motor L	V3-ON = P18-OFF
4	19	Motor R	V4-ON = P19-OFF
5	20	APU	V5-ON = P20-OFF
6	24	EAC	V6-ON = P24-OFF
7	25	RDR ALTM	V7-ON = P25-OFF
8	27+28	AUTOPILOT	V8-ON = (P25-OFF and P26-OFF)
9	22+23	Flaps	V9-ON = (P22-OFF and P23-OFF)
10	7+8	Speed-brake	V10-ON = (P7-OFF and P8-OFF)
11	9+10	Boat-switch	V11-ON = (P9-OFF and P10-OFF)
12	11+12	China-hat	V12-ON = (P11-OFF and P12-OFF)
13	13+14	Pinky (ext.light)	V13-ON = (P13-OFF and P14-OFF)
14	29	Left (throttle) OFF	V14-ON =P29-OFF
15	30	Right (throttle) OFF	V15-ON =P30-OFF
16	1	TDC-press	V16-ON =P1-OFF
17	2	Mic-switch (press)	V17-ON =P2-OFF
18	15	Left throttle button	V18-ON =P15-OFF
19	21	L/G warn	V19-ON =P21-OFF
20	26	AP engage/disengage	V20-ON =P26-OFF
21	3+4+5+6	Mic-switch (4 directions)	V21-ON =P3-,P4-,P5- and P6-OFF
22	POV HAT	Coolier-switch (8 direction)	V22-ON = Coolier Switch (HAT) Centered

In the table above the last entry (virtual button 22) was added in version 1.03. POV-Hats on a joystick (or throttle) are handled in a special way, so versions prior to 1.03 did not check the status of the POV-Hat on the throttle (the "Coolier switch"), hence it did not generate any values for the virtual device. However from version 1.03 the virtual button 22 will be "On" whenever the Coolier-switch (POV-HAT) is centered, hence it will be "Off" when its not centered.

If you find it hard to read the table above, I simply suggest that you run Joy2vJoy and enable the "Show checkboxes" checkbox. The checkboxes in the left side of the Joy2vJoy program display the status of the physical buttons (on your Thrustmaster throttle) and the checkboxes in the right side display the status of the virtual buttons. As you press/flick the the buttons on the physical, you can see how the checkboxes are updated. E.g. moving the 3-way Flaps switch to its up/down position either checkboxes for the physical buttons 22/23 will be checked in the left side (indicating that these are "pressed"). At the same time the (right side) checkbox number 9 will be unchecked. Moving the flaps-switch to the

middle position physical buttons 22/23 will both be off/unchecked, however virtual button 9 will now be on/checked.

Generate region (Only org. / Only mir. / Both / NONE)

Versions prior to 1.03 did not contain the "Generate region" combo-box, however choosing the (default value) "Only org. (1-32)" the program will function just as it did in the previous versions. Choosing "Only org. (1-32)" the status of the buttons and the POV HAT (Coolier switch) on the physical Throttle will generate output on the virtual device in the range of button 1 to 32 (actually at this point, only the first 22 are in use). Unless you really **need** and **understand** the functionality describe below, I suggest that you don't change this value, as it will be much more difficult get it right.

Not often but a few time, I would like to have been able to attach 2 different actions in DCS to the same physical button. This is normally not possible, but choosing another value in the "Generate region" combo-box than "Only org. (1-32)" I will be possible. Try to choose the 3rd value called "Both (1-61)". In order to see what is happening ensure the "Update checkboxes" checkbox in the upper/right corner is enabled. Once you have done this try to click the Red "Left throttle button" on the front of the left throttle lever. In the right side of the screen you will see that the checkbox 13 will light up, but as the same time you can see both the right checkboxes 18 and 50 will go "Off" (become unchecked). Once you release the (Red) "Left throttle button", you will see that the checkbox 18 and 50 in the right side (illustrating the button on the virtual controller) will both become checked (illustrating these buttons are "On"). So in DCS (or another simulator) you can assign different actions to virtual button 18 and 50, so you can execute two different actions when the Left Throttle button is release – *probably not a feature you will use where often, but now you can :-)*

However having to setup the actions in DCS (or other Sims) can be very difficult and this why you should only use this feature if you really understand what is going on here. If you go into DCS and tries to assign an action to be performed when the "Left throttle button" is released, this program will at the same time both set virtual button 18 and 50 "On" at the same time so I can't predict which one of these that DCS is actually going to see. Perhaps it will always see 18 as its the lowest of the two, or it might sometime see 18 and at other times 50 (it depends entirely on how DCS is scanning the Joysticks for changes).

So to ensure that DCS (or any other sim) ONLY sees 18 going "On" you can set the "Generate Region" to "Only Org. (1-32)" to ensure that DCS will only see virtual button 18. Once you have assigned an action to his button, you can set the "Generate Region" comboxbox to "Only mir. (33-64)", where "mir." is short for "mirrored". Now when you release the "Left throttle button" only virtual button 50 goes "On", hence you can now easily assign an action to virtual button 50 in DCS (or whatever sim you use). Once you have assigned both actions (using button 18 and 50), you should set "Generate region" back to "Both (1-64)", so both virtual button 18 and 15 will go "On/Off" at the same time (based on the state of the "Left throttle button").

As I said in the beginning ONLY use this feature if/when you **need** to, and you **understand** what you are doing. Choosing the 4th value "NONE (disabled)" in the "Generate region" will not set any of the virtual buttons in the range 1-64 and its primary usage will be when setting up actions for the mirrored throttle-buttons (as described in next section). So I guess most users (in most cases) you will use the default value "Only org. (1-32)".

Mirror Throttle (buttons)

As explained the previous sections there are cases where you would like to be able to use the same button for multiple actions. E.g. if using the build in "chat" in DCS you might want to use the same button on your Throttle as a PTT (Push-To-Talk) both when you are in the Lobby and when using the Radio (you can't be in the Lobby-mode and Radio-mode at the same time, so why not use the same button for both).

If you check the "Mirror Throttle" checkbox, the state of the physical Throttle buttons (all 32) will be mirrored in the virtual buttons in the range from 65 to 96. The "Left throttle button" is button 13 on the physical Throttle. So when you press it you will see that Checkbox 13 in the left side will go on (be checked). However if "Mirror Throttle" is checked, you will also see that Checkbox 79 in the right side (illustrating the virtual buttons) also will go "On" (be checked). So now you can assign 2 different functions to the same button on your throttle. One action will be assigned to button 13 on the Physical throttle, and another action be assigned the button 79 on the Virtual vJoy device.

The physical Thrustmast "have 32 buttons" and as explained a POV-Hat (the "Coolier switch") on the throttle is handled specially. However the Thrustmaster joystick only contains 19 buttons and a POV-Hat (the Trim-button) so a few checkboxes in the last section are available. So when you check the "Mirror Throttle" checkbox, the virtual buttons 125, 126, 127, 129 will mirror 4 of the 8 positions on the "Collor switch). Hence 125=Up, 126=Right, 127=Down and 128=Left.

In DCS it is easy to mirror the buttons on the throttle is you need to assign multiple actions to the same physical button (1 action to be assigned to the physical button, and another to be assign the virtual). However in other sims/games It can be impossible simply because you can't tell the sime on which device to look for a change (a button being pressed). Hence it might see the physical button go "On" or it might see the Virtual button go On.

Mirror Stick (buttons)

If you check the "Mirror Stick" checkbox, the 19 buttons the 8 directions of the POW-Hat (trim) of the Thrustmaster Joystick will be mirrored from virtual button 97 onwards. Virtual button 116 is not in use, and as explained in previous section virtual buttons 125, 126, 127 and 128 are used for up/right/down/left of the POV-Hat (Coolier switch) on the Throttle.

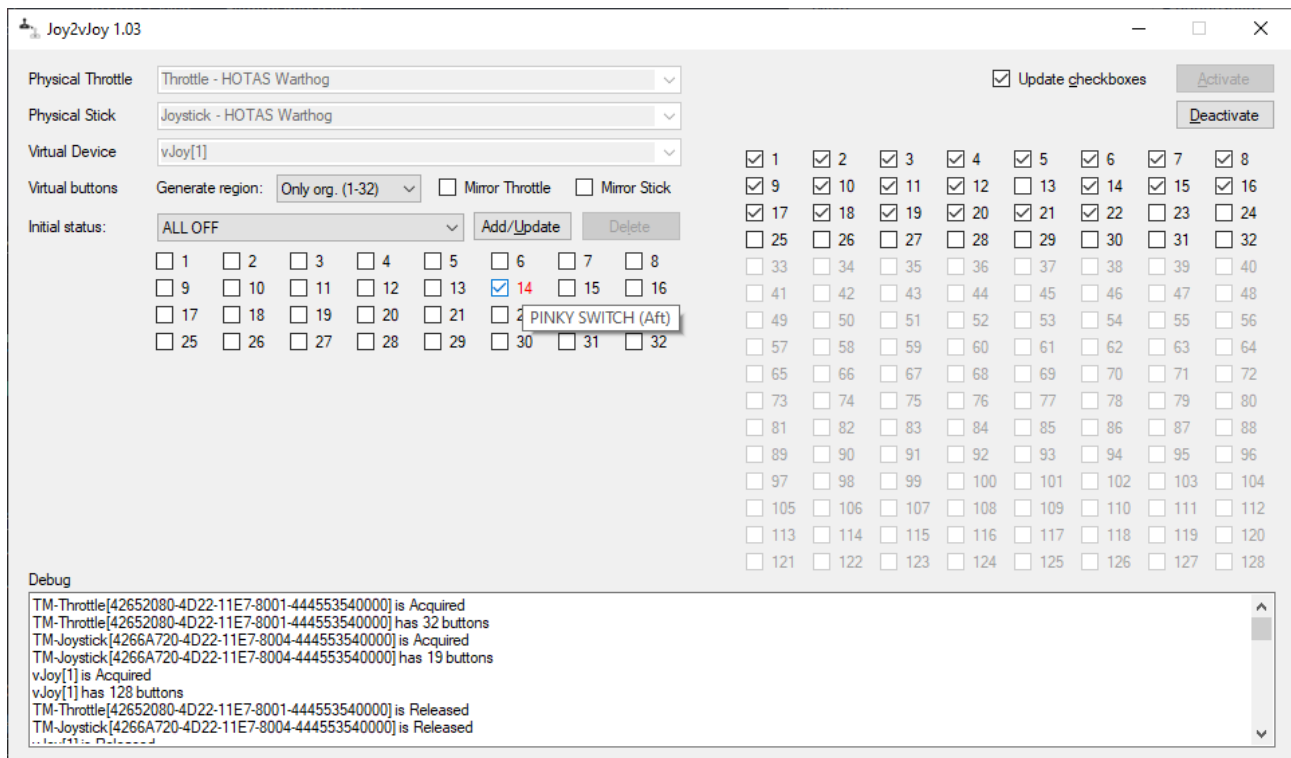
Since the Joystick only have 19 buttons, there was "room" to mirror all 8 directions of the POV-Hat (trim button) on the Thrustmaster Joystick. These 8 positions (starting with the Up-position, going counter-clockwise) begins at virtual button 117, and ends with virtual button 124. The buttons 97-116 are in the same order as the physical buttons on the Thrustmaster Joystick (virtual button 97 is a mirror of physical button 1, hence you can simply add/subtract 96). New in version 1.03 you can simply hover the mouse over the checkboxes, hence you can easily see which physical button is mirrored. Hence hovering the mouse over virtual button 97, then tool-tip will show: "Joystick: (1) TRIGGER 1st DETENT".

As explained previous ONLY use the mirror-features when you really **need** to, and you **understand** how it is working. In mose cases you don't need to assign multiple actions to the same button. Also as explained elsewhere only enable "Update checkboxes" when you need to see what is happing/when assigning actions in DCS or whatever Sim/Game, as it adds a small performance overhead (nothing major, but to have mose CPU-power available for your Sim/Game, its best to disable it).

Manage Initial Statuses

Depending how you use the 2- and 3-way switch on the Thrustmaster throttle, you will in many cases need to set them to an "initial position" before a flight begins. E.g. if you have a 2 way switch extending/retracting the landing-gear, you might want to ensure its in the "down/extend" position whenever you start a new flight. If/when you fly the same aircraft over and over for a prolonged time you can easily remember in which position the switch should be placed. However if you haven't flown a certain aircraft for a long time, you will have to regain your muscle memory (refresh your mind using kneeboards) before remembering the initial status of the throttle.

For this purpose I added an "Initial Status" manager in version 1.03. You will ALWAYS have the default initial status called: "ALL OFF". As the name suggest it expects all buttons and switches on the Thrustmaster throttle are in their "Off"-positions. Those that are not off, will be displayed in Red. As visible in the screen-shot below where button 14 (Pinky switch aft) was not in is (middle) Off-position. The red-color simply serves the purpose of tell which buttons/switches were not in their "correct" position, show you know which buttons/switches to toggle before starting a new flight.

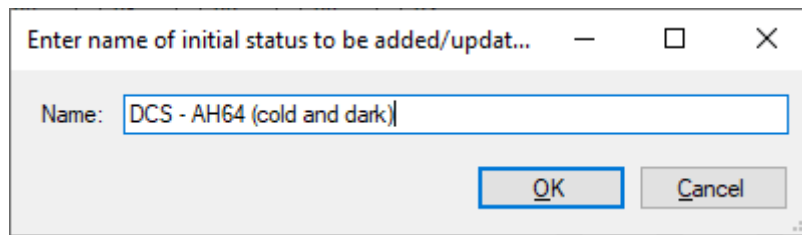


Thes "ALL OFF" initial-state described abot cannot be renamed, changed or deleted. However you can add your own initial-states and these can be deleted if/when you no longer needs them.

REMARK: Profiles can only be managed while "Update checkboxes" is checked.

When I fly the DCS AH64 I use the Pinky-switch for NVS-OFF (aft), -NORM (middle) and -FIXED (forward). So when I start the AH64 "cold and dark" I want to Pinky-switch to be in its aft-position (button 14 "On"). So to create this "initial status" I begin by setting the buttons/switches on the throttle as I want them. The initial status also "remembers" how you have set the "Generate regions" combobox, and whether or not you have checked the "Mirror Throttle" and/or "Mirror Stick" checkboxes. So before adding our new "Initial state" these should also be set as I prefer them for the DCS AH64. Once everything is set, I simply hit the "Add/Update" button.

As we cannot change the "ALL OFF" initial status the "Name" entry-field in the dialog that appears will be blank, asking us to name the new profile. If you have another profile selected the "Name" entry-field will be populated with its current name, and if you simply press enter that profile will be updated. If you type another name, a new profile will be added with that name (and the old profile will remain untouched). So in our case (adding a new profile for the DCS AH64) we will add a name we fell describes this profile:



Once you hit save the new profile will be added (and saved) and selected as the active profile. The program will “remember” which profile is the active, so the next time you start Joy2vJoy it will automatic select the last profile you used. The settings of Joy2vJoy are saved to the folder: C:\Users\[UserName]\AppData\Roaming\Joy2vJoy

After having saved the new profile, you can see it is selected, and you can see that checkbox 14 in the left side is no longer colored red. So if you get shot-down in your AH64 and you have to start once again cold-and-dark you can simply check the “Update checkboxes” checkbox and choose the “DCS – AH64 (cold and dark)” profile and if there are any red colors, they indicate which buttons don’t match the saved initial status. Hovering the mouse over the red checkboxes you will be informed which physical buttons on the throttle that is not in their “correct” state.

Thanks to Joy2vJoy I can use the two EAC/RDR ALTM 2-way switches in the lower/left corner of the throttle to control the when the left/right power levers in the AH64 should either be in the (down) CUT-OFF or (up) IDLE position (once in their idle-position I use the slide-axis to set power). So for a “cold and dark” AH64 I want them to be the in CUT-OFF (down) position. However for a “Hot” (already started) AH64 I want them to be in their IDLE (up) position. With the “DCS – AH64 (cold and dark)” profile I move the two 2-way switches to their up-position, and I will see checkboxes 24- and 25- lights up in red.

To save a new profile you hit the “Add/Update” button. As we are not using the “ALL OFF” profile it will suggest the name of the profile that is currently active (“DCS – AH64 (cold and dark)”). If we simply wanted up update this profile we could simply hit Enter. However we want to add a new profile, so we type the name of the new profile (“DCS – AH64 (hot)”) and hit Enter to save it. So now we have 2 profiles for the AH64 (beside the default “ALL OFF”).

Ideas how to use some of the “Off-positions”

Its obvious to use the 2-way switches for things like Landing/Taxi-light (on/off), Landing gear (up/down), Master Arm (arm/safe) and so on for which there are 2 actions.

Regarding the 2 (3-way) motor switches I decided to handle these in a special way as they cannot stay in the up-position. So for instance The left engine switch will trigger physical button 18 when it goes down, and virtual button 3 when it goes to off (middle position). However moving the switch to/from its up position (physical button 31) will NOT change the value of virtual button 3 (it will stay on, until moving the switch to its down position). One way to use this switch could be to use the down/mid position to control

hook down/up, and use the up position to toggle the launchbar (as the launchbar only have toggle action in DCS).

Alternatively you can use the momentary up positions of these switches to Crank your Left/Right engine, and then use the fixed down positions for Fire-test A and B (you just leave either switch in the down-position while the Fire-test is running). Also you could use the down/middle position to switch between A-A and A-G mode, and use the momentary up-position to toggle Master Arm (arm/safe), or use the left switch (middle/down-position) for A-A/A-G and the right for master arm Arm/Safe, and then use the 2 momentary up-positions for something else ... the choices are ... almost ... endless. Personally I think I will use the autopilot 3-way switch for A-A/A-G in its up/down position

As of now I fly either by myself or with my friend with whom we have our own TS server. As we are the only 2 on this TS server we normally don't fly with PTT, but I recently started using VAICOM with my VoiceAttack. VAICOM regards the 4 position of the MIC-switch as 4 different radio buttons (basically 4 different PTT buttons). I am sure my friend don't want to hear me speaking to VAICOM, so I can set up virtual button 21 as my TS PTT button. Virtual button 21 will go OFF when I move the MIC-switch to either of the 4 positions (to speak with VAICOM), and go back to ON as soon as I release it.

If you instead use the MIC-Switch press (physical button 2) as your TS PTT, as soon as you release physical button 2, virtual button 17 will go active. So if you at the same time want to use VoiceAttack, you can setup VoiceAttack to use virtual button 17 as its PTT button. Doing so VoiceAttack will only listen to your voice when you are NOT speaking on TS (it will only listen when the PTT is not pressed).

E.g. flying any of the Flaming Cliff aircraft, you can setup physical "button" 29 and 30 (moving left/right throttle to the cut-off position), to shut down the left/right engine. When physical 29 and 30 goes to their OFF-position (moving the left/right throttle out of cut-off position) virtual buttons 14 and 15 will go ON, and you can use this to start-up the left/right engine.

I've setup the program so it will also generate virtual button-presses when you release the push-buttons on the physical throttle (e.g.: left throttle button, TDC press, L/G-Warn and Autopilot-Engage/Disengage). I am not sure if it will be useful for anyone, but at least its now possible :-)

DCS will not handle the virtual buttons different than other buttons, so in DCS you can configure these with modifiers just like all other buttons (in case you need to). Don't forget you don't HAVE TO configure an action for all of the virtual buttons ;-)

Its naturally optional, but if you like this program, and want to show your appreciation through a **Donation** go here: [HTTP://www.liljendal.dk/](http://www.liljendal.dk/)