CMDR Clicker's ED_TargetScript User Reference (v4.2.0)

Introduction

PURPOSE:
My script package has been written for the sole purpose of enhancing immersion and control within the game of Elite Dangerous. It extends the capability of my Thrustmaster Warthog HOTAS and TFRP Rudder pedals in game beyond simply sending raw Direct-X buttons or axes.

HISTORY:
This script started with Aussiedoid's extremely comprehensive ED script version 3.1.0 and was modified to mimic my old Saitek X-55 basic configuration. I have since decided to use the advanced abilities of TARGET Script to create a "smart" configuration and have studied and lifted ideas and methods from Aussiedroid and others including CMDRs Touille and Darkcyde.

PHILOSOPHY:
The script does not set out to use every single button and switch on the WARTHOG HOTAS, nor provide every single bind available in ED. Whilst convenient, I tend not to use the HOTAS for non-HOTAS functions (eg I do not currently issue chat macros or fighter instructions etc).
I've written or modified the functions to suit my preferences, my play style and my hardware. Therefore, I've stripped a lot of features which exist in Aussiedroid's script, modified or rewritten others and created some new stuff.

My HARDWARE:
The script and supporting files are written and maintained to work with my current hardware setup. This includes a Thrustmaster Warthog HOTAS, Thrustmaster TFRP Pedals and an EDTracker Pro (wireless). Keyboard and mouse usage is very limited but still required for certain functions.
I do not have a VR Headset.

COMPATIBILITY:
This script has been designed and tested to work with version 3.7 of Elite Dangerous (Horizons) – Fleet Carriers.

I have supplied a 'full" bind file which will work with or without the pedals, and an additional bind file which excludes the ED Tracker bindings.

Be aware that the script uses state tracking by reading the status.json journal file created and updated whilst the game is running. If this file becomes unreadable or unavailable, the script will abort.

The script requires Thrustmaster's TARGET Script editor (v3.0.18.328) to load, edit, compile and run.

The formatting used herein suits the GUI console and not the editor. So, if you intend to edit this software, be careful changing the printf formatting as output from this script displays differently in the TARGET Editor versus the TARGET GUI Console due to font differences between the two.

Fly dangerously commanders! O7

CMDR Clicker

INDEX:

Acknowledgements and credits

Original script inspiration and functionality by Aussiedroid.
https://forums.frontier.co.uk/members/aussiedroid.21601/
https://forums.frontier.co.uk/threads/aussiedroids-enhanced-thrustmaster-warthog-script.293027/
https://github.com/Aussiedroid/AD-EDWarthogEnhancedScript

Contribution and ideas lifted from Touille and Darkcyde.
https://forums.frontier.co.uk/members/cmdr-touille.110127/
https://github.com/Touille/ED-Warthog-Target-Script

https://forums.frontier.co.uk/members/darkcyde.26482/

Modified target.tmh was sourced from Sedenion.
https://forums.eagle.ru/showthread.php?t=171098

Analogue Slew Controller Upgrade – get rid of that crappy 'mouse nub' on the Throttle!
https://deltasimelectronics.com/products/thumbstick-slew-sensor-adapter

Last but not least, a lot of my learning came from assistance by several key people in particular

On HOTAS/HOSAS/SIMPIT Discord…
@sYfte
@hon0

Over on DCS World forums https://forums.eagle.ru/ …
@ivanwfr https://forums.eagle.ru/member.php?u=82172
@Sgt Coyle https://forums.eagle.ru/member.php?u=88210
@Drakoz https://forums.eagle.ru/member.php?u=108387

1. SCRIPT PACKAGE CONTENTS

When publishing or sharing this script the following should be included in the zipped package;

- The readme file
- The license file
- This reference manual
- ED_Main.tmc, ED_Functions.tmh, ED_Macros.ttm, ED_Toggles.tmh, ED_StateTracker.tmh,
- ED_MapKeyAssignment.tmh, ED_Keyboard_&_DX_Map.ttm, ED_GlobalVars.tmh,
- ED_UserSettings.tmh
- Voice.exe (users can find this on github and check out the source if they wish)
- sounder.exe (users can find this on github via the same author as voice.exe)
- targetdx64enh.tmh - I use a modified version of Sedenion's targetdx128.tmh file
- Windows batch file (SAMPLE_Launcher.cmd) to use to launch Elite Dangerous, my TARGET script and supporting apps)
- The Elite Dangerous .bind file created to support this script
- The image files created to summarise the Joystick and Throttle button assignments
- The image files created to summarise keyboard key utilisation
- The change log for this version

2. INSTALLATION

a. Copy the correct .bind file in the package's 'Bindings' folder to your Elite Dangerous bind file folder. This is usually at …
"c:\users\%username%\AppData\Local\Frontier Developments\Elite Dangerous\Options \Bindings"
As 'AppData' can usually be hidden you may need to unhide it via the folder view options in Windows if navigating via the windows explorer. Or, you should be able to cut/paste the path above into a run box or address bar

NOTE:

- You should use the bind file in Bindings\Full folder within the zip package even if you don't have a TFRP Pedal controller
- If you do not have an EDTracker use the bind file present in the Bindings\No EDTracker\ folder

b. Unzip the script files anywhere on your disk that you can easily find/get to
Example used in this document is c:\Thrustmaster\ED_TargetScript
Substitute your path within this document if you decide to save to somewhere else.
c. Copy voice.exe and sounder to c:\Thrustmaster\ED_TargetScript\ and set correct path in the ED_UserSettings.tmh file for both VoicePath and VoiceCMD variables
d. Copy Sounds folder to c:\Thrustmaster\ED_TargetScript\ and set correct path in ED_UserSettings file
e. Print out and/or study the image files within the 'Maps' folder.
f. The Preferred method of running the script is via a Windows batch file.
ED_Launcher.cmd batch file is included in this package and is best copied to wherever you copied the scripts to in "step 2" above.
I recommend you create a shortcut to this batch file on your desktop and run it as administrator. Please read the comments in this batch file for more information

g. Before you run the script open the ED_UserSettings.tmh file in notepad (I recommend using Notepad++) and ensure;

- the path definitions for 'StatusFile', 'MyStatusFile', 'VoicePath' , 'SoundPath' and 'WAVPath' are all correct
- 'VoiceCMD' is set correctly (you can remove -n \"Microsoft Catherine\" if you have not installed this MS Voice
- Set 'EnableTFRPRudder' to = 0 if you do not have this rudder controller

h. The script MUST be running before you start the game.
i. When you run the game, go to Options | Controls and select the .bind file profile included in the zip package. (example: "Clicker-Warthog-v420")

j. If you do not have a TFRP Rudder controller you will need to correct the bindings for the following in game functions;

- Ship yaw
- SRV Steering
- Camera yaw, FSS Camera yaw & SAA Third-Person yaw

k. If you do not have an EDTracker, you will need to add bindings for Head look Pitch and Yaw if you intend to use this feature

3. FEATURES

- 4 firing modes for both primary and secondary triggers
    - Pulse Wave Scanner mode
    - Normal (press to fire, release to stop)
    - Discovery Scanner mode (momentary press holds trigger down for 6.1 seconds
    - Mining Laser Mode (press to fire, press to stop)
- 3 user customisable, change on the fly curve profiles for Joystick and Rudder selectable via the autopilot switch
- FA-OFF automatically applies custom curves to joystick and rudder
- User customisable curve profiles for slew control and slider
- Different flight modes tracked and slider curves (for Radar) automatically applied
- Advanced PIP Manager includes 6 PIP modes, all selectable on the fly
- Advanced Counter measures control includes single SCB, SCB with auto heatsink and dual SCB with heatsink modes.
- Text-To-Speech engine provides extra voice feedback which can be turned on/off and volume controlled on the fly
- Sound effects engine to add extra feedback in game
- Advanced state processor, which reads status.json twice per second and detects when key flags are changed.
- Additional flags tracked, saved to file and loaded when required, automatically
- Comprehensive print to console messages by most functions
- Turn the Throttle base LEDs on or off on the fly. User customisable brightness.
- Status LEDs accurately synchronised with game states for 5 key ship systems
- Accurate game start and stop detection
- Macros included for;
    - Docking request with auto PIPs to shields
    - NAV Beacon On/Off
    - Report Crimes On/Off
    - Deploy and Recover the SRV
    - Hanger/services which can be set to auto on dock, or via switch
    - Launch, lift off, retract landing gear
    - Fast Game Mode switching
- Ship Deploy/Recall tracking, even across game or script restarts
- Simple target designator functions including system module targeting
- Boost bleed function using timed landing gear deployment/retraction in a single button
- Advanced Super Cruise / Hyper jump tracking with drop detection
- Fully documented and commented code
- Dedicated User Settings file
- Separate Global Variables file (not meant for user settings)
- Comprehensive Keymap file detailing standard and combo keyboard keys
- Keymap file contains comprehensive DX and USB tables
- Matching custom keybind file included
- Joystick, Throttle and Keyboard Image Maps and keyboard usage tables
- Voice enabled training mode….and more!

4. USAGE

All user configurable settings are in the ED_UserSettings.tmh file.
Avoid changing anything in ED_GlobalVars or ED_KeyMap files.

Feel free to use the ideas and methods for your own use in your own scripts and I encourage you to share these with other like minded players.

This software uses the MIT license which can be found at the root of this package/repository.

Intent

Most buttons and switches do 'something' other than just send a simple keystroke or a Direct-X (DX#) command to the game.

Likewise, most of the axes available have different profiles (behaviours) depending on a user setting, or a specific combination of button presses, or, indeed something that happens in game.

My intention here is to describe what each button/switch does and how the different Joystick, Throttle slider and Throttle Slew Control (mini stick) axes behave depending on situation or user definable configuration and in game actions.

The intention of this document is not to teach TARGET Script or walk you through my code. I will try to keep the scripting (code) description to an absolute minimum. Saying that, the script itself has a lot of comments which can help you if you wish to learn TARGET Script, or modify mine to suit your needs.

Console

The script will output to the Target Script GUI console the result of many commands. It is not strictly speaking required to play the game, however you can use this feature to ensure you are hitting the correct switch/button or sequence.

Likewise, the script will output error messages when you select an invalid button.
Example: trying to lower the landing gear when in Super cruise

Text-To-Speech

I've included a voice feedback system which uses a Text-To-Speech engine and Microsoft's Voice capability to add more immersion and feedback when you select certain actions.

A lot of the console messages are also converted to speech.

For this to work you need to copy voice.exe to your script folder and correctly set the path inside the ED_UserSettings.tmh file.

The volume for the Text-To-Speech function can be changed on the fly via FLAPU and FLAPD switch and the feature can be turned off completely via BSF (Boat Switch-Forward).

Refer to the individual switch references in the below chapters for more detail.

5. MODIFIERS

The script uses modifiers which do much the same thing as the ‘SHIFT’ or ‘ CTRL’ keys do on a keyboard…they change or extend the use of the switch or button.

Using modifiers, each button or switch can have up to 6 different functions.

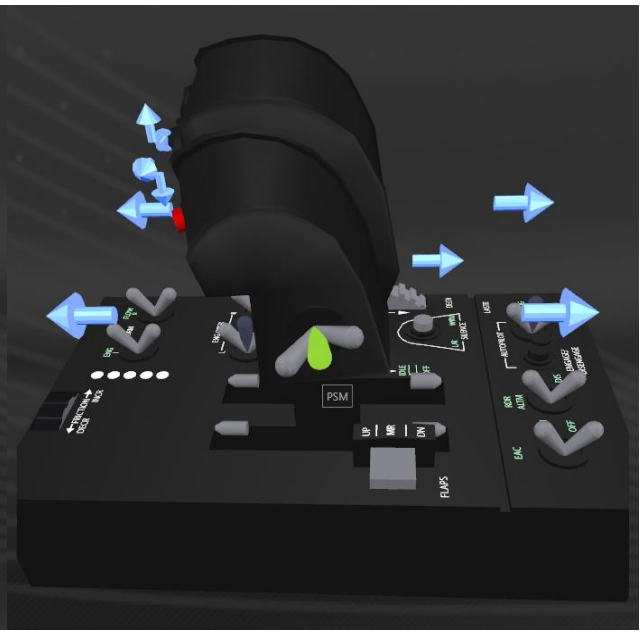
It is worth noting that I do not use modifiers on all switches and buttons … only about half of the buttons I have mapped use modifiers.

The modifiers use the form I, O, U, M, D. The letters stand for ‘In’, ‘Out’, ‘Up’, ‘Middle’ and ‘Down’

The script uses the Joystick S3 (‘Nosewheel’) button as the IO modifier. When pressed we are using the ‘I’ layer. ‘O’ layer is being used when it isn’t pressed.

The script uses the Throttle PSF, PSM, PSB (‘Pinky Switch’) as the UMD modifier (layers). PSF is the ‘U’ layer, PSM is the ‘M’ layer and PSB is the ‘D’ layer (F=Forward, M=Middle, B=Back)

Joystick S3 ‘Nosewheel’ switch



Throttle PSF/PSM/PSB ‘Pinky’ switch

In the main script file (ED_Main.tmc) you will see each switch and button mapped via a MapKey statement. This defines what we want to do when the switch is pressed.

It may look like one of the following four examples;

a. MapKey(&Joystick, TG1, <action>);
   No modifiers used. Press the trigger to do ‘action’

b. MapkeyIO(&Joystick, TG1, <‘I’ action>, <’O’ action>);
   Modifier ‘IO’ in play.
   Press and hold S3, then the trigger to do ‘action for I’
   Press the trigger without pressing S3 to do ‘action for O’ (ie no modifier)

c. MapKeyUMD(&Joystick, TG1, <'U' action>, <'M' action>, <'D action'>);
   Modifiers 'UMD' in play.
   Flick Pinky Switch Forward (PSF) and press the trigger to do 'U action'
   Leave or move Pinky Switch Middle (PSM) and press the trigger to do 'M action'
   Flick Pinky Switch Back (PSB) and press the trigger to do 'D action'

d. MapKeyIOUMD(&Joystick, TG1, <IU>, <OU>, <IM>, <OM>, <ID>, <OD>);
   The most complex mapping as you can see and has 6 separate actions depending on both S3 being pressed and/or position of the Throttle pinky switch!

In this user guide, I will list each switch position used in the script and if modified, will use the following example terminology;

Switch	Usage	This means…
TG1 – IU	S3+PSF+TG1	Press+hold S3 (I), Flick PSF (U), then press the main trigger
TG1 – OM	TG1	Just press the Joystick main trigger (no effective modifier) (S3 not pressed and Throttle Pinky Switch in the middle position)
S1 – U	PSF+S1	Flick PSF (U), then press the Joystick S1 ('Master Mode') button
H4P – D	PSB+H4P	Flick PSB (D), then press the Joystick CMS Switch
S4	S4	(no modifiers) … just press the Joystick S4 switch (pinky lever)

In other words, I'll only use the modifiers where they are used for that switch mapping in script.

I'll then go on to describe the 'action' or function of each switch in use and I'll include a reference picture of the switch being described.

TRAINING MODE:

Enable 'AnnounceTraining' in ED_UserSettings file to announce via Voice feedback the selected Training mode status when script starts.

Enable 'TrainingEnabled' in the ED_UserSettings file to take advantage of a training mode.

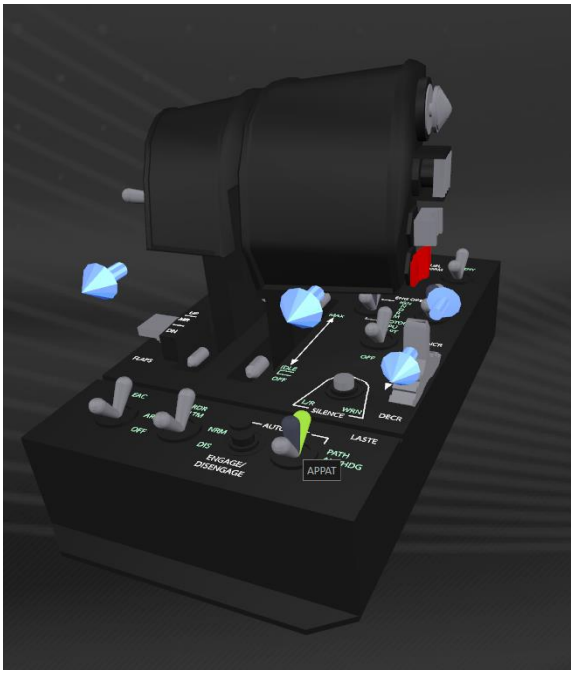
When the game is not running, pressing any of the button or switch combinations described in the following chapters will result in both Voice feedback, as well as a console printout of the mapped function. Make sure you also check modified buttons and switches!

6. AXIS CURVES AND CURVES CONTROL

The joystick's X-Axis is used for ROLL and Y-Axis for Pitch. The same as you'd experience in an aircraft.

By default I use a small amount of S-Curve for the X and Y axis on the joystick and the rudder, however, you can turn the curves off via the Throttle APPAT switch as shown below.

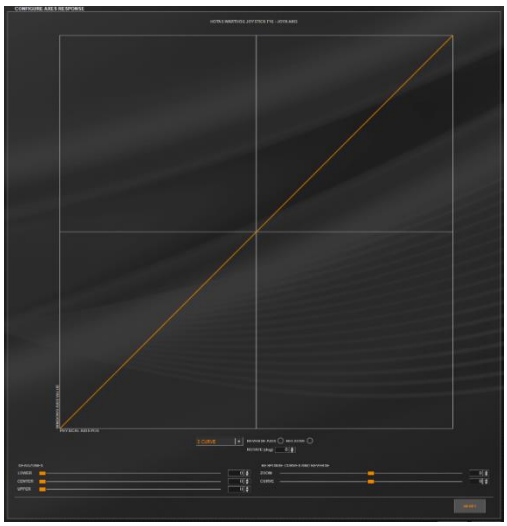
Switch	Usage	Action
APPAT	APPAT	Set Joystick and Rudder curves to OFF (0)



Throttle APPAT (Autopilot Path)

No curves means that the joystick and rudder axes have a linear response. That is it increases the roll or pitch rate in a consistent manner as you move the stick all the way left, right, up, or down.

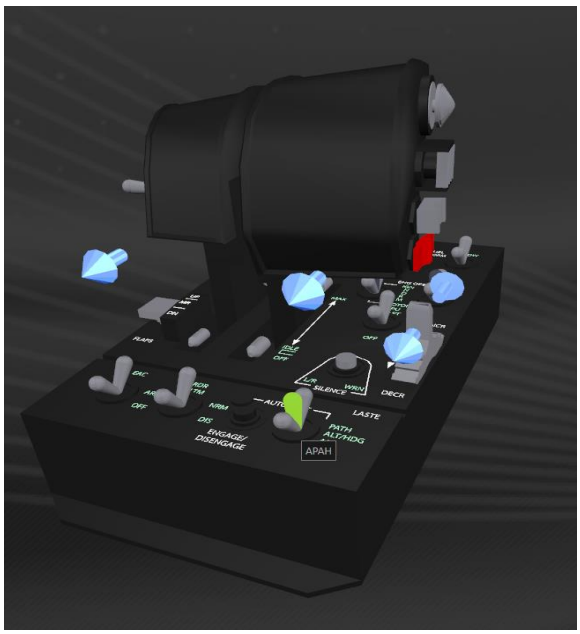
As the script applies the same curve profiles to the joystick and rudder when switching, the same theory applies to the rudder.



Joystick Curves set to 0 (linear response)

(…curves continued)

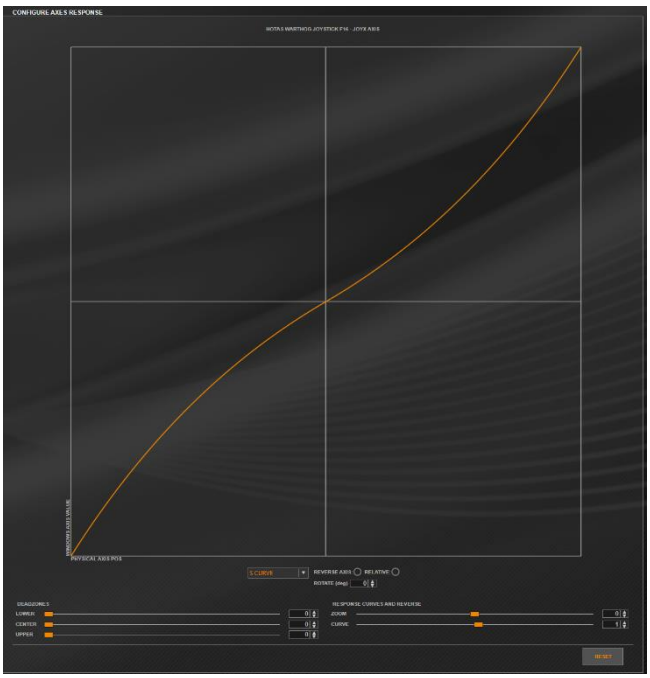
Switch	Usage	Action
APAH	APAH	Set Joystick and Rudder curves to MILD (1)



Throttle APAH (Autopilot ALT/HDG)

Default position for this switch. I use a small amount of curves applied to the joystick and rudder. The joystick and rudder have a slight non-linear rate of response.

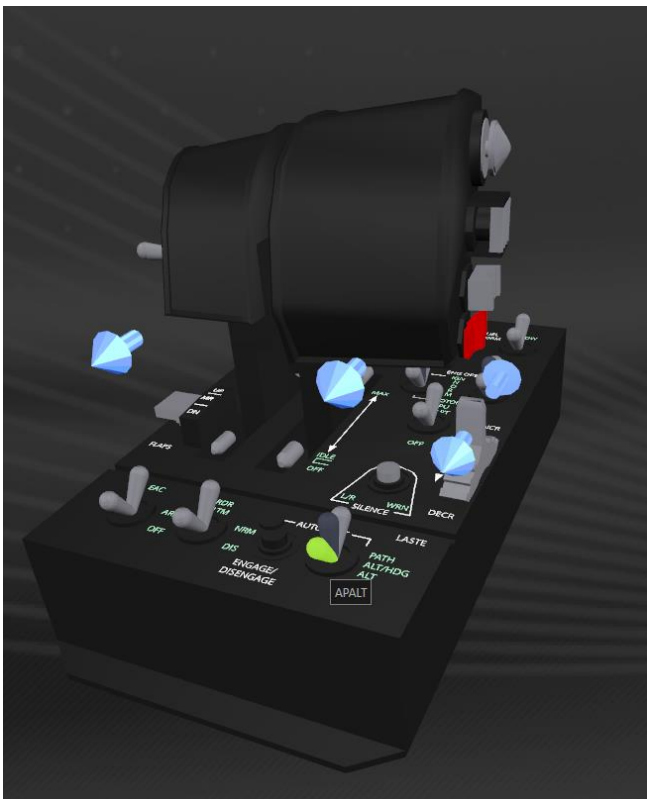
The S-Curve causes the response to be slightly slower at the beginning of travel away from centre and gets faster the further from centre you move the stick (or rudder).



Joystick Curves set to 1 (Non-Linear Response)

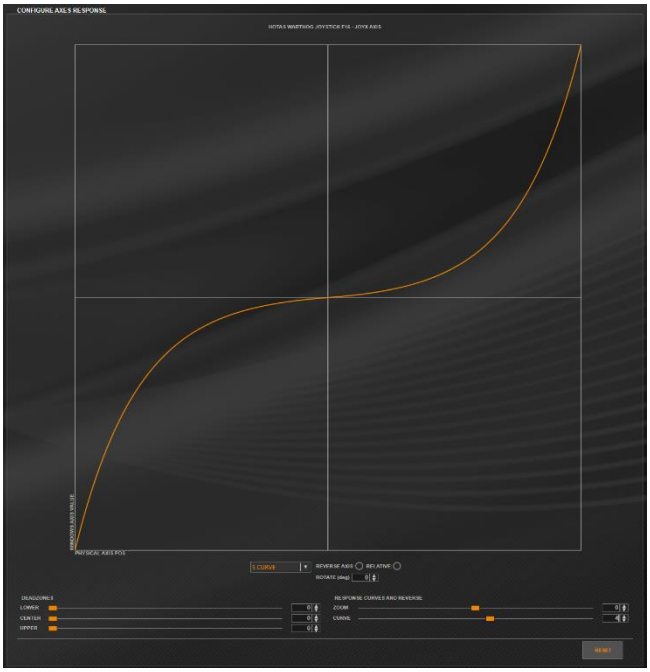
(…curves continued)

Switch	Usage	Action
APALT	APALT	Set Joystick and Rudder curves to MEDIUM (4)



Throttle APALT (Autopilot ALT)

At a curve profile of 4 the Joystick/Rudder response starts quite a bit slower and then gets a fair bit faster the more you move the throttle or rudder from the centre position.
This is most useful when learning and using Flight Assist Off (FA-OFF).



Joystick Curves set to 4 (non-linear response)

(…curves continued)

Switch	Usage	Action
S4	S4	1st press - Toggles FA-OFF and sets joystick & pedal curves to 4 2nd press - Toggles FA-ON and resets curve profile to the associated autopilot switch setting

Joystick S4 (Pinky lever)

FA-OFF: Status LED 1

The curves that FA-OFF will use can be set via the 'FAOFFCurves' variable within the ED_Usersettings.tmh file. Valid settings are 'OFF', 'MILD' or 'MEDIUM'

Console printout each time curves change can be set via 'CurveInfo' variable within ED_UserSettings.tmh file. Valid settings are 'PRINT' or 'NOPRINT'

Note: The above settings are case sensitive.

(…curves continued)

Axis	Usage	Action
THR_FC	THR_FC	Used to adjust radar range

THR_FC

This axis requires custom curves, set automatically depending on flight mode.
Flight mode is detected in the script each time your flight mode changes from normal, super cruise, FSS Scanner or DSS Scanning (surface probes, front/rear planet view).

Mode 0: linear. Used for FSS Mode Radar
Curve Profile 0 = (0,0, 25,25, 50,50, 75,75, 100,100)

Mode 1: non-linear. Used for normal flight and SRV
Curve Profile 1 = (0,0, 40,25, 75,50, 85,75, 100,100)
ie. When slider is at 40%, Windows DX value is at 25% etc.

Mode 2: non linear. Used for Supercruise
Curve profile 2 = (0,0, 50,10, 75,30, 90,50, 100,100)

Note: J-Curve settings (via SetJCurve statement in script) do not work as well as Custom Curves

Most of the settings for each of the curve functions can be found within the ED_UserSettings.tmh file under the ‘Axis Curves’ section.

Refer ‘Axes’ chapter starting on p27 in the Target Script Editor Basics Manual v1.5 for more details on ‘S’, ‘J’ and ‘Custom’ curves.

(…curves continued)

Axis	Usage	Action
SCX	SCX	Slew Control X-Axis. Used for Lateral Thrusters
SCY	SCY	Slew Control Y-Axis. Used for Vertical Thrusters

Throttle SCX (Slew Control) Throttle SCY (Slew Control)

Curves for the Slew Control are also set when we change the Joystick curves.
The 3 profiles are all set the same (linear) but can be changed via curve arrays within ED_UserSettings.tmh.

I use a slight centre dead zone of 15 as this control is quite sensitive.

NOTE: I have modified my WARTHOG HOTAS by replacing the slew control ‘nub’ with an analogue control replacement which I obtained from:

https://deltasimelectronics.com/products/thumbstick-slew-sensor-adapter

This is a fantastic upgrade to the HOTAS which I heartily recommend.
It turns what I consider to be a relatively useless control that I did not/would not use, into something supremely useable which I cannot do without!

7. JOYSTICK CONTROLLER

Switch	Usage	Action
TG1-IU	S3+PSF+TG1	(not mapped)
TG1-OU	PSF+TG1	Primary trigger fires once every 7 seconds. Useful for Pulse wave scanner Press PSF+TG1 again to stop
TG1-IM	S3+TG1	(not mapped)
TG1-OM	TG1	Primary trigger default action (press to fire, release to stop)
TG1-ID	S3+PSB+TG1	Toggle (PSB) Trigger action between ‘disco scan’ and ‘mining laser’
TG1-OD	PSB+TG1	Disco scan. Press to fire. Script releases trigger after 6.1 secs Mining laser. Press to fire, press to stop

Joystick TG1 (Primary Fire)

(… JOYSTICK continued)

Switch	Usage	Action
TG2	TG2	(not mapped)

Switch	Usage	Action
S1-U	PSF+S1	Toggle HUD between Analysis and Combat Modes
S1-M	S1	Toggle Hardpoints (normal flight mode)
S1-D	PSB+S1	(not mapped)

Joystick S1 (Master Mode Control)

NOTE: When in Super cruise, S1-M toggles HUD mode automatically

(… JOYSTICK continued)

Switch	Usage	Action
S2-IU	S3+PSF+S2	(not mapped)
S2-OU	PSF+S2	Secondary fire trigger fires once every 7 seconds. Useful for Pulse wave scanner Press PSF+S2 again to stop
S2-IM	S3+S2	(not mapped)
S2-OM	S2	Secondary fire trigger default action (press to fire, release to stop)
S2-ID	S3+PSB+S2	Toggle (PSB) Trigger action between ‘disco scan’ and ‘mining laser’
S2-OD	PSB+S2	Disco scan. Press to fire. Script releases trigger after 6.1 secs Mining laser. Press to fire, press to stop

Joystick S2 (Secondary Fire/Weapons Release)

(… JOYSTICK continued)

Switch	Usage	Action
H1U-U	PSF+H1U	Toggle FSS Mode
H1U-M	H1U	Select Next Fire Group
H1U-D	PSB+H1U	Turn off DSS Mode

Joystick H1U (China Hat – Up)

(… JOYSTICK continued)

Switch	Usage	Action
H1D	H1D	Select Previous Fire Group

Joystick H1D (China Hat – Down)

(… JOYSTICK continued)

Switch	Usage	Action
H1L	H1L	Tempo. Press and hold for 0.5 seconds toggles landing gear Short press does nothing.

Joystick H1L (China Hat – Left)

Landing Gear: Status LED 5

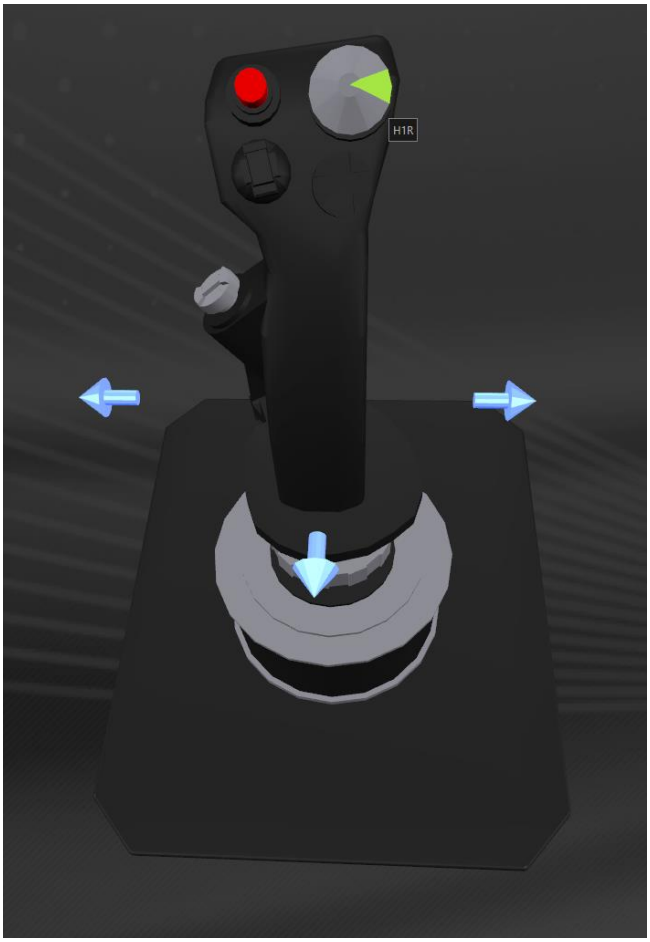
Press and hold H1L for 0.5 Seconds to toggle the landing gear.
This prevents accidental deployment during combat if you accidentally hit H1L instead of H1U (Next Firegroup) or H1D (Previous Firegroup)

The landing gear is also used as an auto speedbrake via hitting ‘Reverse’ when in normal flight.
This will automatically deploy the landing gear, then retract 5 seconds later.

Boost-bleeding can be accomplished by hitting boost, then Reverse.
Refer to Throttle Lever Control – SPDF/SPDB (Speedbrake switch) in Section 8

(… JOYSTICK continued)

Switch	Usage	Action
H1R-U	PSF+H1R	Toggle Night Vision ON/OFF
H1R-M	H1R	Tempo. Press and hold for 0.5 seconds toggles lights Short press does nothing. Prevents accidental toggle of lights
H1R-D	PSB+H1R	(not mapped)



Joystick H1R (China Hat – Right)

Toggle Lights: Status LED 2

Ship Lights simply toggle ON/OFF

SRV lights cycle ON/HI BEAM/OFF

(… JOYSTICK continued)

Switch	Usage	Action
H2U-U	PSF+H2U	Toggle Planet View, Front/Back (Must be in FSS Mode)
H2U-M	H2U	Select Target Ahead
H2U-D	PSB+H2U	Select Target Ahead

Joystick H2U (Target Designator – Up)

(… JOYSTICK continued)

Switch	Usage	Action
H2D-U	PSF+H2D	(not mapped)
H2D-M	H2D	Select Highest Threat
H2D-D	PSB+H2D	Select Wing Man’s Target

Joystick H2D (Target Designator – Down)

(… JOYSTICK continued)

Switch	Usage	Action
H2L-U	PSF+H2L	(not mapped)
H2L-M	H2L	Select next ship
H2L-D	PSB+H2L	Select next wingman (sequences each wingman in turn)

Joystick H2L (Target Designator – Left)

(… JOYSTICK continued)

Switch	Usage	Action
H2R-U	PSF+H2R	(not mapped)
H2R-M	H2R	Select next hostile ship
H2R-D	PSB+H2R	Select Wingman's NAV Lock

Joystick H2R (Target Designator – Right)

(… JOYSTICK continued)

Switch	Usage	Action
H3U	H3U	PIP Management – PIPs to Engines
H3D	H3D	Balance PIPs
H3L	H3L	PIPs to Systems (Shields)
H3R	H3R	PIPs to Weapons

Joystick H3D (Data Mgmt – Up) Joystick H3U (Data Mgmt – Down)

Joystick H3L (Data Mgmt – Left) Joystick H3R (Data Mgmt – Right)

The script has 6 PIP Modes selectable via H4P (see below)

(… JOYSTICK continued)

Switch	Usage	Action
H4P-U	PSF+H4P	Reset PIP Mode to DefaultPIPMode (set in ED_UserSettings.tmh)
H4P-M	H4P	Select Next PIP Mode. (0 - 5) (5 wraps to 0)
H4P-D	PSB+H4P	Select Previous PIP Mode (5 - 0) (0 wraps to 5)

Joystick H4P (Countermeasures – Press)

PIP Mode 0:	Single PIPs.	1 press = 1 PIP
PIP Mode 1:	Double PIPs.	1 press = 2 PIPs
PIP Mode 2:	Attack	SYS = [4 0 2], ENG = [0 4 2], WEP = [0 2 4]
PIP Mode 3:	Defend	SYS = [4 2 0], ENG = [2 4 0], WEP = [2 0 4]
PIP Mode 4:	Recharge	SYS = [4 1 1], ENG = [1 4 1], WEP = [1 1 4]
PIP Mode 5:	3+3	SYS = [3 3 0], ENG = [0 3 3], WEP = [3 0 3]

(… JOYSTICK continued)

Switch	Usage	Action
H4U-U	PSF+H4U	‘Double Bank’ Fire 2x Shield Cell Banks (SCB) + 1x Heatsink
H4U-M	H4U	Tempo. Short Press = Fire 1x SCB, Long Press = 1x SCB + 1x Heatsink
H4U-D	PSB+H4U	FSS or Camera Zoom - IN

Joystick H4U (Countermeasures – UP)

(… JOYSTICK continued)

Switch	Usage	Action
H4D-U	PSF+H4D	(not mapped)
H4D-M	H4D	Fire 1x Heatsink
H4D-D	PSB+H4D	FSS or Camera Zoom – OUT

Joystick H4D (Countermeasures – DOWN)

(… JOYSTICK continued)

Switch	Usage	Action
H4L-U	PSF+H4L	(not mapped)
H4L-M	H4L	Electronic Countermeasures (ECM). Hold to charge, Release to Fire
H4L-D	PSB+H4L	Camera Blur – OUT

Joystick H4L (Countermeasures – LEFT)

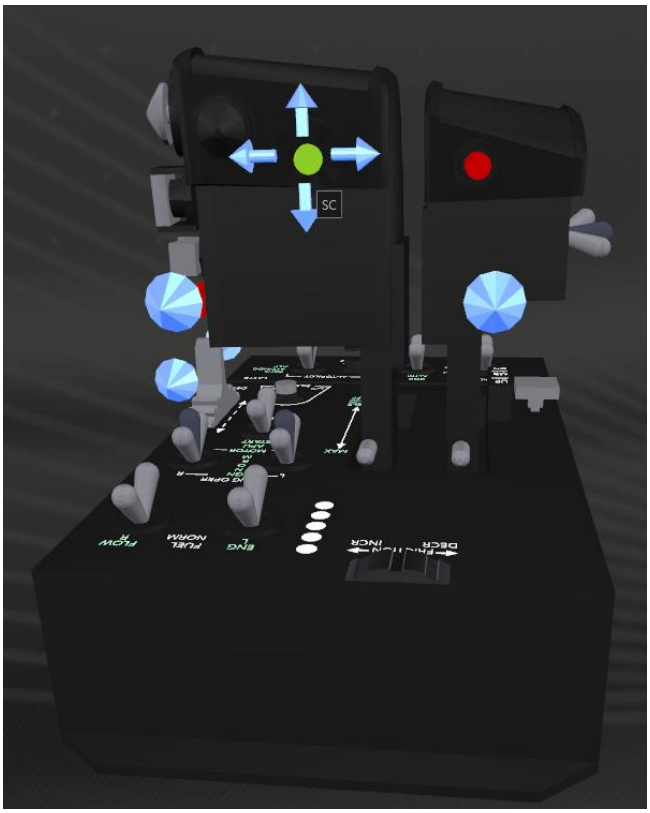
(… JOYSTICK continued)

Switch	Usage	Action
H4R-U	PSF+H4R	(not mapped)
H4R-M	H4R	Fire 1x Chaff
H4R-D	PSB+H4R	Camera Blur – IN

Joystick H4R (Countermeasures – RIGHT)

8. THROTTLE CONTROL - LEVER

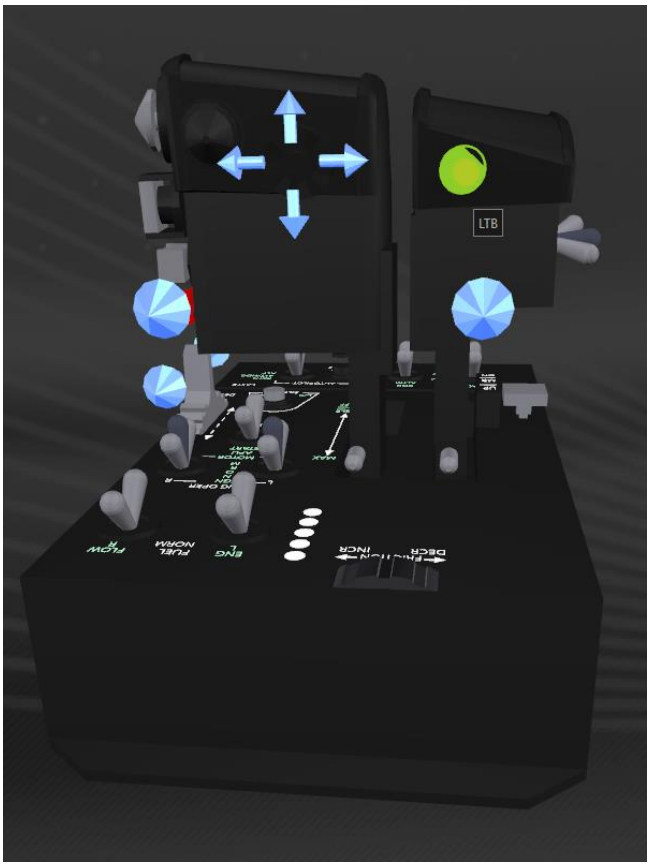
Switch	Usage	Action
SC-U	PSF+SC	Toggle Connection status. Shows Bandwidth counter
SC-M	SC	Centres EDTracker
SC-D	PSB+SC	(not mapped)



Throttle SC (Slew Control Press Button)

(… Throttle LEVER continued)

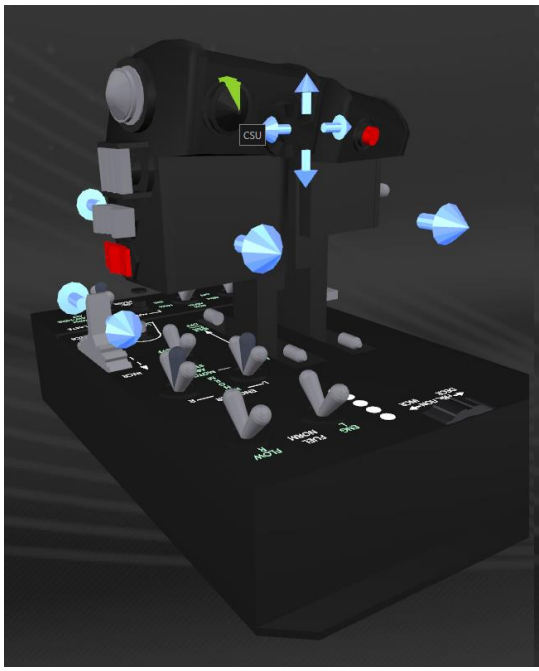
Switch	Usage	Action
LTB-U	PSF+LTB	Toggles external ‘free camera view’ and turn off GUI
LTB-M	LTB	Toggle Headlook ON/OFF
LTB-D	PSB+LTB	(not mapped)



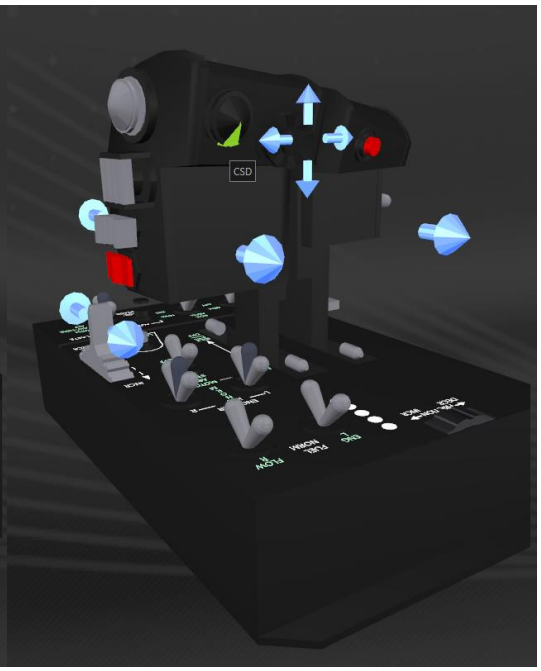
Throttle LTB (Left Throttle Button)

(… Throttle LEVER continued)

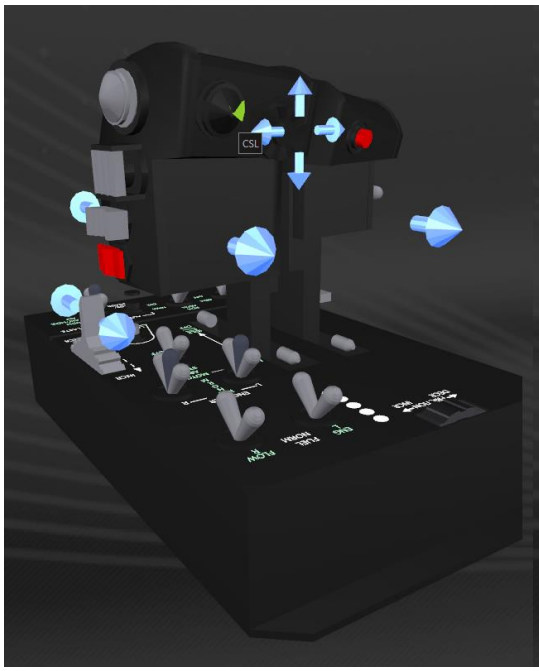
Switch	Usage	Action
CSU	CSU	Engage Supercruise
CSD	CSD	Engage System Jump (Hyperspace)
CSL	CSL	Select Next System in route
CSR	CSR	Toggle Orbit Lines ON/OFF



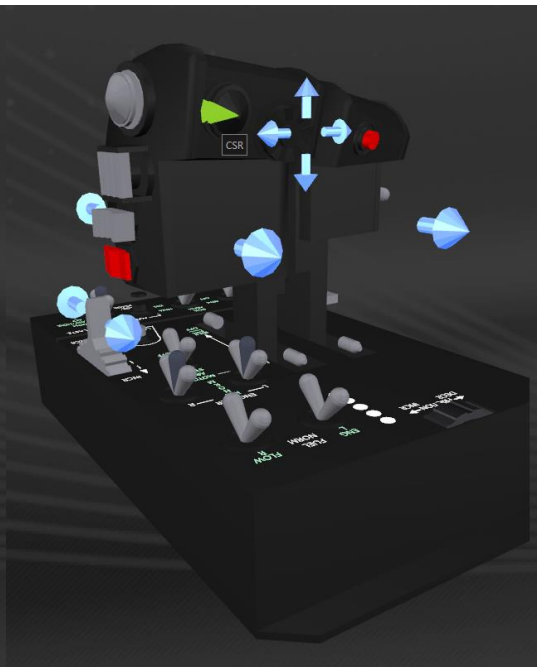
Throttle CSU (Coolie Switch – UP)



Throttle CSD (Coolie Switch – DOWN)



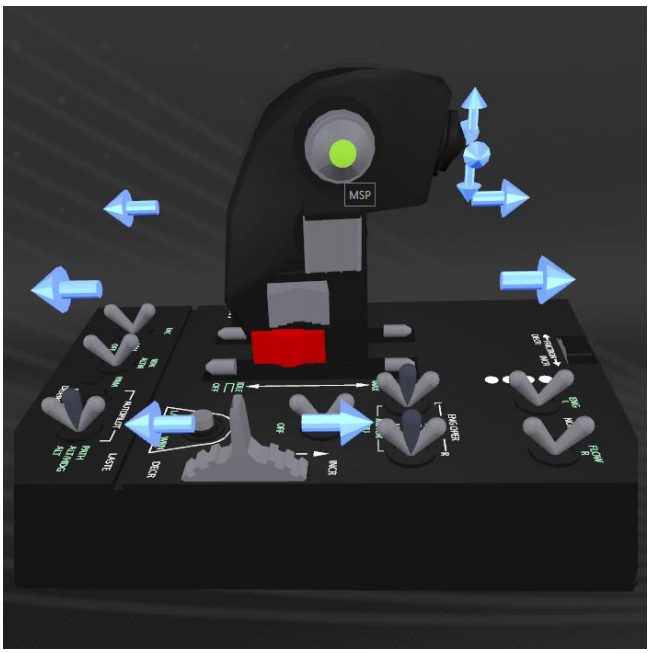
Throttle CSL (Coolie Switch – LEFT)



Throttle CSR (Coolie Switch – RIGHT)

(… Throttle LEVER continued)

Switch	Usage	Action
MSU	MSU	(reserved for Voice Communications)
MSD	MSD	(reserved for Voice Communications)
MSL	MSL	(reserved for Voice Communications)
MSR	MSR	(reserved for Voice Communications)
MSP	MSP	(reserved for Voice Communications)



Throttle MSP (Mike Switch – PRESS)

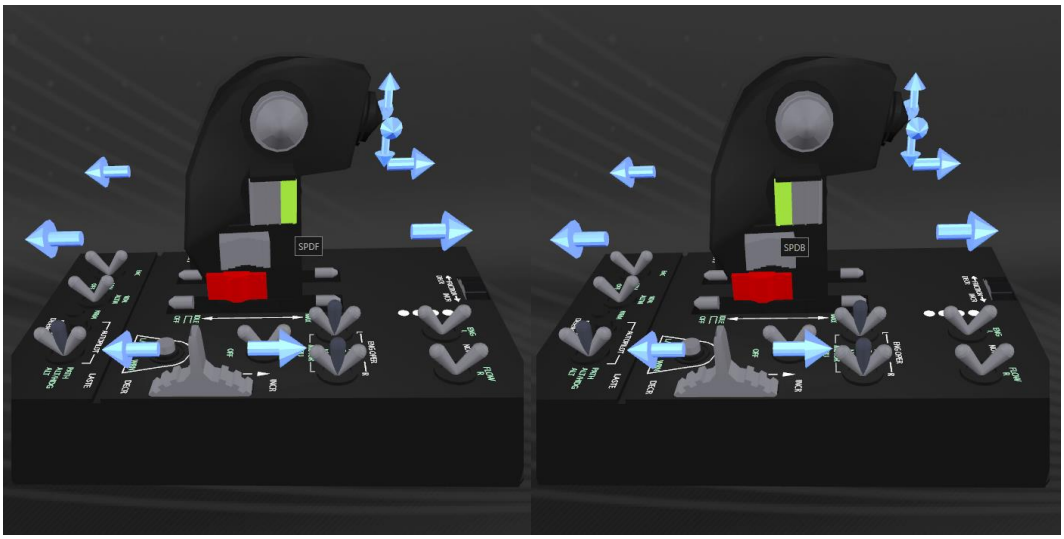
MSU/MSD/MSL/MSR on same switch but not shown

(… Throttle LEVER continued)

Switch	Usage	Action
SPDF-U	PSF+SPDF	Reverse Thrust (no speedbrake)
SPDF-M	SPDF	Reverse Thrust (+Speedbrake if hardpoints are deployed)
SPDF-D	PSB+SPDF	Re-align switch to action if out of synch

Speedbrake function: Landing gear lowered then retracted 5 seconds later
Reverse thrust turned off when switch returned to middle position.

Switch	Usage	Action
SPDB	SPBD	Boost (momentary action switch)

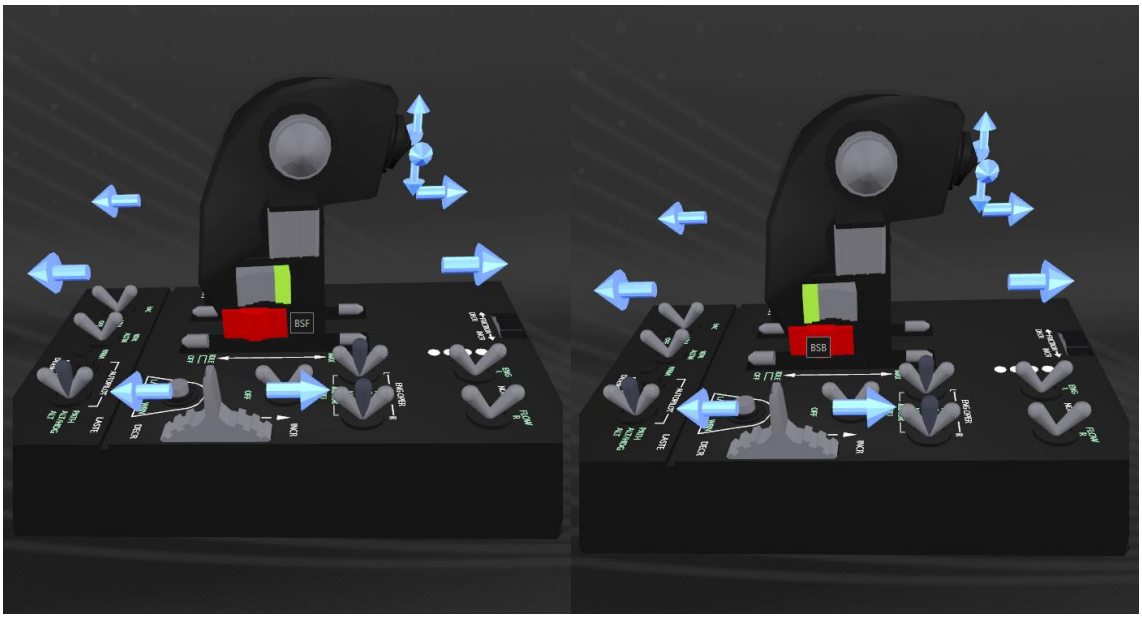


Throttle SPDF (Speedbrake – FORWARD) Throttle SPDB (Speedbrake – BACK)

(… Throttle LEVER continued)

Switch	Usage	Action
BSF-U	PSF+BSF	Macro: Toggles NAV Beacon WING/OFF (Right Panel must be at home position or this won't work)
BSF-M	BSF	(not mapped)
BSF-D	PSB+BSF	Toggle Text-To-Speech feedback ENABLED/DISABLED

Switch	Usage	Action
BSF-F	PSF+BSB	Toggle 'Report Crimes against me' ON/OFF (Right panel must be at home position or this won't work)
BSB-M	BSB	(not mapped)
BSB-D	PSB+BSB	(not mapped)



Throttle BSF (Boat Switch – FORWARD) Throttle BSB (Boat Switch – BACK)

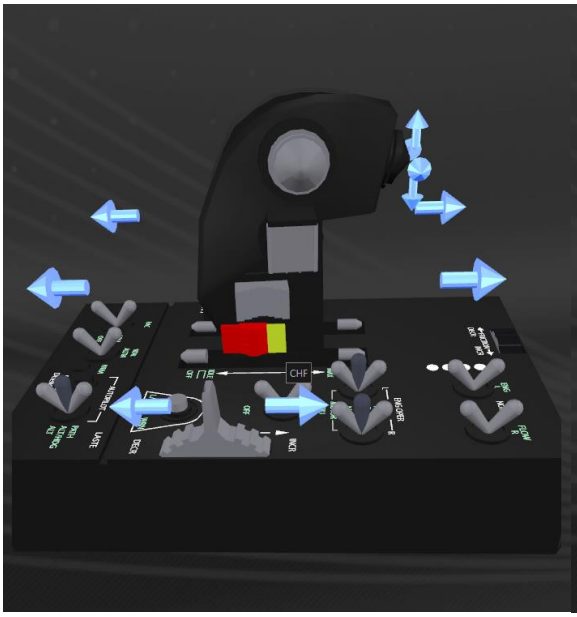
NOTE:
These macros require the SYSTEM Panel (Right Panel) is at home position or undesired/random results will happen. Home position is Left TAB, Top Left position.

If you use the panels frequently, consider not using these functions, or, get in the habit of returning to the home position manually each time.

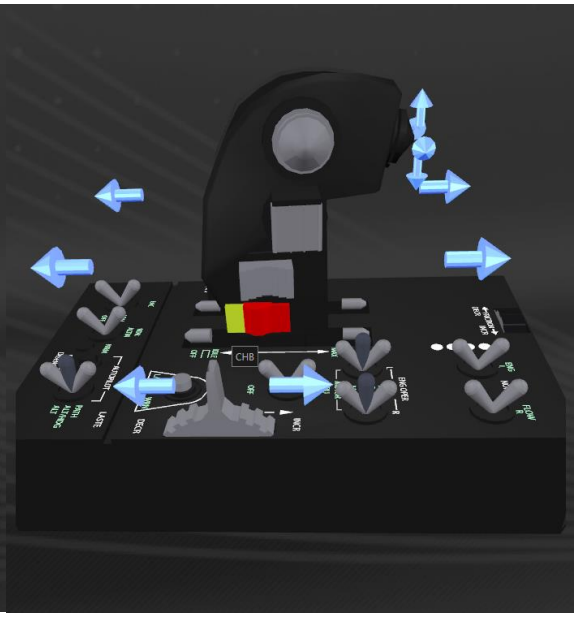
This also applies to the 'Docking Request' function from the NAV (Target) Panel (Left Panel)

(… Throttle LEVER continued)

Switch	Usage	Action
CHF	CHF	Select next subsystem on targeted ship (momentary action switch)
CHB	CHB	Select previous subsystem on targeted ship (momentary action)



Throttle CHF (China Hat – FORWARD)



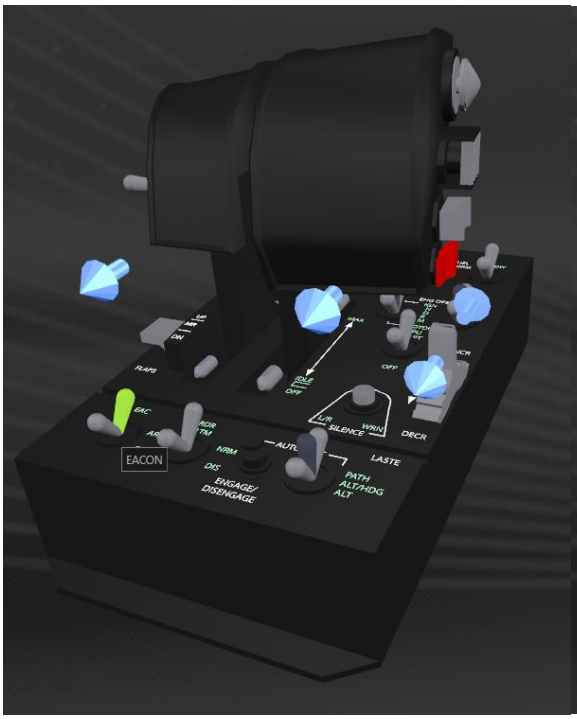
Throttle CHB (China Hat – BACK)

9. THROTTLE CONTROL – BASE

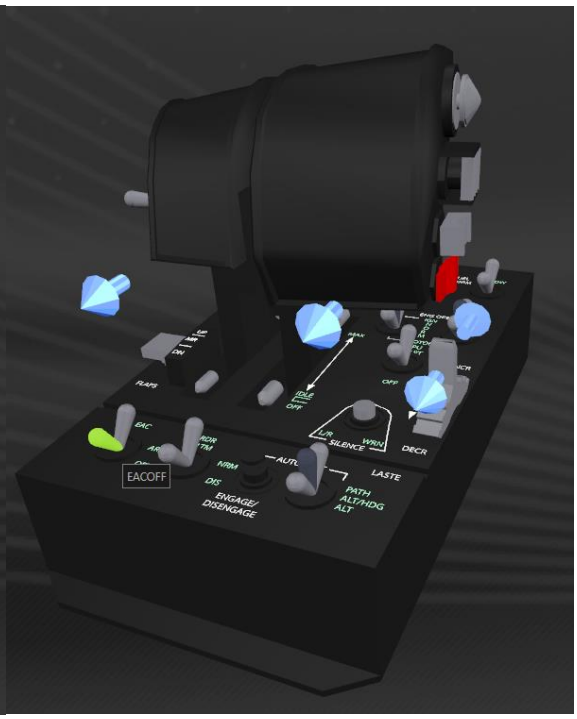
Switch	Usage	Action
APPAT	APPAT	Set Joystick/Rudder curves to NONE
APAH	APAH	Set Joystick/Rudder curves to MILD
APALT	APALT	Set Joystick/Rudder curves to MEDIUM

Refer to section '6. Axis Curves and Curves Control'

Switch	Usage	Action
EACON	EACON	Toggle Silent Running – ON
EACOFF	EACOFF	Toggle Silent Running – OFF



Throttle EACON (Enh Attitude Control – ON)

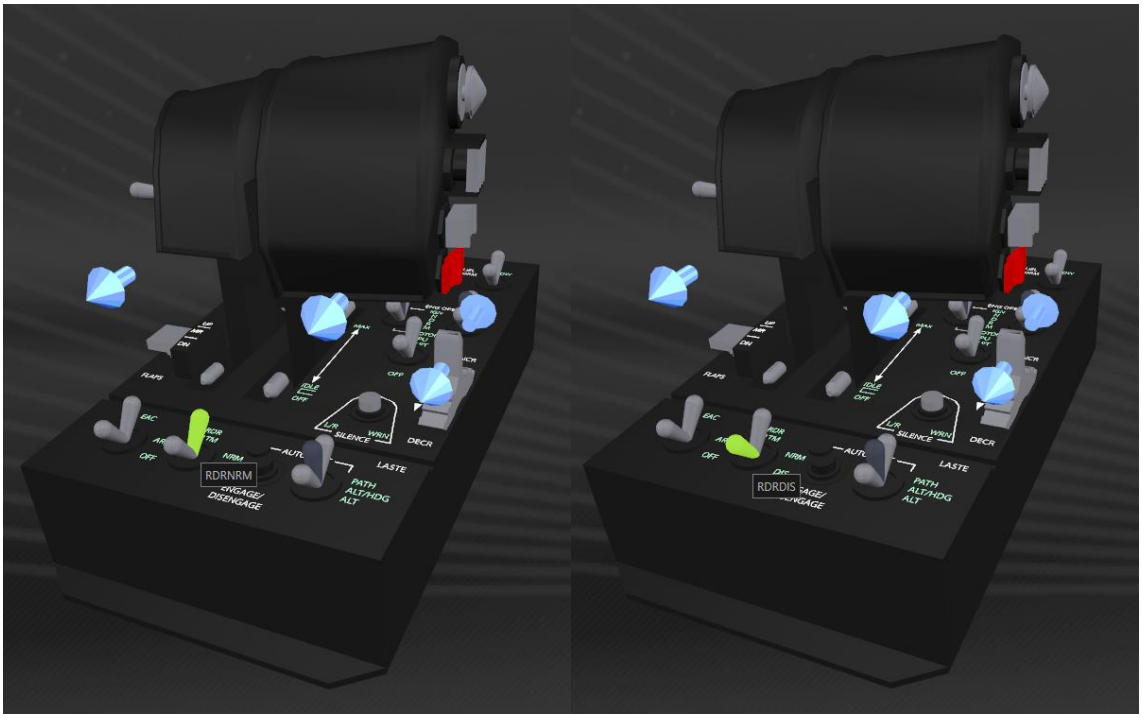


Throttle EACOFF (Enh Attitude Control – OFF)

Silent Running: Status LED 3

(… Throttle BASE continued)

Switch	Usage	Action
RDRNRM	RDRNRM	Deploy Cargo Scoop
RDRDIS	RDRDIS	Retract Cargo Scoop

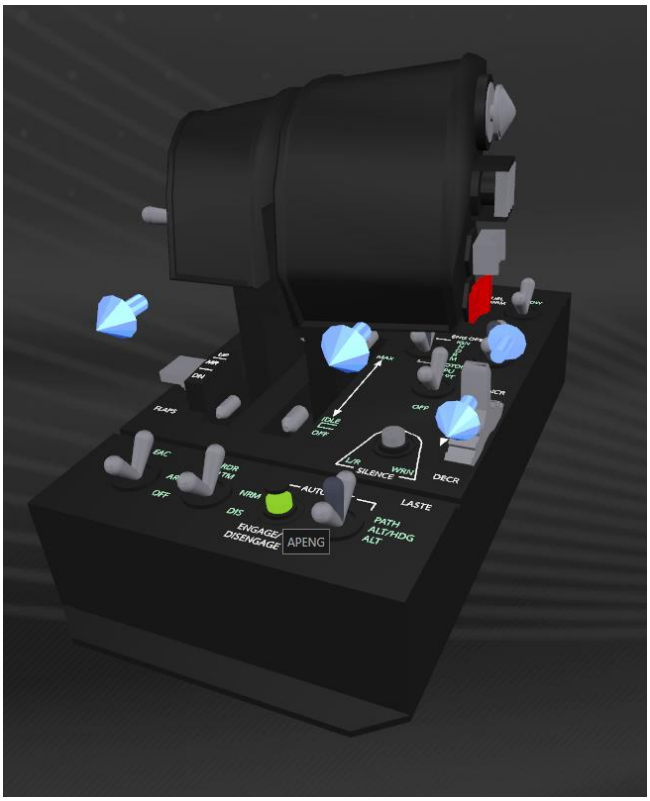


Throttle RDRNRM (Radar Altimeter – NRM) Throttle RDRDIS (Radar Altimeter – DIS)

Cargo Scoop: Status LED 4

(… Throttle BASE continued)

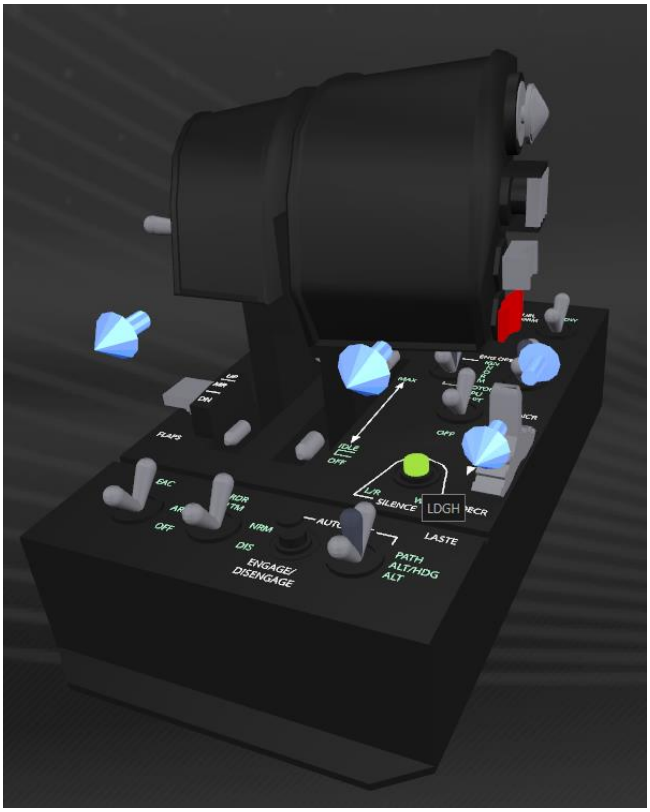
Switch	Usage	Action
APENG-U	PSF+APENG	(not mapped)
APENG-M	APENG	Request docking permission
.	.	(NAV/Target Panel must be in home position or this won't work)
APENG-D	PSB+APENG	Enter Hanger and go to Hanger Services



Throttle APENG (Autopilot Engage Button)

(… Throttle BASE continued)

Switch	Usage	Action
LDGH-I	S3+LDGH	Clear all 3 Chatbox windows
LDGH-O	LDGH	Clear currently selected Chatbox



Throttle LDGH (Landing Gear Horn Silence Button)

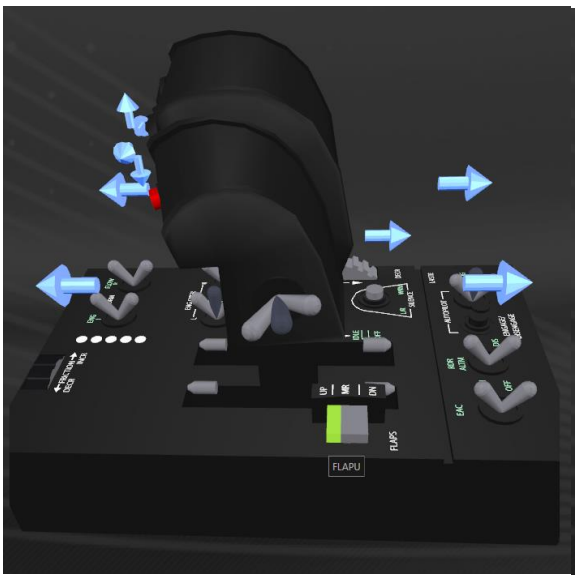
(… Throttle BASE continued)

Switch	Usage	Action
FLAPU-U	PSF+FLAPU	Increase Text-To-Speech Volume
FLAPU-M	FLAPU	Go to Galaxy Map
FLAPU-D	PSB+FLAPU	(not mapped)

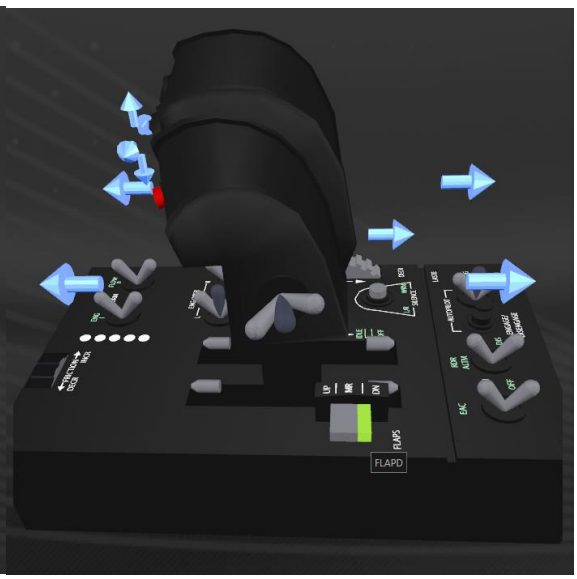
Switch	Usage	Action
FLAPD-U	PSF+FLAPD	Decrease Text-To-Speech Volume
FLAPD-M	FLAPD	Go to System Map
FLAPD-D	PSB+FLAPD	Turn Throttle LEDs OFF
FLAPDR-D	PSB+FLAPDR	Turn Throttle LEDs back ON

Increase and decrease Text-To-Speech Volume changes volume of the Voice feedback in increments of 5%. Example: To lower the volume by 10%, use PSF+FLAPD twice. (Lowest volume = 5%)

Turn LEDs OFF by PSB+FLAPD. If you move PSF back to its default PSM position then move the Flaps switch back to M, the LEDs stay off. To turn them back on, simply toggle PSB+FLAPD and back to middle.



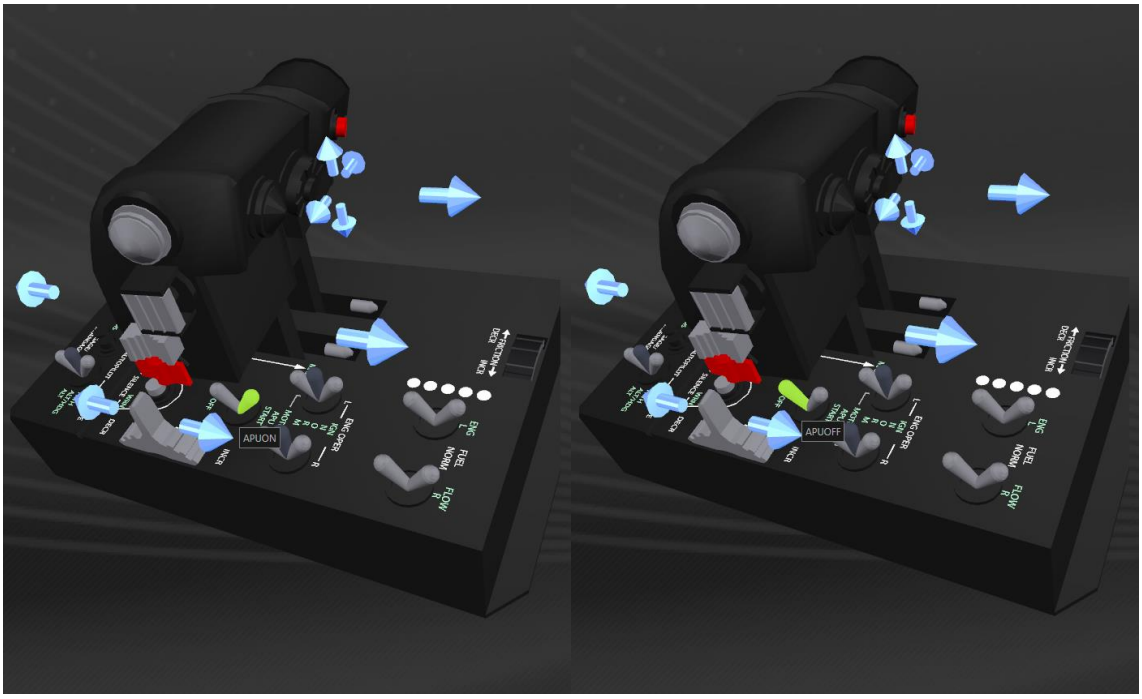
Throttle FLAPU (Flaps UP)



Throttle FLAPD (Flaps Down)

(… Throttle BASE continued)

Switch	Usage	Action
APUON	APUON	Deploy SRV ROLE Panel must be in home position or this won't work
APUOFF	APUOFF	Recover SRV ROLE Panel must be in home position or this won't work



Throttle APUON (Aux Power Unit – START) Throttle APUOFF (Aux Power Unit – OFF)

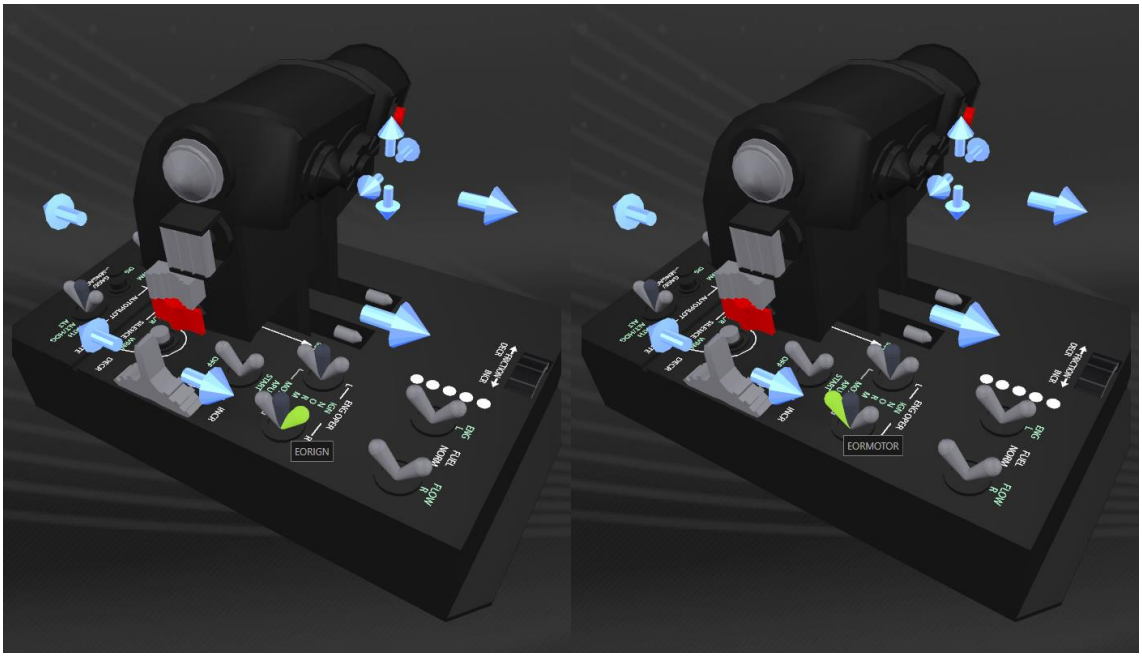
DEPLOY SRV:
The script cannot check the presence of an SRV.
If you use this function with no SRV, unpredictable results will happen.
The ROLE Panel (lower panel) must be in the Home position for this macro to work.
The script does check that you are landed, however, make sure you have an SRV!

RECOVER SRV:
The script cannot currently detect when you are directly under the ship ('boarding light' on).
It will check when the turret is stowed (which means you are close).
If you use this function when not directly under the ship, unpredictable results will happen.
The ROLE Panel (lower panel) must be in the Home position for this macro to work.
Make sure the 'Boarding Light' is lit before flicking the APUOFF switch.

WARNING:
I've seen some unpredictable behaviour in the RECOVER macro at times and am yet to make this macro 100% reliable.

(… Throttle BASE continued)

Switch	Usage	Action
EORIGN	EORIGN	Dismiss/Recall Ship (momentary action)
EORMOTOR	EORMOTOR	Toggle Ship GUI OFF/ON



Throttle EORIGN (Engine Operate – IGNITION) Throttle EORMOTOR (Engine Operate – MOTOR)

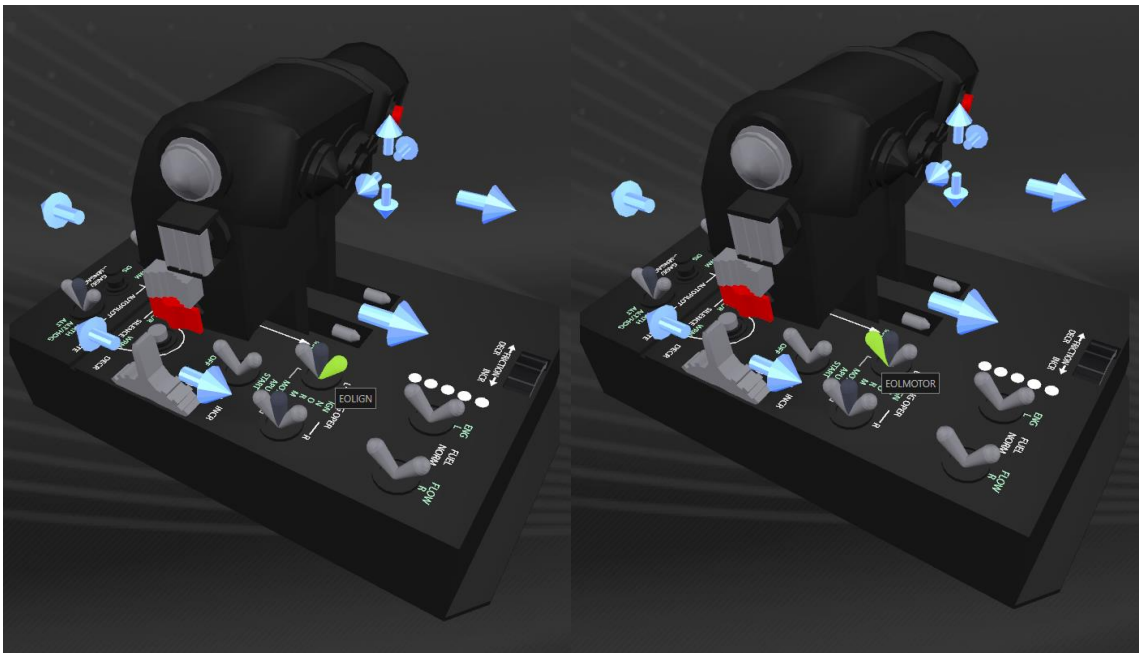
Dismiss/Recall Ship:
The Flags key value in status.json does not have a bit representing if the Ship is landed nearby or if it was dismissed (or flew off because we wandered far enough away).

This results in the voice feedback potentially being wrong.
I've turned off voice feedback for this function for now, however the code still exists.

(… Throttle BASE continued)

Switch	Usage	Action
EOLIGN-U	PSF+EOLIGN	Game Mode Switch to OPEN
EOLIGN-M	EOLIGN	Game Mode Switch to PRIVATE GROUP
EOLIGN-D	PSB+EOLIGN	Game Mode Switch to SOLO

Switch	Usage	Action
EOLMOTOR	EOLMOTOR	(not mapped)



Throttle EOLIGN (Engine Operate – IGNITION) Throttle EOLMOTOR (Engine Operate – MOTOR)

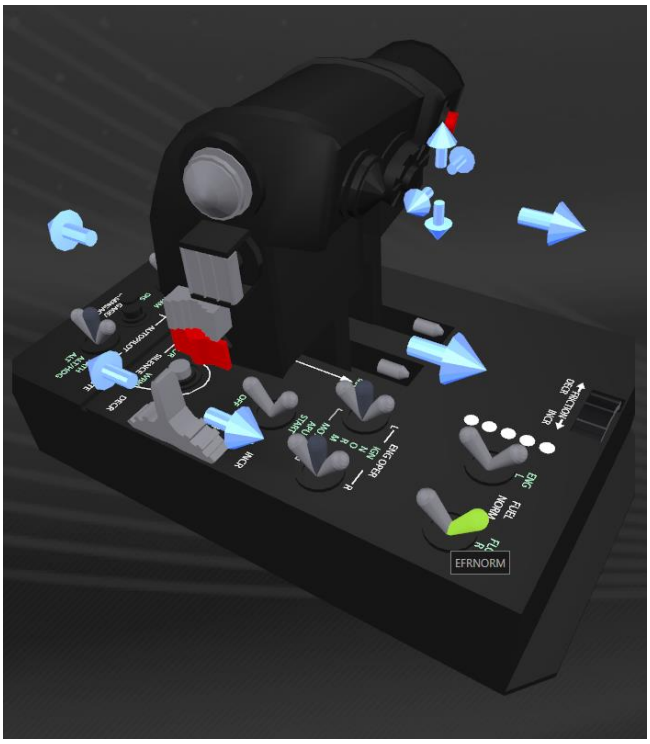
Game Mode Switch:
This macro exits the game to the main menu and logs back in to which ever mode you selected via the PSF/PSM/PSB switch.

The script checks for and resets various ship systems that get reset as part of a Menu log or game restart.

These include the Cargo Scoop, Reverse Thrust and Silent Running.
Last time I checked FA-OFF and the condition of the lights are not reset.

(… Throttle BASE continued)

Switch	Usage	Action
EFRNORM-U	PSF+EFRNORM	(not mapped)
EFRNORM-M	EFRNORM	Reset ‘GameLoaded’ variable
EFRNORM-D	PSB+EFRNORM	Reset Status LEDs



Throttle EFRNORM (Fuel Flow Right – NORMAL)

GameLoaded Variable:

Script Variable that checks when/if the game is loaded.
This is a legacy function used when Game Mode switching sometimes didn’t work as expected.

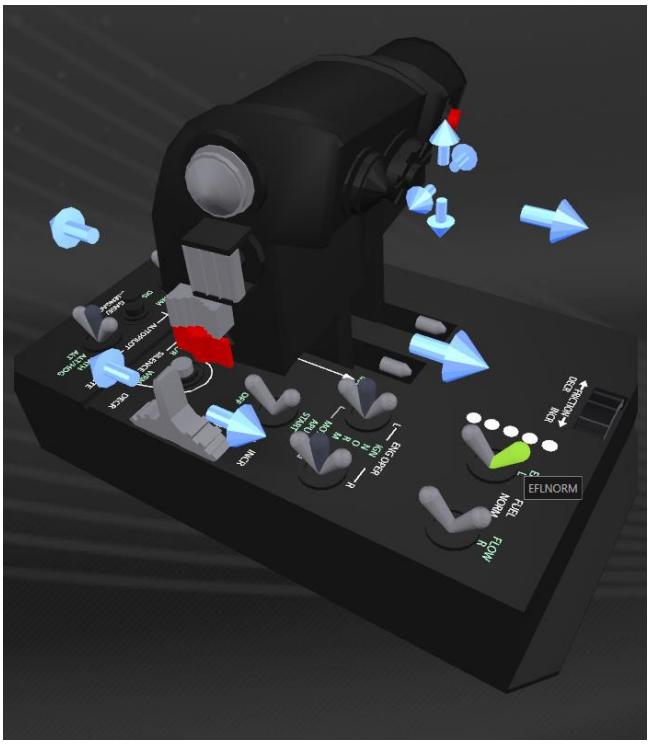
Reset Status LEDs:

If the Status LEDs go out of synch, this will force the script to read status.json and set the LEDS to the value they should be.

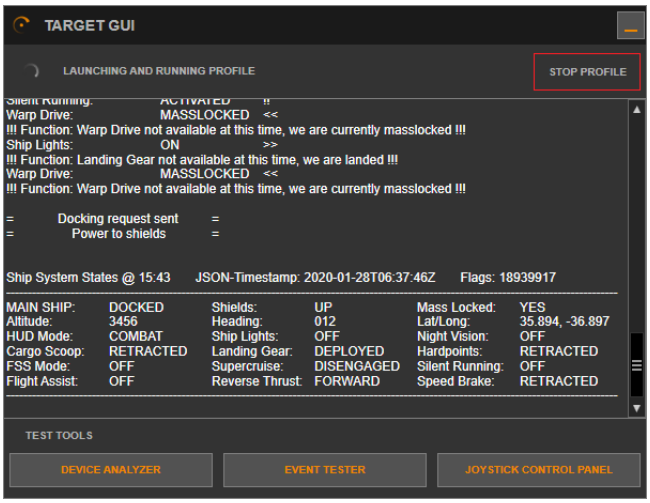
LED1 = Flight Assist	OFF
LED2 = Ship/SRV Lights	ON
LED3 = Silent Running	ON
LED4 = Cargo Scoop	DEPLOYED
LED5 = Landing Gear	DEPLOYED

(… Throttle BASE continued)

Switch	Usage	Action
EFLNORM-U	PSF+EFLNORM	Debug Tool. Run a status dump to console - ‘Debug = ON’
EFLNORM-M	EFLNORM	Debug Tool. Run a status dump to console – ‘Debug = OFF’
EFLNORM-D	PSB+EFLNORM	(not mapped)



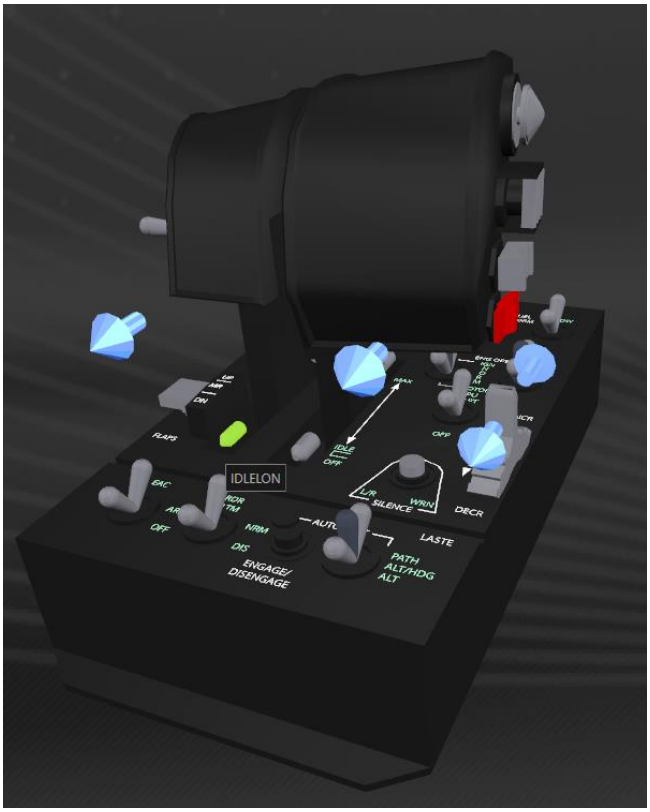
Throttle EFLNORM (Fuel Flow Left – NORMAL)



Example of a Status Dump to Console – Debug = OFF

(… Throttle BASE continued)

Switch	Usage	Action
IDLELON	IDLELON	Enter Hanger and Station Services
IDLELOFF	IDLEOFF	Exit Hanger and Lift off (retract landing gear)



Throttle IDLELON (Engine Idle – LEFT)

Engine Idle ON LEFT/RIGHT:

To engage Engine Idle Switch, from the Throttle all the way back position, LIFT and move back over the notch.

Engine Idle OFF LEFT/RIGHT:

From the Engine Idle ON position (lifted + all the way back), move the Throttle lever forward until it drops back off the notch.

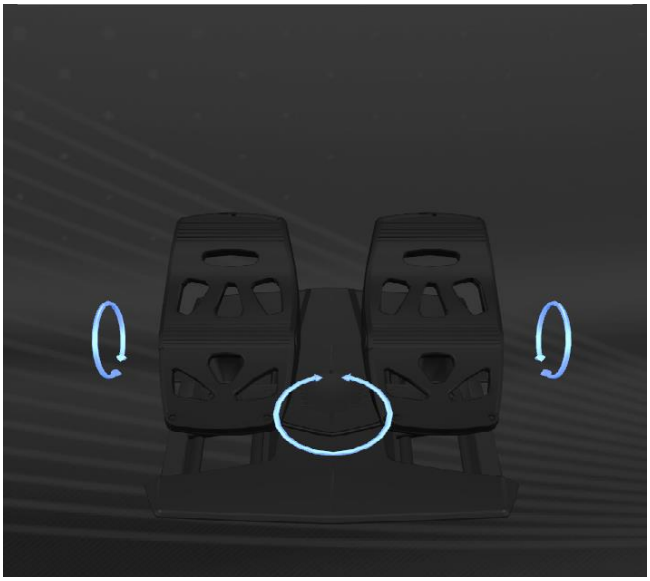
10. TFRP RUDDER CONTROLLER

The rudder pedals provide yaw for the ship and steering for the SRV and are programmed with a mild curve whilst the autopilot LASTE switch is in the middle (default) position (APAH).

This curve can be turned off by flicking the Autopilot switch to the ‘PATH’ position (APPAT) .

Further a medium curve profile can be applied by moving the autopilot switch to the ‘ALT’ position (APALT).

These curves are linked also to the Joystick. Refer to Section 6 on Axis Curves and Curve Control.



TFRP Rudder Pedals

Note:

The Toe Brakes are not currently mapped in this script.

11. Glossary of terminology and acronyms

12. Disclaimer

This software is a work in progress.

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