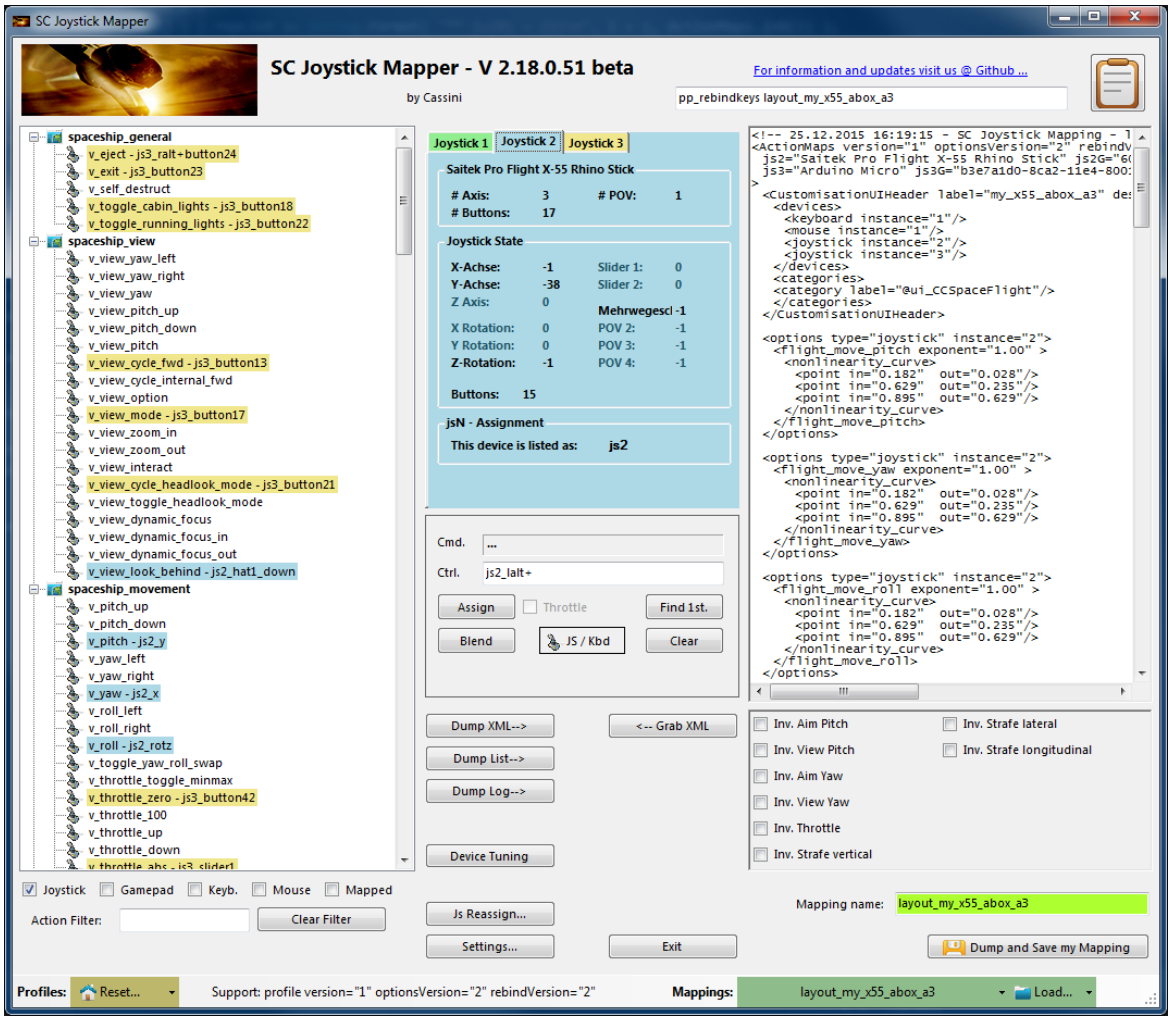
SC JOYSTICK MAPPER
QUICK REFERENCE GUIDE V 2.18

20160102 – Cassini

- https://github.com/SCToolsfactory/SCJMapper-V2/releases
- Change Log: see ReadMe.txt



Disclaimer: Usual stuff – no warranty whatsoever..

Freeware – made for the SC community

Hope it helps and does not suck.

Have fun in the verse …

General Information

- Connect the game control devices to the PC
- Start from scratch or load an existing map from a file
- Make or refine mappings
- Save the new map as an XML file
- Use it in the game: e.g. pp_rebindkeys layout_my_joystick
- You may load and save the map directly from your game folders
  so next time you just use `pp_rebindkeys layout_my_joystick`

Note: the predefined actions are the ones found in the SC game default profile – it is likely that some of them will not work at all as the game is not finished. There is no proper description for which one does what – you may get help in SC Forums.

BTW: if you copy e.g. “pp_rebindkeys layout_my_joystick” from notepad you may use Ctrl-V to paste it in-game into the console – saves you some typing…

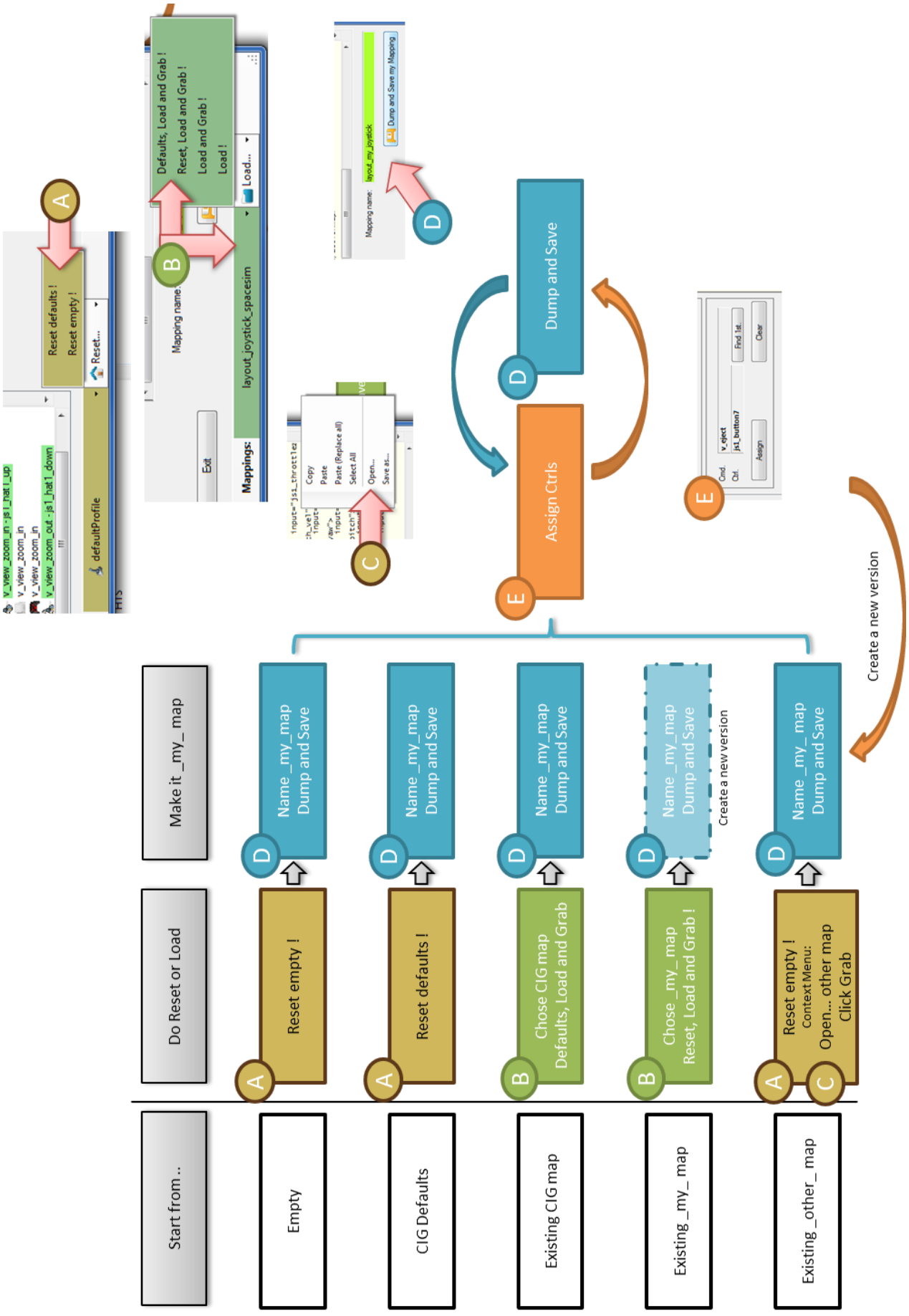
Console .. Opens with the top left key usually right below the “Esc” key
- depends on your keyboard

If you encounter an error or crash then read on…

- You will find ‘log4net.config.OFF’ in the distribution zip.
- Rename it to ‘log4net.config’ and run the program.
- Then look for a file named ‘trace.log’ in the program folder and
- send this to `cassini@burri-web.org` along with a description of the problem and your system i.e. OS, CPU, Graphics card, Joystick(s)
- we may then finally solve the issue …

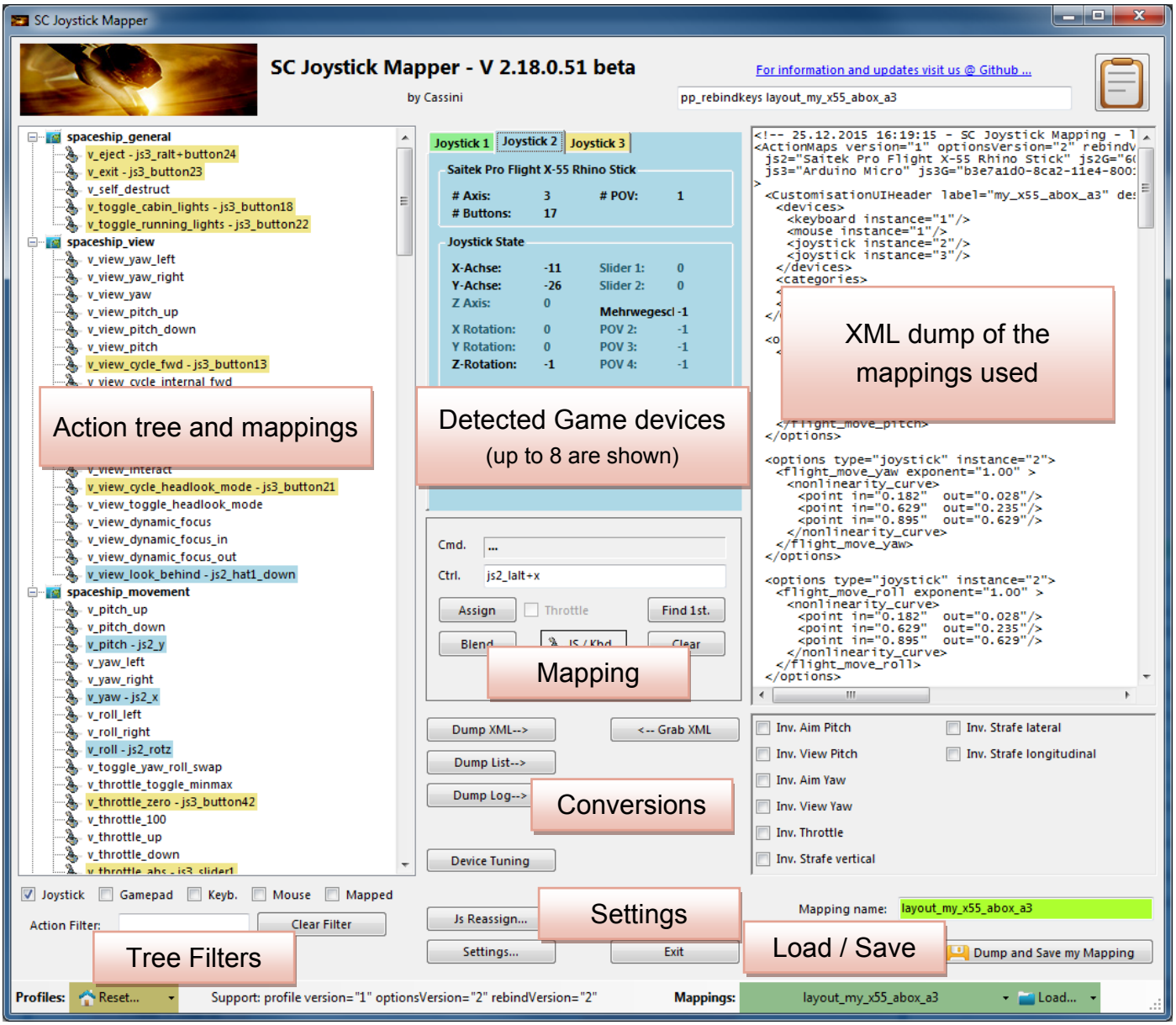
The Workflow

SCJMapper V 2 – Common Workflows



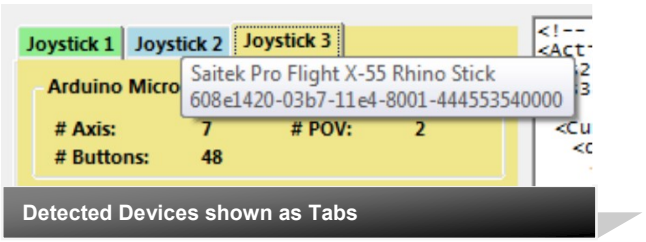
The GUI

The user interface is all laid out for direct access — there are no menus

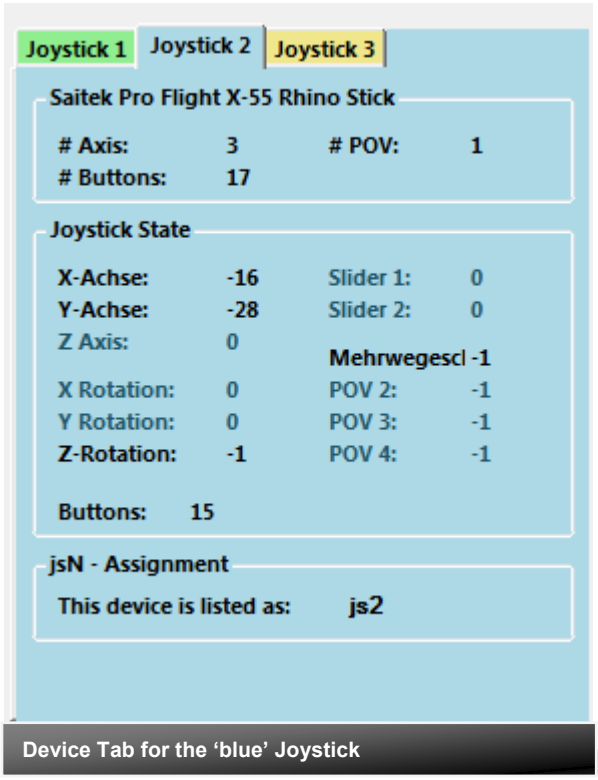


- ⇒ Action tree and mappings - shows the tree of action maps and actions derived from the defaultProfile directly from the game folders
- ⇒ There are some filters where you can limit the items shown in the tree
- ⇒ The program detects game devices - each one has its own tab
- ⇒ The XML area shows the outcome of the mapping and is what can be import-ed in the game directly
- ⇒ The Mapping area is where profile actions can be mapped individually to cre-ate the action mapping YOU want to use in the game

Game Devices



Detected Devices shown as Tabs



Device Tab for the 'blue' Joystick

The tabs represent the game devices found connected to the PC.
The program can show up to 9 devices.

The sequence 1..8 shows the order the PC reports them which is crucial to the mapping as this will result in the default js1_, js2_ .. Names used to build the command name.
A summary of the capabilities is show in the top area.
A tooltip indicates the real name of the device - move and point the mouse to any Tab to show the indicator.

The elements shown in 'Joystick State' are the ones the device seems to support – greyed ones are not available for this device.

You will see the actual jsN assignment - or 'not assigned'.

The SC-Device to Joystick Mapping is a separate window accessed by hitting the 'Js Reassign' button.

Just hit any button, Axis of the device and see how things are changing.

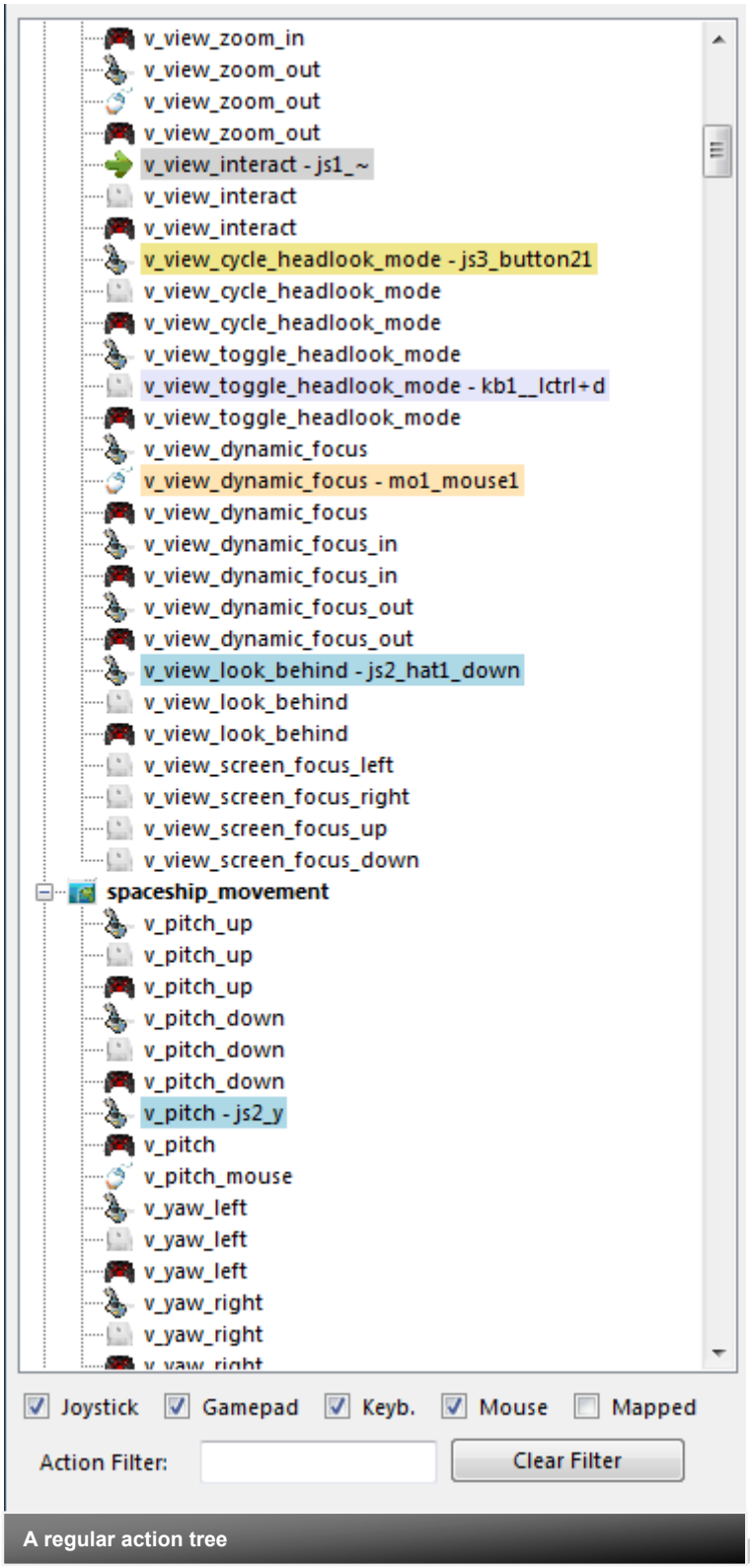
Note: the range for Axis is set to –1000 .. +1000 by the program and is not what other applications may show you.

Action Tree and mappings

Action Tree

The action tree is initially built from the games defaultProfile - so these are the known actions which are grouped along ‘action maps’ e.g. ‘spaceship_movement.

Each action is predefined for a specific device.
There are joystick, keyboard, mouse, and gamepad actions indicated by the icon. – This is given by the SC default profile and cannot be changed. An action may e.g. not be available for the joystick.



A regular action tree

Rebinding:

By ‘rebinding’ or mapping and action with a different control one does replace the default one.
Overwriting a keyboard action will result in having it available with a different command in the game.
You can only map actions using the same device as in the profile i.e. a keyboard action cannot be mapped with a joystick control.

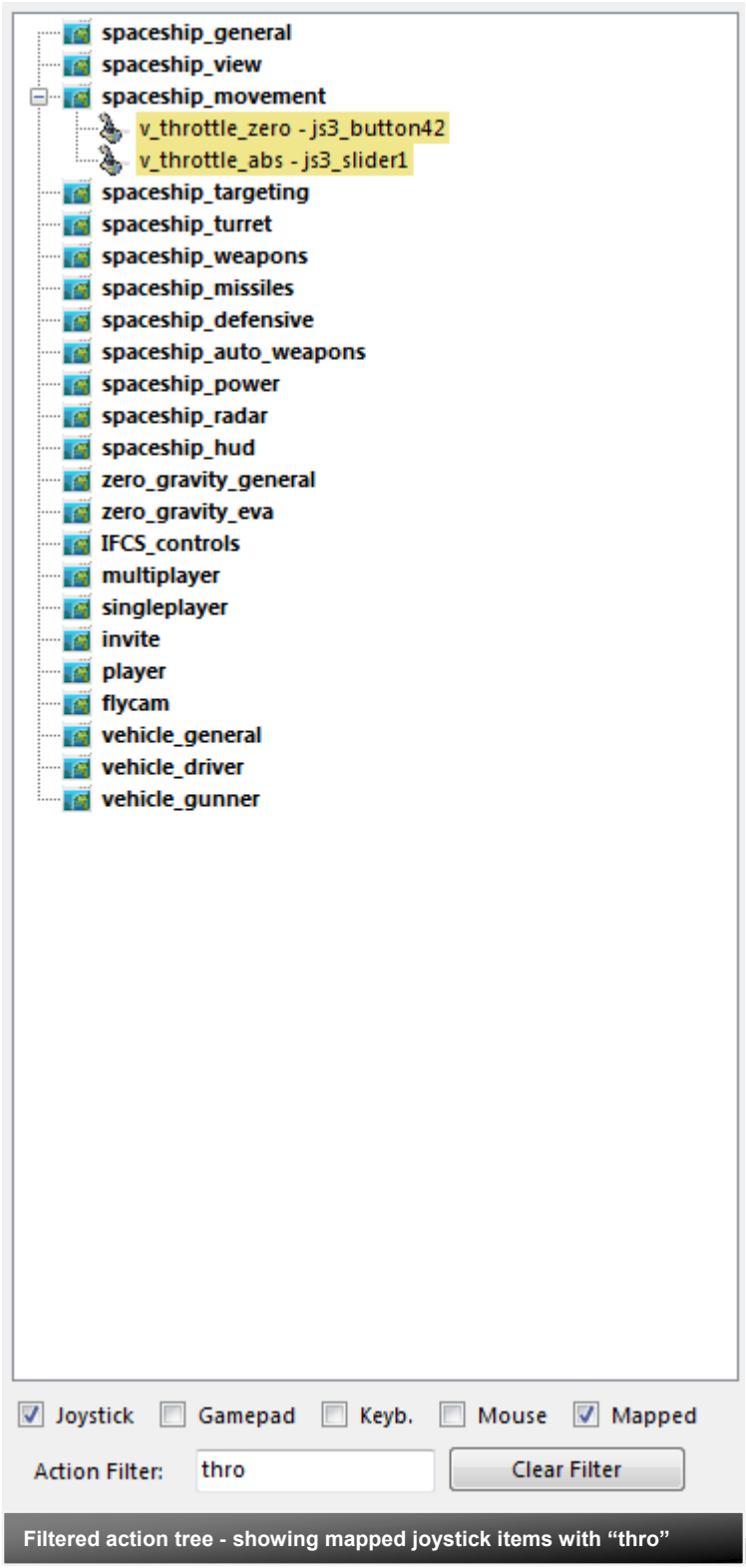
If actions are mapped (as shown) the color indicates which device is mapped.
The device tab colors match the entries, keyboard and mouse have distinct colors.

If the background is white - there is no current mapping given.
Unmapped actions are ignored.

Selecting an Action:

Click on any action to make it the used action in the mapping area. Once selected it is marked with the green arrow

Action Tree Filters



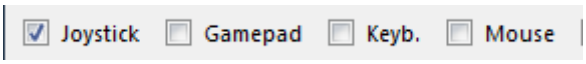
Filtered action tree - showing mapped joystick items with “thro”

Action Tree Filters

The action tree has a vast number of entries. So for convenience you may filter the shown items to the one you are interested in.

Device Filter

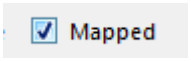
With the checkboxes at the bottom you may restrict the shown item to a particular category.



Check categories you want to see

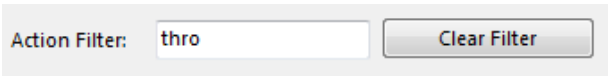
Mapped Only

Restricts to show only mapped items



Action Filter

Accepts text entry to match parts of the



action name

Clear Filter

To empty the field

NOTE: Filters only restrict the items shown in the tree

Working with Profiles

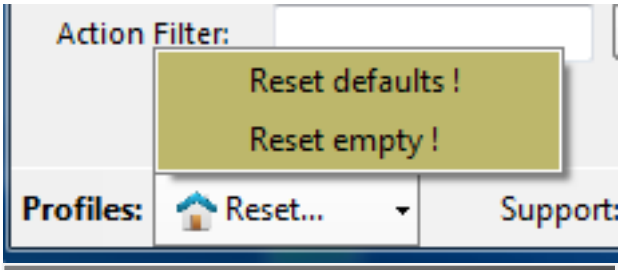
Working with profiles

The program gets the actions from the real game asset – so you are always up to the actual values.

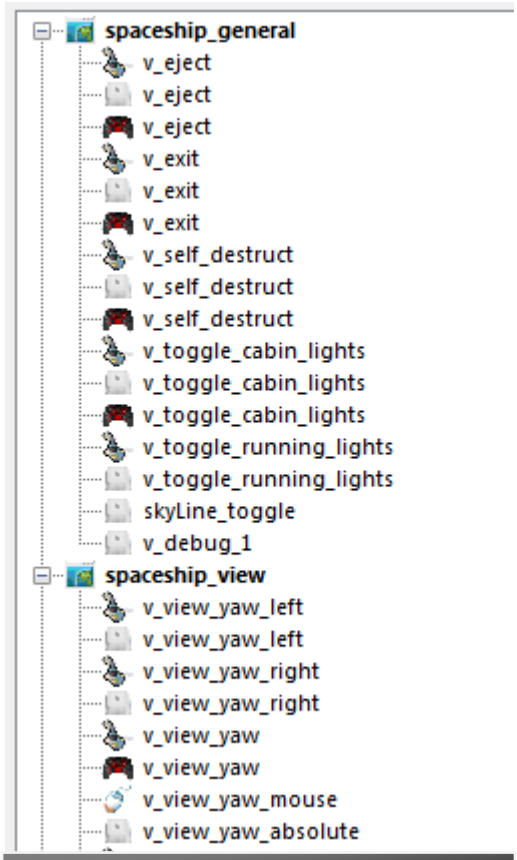
From here you may Reset the action list to the following

-RESET EMPTY reverts to just an action list without any mappings

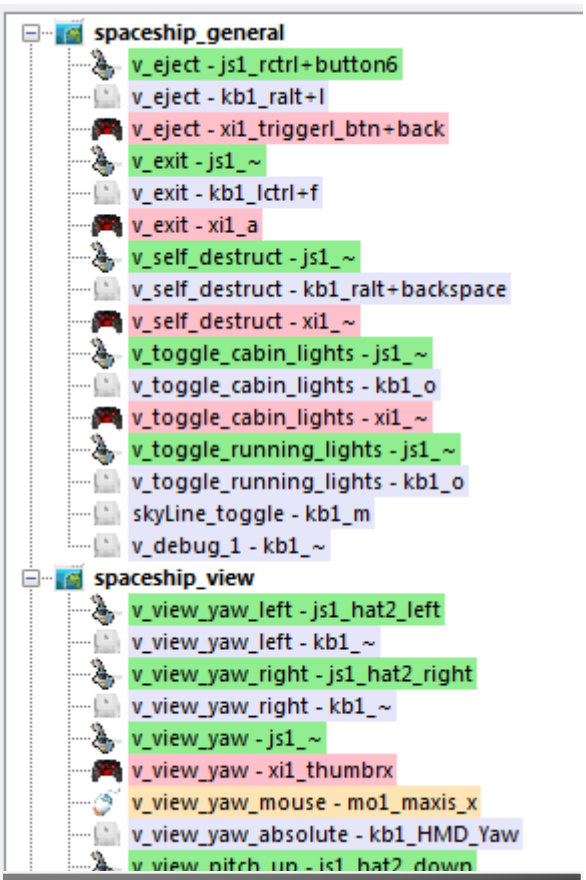
-RESET DEFAULTS loads the Joystick actions mapped with what CIG is providing



Loading a profile

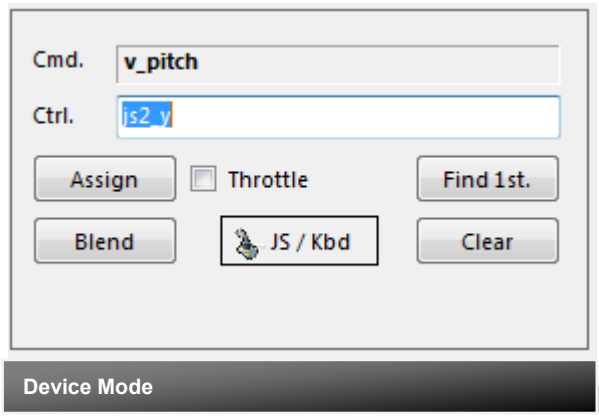


Reset Empty profile

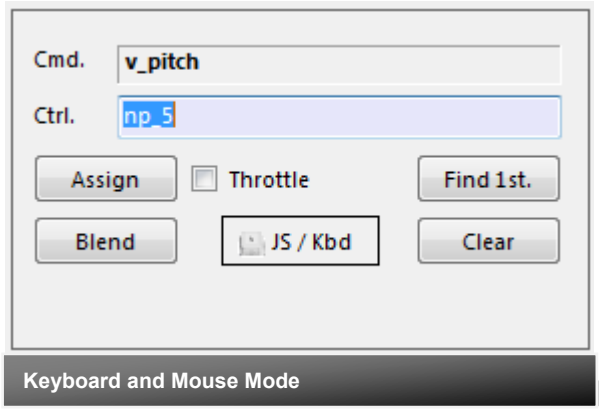


Reset Defaults profile

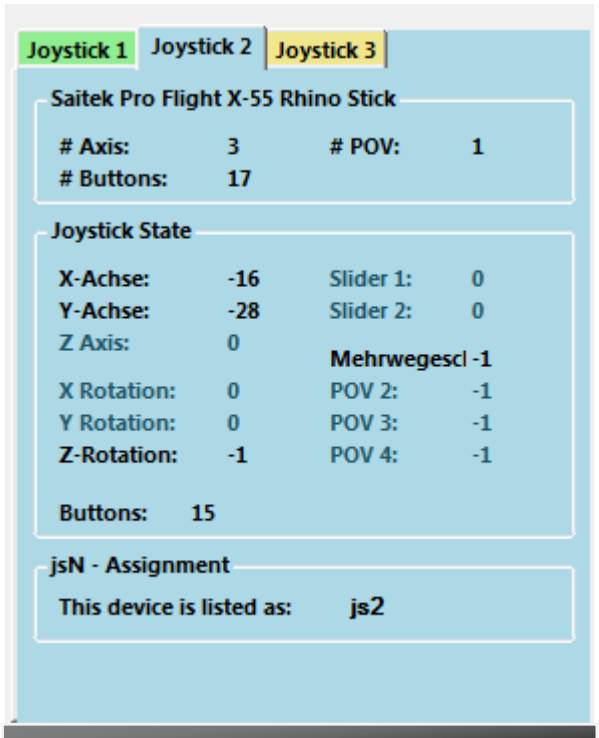
Mapping



Device Mode



Keyboard and Mouse Mode



Device Tab for the 'blue' Joystick

Whenever you click on an action in the Action Tree it is copied into Cmd. and can be mapped to a Control.
The Control (Ctrl.) is the last item you activated on the currently shown device tab.
You may also map keyboard and mouse actions.

Devices vs. Keyboard/Mouse

To switch between game devices and keyboard/mouse us the 'JS/Kbd' toggle.
Note: keyboard entries are accepted when the Ctrl. Field has the focus

Select the device

To map a device control first select the device tab i.e. if you want to map a control of the second joystick you have to select the 'Joystick 2' Tab first.

Assign

Once you have a mapping that should be used, hit the "Assign" button.
The new mapping will be shown in the Action Tree – where it gets the back color of the device it is assigned to.

Throttles

To make any axis a Throttle axis – check the 'Throttle' box ! It is often the Z-Axis.
A throttle gets a name like js2_throttlez.

Clear Actions

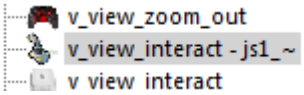
To clear a mapping – select it in the ActionTree and Click "Clear" - it gets a neutral color and no control in the ActionTree – it is now unmapped.

Find a mapping

You may use "Find 1st" to find the first action where the currently shown Ctrl.

Blending

If you wish to blend a single item from the defaultProfile i.e. hide it from use select an item and then hit the 'Blend' button.



Advanced Mapping

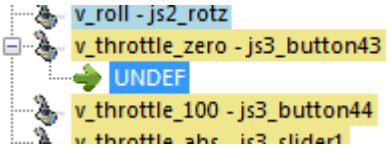
Context Menu

Right click an action opens a context menu giving a choice of functions that are possible right now.

Assign, Blend, Clear behave like the buttons in the main GUI

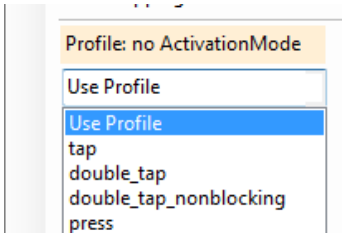
Add Mapping

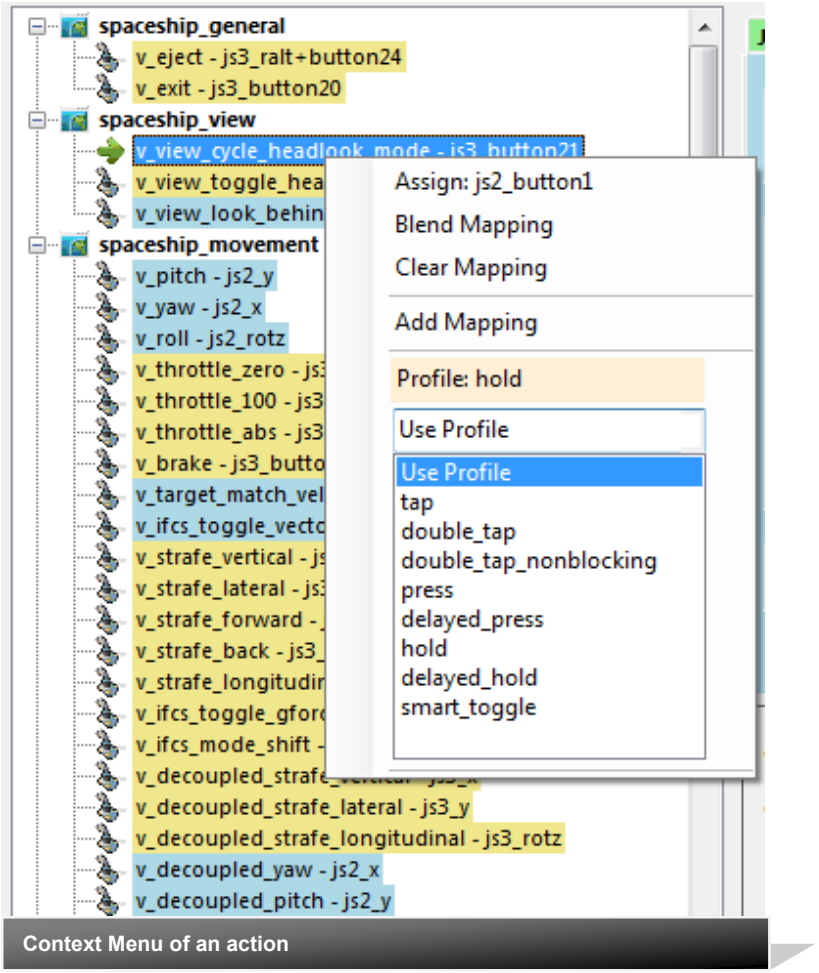
Will add a binding to the selected item to use a second control for this item. Such an addition can be mapped like the main entry - also deleted to remove it.
(Note: this does not work in SC2.0/2.1)



Activation Modes

Starting from Profile: there are activation modes listed. Profile indicates what is in the profile as default or 'no ActivationMode' if the profile does not apply one



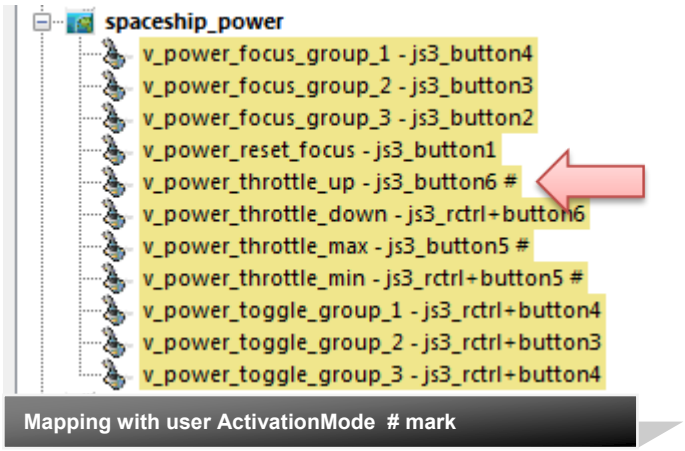


Context Menu of an action

You may choose a new activation mode for this mapping which is then carried into the XML.

```
<actionmap name="spaceship_view">
  <action name="v_view_cycle_headlook_mode">
    <rebind input="js3_button21" ActivationMode="double_tap"
  </action>
  <action name="v_view_toggle_headlook_mode">
    <rebind input="js3_rctrl+button21"  />
```

Most notable are double_taps which may be applied by CIG in the profile sometimes and are then carried into the mapping if not changed here.

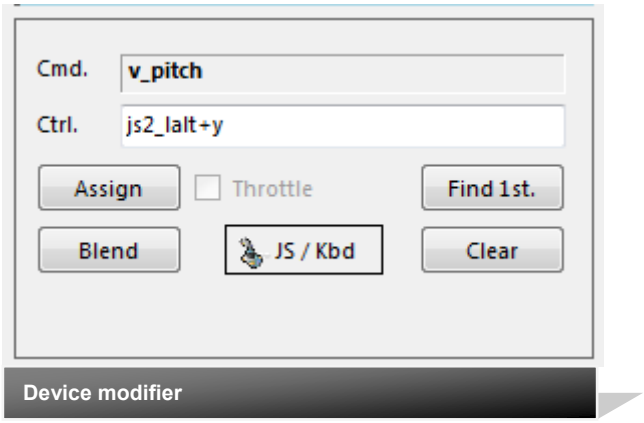


Mapping with user ActivationMode # mark

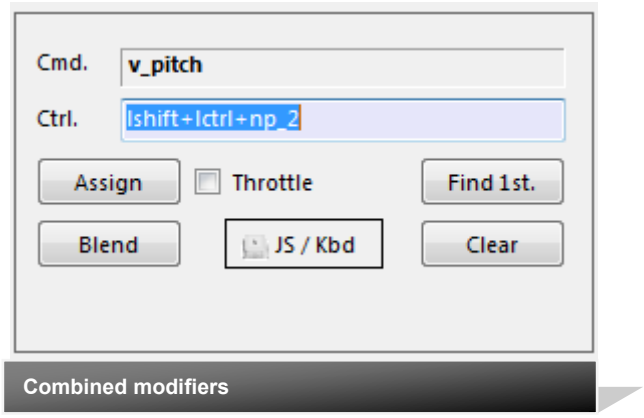
V2.18 added:

Mappings with ActivationMode changes are marked with "#"

Joystick mapping with Modifiers



Device modifier



Combined modifiers

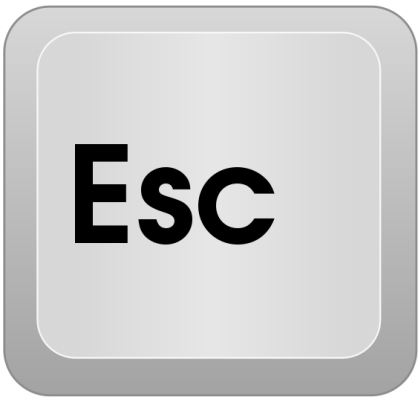
Keyboard Modifiers
Controls can be extended with a Modifier. Right now only keyboard modifiers can be used for joysticks.

Modifiers are preset:
Left/right Shift / Alt / Ctrl keys
Modifiers can be combined.

If you press a modifier it will show up like 'lshift+lctrl+key'

For devices the notation is different - it is prepended by the device tag
E.g. js2_lalt+y (js2_y is the control that is modified here)

For keyboard input press all keys and release them at once.
Sometimes a second attempt is needed to create the proper key sequence.



Clear Modifiers

To clear all modifiers from the input

Press the ESC key for a moment.

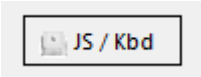
V2.18 added:
it will be cleared after ~3-4 seconds

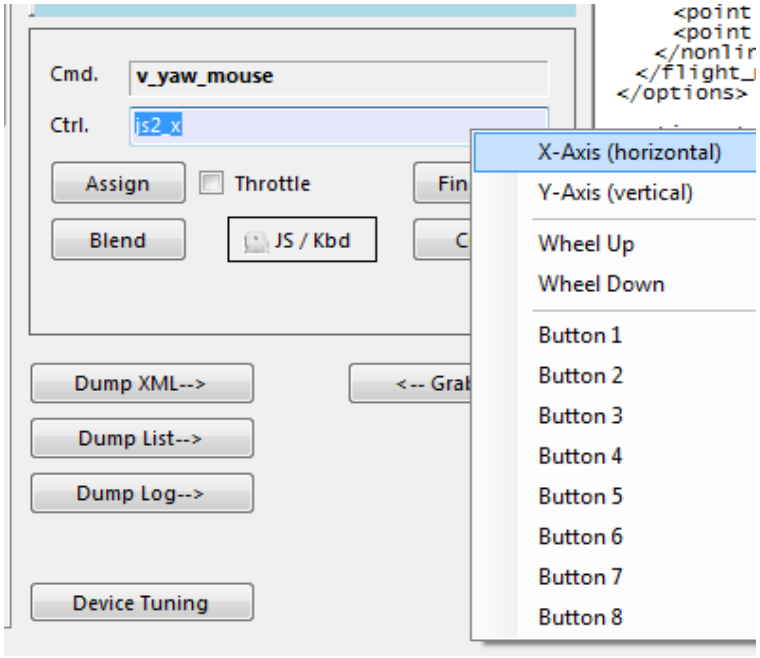
Mouse Mapping

V 2.18 added:

Adding Mouse Commands

Switch to Kbd Mode



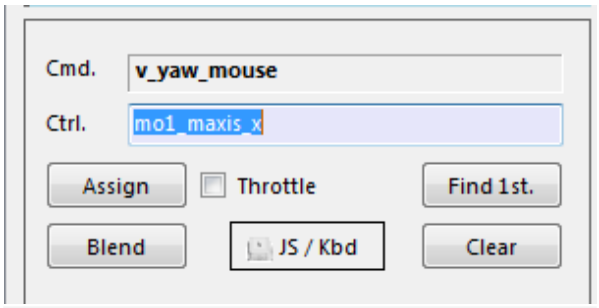


Ctrl - Context Menu - Mouse Commands

Context Menu

Right clicking the 'Ctrl' entry field opens a context menu giving a choice of mouse commands that are possible right now.

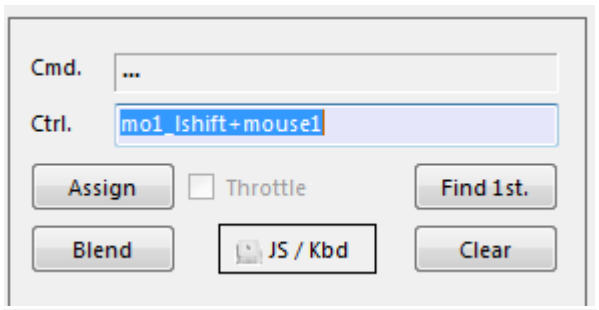
The number of buttons is taken from the current mouse input setting - you may need to find out which one is 1,2 ...



Mouse command assigned

Modifiers from keyboard

Can be used to extend mouse commands



Mouse command with modifier assigned

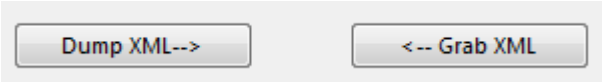
XML Dump

XML Dump of an action map

XML Format

Mappings are sent to the game using XML formatted files.

The XML Area is where you may find the mapping after hitting the ‘Dump’ button.



The Context Menu

Right click opens a menu where you may choose from:
Copy, Paste, PasteAll, Select All, Open…, Save As…

The usage is rather common here. Once you dumped the mapping you want to “Save” it as “filename.xml” somewhere.

To refine any mapping “Open” the file – the content is shown in the XML Area, then “Grab” it into the ActionTree.
Once the refinement is finished – again Save it to a file.

Note: only use properly formatted ActionMaps here. The program may just break if it encounters something unexpected!

Action maps

Working with action maps
(Maps, Mapping etc..)

The program gets the action maps from the USERS game asset – so you are always up to the actual values.

(…\StarCitizen\Public\USER\Controls\Mappings)

From here you may first chose a map, then ‘Load’ the action map – this will overwrite you XML window in any case

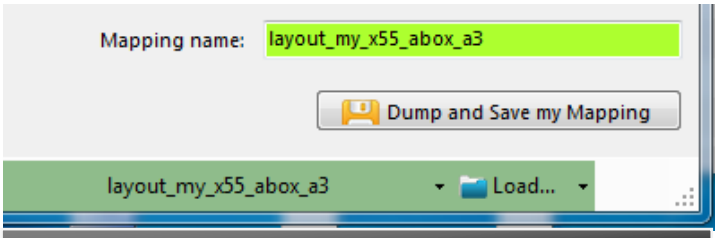
-LOAD loads the map into the XML window only

-LOAD and GRAB loads the map into the XML window and clicks Grab i.e. merges the existing mapping with the one loaded

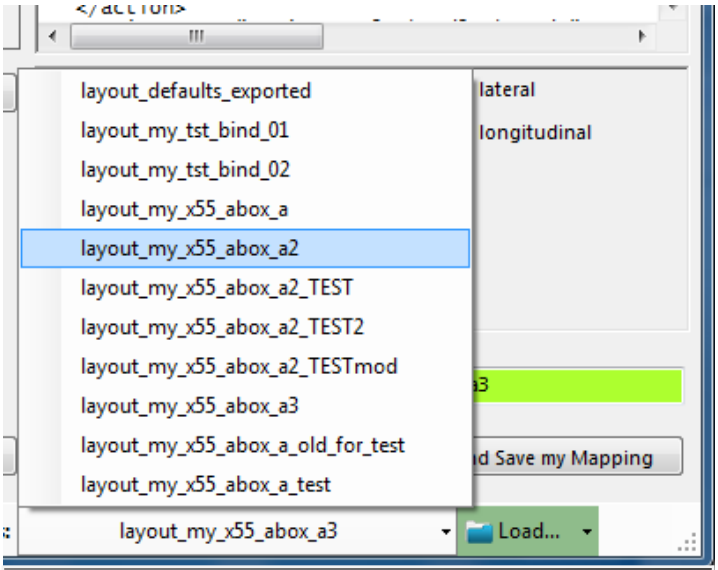
-RESET, LOAD and GRAB first Reset (empty) the action list (all mappings cleared) then it loads and grabs the new map

-DEFAULT, LOAD and GRAB first Reset (defaults) the action list then it loads and grabs the new map and merges them with the defaults

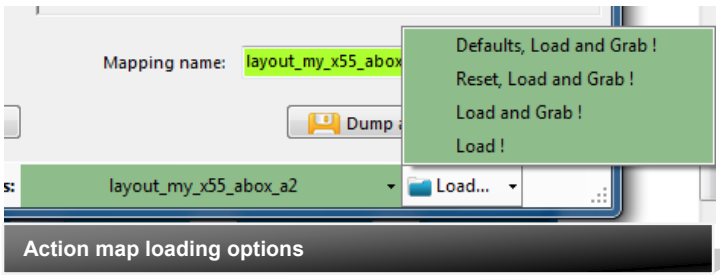
See page 3 for some common workflows And how to handle them easily.



Action map region of the program



Select one of Your action maps

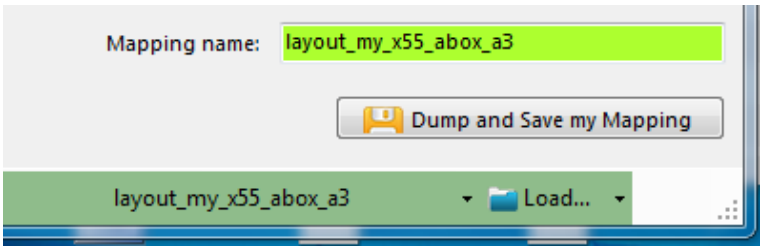


Action map loading options

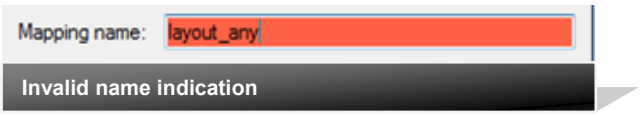
Your Actionmaps

Working with your own actionmaps
The program not only gets the actionsmaps from the real game asset – but also can save your maps there.

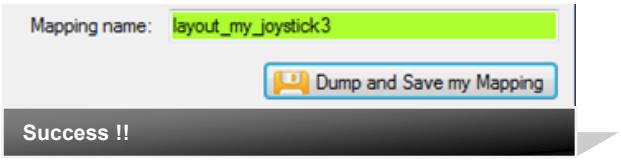
(…\StarCitizen\Public\USER\Controls\Mappings)



1.Type a name
2.Hit the button – it will then Dump and Save your map into the game folder (asking you to overwrite it if it exists)



Remark: your map name has always to start with '**layout_my_**' to prevent conflicts with CIGs own actionmaps
Lowercase only, no spaces, tabs allowed else you see the red flag ..



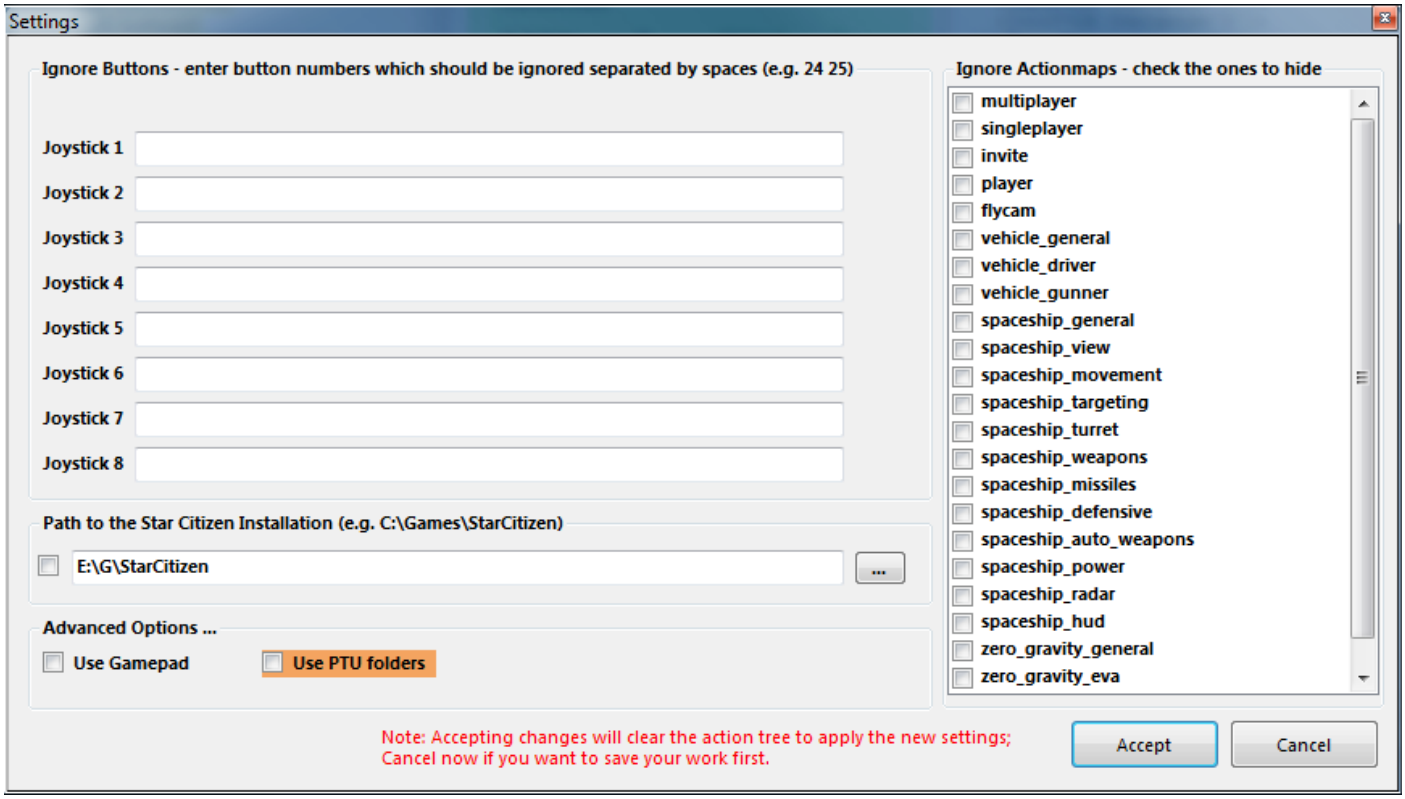
A successful Save will show the green flag

Your own maps will then show up like the game provided maps
`pp_rebindkeys layout_my_joystick`

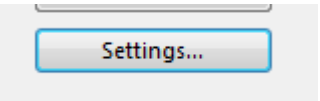
should load it into the game

Note: For your convenience each Save also makes a copy of into your personal "My Documents\SCJMapper" folder – no work is lost if there is an update that cleans the Mappings folder.

Settings



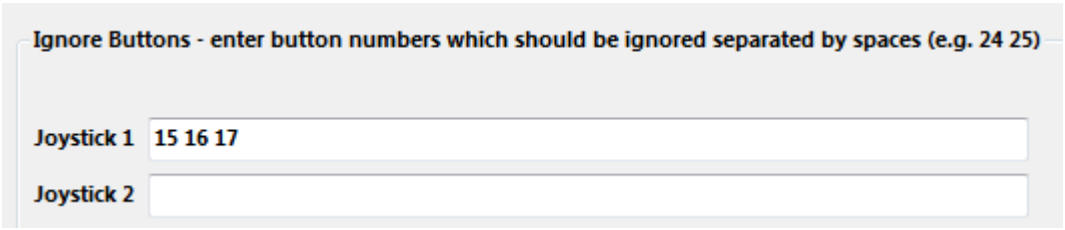
There are a number of setting you may need to do for efficient working..



Ignore Buttons

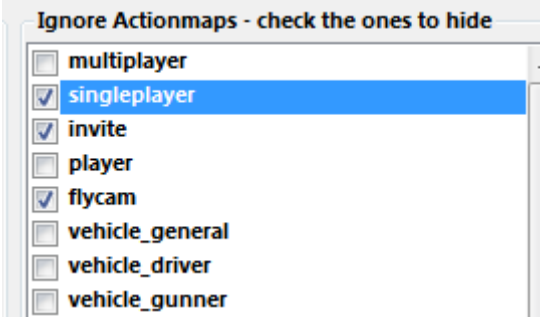
Some devices have buttons pressed to switch modes. I may be needed to ‘ignore’ them to get proper readouts for mapping.

Enter the numbers with a space between - like in the example below



Ignore Action maps

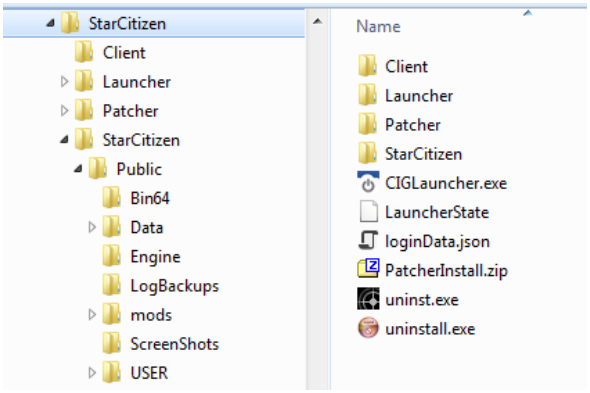
You may not want to deal with all the maps provided by the game - check the ones you want to ignore those maps are hidden from you and will not be processed once ignored.



Settings (2)

Providing a path to the game

In general the program finds the path to the game on its own, however if not, you may direct it to use a given path

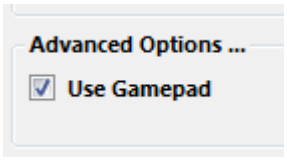


The path should be the top folder of the SC installation

Make sure to check the left box to use the path

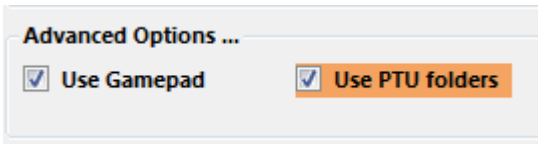
Use Gamepad

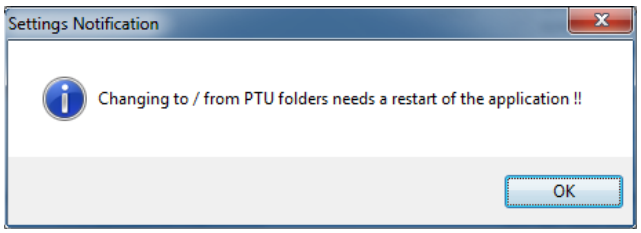
The gamepad needs special treatment - if you want to use a gamepad you have to check the box.



Using PTU Folders

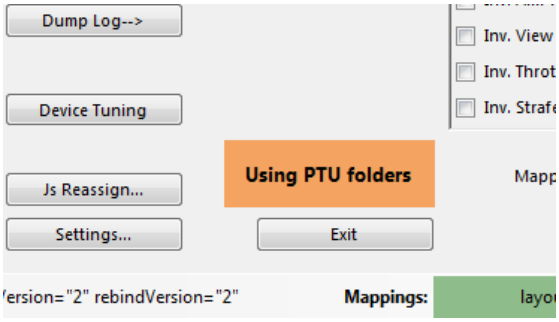
In general the program finds its files in the Public subfolder of the Game installation path. If you are running PTU and want to work with the Test environment - check this box



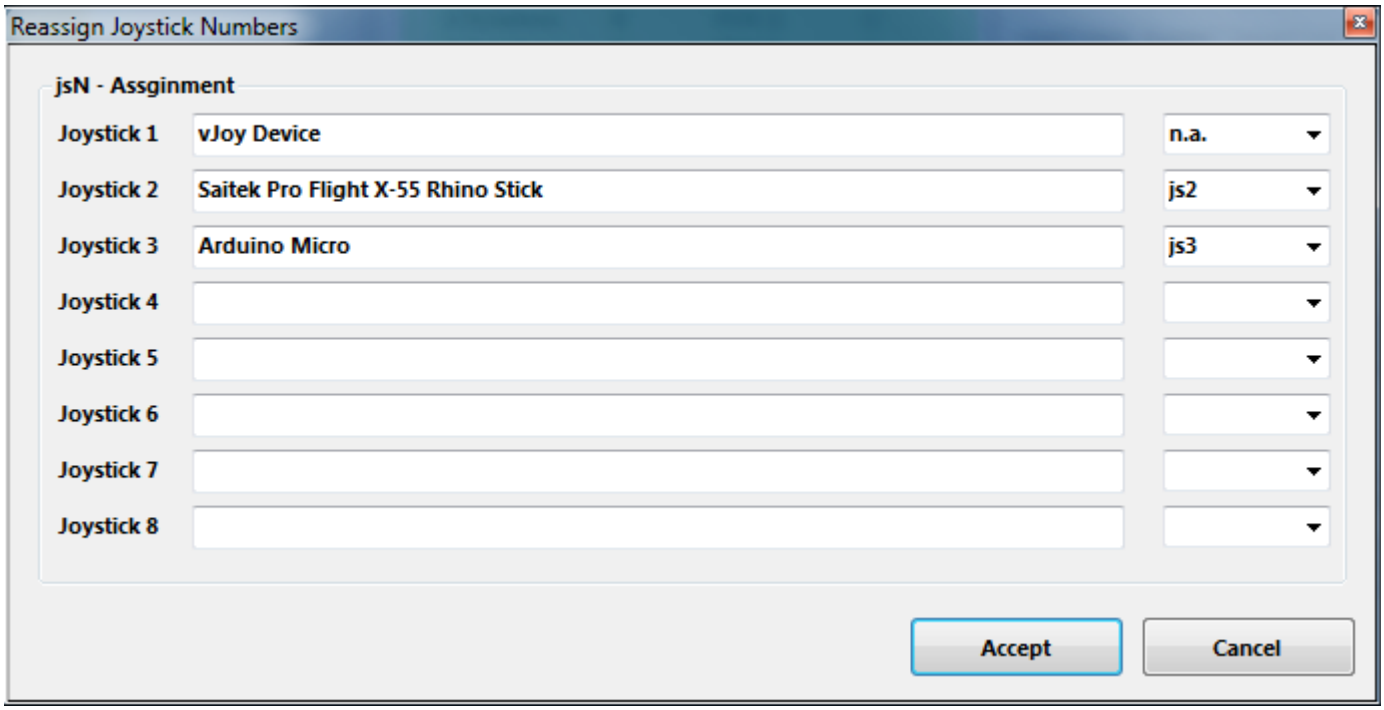


Changing to and from PTU requires a restart!

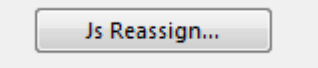
Once in PTU mode the program indicates this as shown below



Joystick Assignment



(re) assign the joystick devices to the wanted js - number



Go here if you wish to assign a device to a particular js – number or to re-assign the devices to other numbers.
Per default the devices found are assigned along the sequence 1..8 but SC may remap them so here is the place to fix this without having to go through all commands and reassign them.

Notes: The color of the assigned items will not change as it is still the same device but js1 will become js2 for example.
You can leave this dialog with “Accept” only if each device is either assigned to a unique number or to n.a. (not assigned) otherwise an error pops to ask you to fix it or Cancel.

Related SC console commands are:

```
i_DumpDeviceInformation

pp_ResortDevices joystick 1 2

pp_rebindkeys export joystick
pp_rebindkeys export xboxpad
```

Device Tuning 1/3

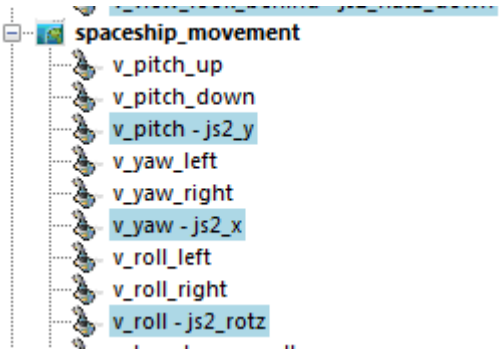
There are options provided to tune the reaction of a game device

Use ‘Device Tuning’ to optimize it, it supports:

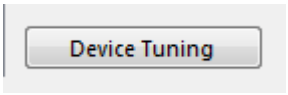
- Deadzone
- Sensitivity
- Invert
- either Exponent or NonLinearCurve

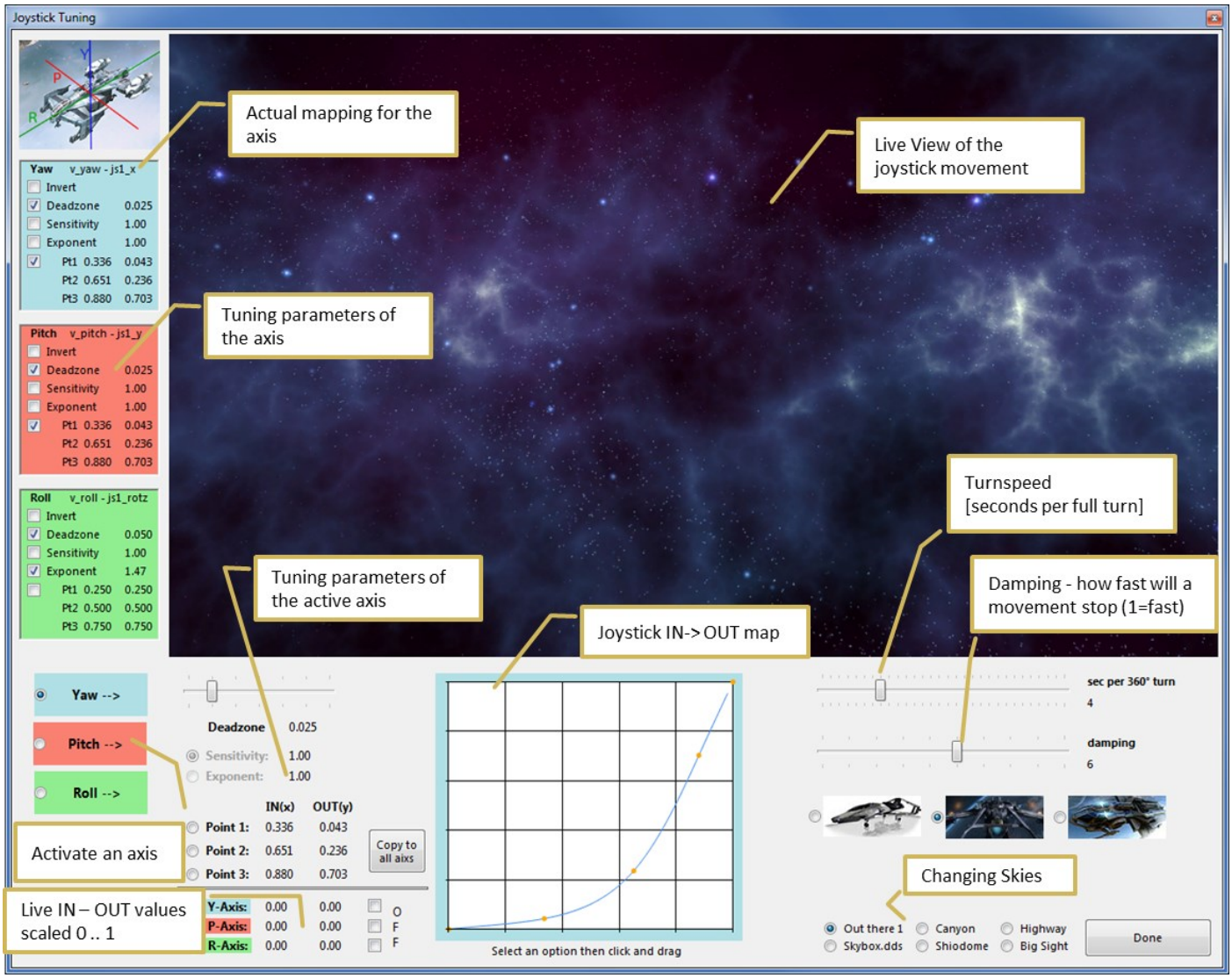
independently for the Yaw-, Pitch-, and Roll- axes.

Note: Tuning will only recognize mapped controls

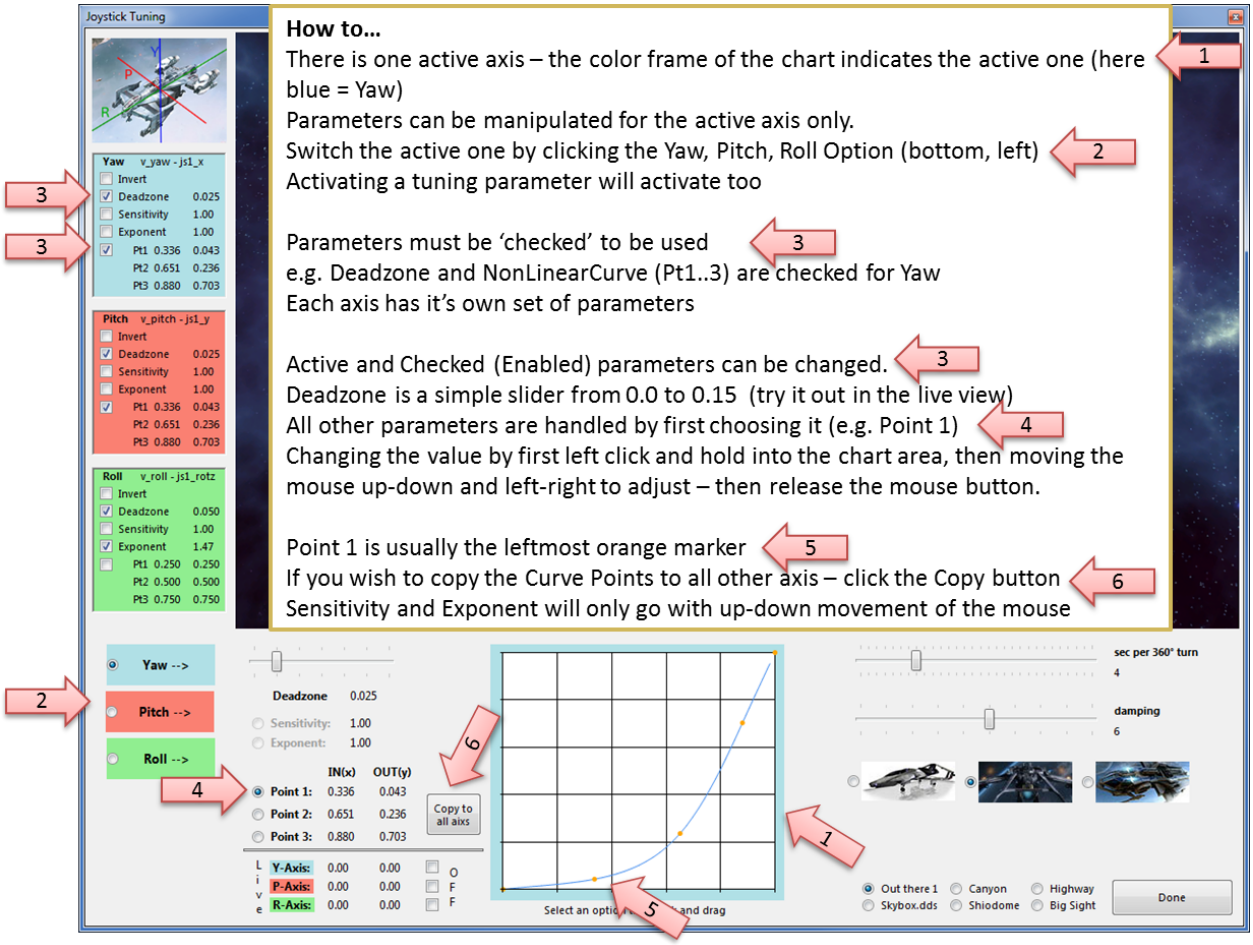


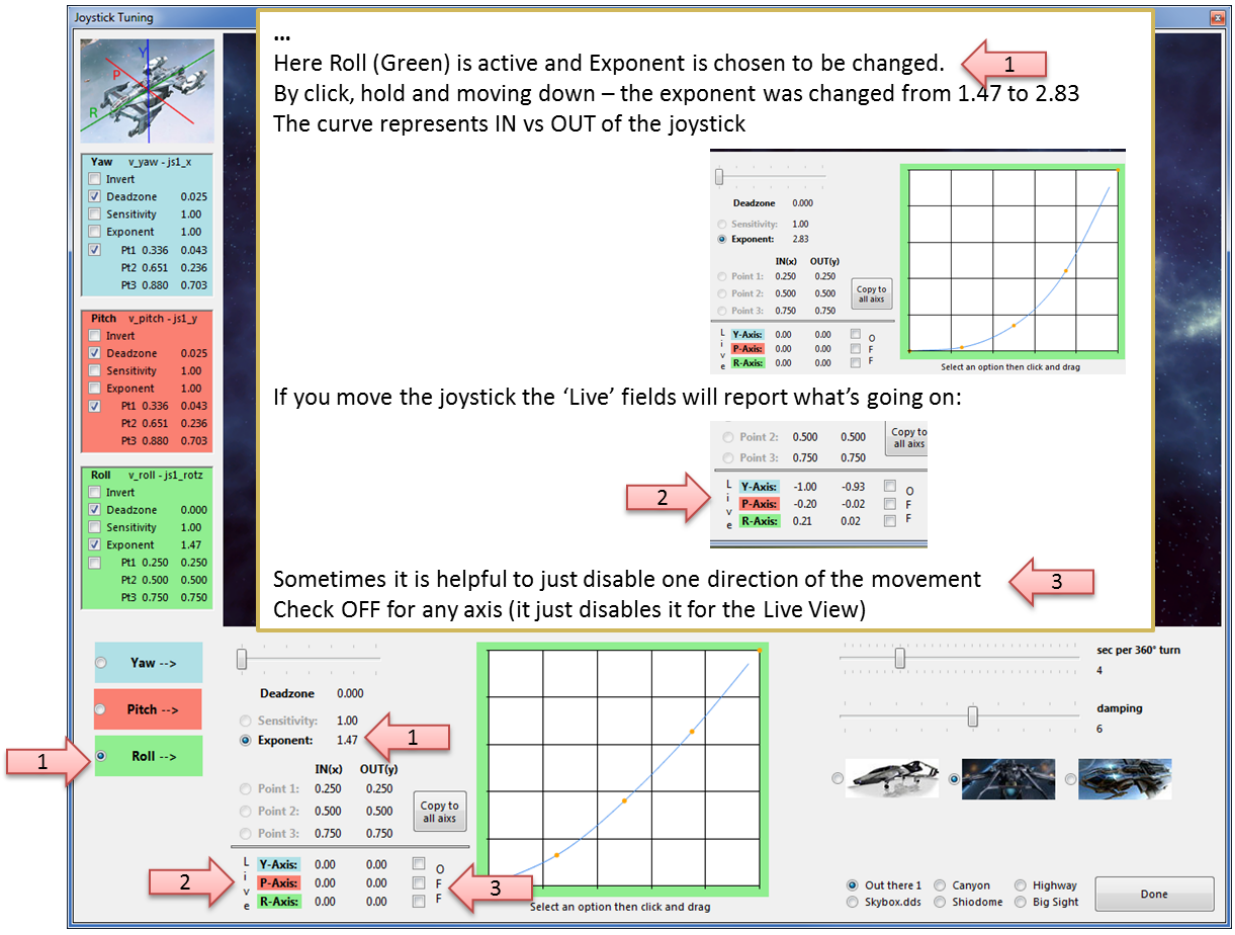
Hit the ’Device Tuning’ button to open the tuning window





Device Tuning 2/3





Device Tuning 3/3

Once back from Tuning…

With “Dump” or “Dump and Save” you will get the new Tuning values into the XML area – if you don’t want to apply the new settings, just hit “Grab” to restart with the settings from the XML area.

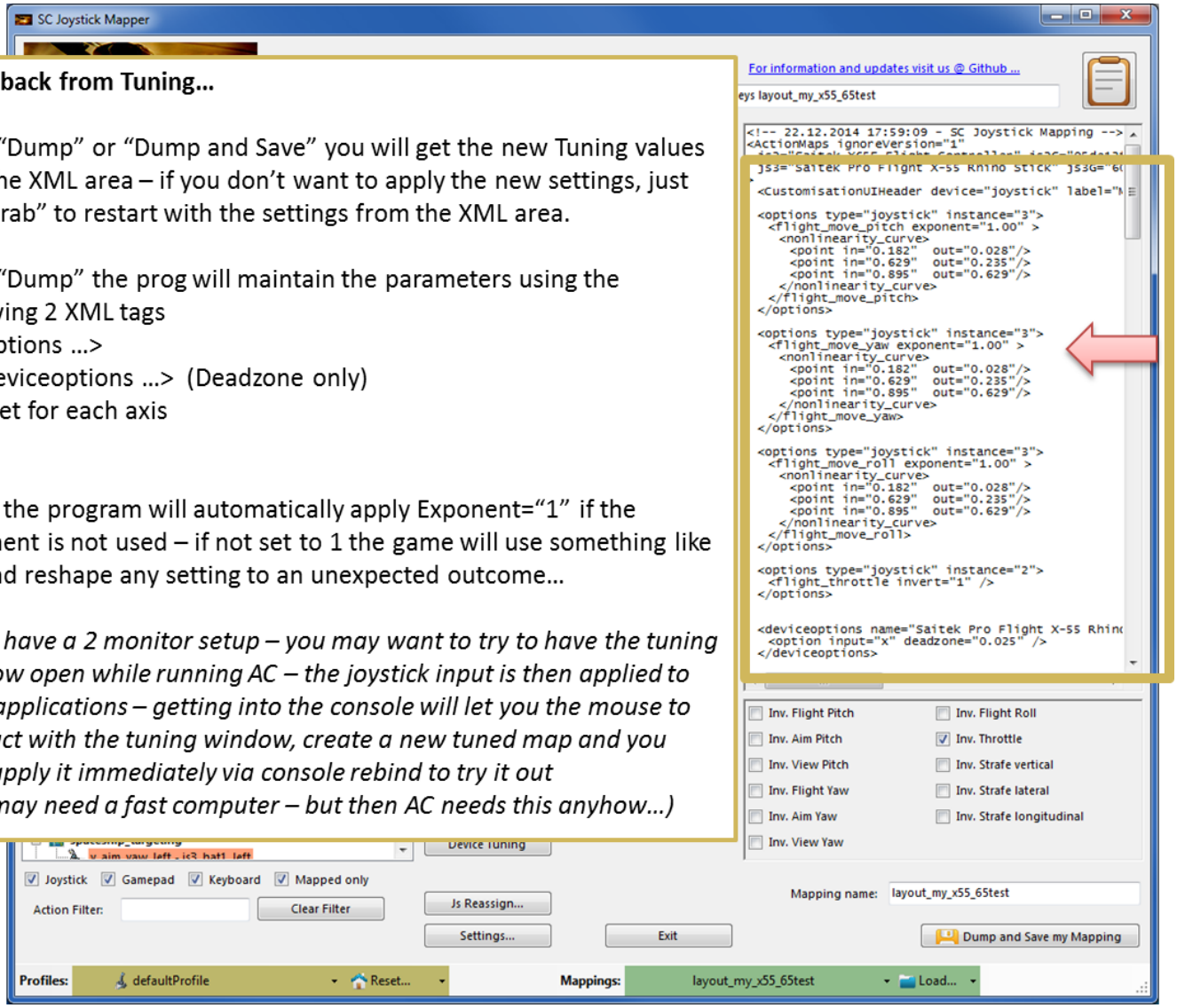
With “Dump” the prog will maintain the parameters using the following 2 XML tags

- <options …>
- <deviceoptions …> (Deadzone only)

One set for each axis

Note: the program will automatically apply Exponent=“1” if the Exponent is not used – if not set to 1 the game will use something like 2.3 and reshape any setting to an unexpected outcome…

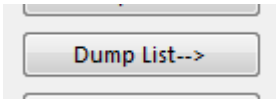
If you have a 2 monitor setup – you may want to try to have the tuning window open while running AC – the joystick input is then applied to both applications – getting into the console will let you the mouse to interact with the tuning window, create a new tuned map and you may apply it immediately via console rebind to try it out
(You may need a fast computer – but then AC needs this anyhow…)

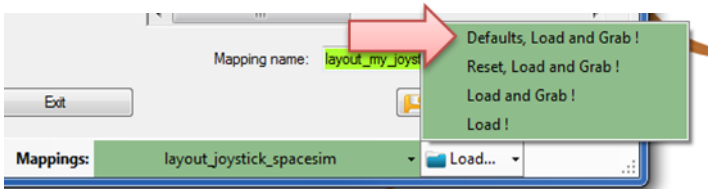


Hints ...

How to get a list of <u>all</u> game commands when using a map file?

- Load a map using ‘Defaults’
- Hit ‘Dump List’





… Gets you the complete list of commands in use if you load that map in game

- Right click in the listing to get a context menu to Copy / Paste or Save As..
- The mapping filter checkboxes can be used to limit the listed items


```
*** spaceship_auto_weapons
 v_weapon_toggle_ai                  . kb1 _ slash                    . [1] Use Profile

*** spaceship_power
 v_power_focus_group_1               + js3 _ button4                  . [1] Use Profile
 v_power_focus_group_1               . kb1 _ 1                        . [1] Use Profile
 v_power_focus_group_2               + js3 _ button3                  . [1] Use Profile
 v_power_focus_group_2               . kb1 _ 2                        . [1] Use Profile
 v_power_focus_group_3               + js3 _ button2                  . [1] Use Profile
 v_power_focus_group_3               . kb1 _ 3                        . [1] Use Profile
 v_power_reset_focus                 + js3 _ button1                  . [1] Use Profile
 v_power_reset_focus                 . kb1 _ 0                        . [1] Use Profile
 v_power_throttle_up                 + js3 _ button6                  # [2] double_tap
 v_power_throttle_up                 . kb1 _ np_add                   . [1] Use Profile
 v_power_throttle_down               + js3 _ rctrl+button6            . [1] Use Profile
 v_power_throttle_down               . kb1 _ np_subtract              . [1] Use Profile
 v_power_throttle_max                + js3 _ button5                  # [1] press
 v_power_throttle_max                . kb1 _ np_add                   . [2] double_tap
 v_power_throttle_min                + js3 _ rctrl+button5            # [1] tap
 v_power_throttle_min                . kb1 _ np_subtract              . [2] double_tap
 v_power_toggle_group_1              + js3 _ rctrl+button4            . [1] smart_toggle
 v_power_toggle_group_1              . kb1 _ 4                        . [1] smart_toggle
 v_power_toggle_group_2              + js3 _ rctrl+button3            . [1] smart_toggle
 v_power_toggle_group_2              . kb1 _ 5                        . [1] smart_toggle
 v_power_toggle_group_3              + js3 _ rctrl+button4            . [1] smart_toggle
 v_power_toggle_group_3              . kb1 _ 6                        . [1] smart_toggle

*** spaceship_radar
 v_radar_toggle_onoff                + js3 _ button16                 . [1] Use Profile
 v_radar_toggle_active_or_passive    + js3 _ button37                 . [1] Use Profile
 v_radar_toggle_active_or_passive    . kb1 _ period                   . [1] Use Profile
 v_radar_cycle_mode_fwd              + js3 _ button15                 . [1] Use Profile
 v_radar_cycle_zoom_fwd              + js3 _ button14                 . [1] Use Profile
 v_radar_cycle_zoom_fwd              . kb1 _ comma                    . [1] Use Profile
 v_radar_cycle_focus_fwd             + js3 _ button13                 . [1] Use Profile
 v_radar_toggle_view_focus           + js3 _ rctrl+button13           . [1] Use Profile

*** spaceship_hud
 v_hud_cycle_mode_fwd                . kb1 _ apostrophe               . [1] Use Profile
 v_hud_cycle_mode_back               . kb1 _ semicolon                . [1] Use Profile
 v_hud_focused_cycle_mode_fwd        . xi1 _ shoulderr                . [1] Use Profile
 v_hud_focused_cycle_mode_back       . xi1 _ shoulderl                . [1] Use Profile
 v_hud_open_tab1                     . kb1 _ f1                       . [1] Use Profile
```

V2.18 added:

For bindings and activation:

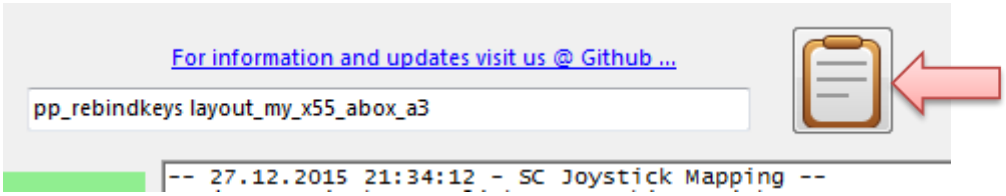
. indicates a profile entry i.e. a default setting

\+ indicates a user mapping

\# indicates a user ActivationMode setting

Hints ...

How to use pp_rebindkeys easy in the game ?



- Clicking the Notepad icon top right copies the pp_rebindkeys command into the Clipboard – from there just Ctrl-V it into the SC console..

Note: if you want to be sure to apply only your new map first type `pp_rebindkeys` without a file and then Enter - the response of the game should be - loaded factory defaults …
Then use the command with your mapname (without the .xml extension)

How to apply keyboard commands and modifiers ?

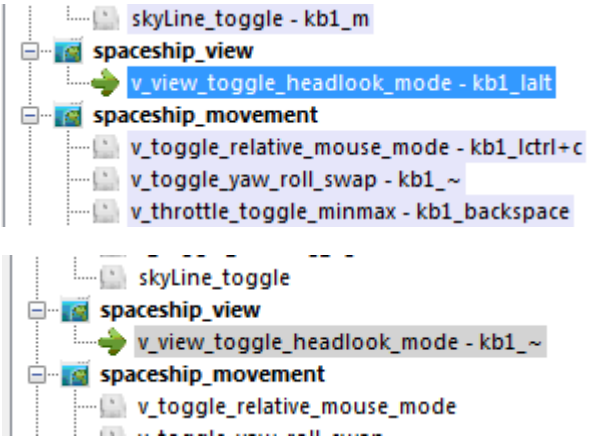
Sometimes your command is not recognized with the first try

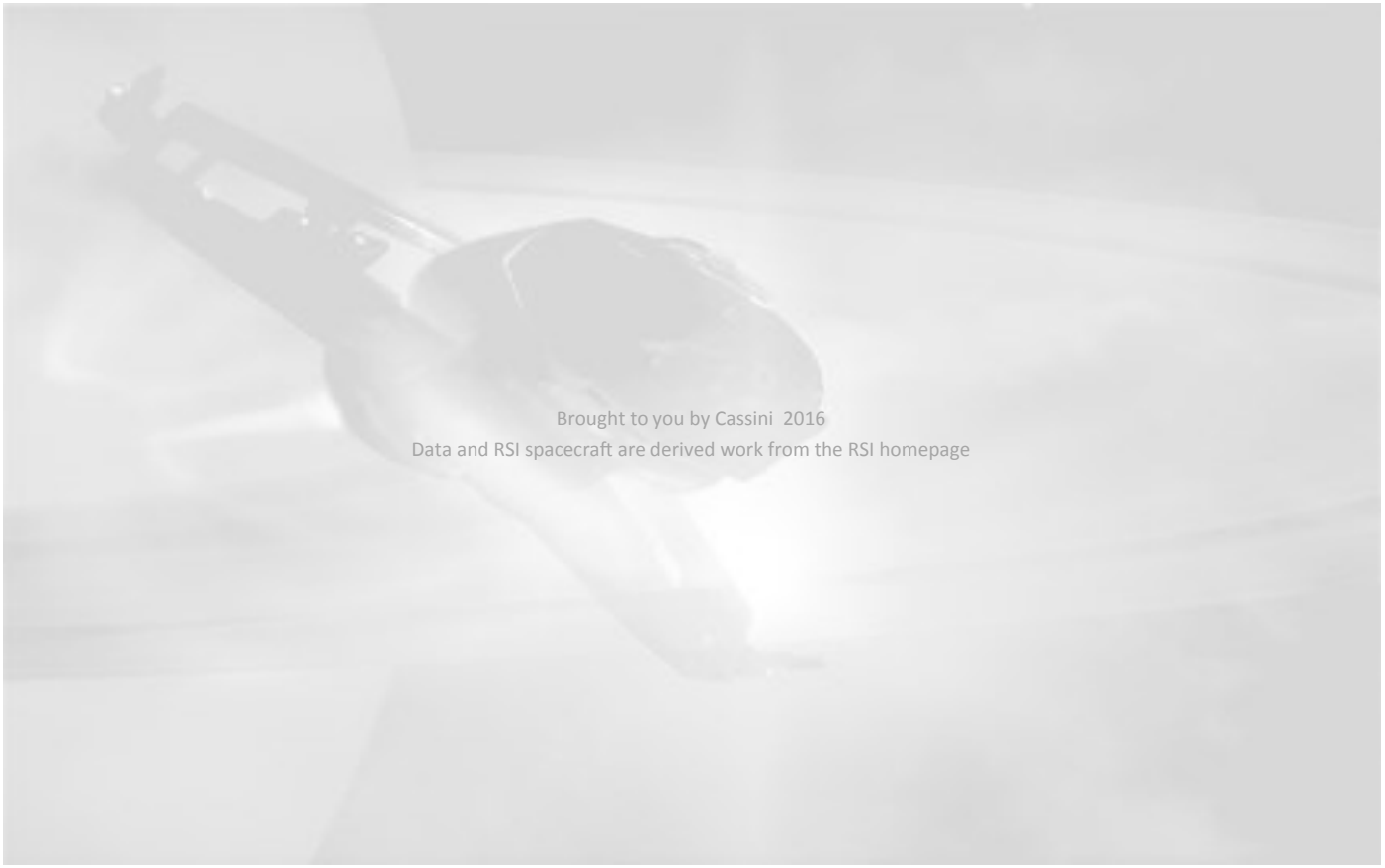
Check the Ctrl field each time and if it does not yet capture what you want – try once more.
Also releasing all controls currently pressed **together** helps to get successful Ctrl. Entries.

What about commands you really don't want to be mapped in game ?

Sometimes default commands from CIG annoyingly interfere with your game style

- Load a Profile with defaults and filter if needed to find the problematic action
- If you find that this single kbd `leftalt` command is disturbing your use of the left alt modifier
- Reload your own map and 'Blend' that action for the keyboard to ignore it in the game





Changelog:
V2.18 - update Hints - List Commands - add description for + and =, add joystick modifier timeout description, add mouse commands