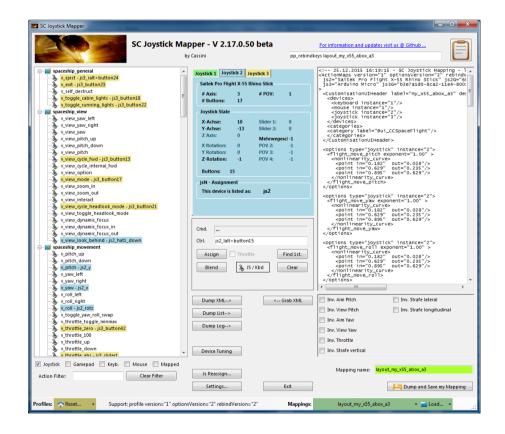
# SC JOYSTICK MAPPER QUICK REFERENCE GUIDE V 2.17

#### 20151227 - 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.

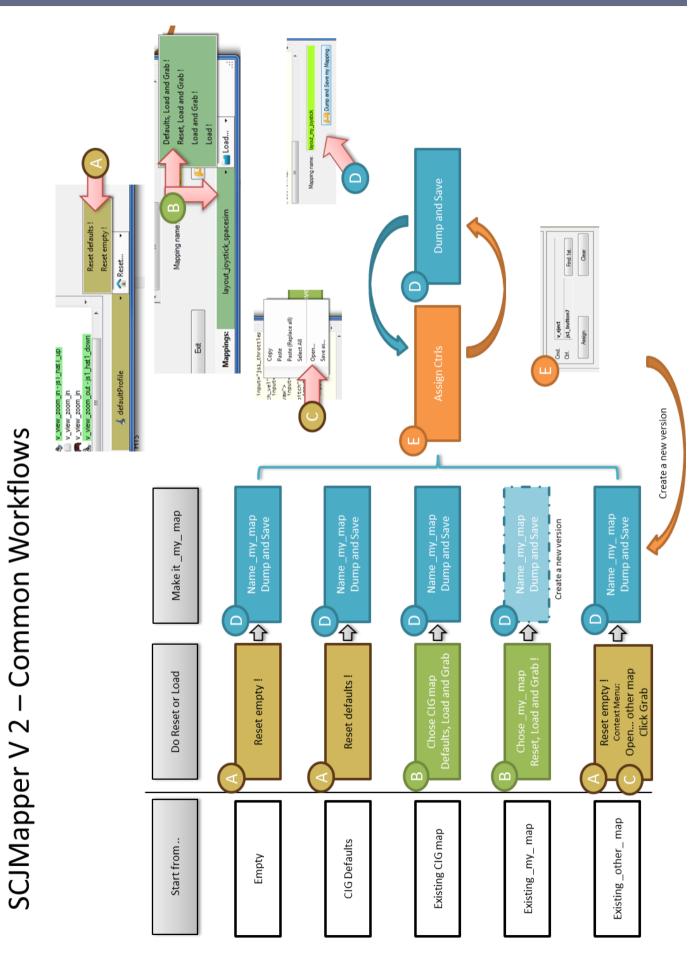
BTW: if you copy e.g. "pp\_rebindkeys layout\_my\_joystick" from notepad you may use Ctrl-V to paste it in-game into the console – saves you some typing...

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...

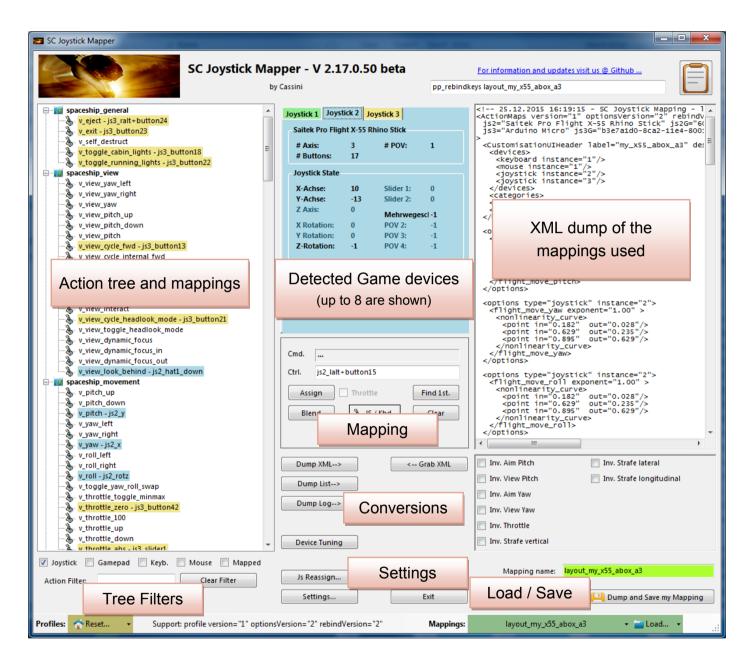
- You will find 'log4net.config.OFF' in the distribution zip.
- Rename it to 'log4net.config' and run the program.
- Then look for a file named 'trace.log' in the program folder and
- send this to cassini@burri-web.org along with a description of the problem and your system i.e. OS, CPU, Graphics card,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

# The Workflow



# 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 imported in the game directly
- ⇒ The Mapping area is where profile actions can be mapped individually to create the action mapping YOU want to use in the game

## **Game Devices**





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.

### 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.

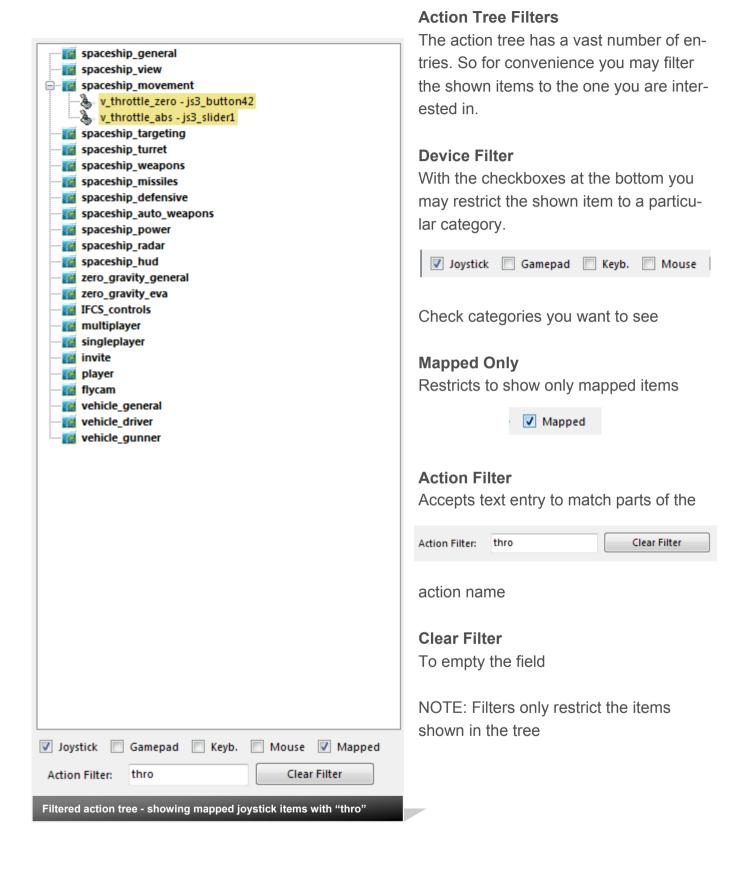
### **Selecting an Action:**

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**



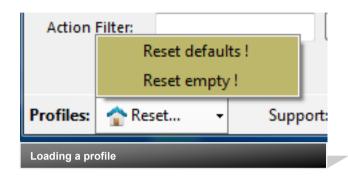
# Working with Profiles

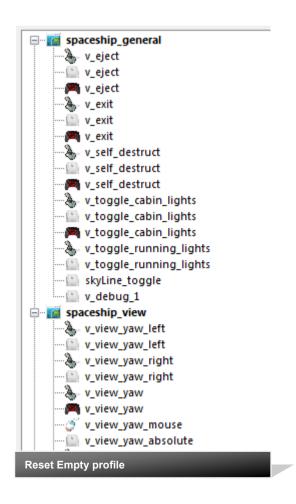
### Working with profiles

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

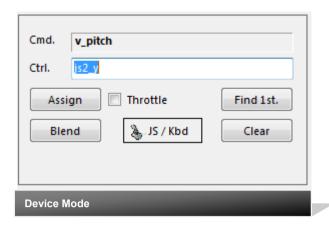
- -RESET EMPTY reverts to just an action list without any mappings
- -RESET DEFAULTS loads the Joystick actions mapped with what CIG is providing

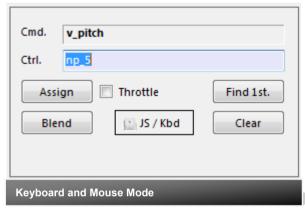


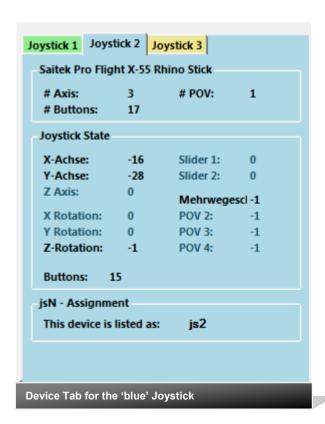




# Mapping







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**

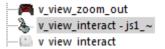
To clear a mapping – select it in the ActionTree and Click "Clear" - it gets a neutral color and no control in the ActionTree – it is now unmapped.

#### 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.



# More Mapping

#### **Context Menu**

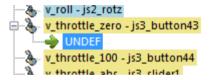
Right click an action opens a context menu gibing a choice of functions that are possible right now.

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

### **Add Mapping**

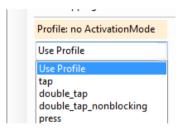
Will add a binding to the selected item to use a second control for this item. Such an addition can be mapped like the main entry - also deleted to remove it.

(Note: this does not work in SC2.0/2.1)



#### **Activation Modes**

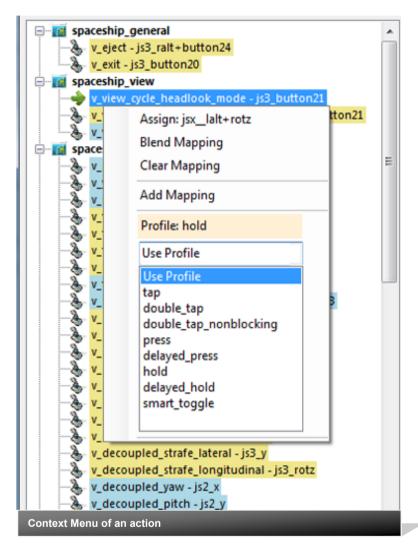
Starting from Profile: there are activation modes listed. Profile indicates what is in the profile as default or 'no ActivationMode' if the profile does not apply one



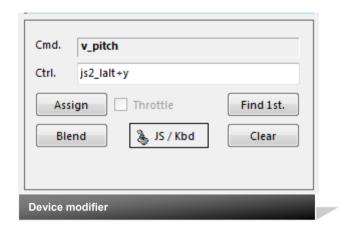
You may choose a new activation mode

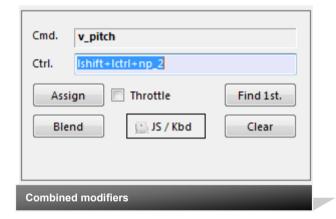
for this mapping which is then carried into the XML

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



# Mapping with Modifiers





### **Keyboard Modifiers**

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

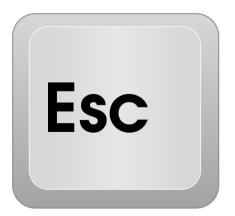
Modifiers are preset: Left/right Shift / Alt / Ctrl keys Modifiers can be combined.

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.

# XML Dump

#### **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.

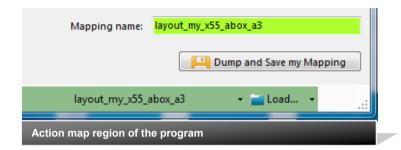
To refine any mapping "Open" the file – the content is shown in the XML Area, then "Grab" it into the ActionTree.

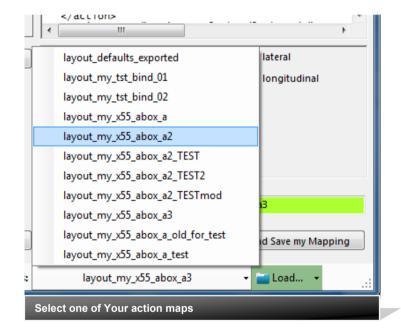
Once the refinement is finished – again Save it to a file.

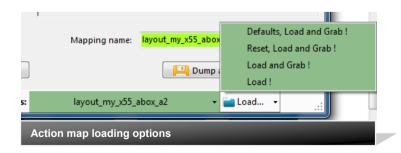
Note: only use properly formatted ActionMaps here. The program may just break if it encounters something unexpected!

```
<options type="joystick" instance="2">
   <flight_move_roll exponent="1.00" >
     <nonlinearity_curve>
<point in="0.182"
<point in="0.629"
<point in="0.895"</pre>
                                  out="0.028"
                                 out="0.235"/>
out="0.629"/>
   </options>
 <deviceoptions name="Saitek Pro Flight X-55 Rhing
   <option input="x" deadzone="0.025"</pre>
 </deviceoptions>
 <deviceoptions name="Saitek Pro Flight X-55 Rhine</pre>
   <option input="y" deadzone="0.025'</pre>
 </deviceoptions>
 <deviceoptions name="Saitek Pro Flight X-55 Rhing
<option input="rotz" deadzone="0.025" />
 </deviceoptions>
 <actionmap name="spaceship_general">
   action name="v_eject">
    <rebind input="js3_ralt+button24" />
   </action>
   <action name="v_exit">
     <rebind input="js3_button23" />
   </action>
   <action name="v_toggle_cabin_lights">
<rebind input="js3_button18" />
   <action name="v_toggle_running_lights">
  <rebind input="js3_button22" />
   </action>
 </actionmap>
 <actionmap name="spaceship_view">
<action name="v_view_cycle_fwd">
<rebind input="js3_button13" />
   </action>
   <action name="v_view_mode">
  <rebind input="js3_button17" />
   </action>
XML Dump of an action map
```

# **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.

# 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)

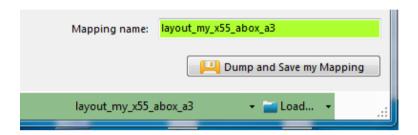
Remark: your map name has always to start with 'layout\_my\_' to prevent conflicts with CIGs own actionmaps
Lowercase only, no spaces, tabs allowed else you see the red flag ..

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

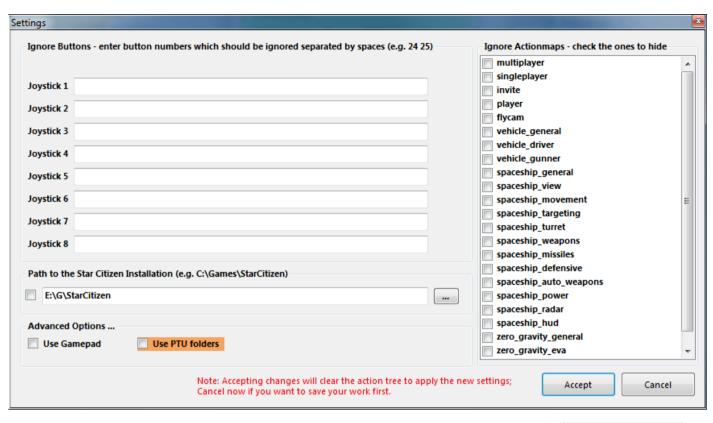
should load it into the game

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.

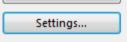




# Settings



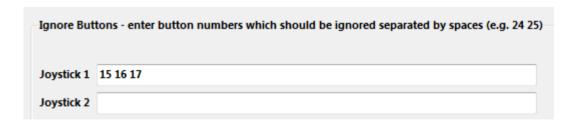
There are a number of setting you may need to do for efficient working..



#### **Ignore Buttons**

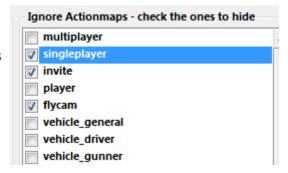
Some devices have buttons pressed to switch modes. I may be needed to 'ignore' them to get proper readouts for mapping.

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

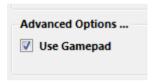
In general the program finds the path to the game on its own, however if not, you may direct it to

use a given path



### **Use Gamepad**

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

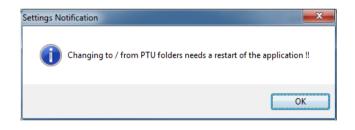


### **Using PTU Folders**

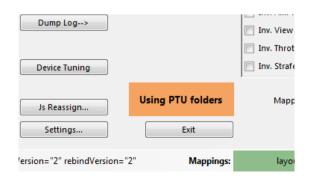
In general the program finds its files in the Public subfolder of the Game installation path. If you are running PTU and want to work with the Test environment - check this box



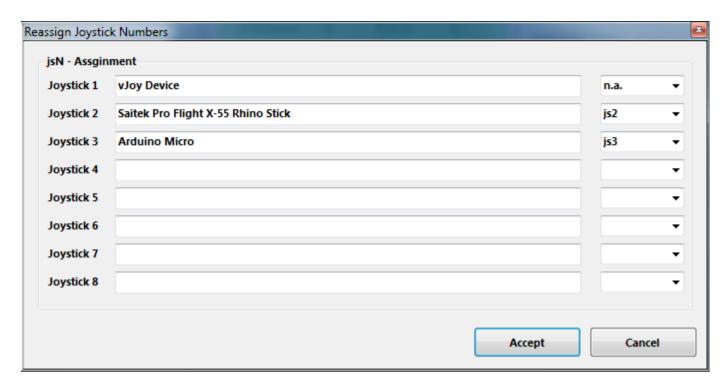
Changing to and from PTU requires a restart!



Once in PTU mode the program indicates this as shown below



# Joystick Assignment



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

Js Reassign...

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

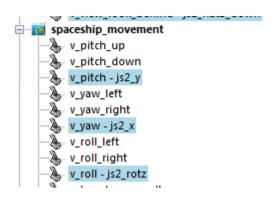
# Device Tuning 1/3

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

Use 'Device Tuning' to optimize it, it supports:

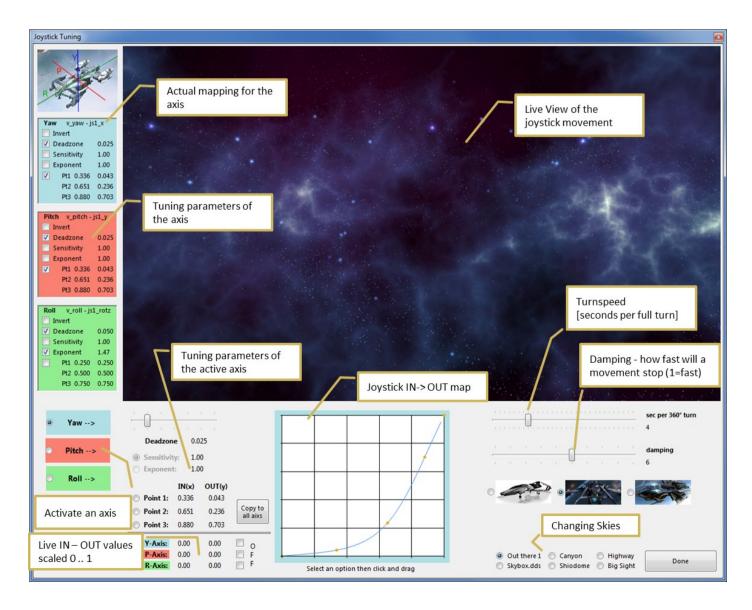
- Deadzone
- Sensitivity
- Invert
- either Exponent or NonLinearCurve independently for the Yaw-, Pitch-, and Roll- axes.

Note: Tuning will only recognize mapped controls

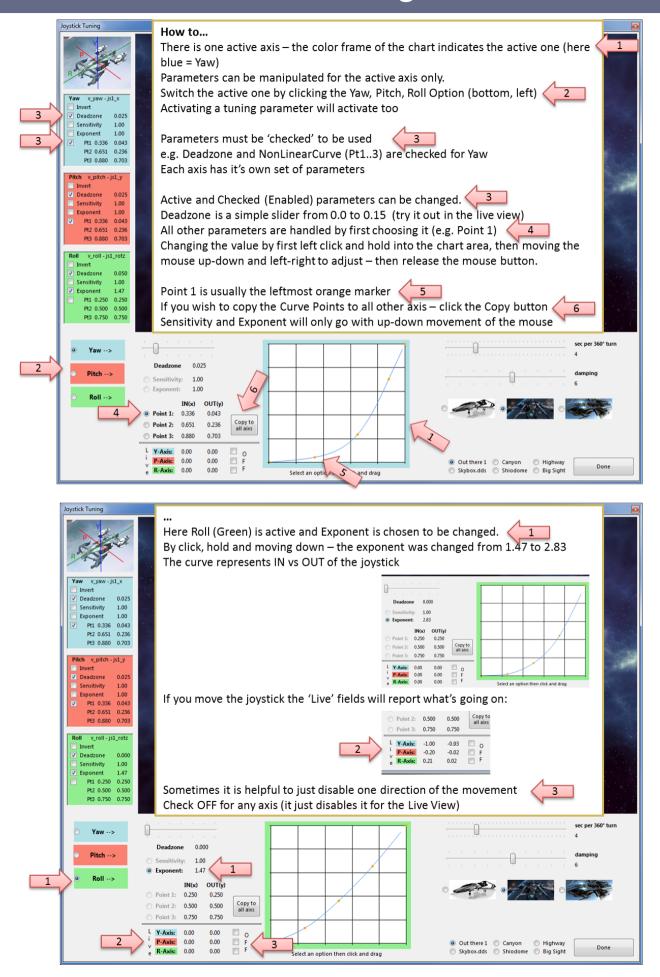


Hit the 'Device Tuning' button to open the tuning window

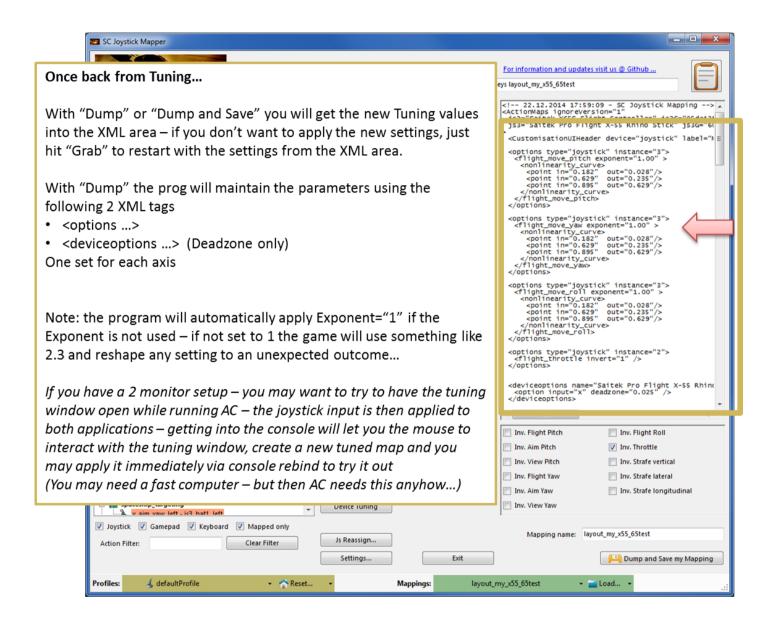
Device Tuning



# Device Tuning 2/3



# Device Tuning 3/3



### Hints ...

### How to get a list of all commands with an action map?

Load a map using Defaults



- - Hit 'Dump List' Dump List-->
- Gets you the complete list of commands in use if you load that map
- Right click in the listing to get a context menu to Copy / Paste or Save As...

```
27.12.2015 21:34:12 - SC Joystick Mapping
js2 = Saitek Pro Flight X-55 Rhino Stick
                                                                                                                ٨
   js3 = Arduino Micro
                                                                                                                Ξ
*** spaceship_general
v_eject
v_eject
                                                            - js3 - ralt+button24
- kb1 - ralt+l
                                                            - xi1 - triggerl_btn+back
v_eject
                                                            - js3 - button20
- kb1 - lctrl+f
v_exit
v_exit
v_exit
v_self_destruct
v_toggle_cabin_lights
v_toggle_running_lights
                                                            - xi1 - a
                                                           - kb1 - ralt+backspace
- kb1 - o
                                                            - kb1 - o
                                                            - kb1 - m
skyLine_toggle
*** spaceship_view
v_view_yaw_left
                                                            - js1 - hat2_left
- js1 - hat2_right
v_view_yaw_right
v_view_yaw
                                                            - xi1 - thumbrx
v_view_yaw_mouse
                                                            - mo1 - maxis_x
                                                            - kb1 - HMD_Yaw
 v_view_yaw_absolute
                                                            - js1 - hat2_down
- js1 - hat2_up
v_view_pitch_up
v_view_pitch_down
                                                           - xi1 - thumbry
- mo1 - maxis_y
v_view_pitch
v_view_pitch_mouse
                                                            - kb1 - HMD_Pitch
v_view_pitch_absolute
                                                              kb1 - HMD_Roll
v_view_roll_absolute
                                                           - kb1 - insert
- xi1 - triggerl_btn+thumbr
v_view_cycle_fwd
v_view_cycle_fwd
v_view_cycle_internal_fwd
                                                            - kb1 - home
                                                            - kb1 - pgup
v_view_mode
                                                            - xi1 - thumbr
v_view_mode
                                                            - mo1 - mwheel_up
- xi1 - triggerl_btn+dpad_up
v_view_zoom_in
v_view_zoom_in
                                                            - mo1 - mwheel_down
v_view_zoom_out
                                                            - xi1 - t
v_view_zoom_out
                                                                      triggerl_btn+dpad_down
v_view_interact
                                                            - xi1 -
v_view_interact
                                                            - js3 - button21
- kb1 - lalt
v_view_cycle_headlook_mode
 v_view_cycle_headlook_mode
                                                              js3 - rctrl+button21
v_view_toggle_headlook_mode
                                                            - kb1 - lalt
v_view_toggle_headlook_mode
                                                           - mo1 - maxis_z
- xi1 - triggerl_btn+dpad_up
v_view_dynamic_focus
v_view_dynamic_focus_in
v_view_dynamic_focus_out
                                                           - xi1 - triggerl_btn+dpad_down
- js2 - hat1_down
- kb1 - lctrl+lalt
v_view_look_behind
v view look behind
```

# 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 command 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

