SC Joystick Mapper
Quick Reference Guide V 2.8 BETA
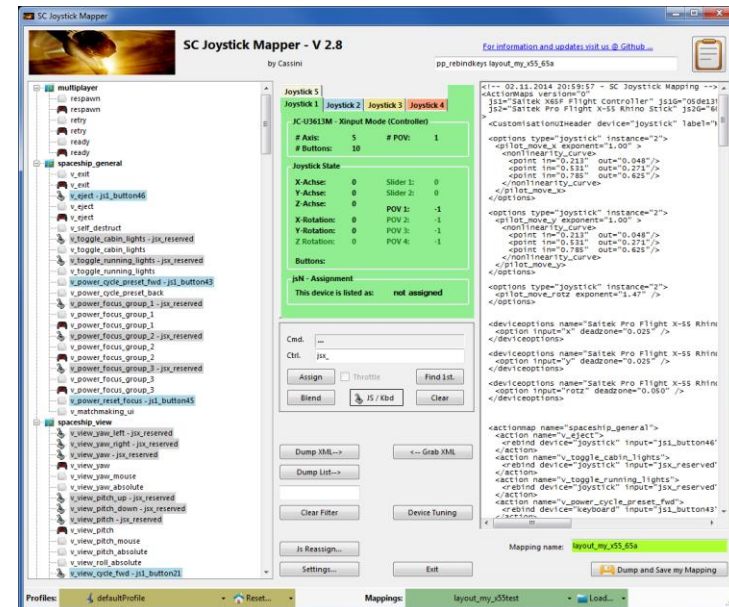
Updating from V 2.x to V 2.8:

- If you not have used 2.3 already:
  Check the jsN assignment and maybe de-assign unused devices
  See the new 'js Reassign' feature on page 17.
  Note: You may need to do this twice for each of the "VJoy virtual joystick" devices.

- Blend Option is new under Settings

- 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 …

Contents

Workflow (see also last page)

- 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 to an XML file
- Use it in the game: e.g. pp_rebindkeys C:\maps\layout_my_joystick
- V 2.0: 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 AC 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.

As I had my issues with missiles here a finding..
To reallocate the missile fire command you should map the following 2 actions to the same joystick button:
- *v_target_missile_lock_selected*
- *v_weapon_launch_missile*

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

The GUI …

Action tree and mappings

XML dump of the mappings used

Detected Game devices
(up to 8 are shown)

Device properties
(greyed out ones are not available)

Joystick device map

Selected mapping

Action Mapping Buttons

XML Area Buttons

V2.7: Joystick Tuning
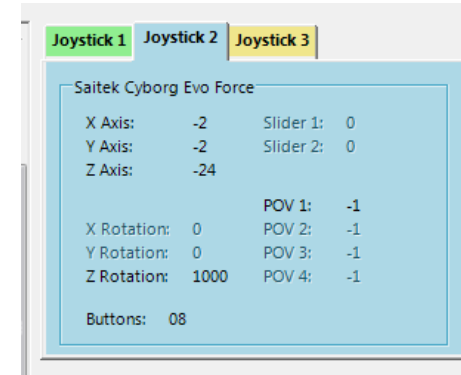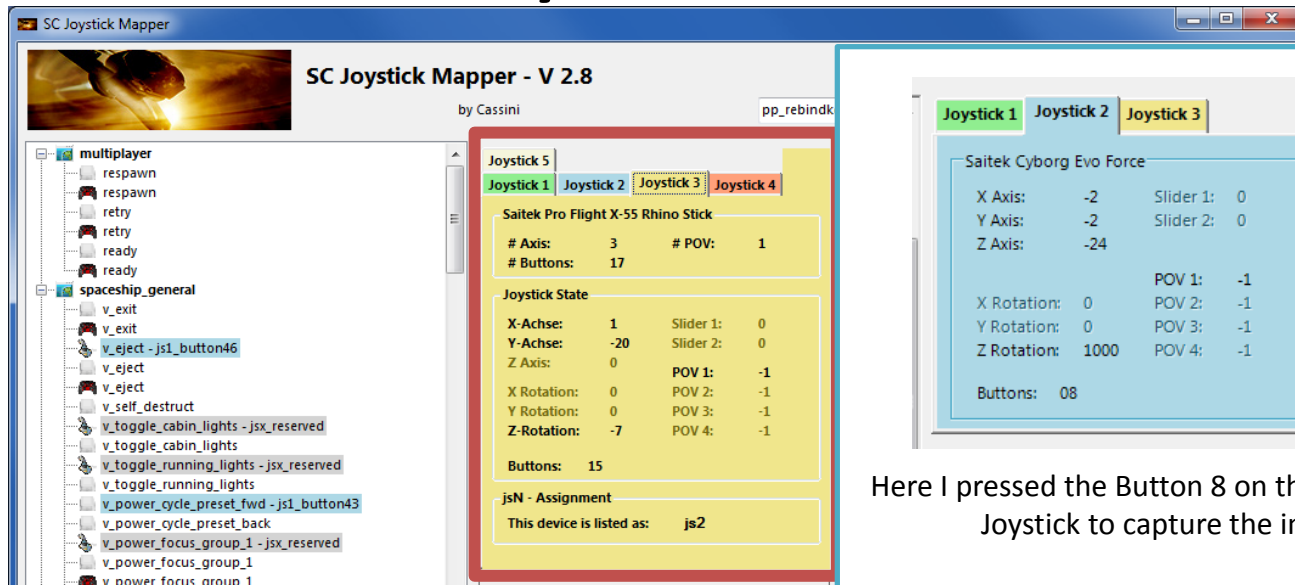
V2: Save into game folders

V2: Resize the window

Dump nice List

V2: filter the action tree

V2.3, 2.4: Js Reassignment

V2: New Reset with options

V2: Load from game folders

The Joystick Area…

Here I pressed the Button 8 on the Cyborg Evo Joystick to capture the image

The tabs represent the game devices found connected to the PC also the number 1..8 shows the order the PC reports them which is crucial to the mapping as this will result in the default js_1, js_2 .. Names used to build the command name.
The elements are the ones the joystick seems to support – greyed ones are not available for this device.

V 2.4: you will see the actual Js assignment - or 'not assigned' – see page 17
The SC-Device to Joystick Mapping is a separate window accessed by hitting the '**Js Reassign**' button.

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

The Action Tree …
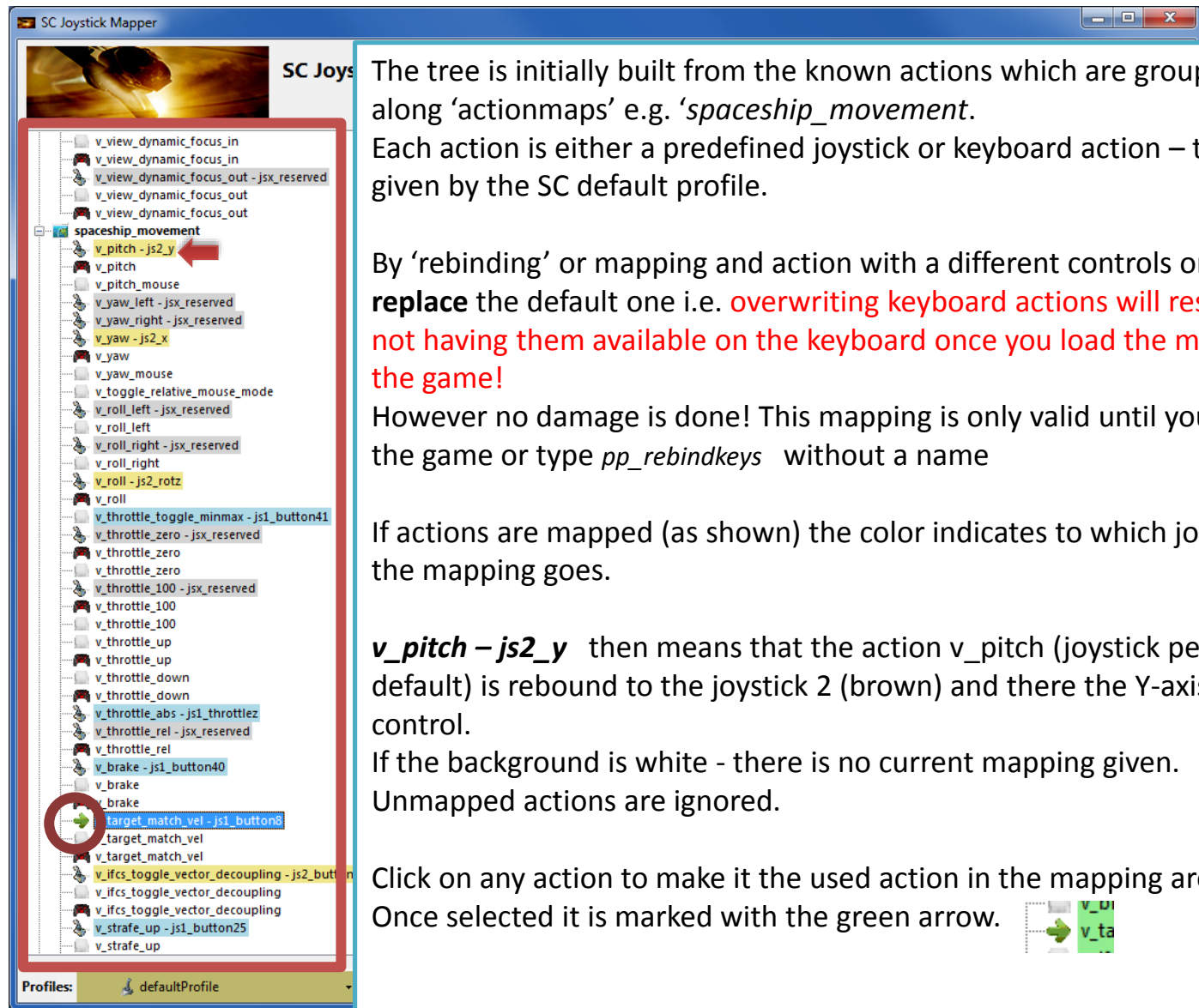
The tree is initially built from the known actions which are grouped along 'actionmaps' e.g. '*spaceship_movement*.
Each action is either a predefined joystick or keyboard action – this is given by the SC default profile.

By 'rebinding' or mapping and action with a different controls one does **replace** the default one i.e. overwriting keyboard actions will result in not having them available on the keyboard once you load the map in the game!
However no damage is done! This mapping is only valid until you exit the game or type *pp_rebindkeys* without a name

If actions are mapped (as shown) the color indicates to which joystick the mapping goes.

v_pitch – js2_y then means that the action v_pitch (joystick per default) is rebound to the joystick 2 (brown) and there the Y-axis control.
If the background is white - there is no current mapping given.
Unmapped actions are ignored.

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

The Mapping Area…

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 joystick item you activated on the currently shown joystick tab.
I.e. if you want to map it for a control on the second joystick you have to select the "Joystick 2" Tab first.

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 joystick it is assigned to.

V2: To make any axis a Throttle axis – check the 'Throttle' box ! It is often the Z-Axis but the Rhino has it e.g. on js2_y.
If you do so the control assigned in changed to a throttle control (here js1_throttlez)

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.
You may use "Find 1st" to find the first action where the currently shown Ctrl. (js1_z or if checked as shown js1_throttlez) is mapped.
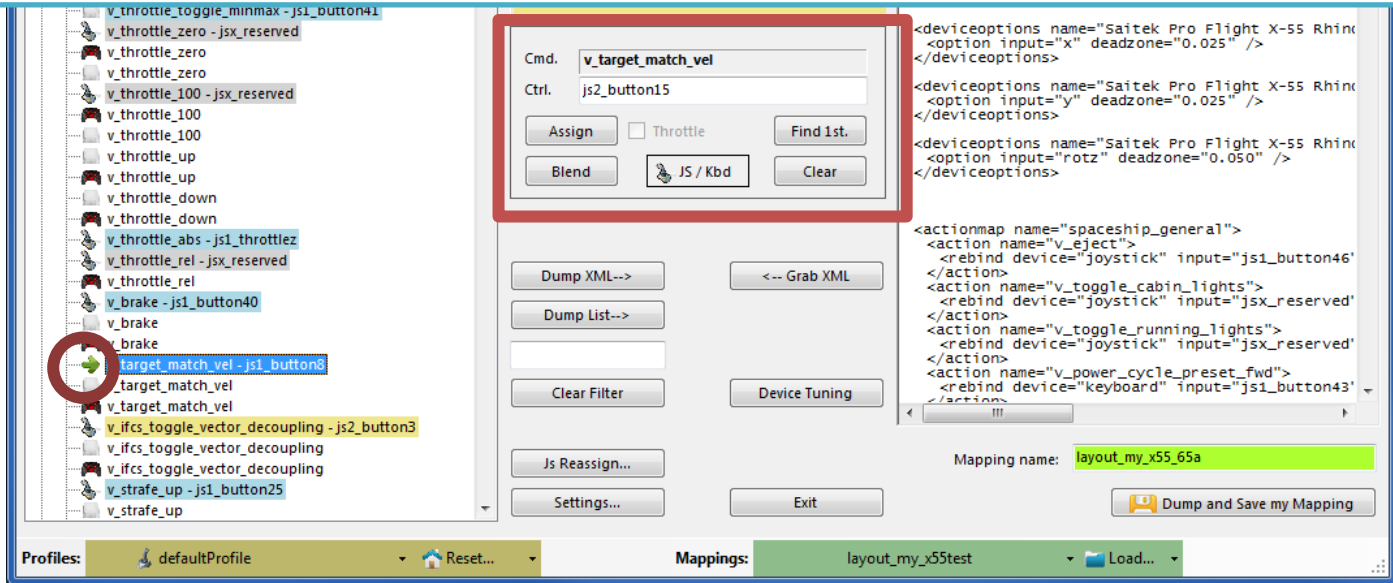
The XML Area...

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.

Rightclick 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.

Load and Save much easier ... read V2 Feature pages

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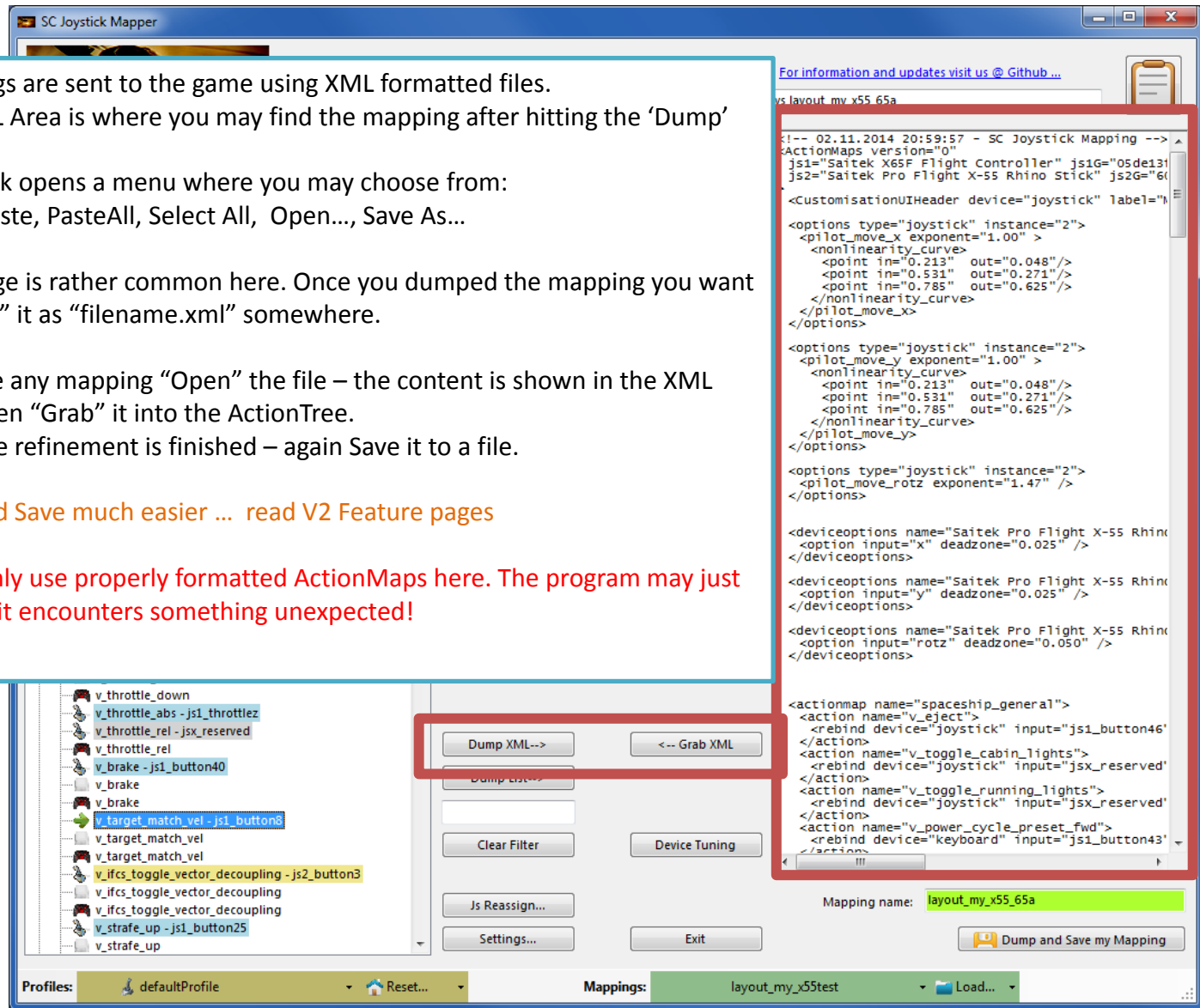
The XML Area…

If you hit "Dump List" a formatted list of the mapped actions is written into the XML area.

You may use the "Save As.." menu to save it e.g. as TXT file.

V2 – Features - 1

You may filter the action tree now

Start typing and the tree is reduced to the actions and controls that contain the characters typed

e.g. I typed 'thr' to see my throttles only
Try button and you get all your assigned buttons only etc.

Click 'Clear Filter' to get back to the complete list again.

Note: this will not change, remove or modify any of your mappings, it just reduces the tree to the ones you are interested in.
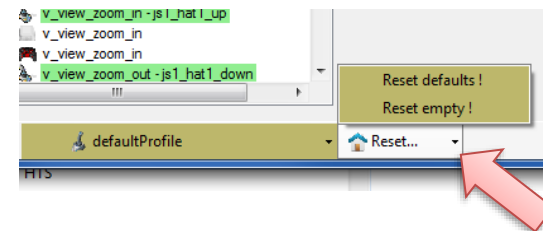
V2 – Features - 2

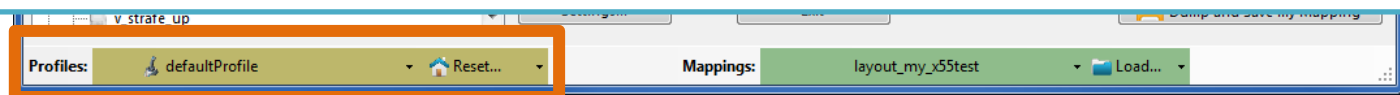SC Joystick Mapper

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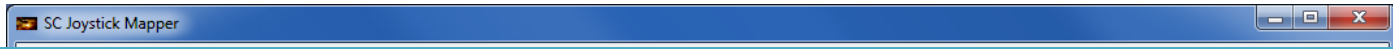- RESET EMPTY   reverts to just an action list without any mappings
- RESET DEFAULTS   loads the Joystick actions mapped with what CIG is providing

Note: as CIG is providing a number of defaultProfiles you may chose one of those – however using the **defaultProfile** is usually the best option
(This may be work in progress by CIG…)

V2 – Features - 3

New working with actionmaps (Maps, Mapping etc..)

The program gets the actionsmaps from the real game asset – so you are always up to the actual values.
(…\StarCitizen\CitizenClient\Data\Controls\Mappings)

From here you may first chose a map, then 'Load' the actionmap – 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 last page for some common workflows
And how to handle them easily

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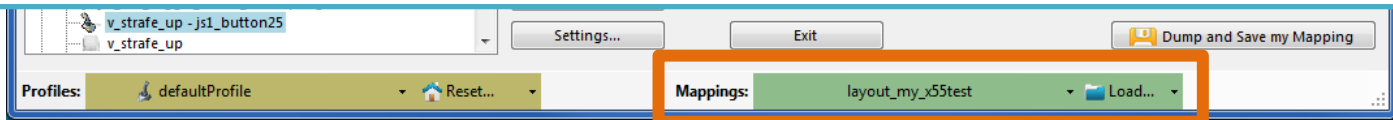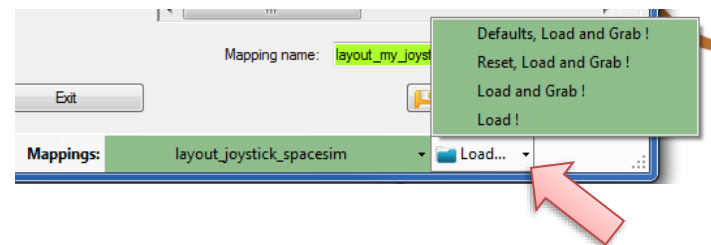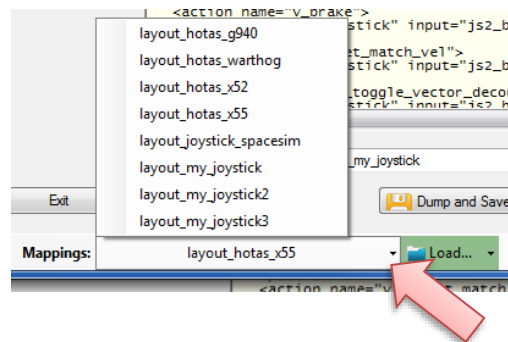
V2 – Features - 4

New 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\CitizenClient\Data\Controls\Mappings)

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

NOTE: your map name has always to start with 'layout_my_' to prevent modifying 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.
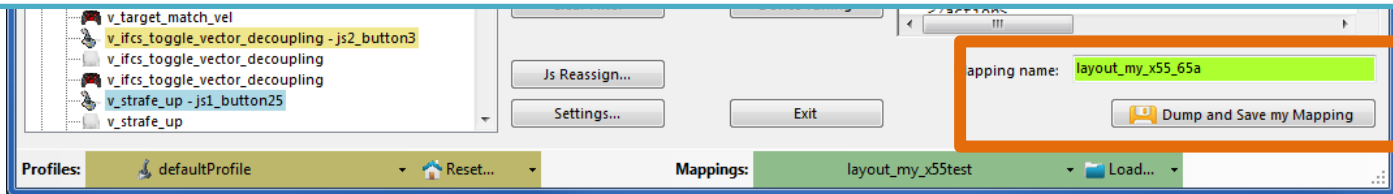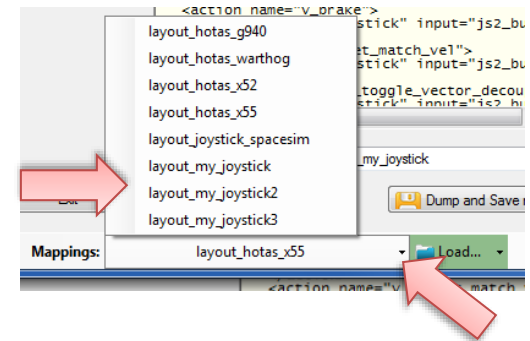
V2.1 – Features

New possibility to blend the unmapped joystick entries **V2.8 is now in Settings**

If you wish to hide all the joystick actions that you don't use – to make sure they are not active – check "Blend Joystick" and/or "Blend Gamepad"

The program will then map all unmapped actions with 'jsx_reserved' or 'xi_reserved' preventing any profile settings on the joystick. This is fully reversible – just uncheck the option and Dump the contents again.
See also V2.8 new features on how to blend single items

New Settings window
As many are concerned about steady ON buttons that might interfere with assigning the proper control to an action we included a setting to IGNORE specific buttons.
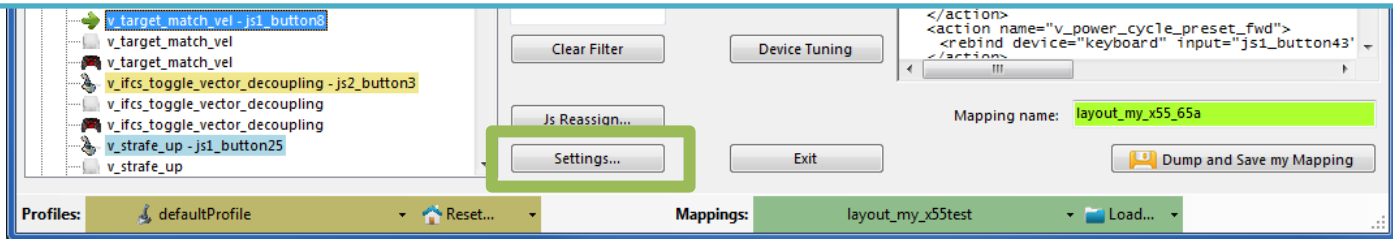Just enter the button numbers to ignore separated by a Space.
Make sure you enter the numbers for the right Joystick.
Numbers are the same as in the main window.
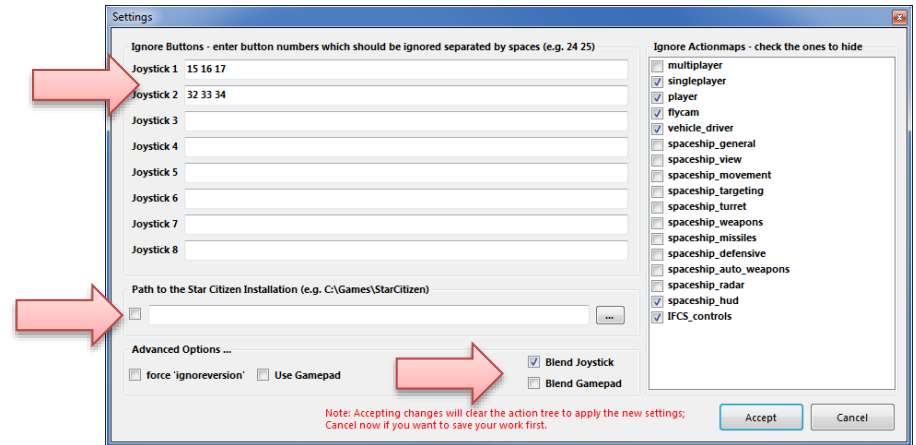
There is also way to override the programs own detection
of the Star Citizen install folder.
Make sure to use the Checkbox if you want to override!

V2.2, 2.5 – Features

New possibility to ignore unwanted actionmaps

If you wish to ignore some maps to unclutter the GUI
If you with to use the default ignored new actionmaps *multiplayer, singleplayer, player*

The program will ignore all actionmaps that are **checked**
In the example *multiplayer, singleplayer, player and IFCS_controls* are completely ignored and will not show up.
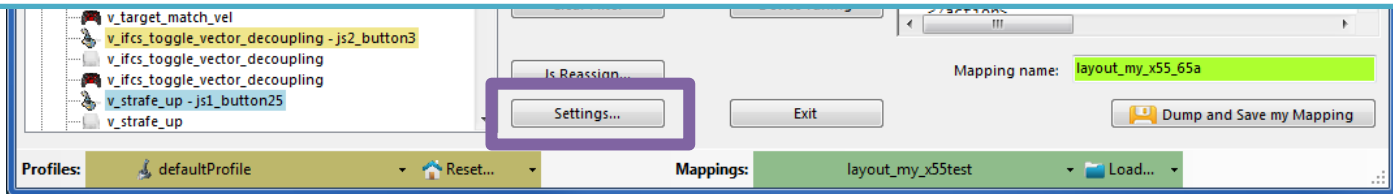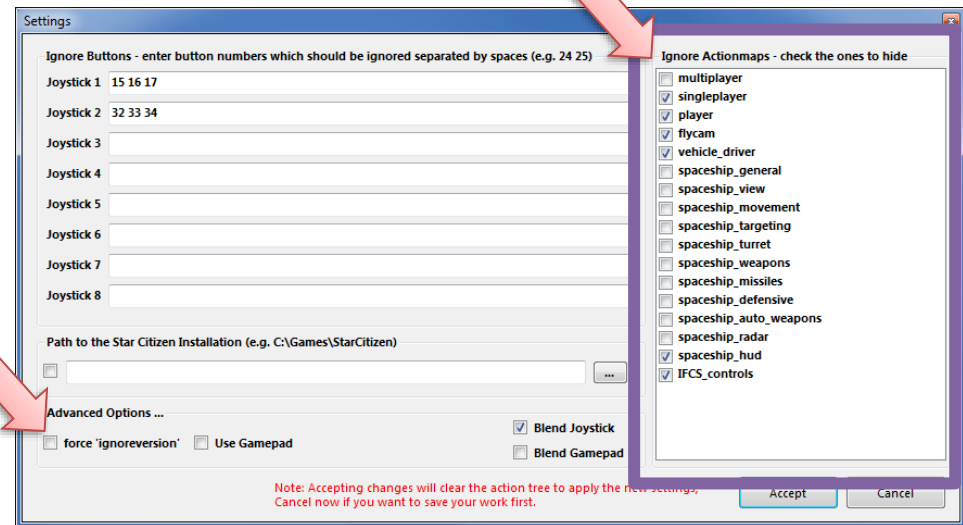
Just uncheck any to use it again.

V2.5 New option to force 'ignoreversion="1"'

If you wish to use the ignoreversion attribute rather than any version="n" ..
The prog is able to handle it now. Either type e.g. 'version="0"' or 'ignoreversion="1"'
Into the ActionMaps Tag and the prog will maintain it as you typed it.
Or just force it to use 'ignoreversion="1"'
by checking the box here

V2.3, 2.4 – Features

New possibility to (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.

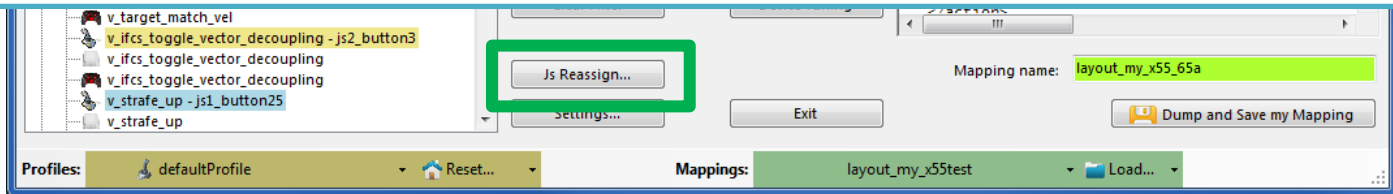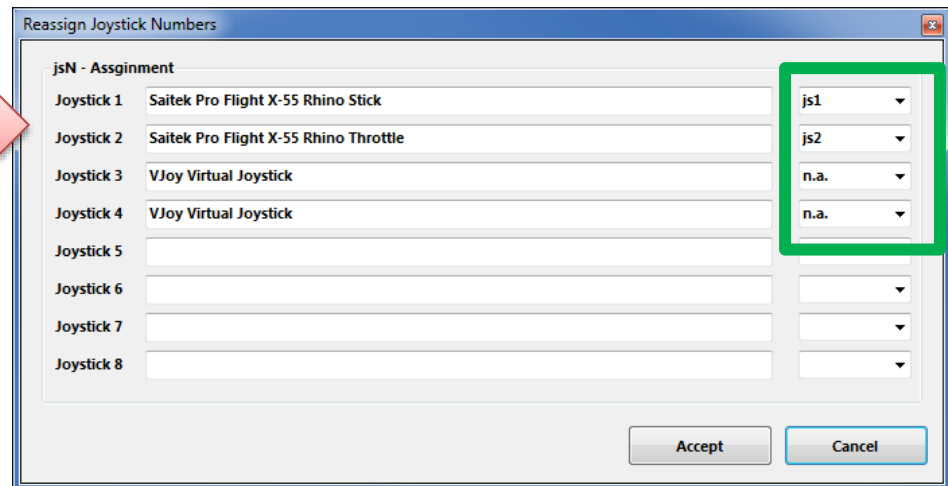V2.4 allows to assign js1 .. Js8 now

Related SC console commands are:

`i_DumpDeviceInformation`

`pp_ResortDevices joystick 1 2`

`pp_rebindkeys export joystick`
`pp_rebindkeys export xboxpad`

Reassign Joystick Numbers

jsN - Assginment

Joystick 1	Saitek Pro Flight X-55 Rhino Stick	js1
Joystick 2	Saitek Pro Flight X-55 Rhino Throttle	js2
Joystick 3	VJoy Virtual Joystick	n.a.
Joystick 4	VJoy Virtual Joystick	n.a.
Joystick 5		
Joystick 6		
Joystick 7		
Joystick 8		

Accept   Cancel

- v_target_match_vel
- v_ifcs_toggle_vector_decoupling - js2_button3
- v_ifcs_toggle_vector_decoupling
- v_ifcs_toggle_vector_decoupling
- v_strafe_up - js1_button25
- v_strafe_up

Js Reassign...

Mapping name: layout_my_x55_65a

Settings...   Exit   Dump and Save my Mapping

Profiles: defaultProfile   Reset...   **Mappings:** layout_my_x55test   Load...

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V2.5 – Features

New possibility – support for options

The prog will now maintain the following 3 XML tags
- <CustomisationUIHeader …>
- <options …>
- <deviceoptions …>

See 2.7: for more new option handling

You may copy and paste or type whatever of those 3 tags you want to use – the program will maintain your typing and also read it from the mapping file when it is already there.

Note: There is no support to get proper options or let you interactively design those tags (sorry I know too little about all useful possibilities)

The program stores the tags as plain string and will not do anything but get them in and out again. Some pretty printing is applied.

Hint:
copy and just paste them into the editor – easy
Or load your modified mapping – the prog should maintain them
(testing by looking into the file the first time would be sensible…)
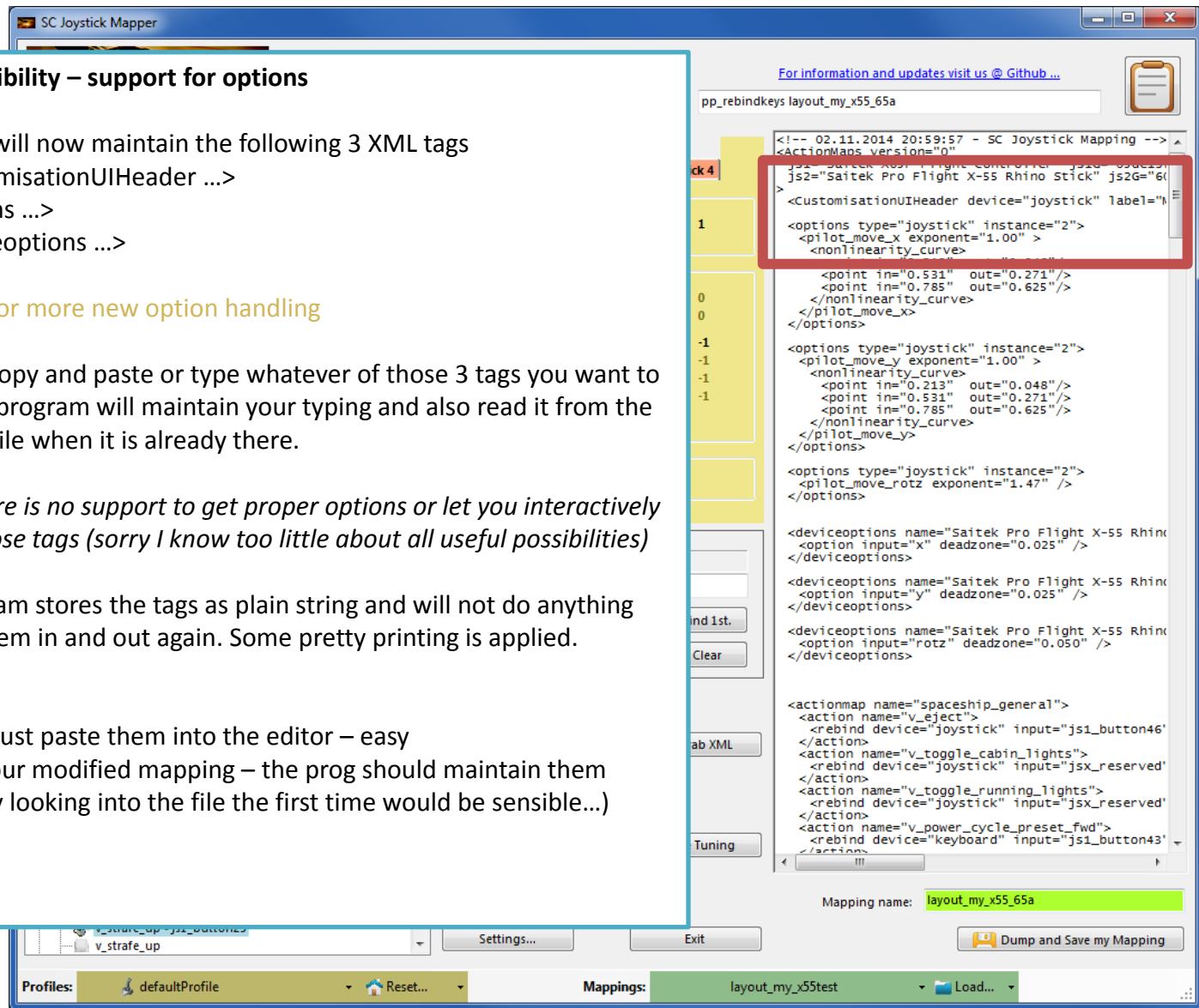
V2.7 – Features - 1

New possibility – Device Tuning Window

The prog will now maintain the following 2 XML tags
- <options …>
- <deviceoptions …>

To get the Options done – click the "Joystick Tuning" button.
A Window opens – will be shown on the next page.

It supports:
Deadzone, Sensitivity, Invert, either Exponent or NonLinearCurve independently for all 3- Yaw, Pitch, Roll axes.

Options saved with SCJMapper will be read and applied, due to the various option formats however it may not be able to just read any options out there.
Note: Best start the first time with a mapping without options !!

V2.8 supports also Gamepads
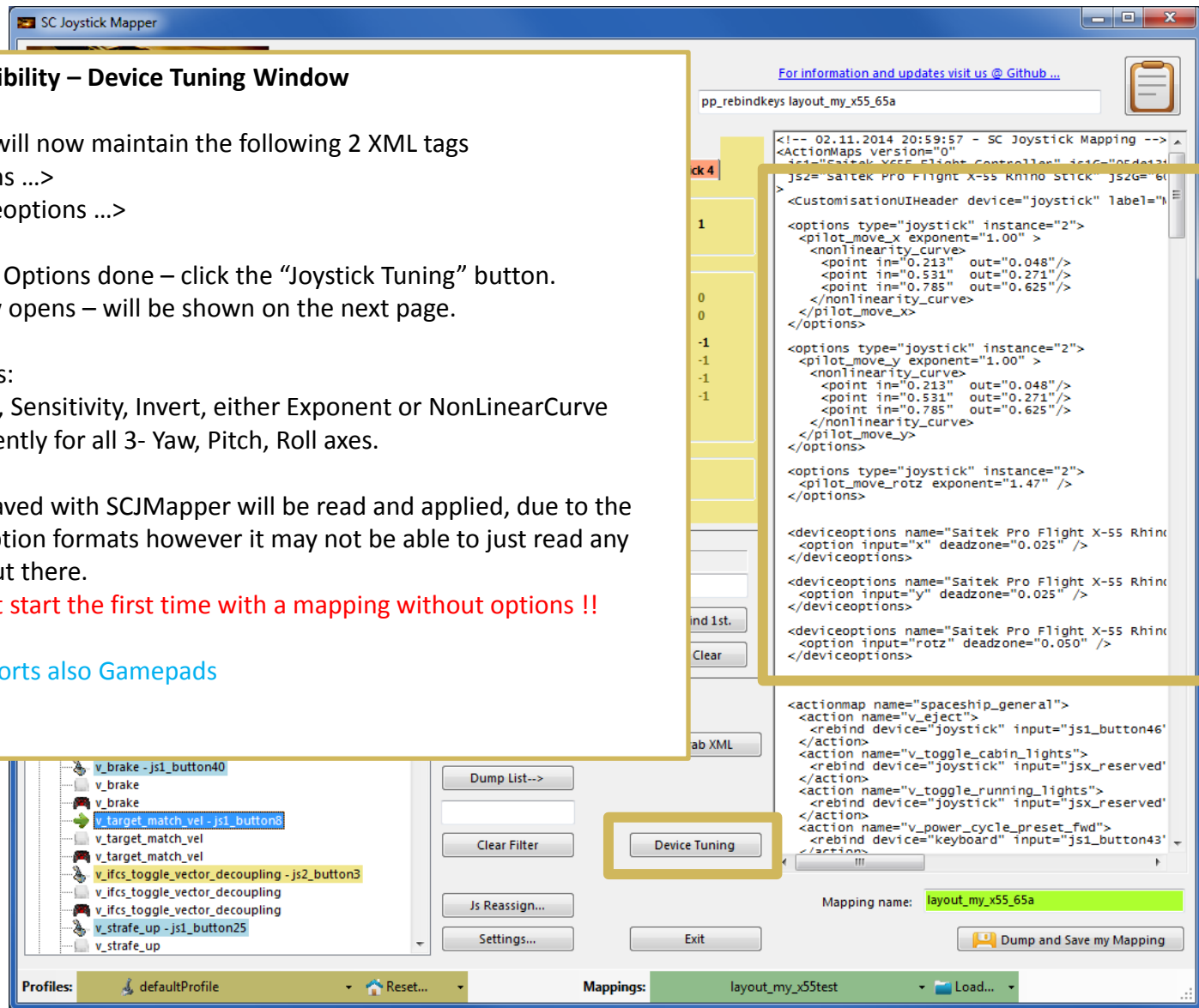
V2.7 – Features - 2

Joystick Tuning

Actual mapping for the axis

Live View of the joystick movement

Yaw   v_yaw - js1_x
- Invert
- ☑ Deadzone   0.025
- Sensitivity   1.00
- Exponent   1.00
- ☑ Pt1 0.336 0.043
-     Pt2 0.651 0.236
-     Pt3 0.880 0.703

Tuning parameters of the axis

Pitch   v_pitch - js1_y
- Invert
- ☑ Deadzone   0.025
- Sensitivity   1.00
- Exponent   1.00
- ☑ Pt1 0.336 0.043
-     Pt2 0.651 0.236
-     Pt3 0.880 0.703

Roll   v_roll - js1_rotz
- Invert
- ☑ Deadzone   0.050
- Sensitivity   1.00
- ☑ Exponent   1.47
-     Pt1 0.250 0.250
-     Pt2 0.500 0.500
-     Pt3 0.750 0.750

Tuning parameters of the active axis

Joystick IN-> OUT map

Turnspeed [seconds per full turn]

Activate an axis

- ⦿ **Yaw -->**
- ◯ **Pitch -->**
- ◯ **Roll -->**

Deadzone   0.025
◉ Sensitivity: 1.00
◯ Exponent: 1.00

	IN(x)	OUT(y)
◯ Point 1:	0.336	0.043
◯ Point 2:	0.651	0.236
◯ Point 3:	0.880	0.703

Copy to all aixs

L   Y-Axis: 0.00   0.00   ☐ O
i   P-Axis: 0.00   0.00   ☐ F
v   R-Axis: 0.00   0.00   ☐ F
e

Select an option then click and drag

sec per 360° turn
4

damping
6

Damping - how fast will a movement stop (1=fast)

Speed/Damping Presets – Estimates, guesses…

◉ Out there 1   ◯ Canyon   ◯ Highway
◯ Skybox.dds   ◯ Shiodome   ◯ Big Sight

Changing Skies

Done

Finish

Live IN – OUT values scaled 0 .. 1

V2.7 – Features - 3

How to…

There is one active axis – the color frame of the chart indicates the active one (here blue = Yaw)

Parameters can be manipulated for the active axis only.

Switch the active one by clicking the Yaw, Pitch, Roll Option (bottom, left)

Activating a tuning parameter will activate too

Parameters must be 'checked' to be used

e.g. Deadzone and NonLinearCurve (Pt1..3) are checked for Yaw

Each axis has it's own set of parameters

Active and Checked (Enabled) parameters can be changed.

Deadzone is a simple slider from 0.0 to 0.15 (try it out in the live view)

All other parameters are handled by first choosing it (e.g. Point 1)

Changing the value by first left click and hold into the chart area, then moving the mouse up-down and left-right to adjust – then release the mouse button.

Point 1 is usually the leftmost orange marker
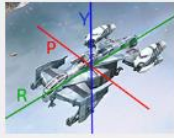
If you wish to copy the Curve Points to all other axis – click the Copy button

Sensitivity and Exponent will only go with up-down movement of the mouse

V2.7 – Features - 4

…
Here Roll (Green) is active and Exponent is chosen to be changed. **1**
By click, hold and moving down – the exponent was changed from 1.47 to 2.83
The curve represents IN vs OUT of the joystick

If you move the joystick the 'Live' fields will report what's going on: **2**

Sometimes it is helpful to just disable one direction of the movement **3**
Check OFF for any axis (it just disables it for the Live View)

V2.7 – Features - 5

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...)
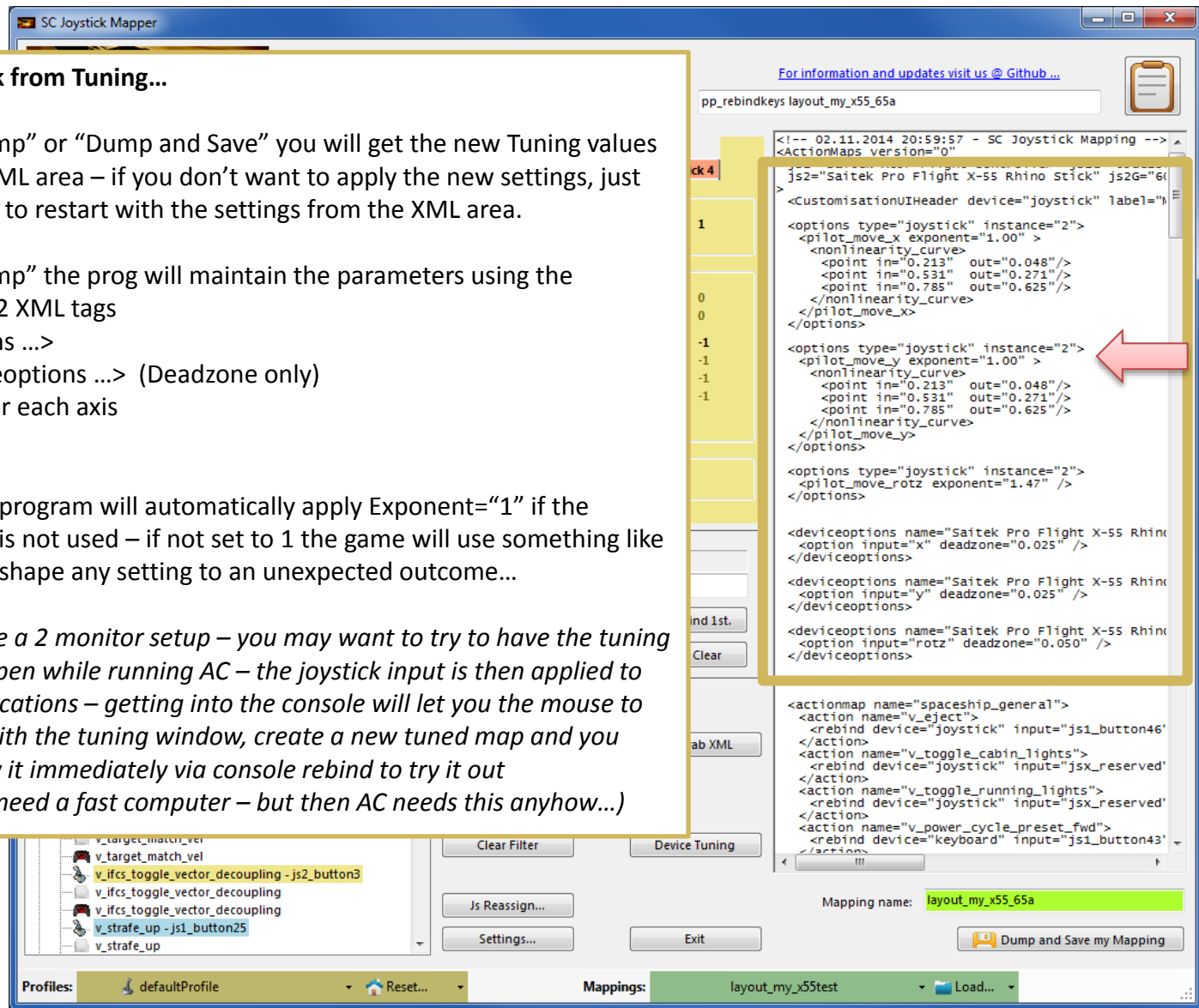
V2.8 – Features - 1

New possibility – Use Keyboard assignments

The prog will now recognize keyboard assignments.

Switch to Keyboard mode by pressing the JS/Kbd Button
-> the Icon changes to a Key and the Ctrl. Field gets lavender color.
Note: keyboard entries are accepted when the Ctrl. Field has the focus
Now you may press any key or key+modifier until it fits the need.
Then hit 'Assign' to map the command as usual.

To get back to Game Control input – hit the
JS/Kbd button and the entry mode gets back.

V2.8 – Features - 2

New possibility – Blend single items

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.
The items gets a dash but no command; "v_eject – " in the example.

Once you dump it will be mapped with a <Space>

To unblend – 'Clear' the item

To blend all joystick or gamepad commands go to Settings and check the corresponding checkbox – see also page 15
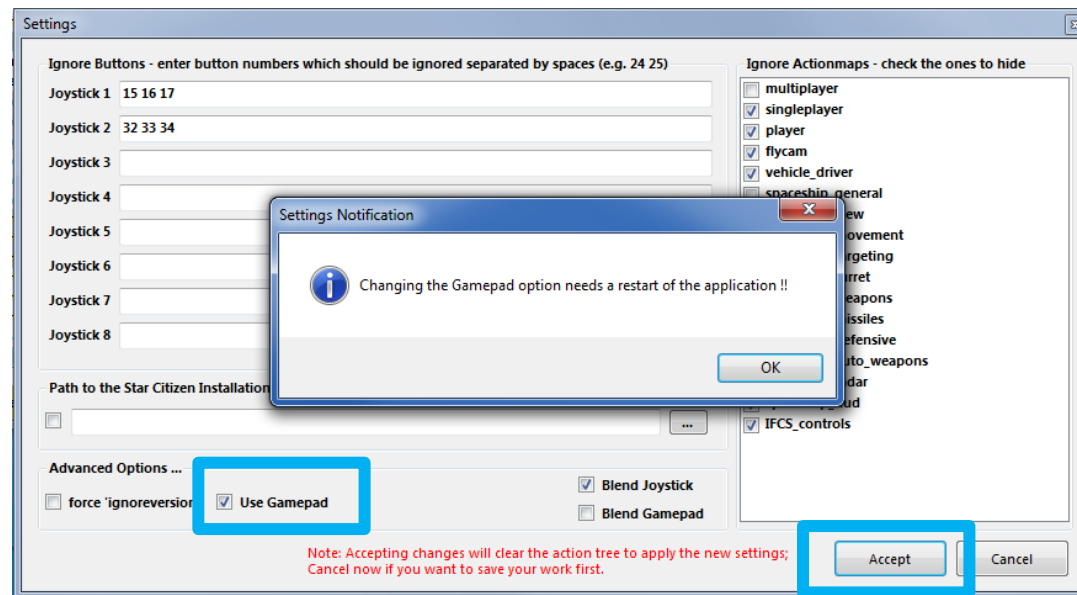
V2.8 – Features - 3

New feature – Use Gamepad assignments

The prog will now recognize gamepad assignments.

To enable the use of gamepads as "xboxpad" go to 'Settings' and check the 'Use Gamepad' checkbox.
THIS IS DISABLED per default to maintain backwards compatibility.

Note: now you have to restart the program

See next page how this then looks like

V2.8 – Features - 4

New possibility – Use Gamepad assignments

You see the Tab has changed to 'Gamepad' and the standard properties of the "xboxpad" instead of generic ones are listed.

From here it is the same handling as with joysticks

You may also use combined commands here.

Note: 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 the controls together helps to get successful Ctrl. Entries.

You may also go to Device Tuning and apply all mods that are available there
- Only Yaw and Pitch commands on the left or right X and Y thumbs are supported for tuning!!

V2.8 – Hints...

How to get a list of all commands ??

Load a map using Defaults – see mark above
Hit 'Dump List' – and Copy / Paste or Save As..

→ Gets you the complete list of commands in use if you load that map.

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

SCJMapper V 2 – Common Workflows

Start from ..

Do Reset or Load

Make it _my_ map

Empty	**A** Reset empty !	**D** Name _my_map Dump and Save
CIG Defaults	**A** Reset defaults !	**D** Name _my_map Dump and Save
Existing CIG map	**B** Chose CIG map Defaults, Load and Grab	**D** Name _my_map Dump and Save
Existing _my_ map	**B** Chose _my_ map Reset, Load and Grab !	**D** Name _my_map Dump and Save
Existing _other_ map	**A** Reset empty ! Context Menu: **C** Open... other map Click Grab	**D** Name _my_ map Dump and Save

Create a new version

E Assign Ctrls

D Dump and Save

Create a new version