Virtual Controller
(version 1.0.6.0)

Content

1. About Virtual Controller

Virtual Controller is designed to manage virtual input devices through physical input devices. For advanced control in the program introduced internal devices.

List of supported virtual devices:

- Generic Joystick
- Xbox 360 Gamepad
- Keyboard (Simulated)
- Mouse (Simulated)

List of supported physical devices:

- Keyboard
- Mouse
- Game Controller

List of internal devices:

- Timer
- Calculator
- Internal joystick
- Network joystick

2. System Requirements

Operating system:

- Windows XP
- Windows 7
- Windows 8
- Windows 10

Additional software:

- NET Framework 4

Notes:

For Windows XP, there are a number of limitations:

- No virtual device support: Xbox 360 Gamepad
- No virtual device support: Generic Joystick latest version 2.1.8. It is possible to use an older driver version: 2.0.2.

For Windows 7, for the virtual Xbox 360 Gamepad to work correctly, you need to install the following components:

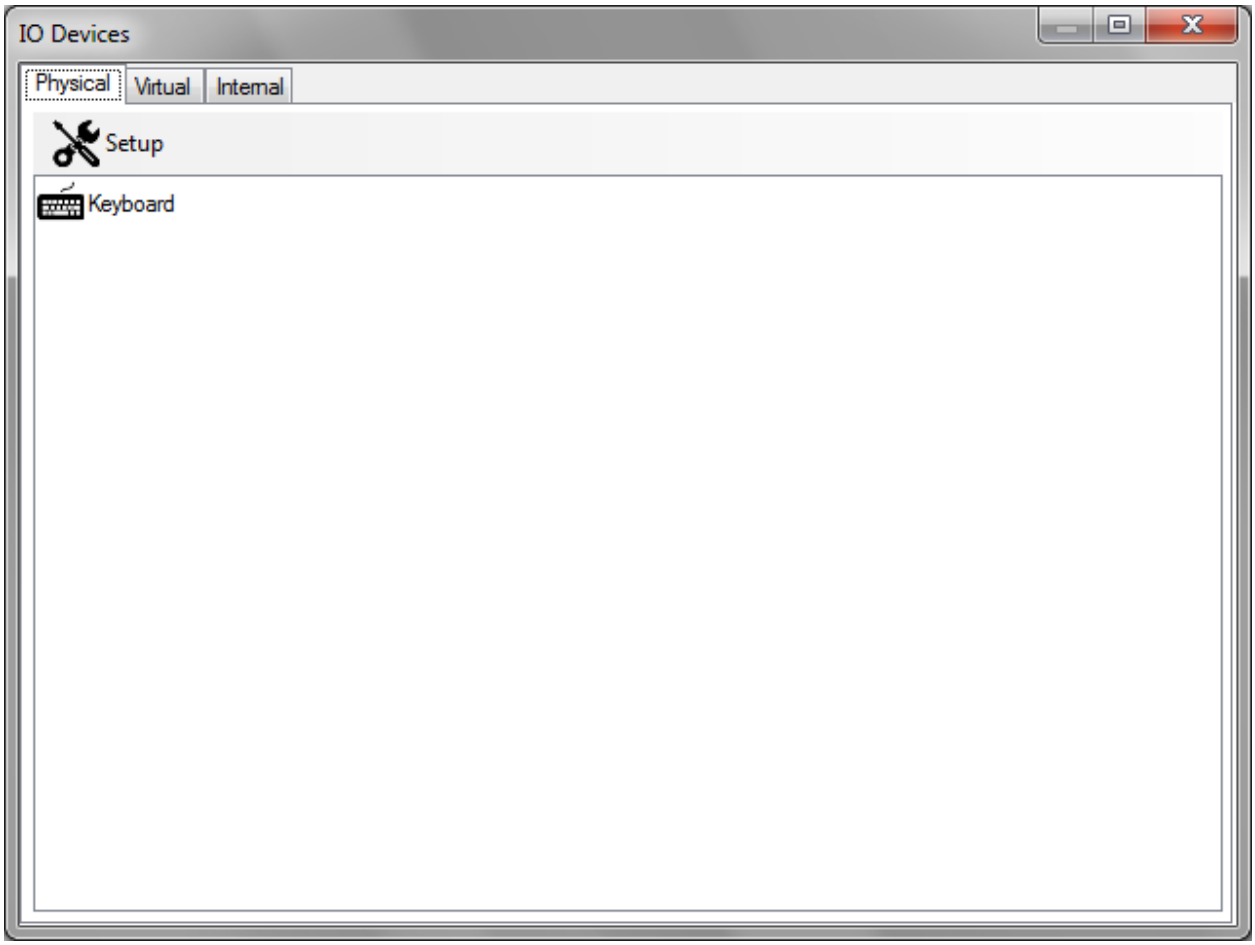
- Microsoft Xbox 360 Accessories
- Microsoft Security Advisory 3033929

3. The main form of the program

On this form you can:

- Configure I/O devices
- Configure controls
- Save/Load settings
- Start/Stop I/O execution
- Open help file
- View general information about the program
- Support the project

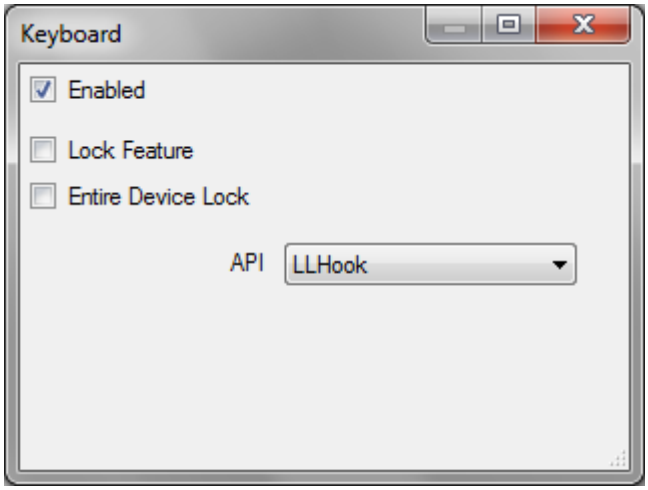
4. Configure I/O devices

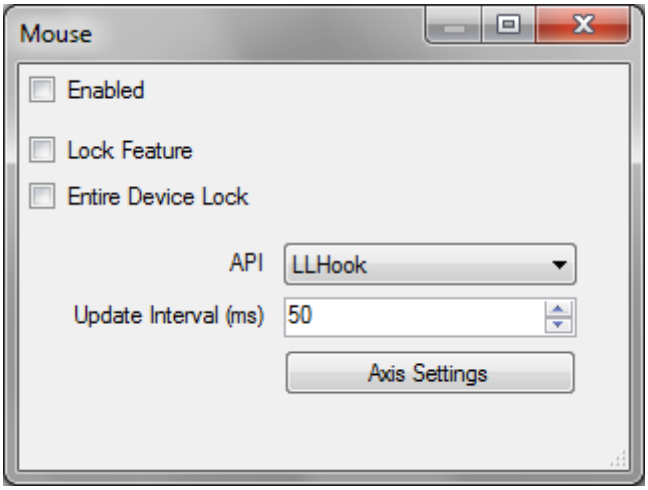


On this form, you can configure the devices.

4.1 Physical devices

Keyboard / Mouse



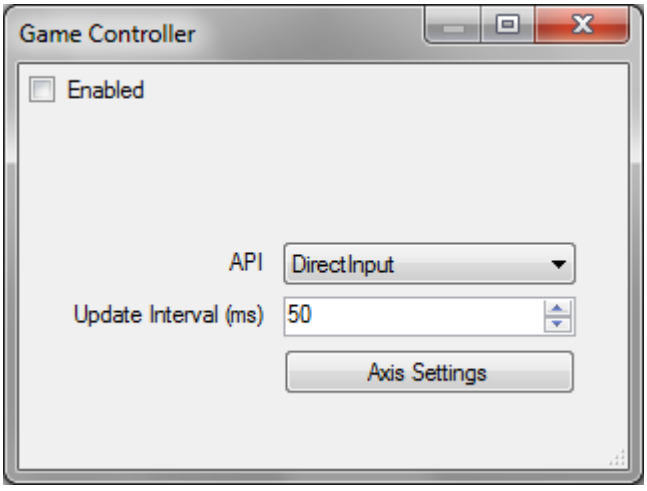


Settings for keyboard and mouse are similar:

- Lock Feature - the function of blocking the receipt of information for other programs. It is recommended to use only when necessary and very carefully.
- Entire Device Lock - locks all controls or only those used by the program.

- API: LLHook (Low Level Hook) / RawInput. RawInput allows you to separate different input devices (multiple keyboards), LLHook does not separate devices. There may be errors when the “Lock Feature” is enabled for RawInput. For the mouse, it is recommended to use RawInput (with the “Lock Feature” turned off) or LLHook (with the “Lock Feature” turned on).

Game controller



The choice of API depends on the features of the devices. In general, it is recommended to use DirectInput.

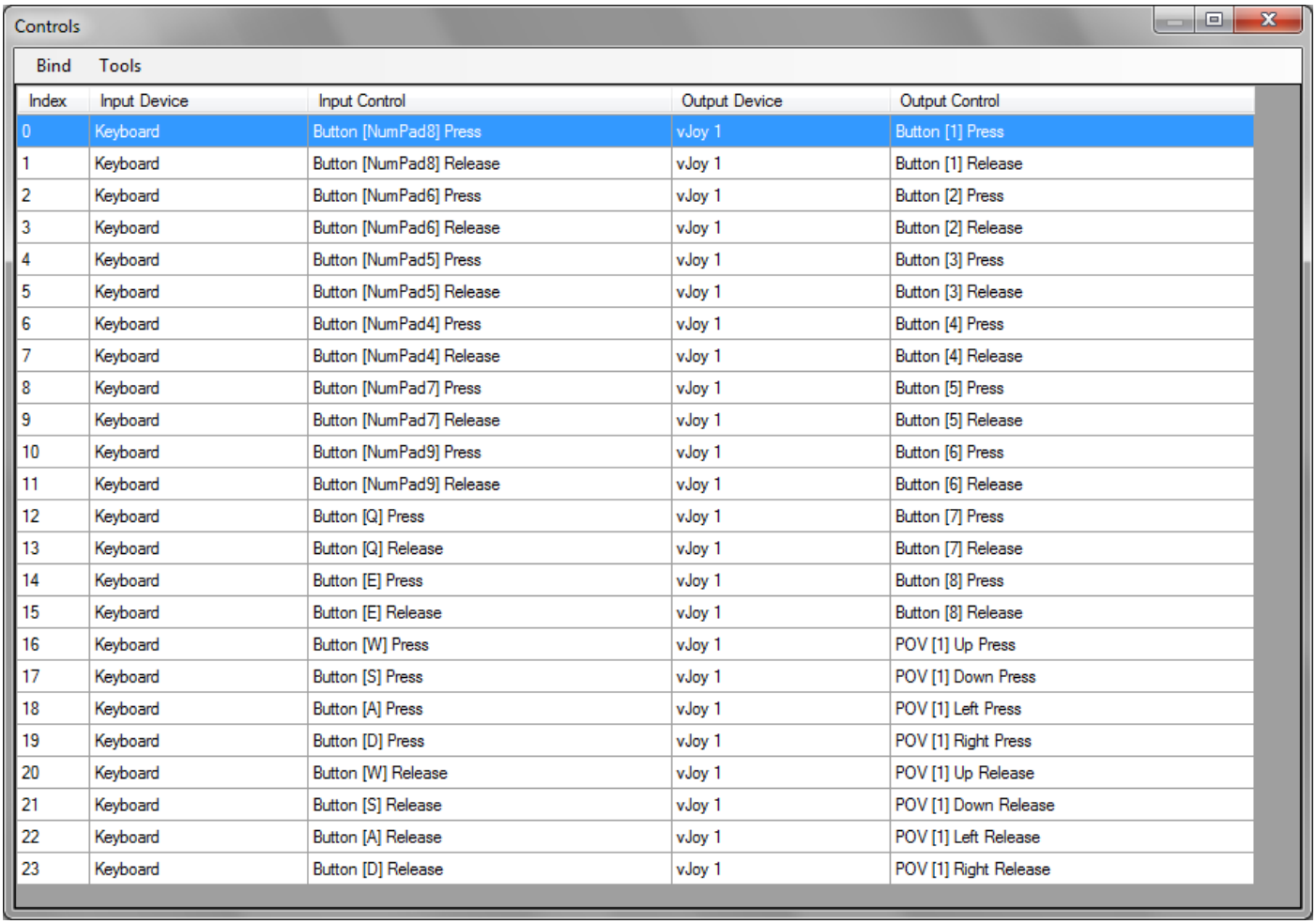
4.2 Virtual devices

Configuring virtual devices is reduced to installing the driver and connecting the required number of devices. For vJoy devices, it is recommended to always include all FFB effects.

4.3 Internal devices

- Program - a set of system functions (this device cannot be disabled or configured).
- Timer - provides a device of the timer type. Allows you to use events based on time intervals.
- Calculator - provides devices such as a calculator. Allows you to use events based on logical / arithmetic operations.
- Internal joystick - provides joystick type devices. Mainly used as an adapter between devices.
- Network joystick is designed to transfer information from one computer to another via a network.

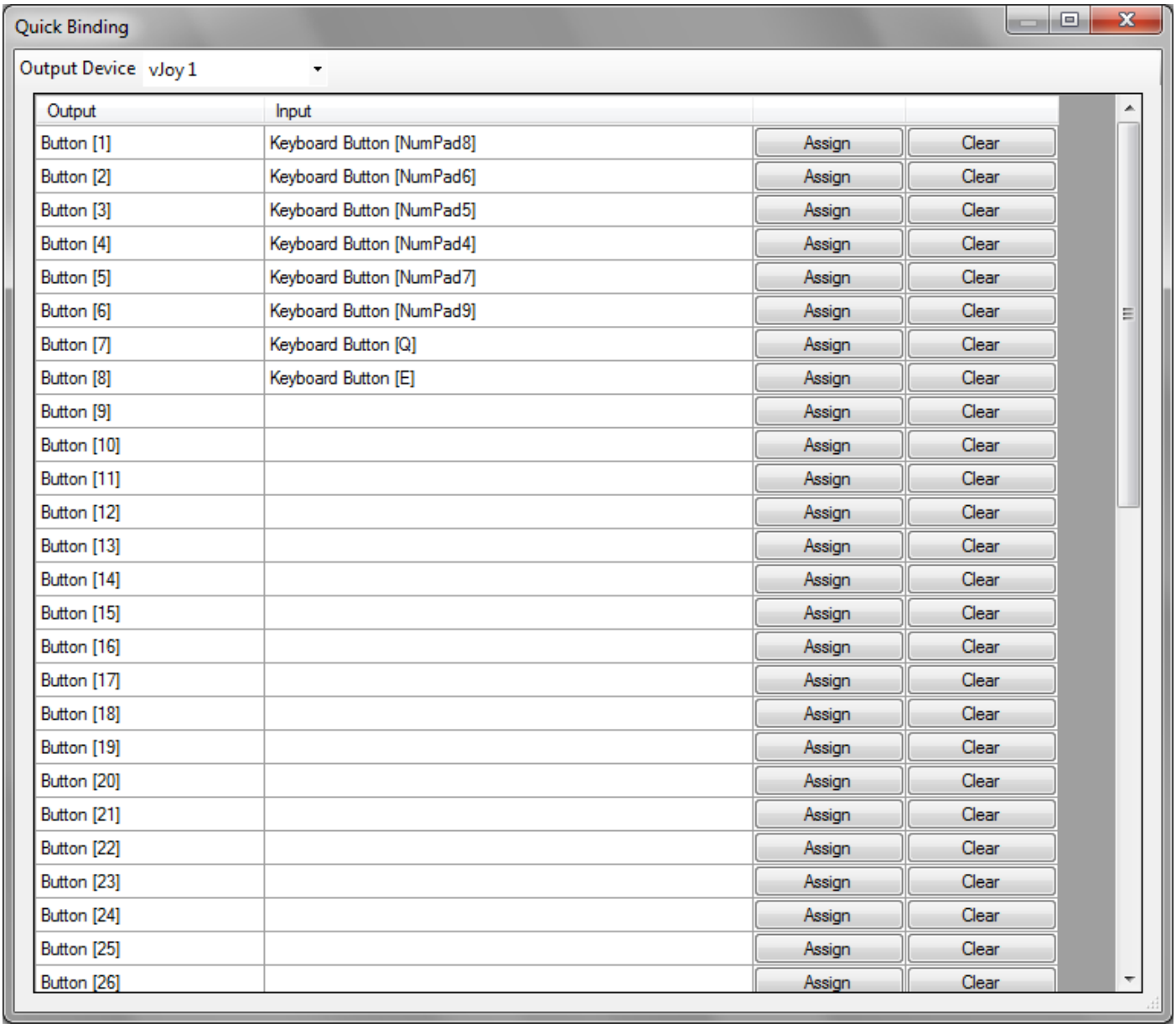
5. Control Setup



Index	Input Device	Input Control	Output Device	Output Control
0	Keyboard	Button [NumPad8] Press	vJoy 1	Button [1] Press
1	Keyboard	Button [NumPad8] Release	vJoy 1	Button [1] Release
2	Keyboard	Button [NumPad6] Press	vJoy 1	Button [2] Press
3	Keyboard	Button [NumPad6] Release	vJoy 1	Button [2] Release
4	Keyboard	Button [NumPad5] Press	vJoy 1	Button [3] Press
5	Keyboard	Button [NumPad5] Release	vJoy 1	Button [3] Release
6	Keyboard	Button [NumPad4] Press	vJoy 1	Button [4] Press
7	Keyboard	Button [NumPad4] Release	vJoy 1	Button [4] Release
8	Keyboard	Button [NumPad7] Press	vJoy 1	Button [5] Press
9	Keyboard	Button [NumPad7] Release	vJoy 1	Button [5] Release
10	Keyboard	Button [NumPad9] Press	vJoy 1	Button [6] Press
11	Keyboard	Button [NumPad9] Release	vJoy 1	Button [6] Release
12	Keyboard	Button [Q] Press	vJoy 1	Button [7] Press
13	Keyboard	Button [Q] Release	vJoy 1	Button [7] Release
14	Keyboard	Button [E] Press	vJoy 1	Button [8] Press
15	Keyboard	Button [E] Release	vJoy 1	Button [8] Release
16	Keyboard	Button [W] Press	vJoy 1	POV [1] Up Press
17	Keyboard	Button [S] Press	vJoy 1	POV [1] Down Press
18	Keyboard	Button [A] Press	vJoy 1	POV [1] Left Press
19	Keyboard	Button [D] Press	vJoy 1	POV [1] Right Press
20	Keyboard	Button [W] Release	vJoy 1	POV [1] Up Release
21	Keyboard	Button [S] Release	vJoy 1	POV [1] Down Release
22	Keyboard	Button [A] Release	vJoy 1	POV [1] Left Release
23	Keyboard	Button [D] Release	vJoy 1	POV [1] Right Release

This form allows you to carry out a detailed control configuration - to create various I/O type bindings.

For quick create the controls, it is recommended to use the “quick binding” mode (Ctrl+Q).



This mode allows you to create a standard control scheme in seconds.

6. Example of use

Keyboard/Mouse → Xbox 360 Gamepad
Device Settings:
• Keyboard: LLHook, Lock Feature Off.
• Mouse: LLHook, Lock Feature On.
• vXbox: Slot 1 - Ready.
• All other devices are turned off.
This control scheme was obtained through the “quick binding” mode.
The extra bind “Keyboard [End]” → “Mouse Lock Invert” controls the mouse lock. Mouse lock is necessary to eliminate incorrect mouse input at the edges of the screen while LLHook, RawInput does not have this problem.

Controls

Bind Tools

Index	Input Device	Input Control	Output Device	Output Control
0	Keyboard	Button [End] Press	Mouse	Lock Invert
1	Keyboard	Button [Divide] Press	vXbox 1	Button [Start] Press
2	Keyboard	Button [Divide] Release	vXbox 1	Button [Start] Release
3	Keyboard	Button [Multiply] Press	vXbox 1	Button [Back] Press
4	Keyboard	Button [Multiply] Release	vXbox 1	Button [Back] Release
5	Keyboard	Button [Q] Press	vXbox 1	Button [Left Stick] Press
6	Keyboard	Button [Q] Release	vXbox 1	Button [Left Stick] Release
7	Keyboard	Button [E] Press	vXbox 1	Button [Right Stick] Press
8	Keyboard	Button [E] Release	vXbox 1	Button [Right Stick] Release
9	Keyboard	Button [NumPad7] Press	vXbox 1	Button [Left Bumper] Press
10	Keyboard	Button [NumPad7] Release	vXbox 1	Button [Left Bumper] Release
11	Keyboard	Button [NumPad9] Press	vXbox 1	Button [Right Bumper] Press
12	Keyboard	Button [NumPad9] Release	vXbox 1	Button [Right Bumper] Release
13	Keyboard	Button [NumPad5] Press	vXbox 1	Button [A] Press
14	Keyboard	Button [NumPad5] Release	vXbox 1	Button [A] Release
15	Keyboard	Button [NumPad6] Press	vXbox 1	Button [B] Press
16	Keyboard	Button [NumPad6] Release	vXbox 1	Button [B] Release
17	Keyboard	Button [NumPad4] Press	vXbox 1	Button [X] Press
18	Keyboard	Button [NumPad4] Release	vXbox 1	Button [X] Release
19	Keyboard	Button [NumPad8] Press	vXbox 1	Button [Y] Press
20	Keyboard	Button [NumPad8] Release	vXbox 1	Button [Y] Release
21	Keyboard	Button [A] Release	vXbox 1	Left Stick [X] + 50%
22	Keyboard	Button [D] Press	vXbox 1	Left Stick [X] + 50%
23	Keyboard	Button [A] Press	vXbox 1	Left Stick [X] - 50%
24	Keyboard	Button [D] Release	vXbox 1	Left Stick [X] - 50%
25	Keyboard	Button [S] Release	vXbox 1	Left Stick [Y] + 50%

Controls

Bind Tools

Index	Input Device	Input Control	Output Device	Output Control
21	Keyboard	Button [A] Release	vXbox 1	Left Stick [X] + 50%
22	Keyboard	Button [D] Press	vXbox 1	Left Stick [X] + 50%
23	Keyboard	Button [A] Press	vXbox 1	Left Stick [X] - 50%
24	Keyboard	Button [D] Release	vXbox 1	Left Stick [X] - 50%
25	Keyboard	Button [S] Release	vXbox 1	Left Stick [Y] + 50%
26	Keyboard	Button [W] Press	vXbox 1	Left Stick [Y] + 50%
27	Keyboard	Button [S] Press	vXbox 1	Left Stick [Y] - 50%
28	Keyboard	Button [W] Release	vXbox 1	Left Stick [Y] - 50%
29	Keyboard	Button [Add] Press	vXbox 1	Left Trigger + 100%
30	Keyboard	Button [Add] Release	vXbox 1	Left Trigger - 100%
31	Mouse	Speed [X] Positive	vXbox 1	Right Stick [X] = Input*100%
32	Mouse	Speed [X] Negative	vXbox 1	Right Stick [X] = Input*-100%
33	Mouse	Speed [X] Release	vXbox 1	Right Stick [X] Release
34	Mouse	Speed [Y] Negative	vXbox 1	Right Stick [Y] = Input*100%
35	Mouse	Speed [Y] Positive	vXbox 1	Right Stick [Y] = Input*-100%
36	Mouse	Speed [Y] Release	vXbox 1	Right Stick [Y] Release
37	Keyboard	Button [Return] Press	vXbox 1	Right Trigger + 100%
38	Keyboard	Button [Return] Release	vXbox 1	Right Trigger - 100%
39	Keyboard	Button [Up] Press	vXbox 1	DPad Up Press
40	Keyboard	Button [Down] Press	vXbox 1	DPad Down Press
41	Keyboard	Button [Left] Press	vXbox 1	DPad Left Press
42	Keyboard	Button [Right] Press	vXbox 1	DPad Right Press
43	Keyboard	Button [Up] Release	vXbox 1	DPad Up Release
44	Keyboard	Button [Down] Release	vXbox 1	DPad Down Release
45	Keyboard	Button [Left] Release	vXbox 1	DPad Left Release
46	Keyboard	Button [Right] Release	vXbox 1	DPad Right Release

7. Command line options

/run – start I/O execution
/minimize – hide the main form to tray
/debug – logging program actions
/load <ProfileName> – load the profile from folder “Profiles”

Example:
"C:\VirtualController\VirtualController.exe" /load Custom1.vcd /run /minimize