1. Feature of CarPC JoyCon Exr

Hardware feature

- Converts resistive and digital steering wheel remote controls into USB HID keyboard and HID remote controller
- Resistance range adjustable
- Works same as standard USB HID keyboard and HID remote controller by hardware
- 24V tolerant 4 channel resistive(voltage) input
- Supports 28 physical buttons, 52 programmable logical buttons
- Long and Short button for one physical button, up to 5 simultaneous key strokes by one button.
- 2 programmable LED port
- Remote wake-up(resume PC from sleep with steering wheel remote controls)
- Channel Master/Slave selectable
- Temperature range : -40 ~ +85°C

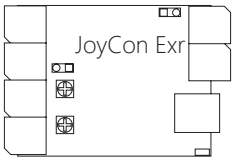
JoyCon Explorer feature(for Windows PC)

- Preset switching by buttons.
- Application Launcher(application launches and pops up with preset switching).
- Voice and OSD by button and preset switching.
- User definable button voice and OSD.
- Rearview by reversing light
- Online firmware update.

- No external power or driver installation needs.
- Available OS : Windows 8, Windows 7, Vista, XP, 2003

JoyCon Explorer supports Windows XP and the later version.
JoyCon Explorer does not support Linux, Mac. But CarPC JoyCon Exr works on Linux and Mac after it is configured at Windows.
JoyCon Explorer does not support Android devices. But CarPC JoyCon Exr works on Android devices (from Android version 3.1) after it is configured at Windows.

2. Contents

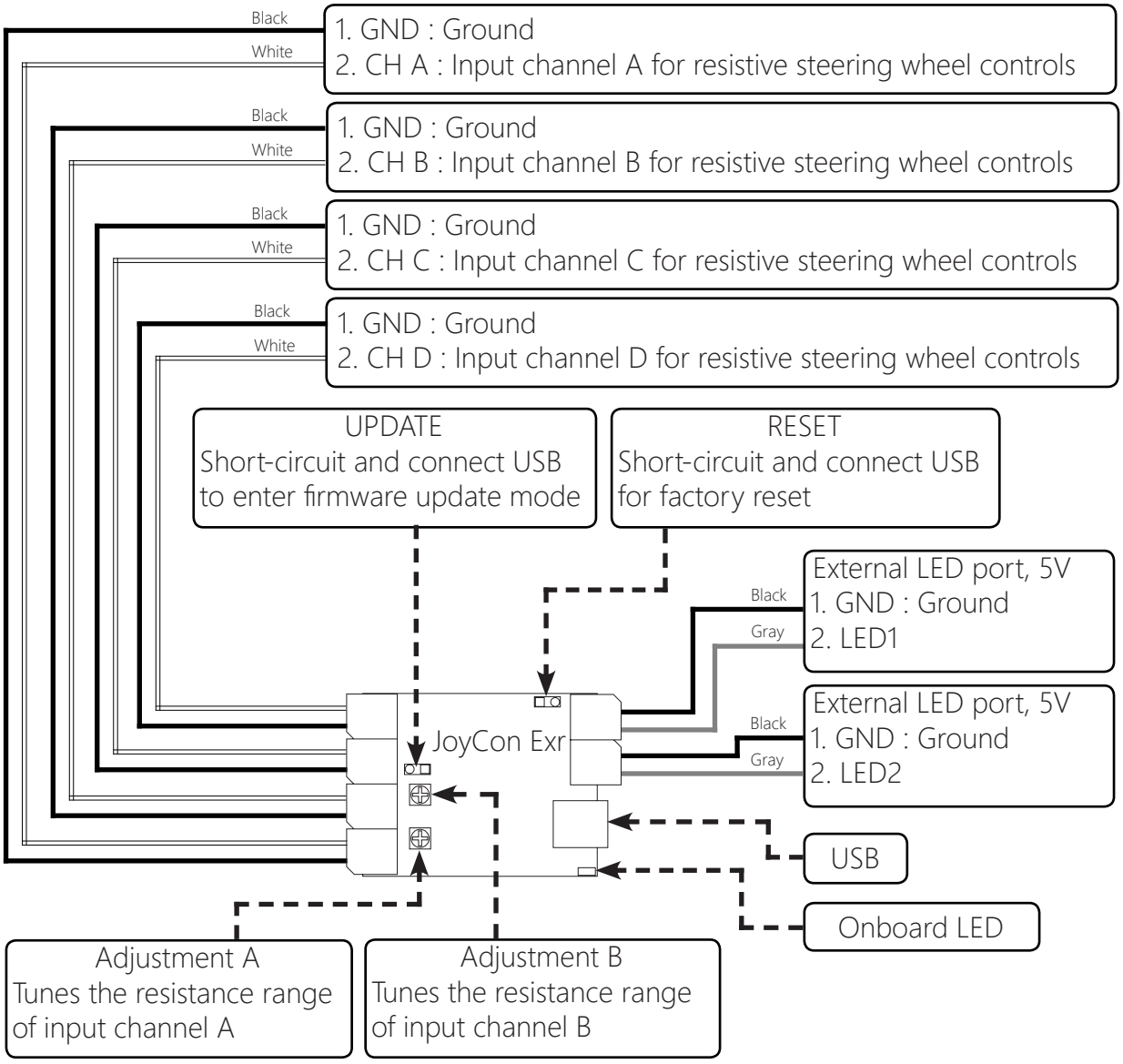



Input Cable x4


LED Cable x2

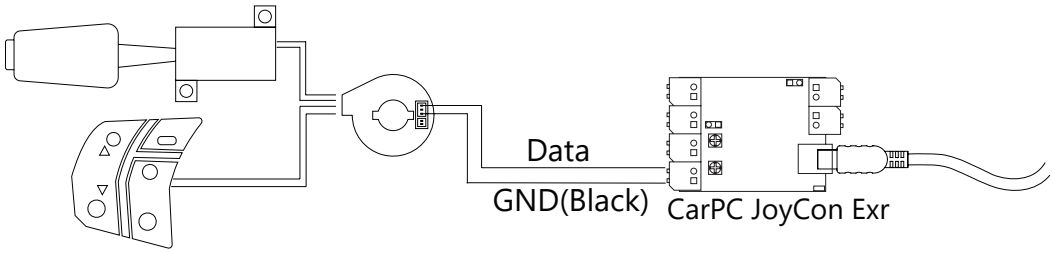
Heat shrinkable tube x2
Short Manual
(USB A-mini B 5P cable and JoyCon Explorer CD is optional. You can download JoyCon Explorer at www.rcjoycon.com)

3. Board Layout

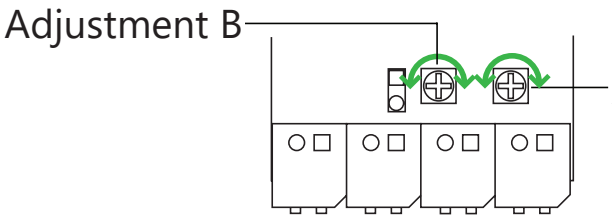


4. Wiring

Connect CarPC JoyCon Exr's input channel(CH A, CH B, CH C, CH D)wire to the remote control's resistive signal wire.



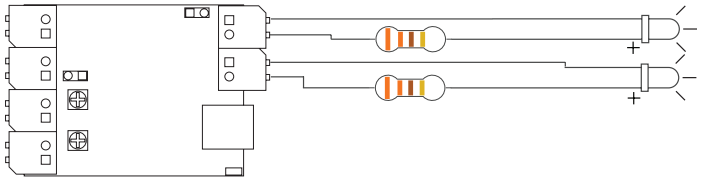
Warning!! Do not connect signal and GND wire reversely.
If the buttons in JoyCon Explorer are too close each other, tune the Adjustment A/B.



Default position of Adjustment A/B is center.

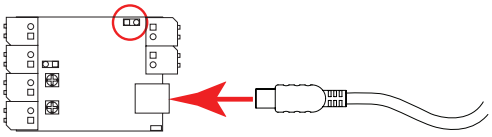
5. LED

For external LED, a current limit resistor(usually 330ohm) must be connected in series. Without the current limit resistor, LED burns out. (Black wire is Ground.) LED output is 5V.



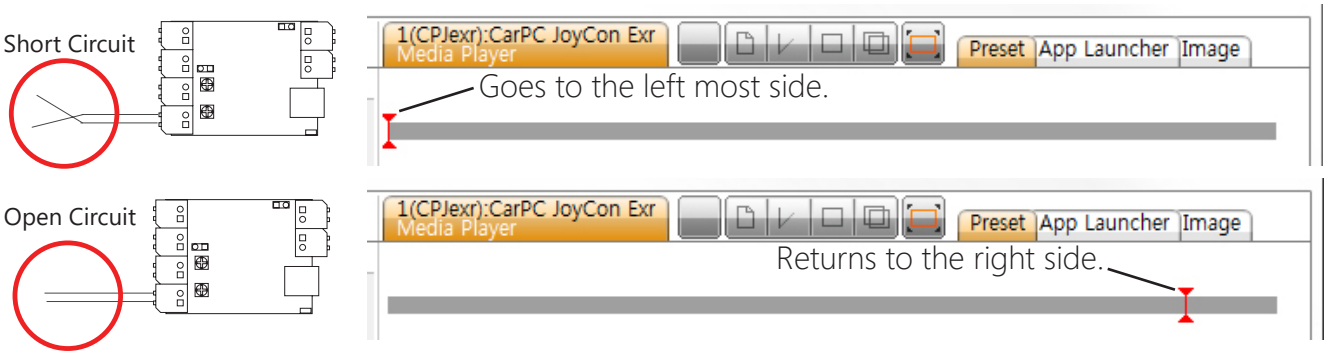
6. Factory Reset

1. Short-circuit two reset points.
2. Connect USB.



7. Operational test

To check if CarPC JoyCon Exr works properly, short-circuit the two wires of a input channel without connecting remote controls. The red indicator must goes to the left most side by short-circuit, and returns to the right by open-circuit.
If the red indicator does not move, the CarPC JoyCon Exr is out of order.

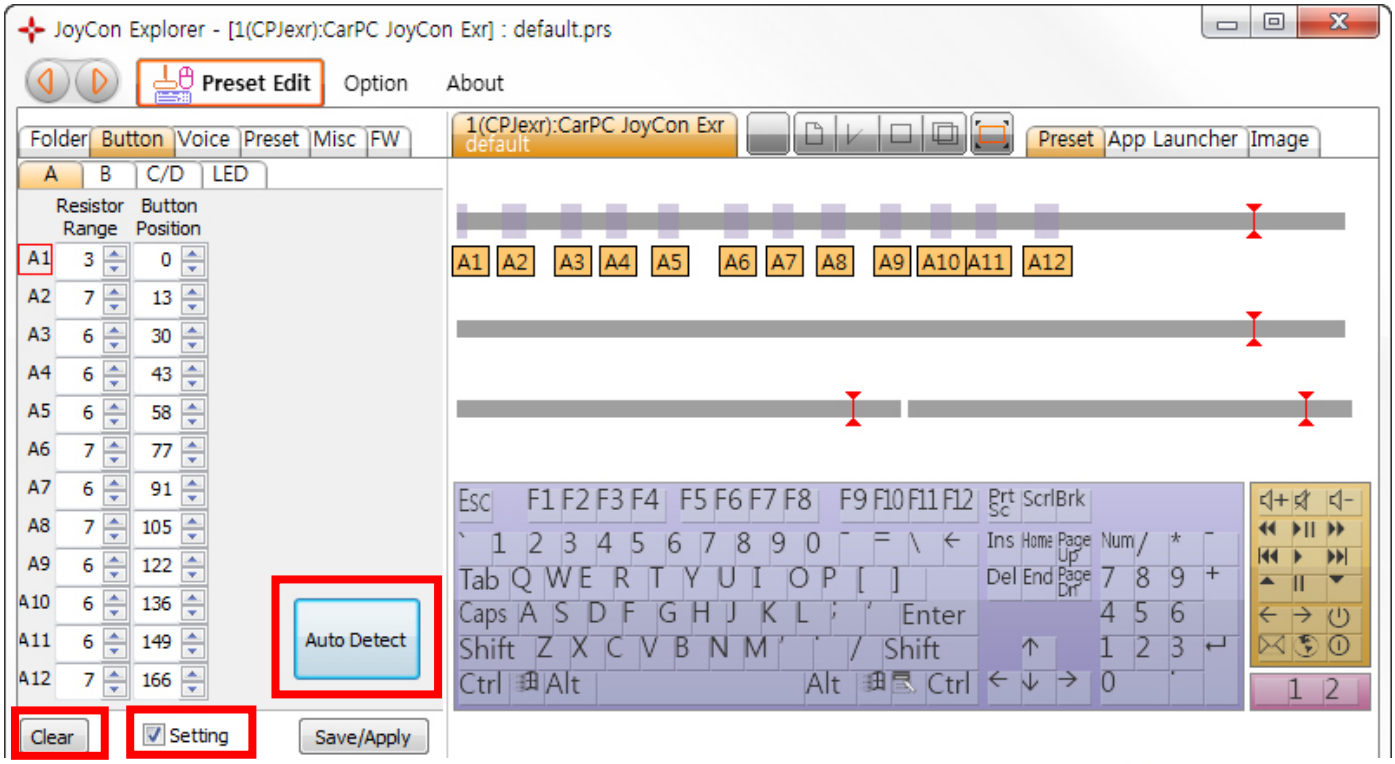


Basic Setting

1. Setup of steering wheel control buttons

Check **Setting** and click **Auto Detect**. After auto-detection starts, press steering wheel control buttons one by one. After all the buttons are detected, click **Auto Detect** again to finish auto-detection.

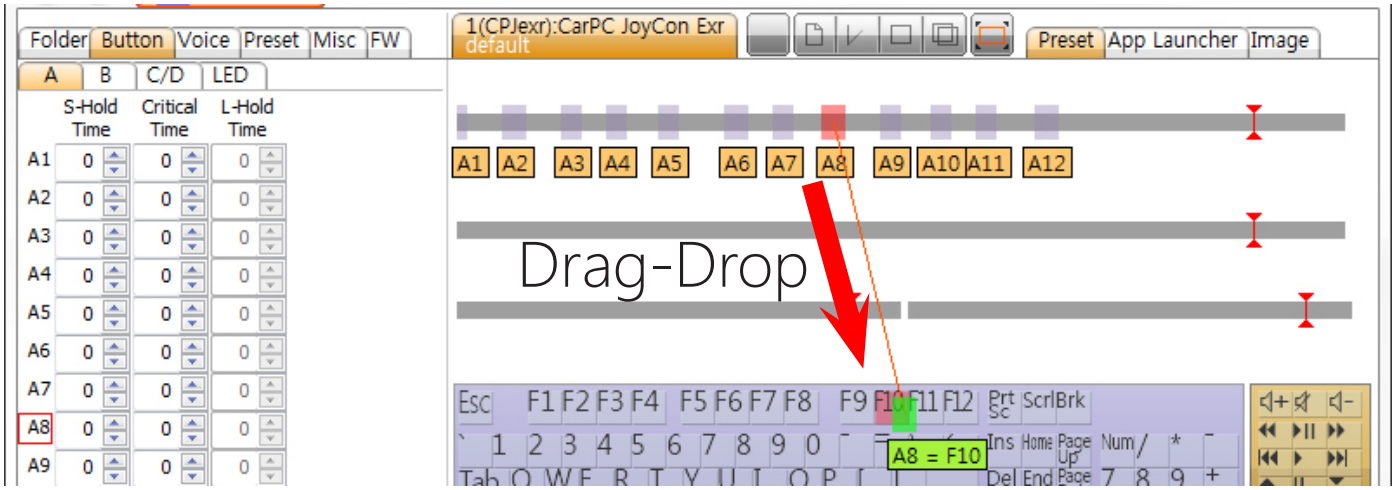
Clear button clears all the buttons detected. You can tune the Resistor Range and Position manually by putting the values in the edit boxes. Click **Save/Apply** after you change the values.
If the button bars are too close each other, tune the Adjustment A/B on the Board.
(Resistor range and position of the buttons are stored in the onboard memory of CarPC JoyCon Exr.)



Button bar turns to green when the controller button is pressed.

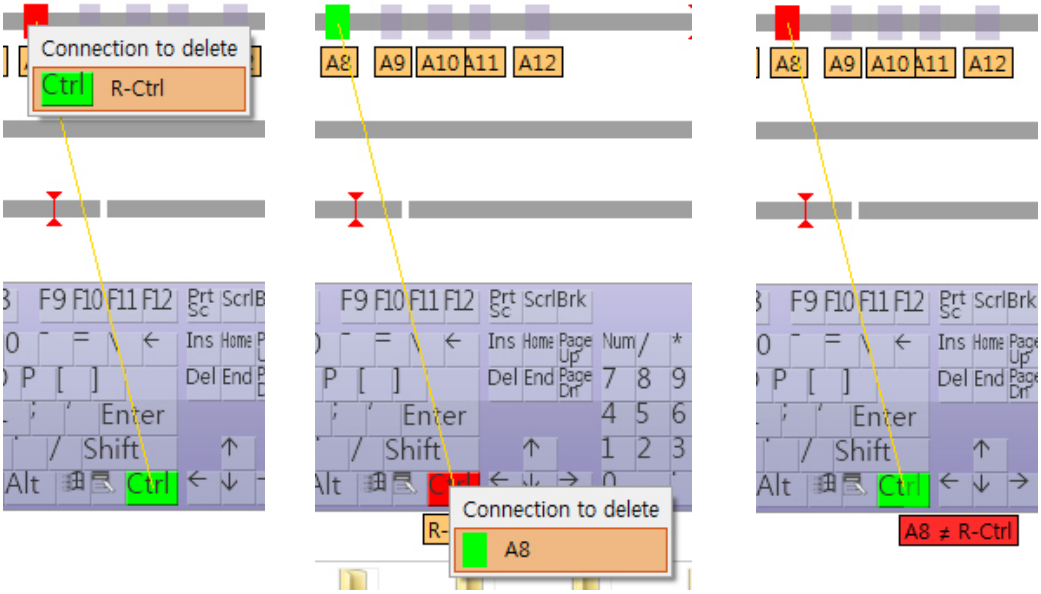
2. Connect function

Drag-drop Button Bar to the keyboard keys(or HID remote controller buttons). Up to 5 keyboard keys(or HID remote controller buttons) can be connected to one button.
Drag-drop sequence is same with the keyboard key stroke sequence.
For example, if you want a button to generate hotkey CTRL+ALT+DEL, drag-drop the Button on the CTRL first, ALT and DEL last.



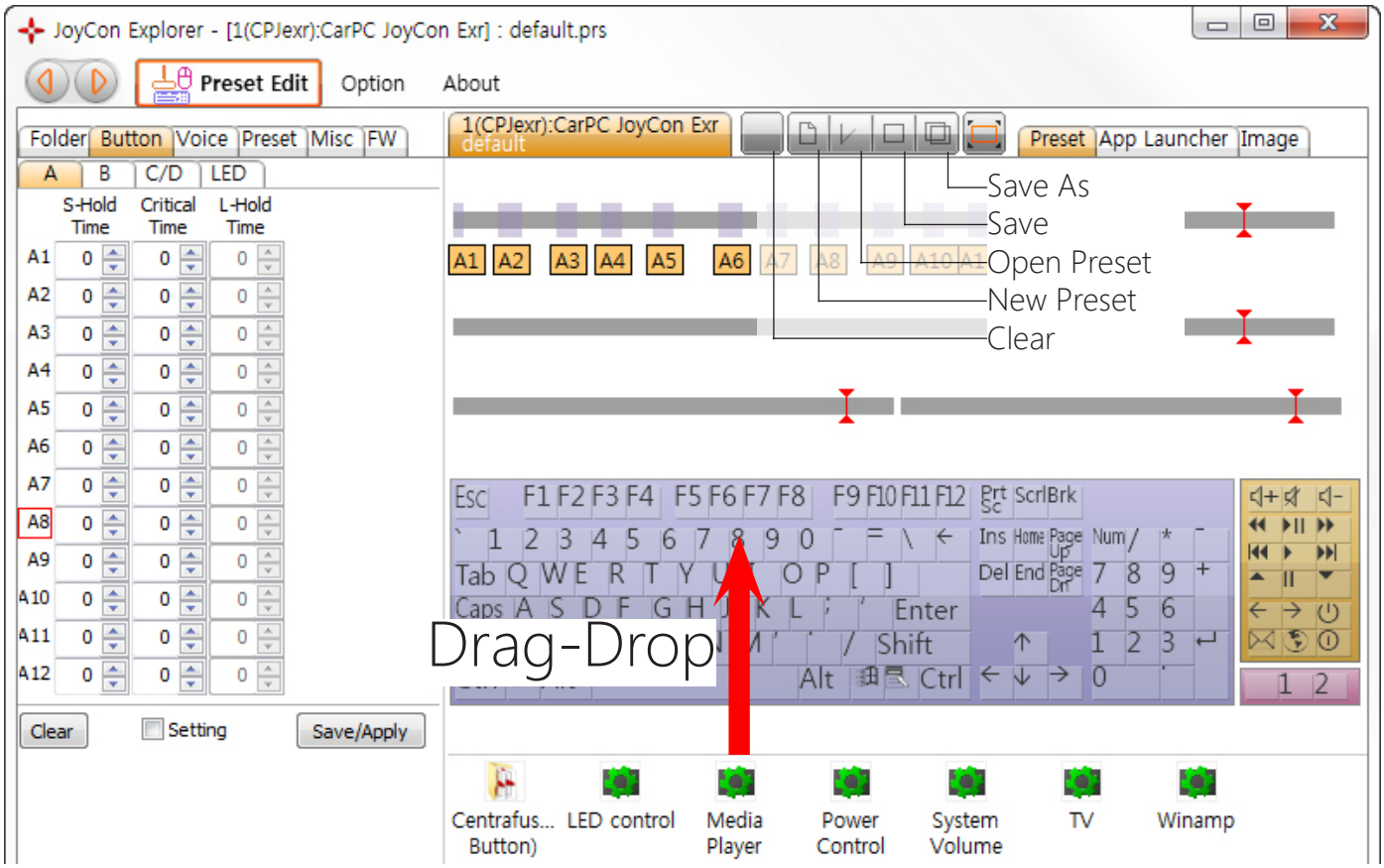
3. Disconnect function

Right-click the Button Bar or keyboard key(or HID remote controller button) and click an item in the drop down menu. Or drag-drop the Button Bar to the connected keyboard key(or HID remote controller button) again.



4. Save / Restore Preset

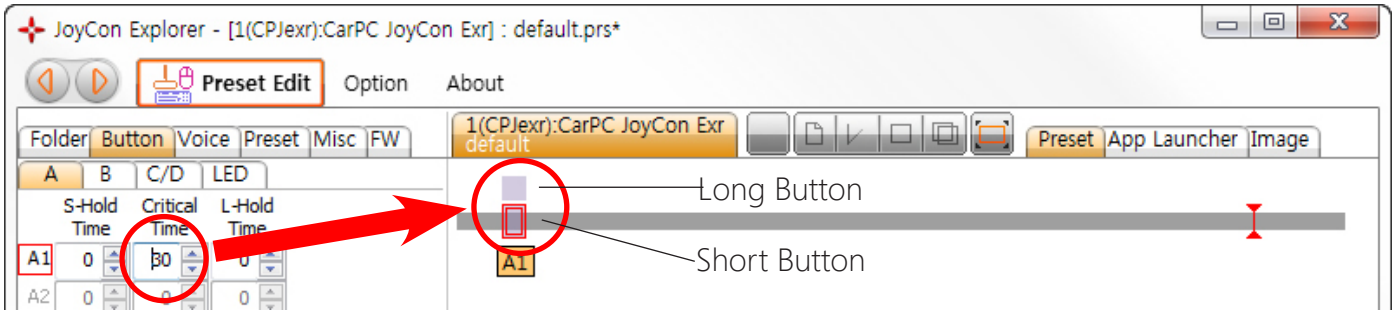
The function and configuration can be saved as a preset file(.prs) by clicking save button and restored by double-click or drag-drop a preset file(.prs).
(Resistor range and position of the buttons are stored in the onboard memory of CarPC JoyCon Exr.)



Extended Button Setting

1. Short Button and Long Button

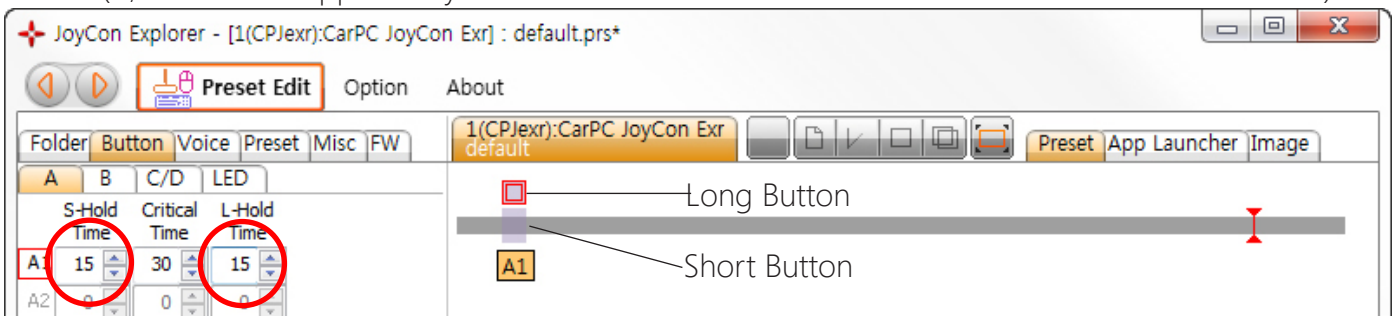
CarPC JoyCon Exr supports two separated functions for one steering wheel remote control button. The two functions are Short Button and Long Button.
Short Button is generated when the remote control button is released before **Critical Time**.
Long Button is generated when the remote control button is pressed longer than **Critical Time**.
To use Long Button, set the **Critical Time** over than 0, then Long Button Bar will appear above the Short Button bar.



2. Separate Long and Short button

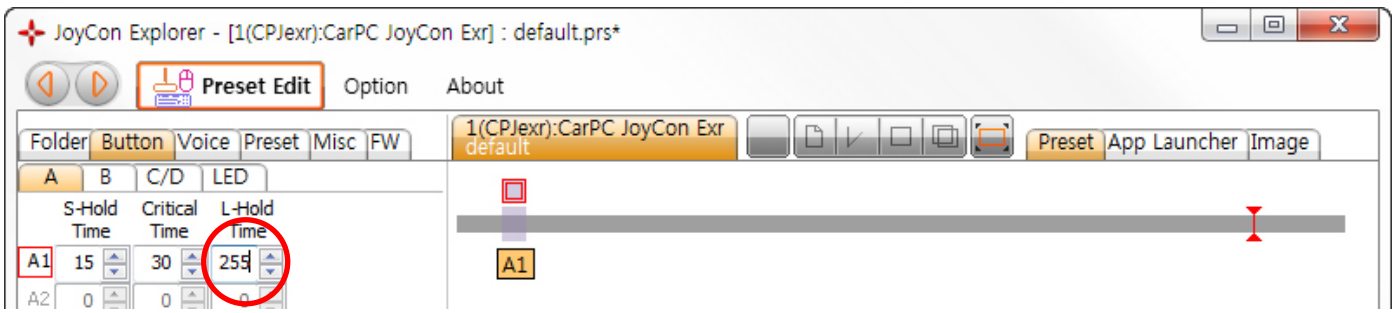
The Short Button is kept pressed while **S-Hold Time**.
The Long Button is kept pressed while **L-Hold Time**.
To Short Button and Long Button, put 1~254 in **S-Hold Time** or **L-Hold Time**.

Put 0 in **S-Hold Time** or **L-Hold Time** to disable Short Button or Long Button.
If Short Button or Long Button is disabled, Short Button or Long button is kept pressed while the steering wheel button is pressed. This is useful when you need to keep a key pressed in volume control. (C, D channel support only Short Button and S-Hold Time. Hold Time value 1 is about 10ms.)



3. Toggle Button

If the **Hold Time** of a button is 255, the button is toggled.
This is useful when a keyboard key need to be stroked while SHIFT, CTRL, or ALT keys are kept pressed. (For example, ALT+TAB or Window+TAB)

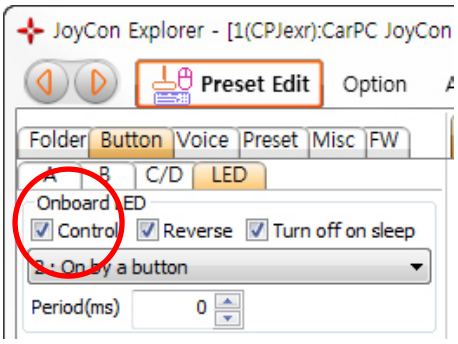


4. Programmable LED control

CarPC JoyCon Exr can control one onboard LED and two external LEDs.

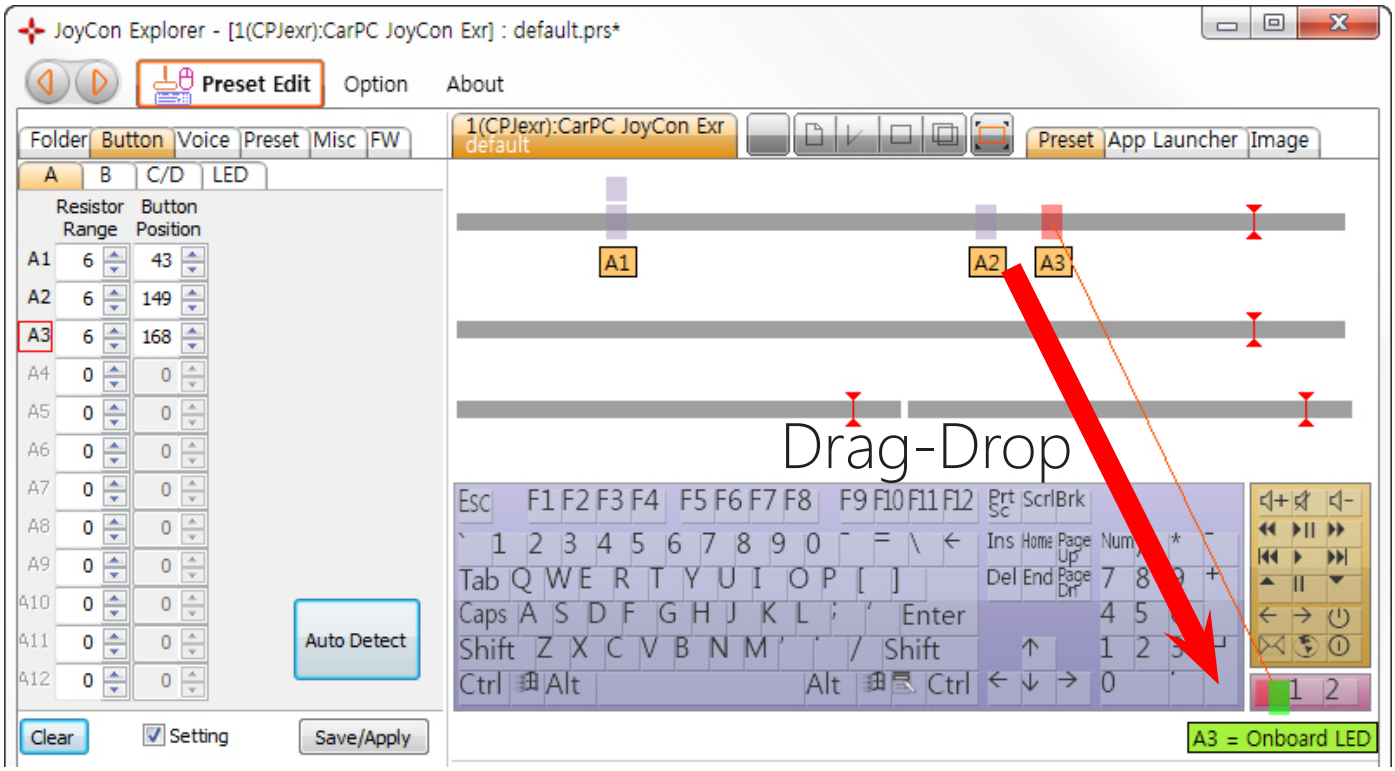
If you want to control LED with a preset, check **Control**. If **Control** is not checked, this preset doesn't control LED and LED keeps previous configuration.
If **Reverse** is checked, On Off is reversed.
If **Turn Off on Sleep** is checked, LED is turned off when the PC goes into sleep mode.

LED control has 8 modes.



0. Always On : LED is turned on always
1. Always Off : LED is turned off always
2. On by a button : LED is turned on while a button is pressed.
3. Blink by a button : LED blinks periodically while a button is pressed.
4. Toggle by a button : LED is turned on by pressing a button, and is turned off by another pressing the button.
5. Toggle blink by a button : LED blinks periodically by pressing a button, and is turned off by another pressing a button.
6. On by a button, off after a period : LED is turned on by pressing a button, and is turned off after a period automatically.
7. On by any button, off after a period : LED is turned on by pressing any button, and is turned off after a period automatically.
Unit of **Period** is millisecond. In the blink mode(3, 5), turning on is one period and turning off is another period. For example, if the **Period** is 500(ms), LED is turned on every 1 second(1000ms).

To assign a button to LED, drag-drop a button to a LED.

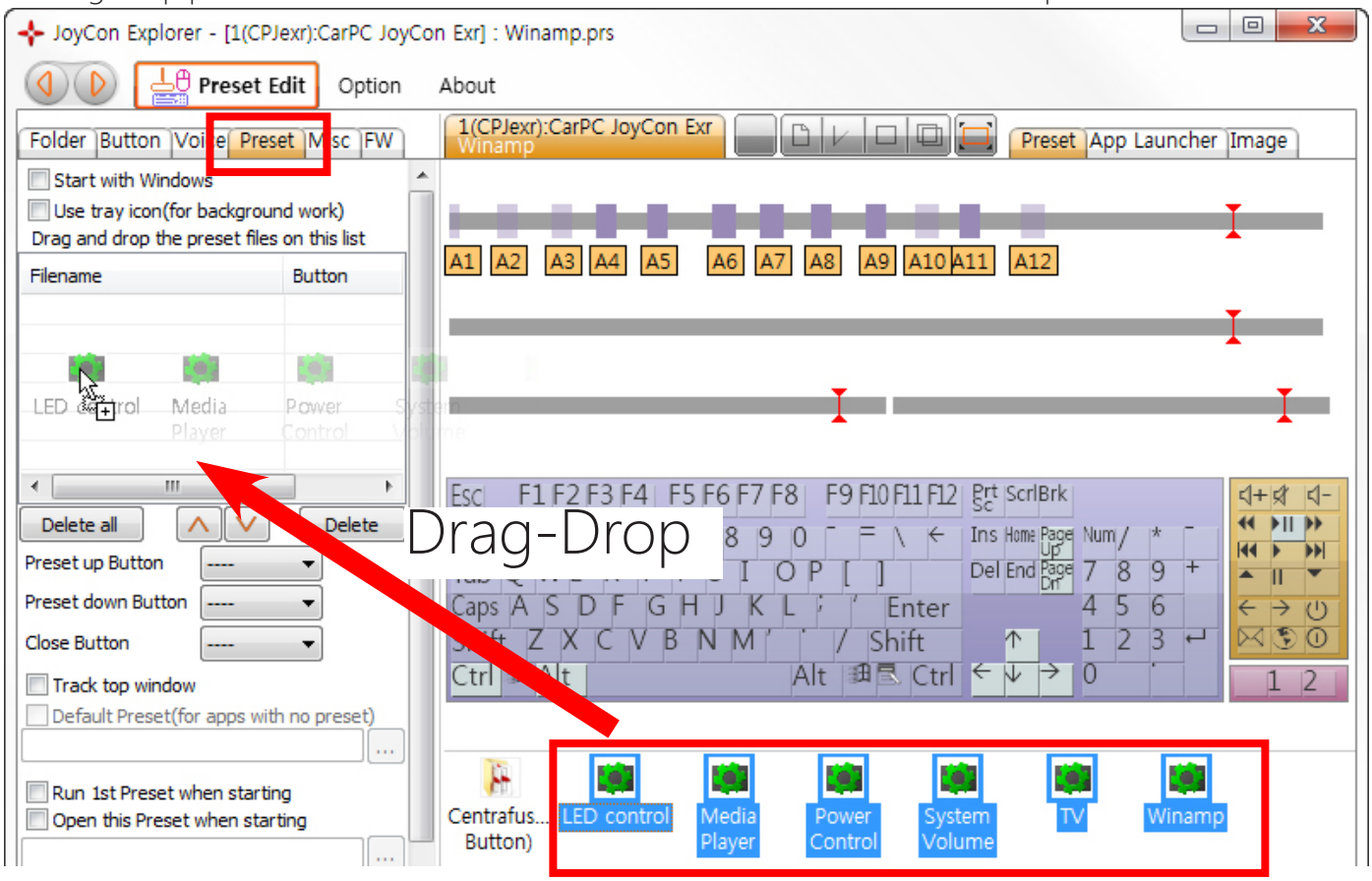


Preset Switching

Preset can be downloaded to CarPC JoyCon Exr by Preset Button automatically, it is useful when you need to change steering wheel remote control's configuration while driving.

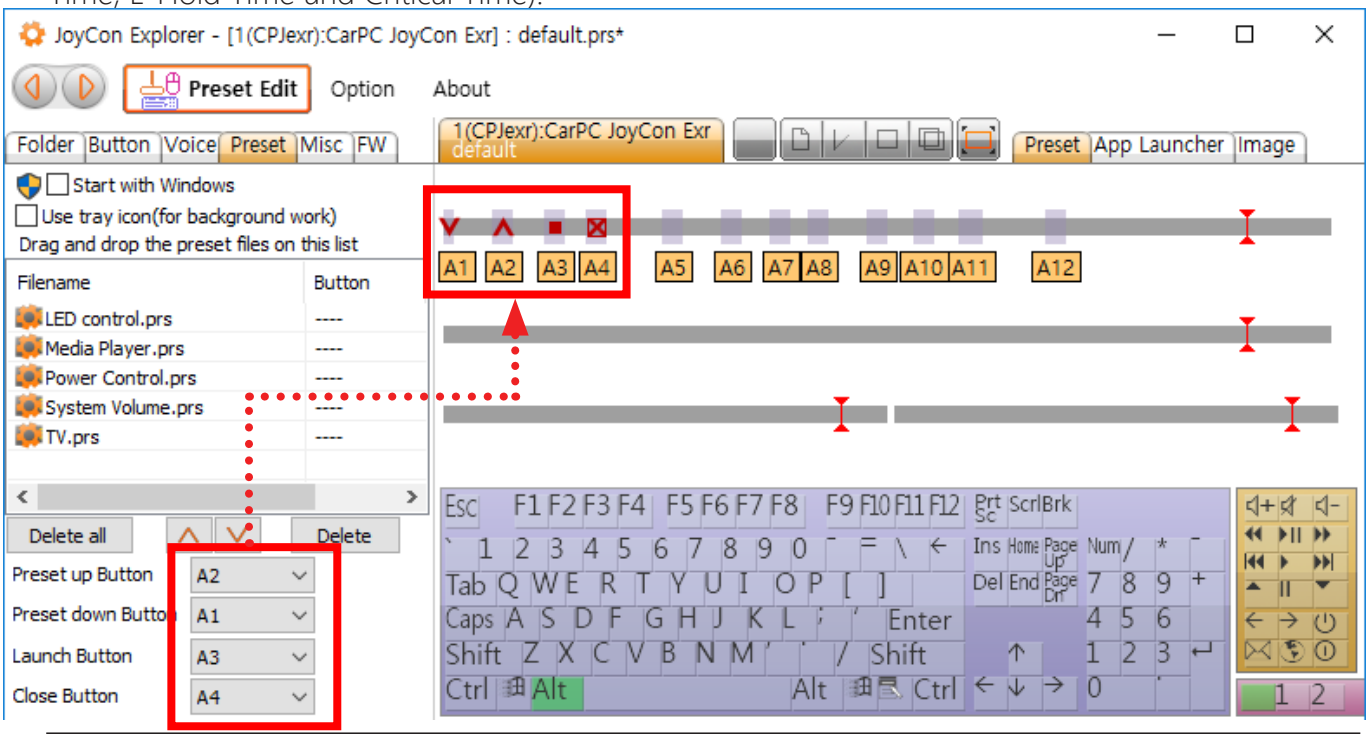
1. Preset List

Drag Drop preset files on the list of Preset tab. Preset is switched with the sequence of this list.

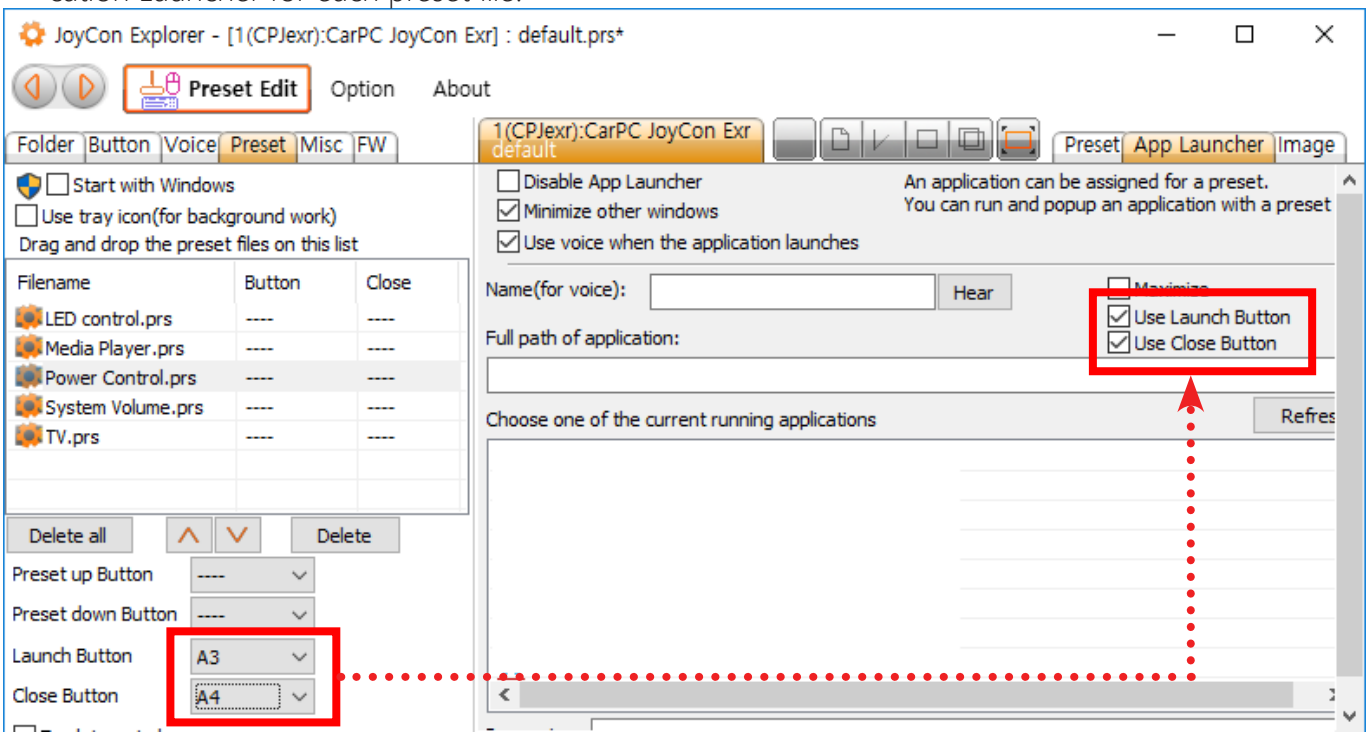


2. Preset Button

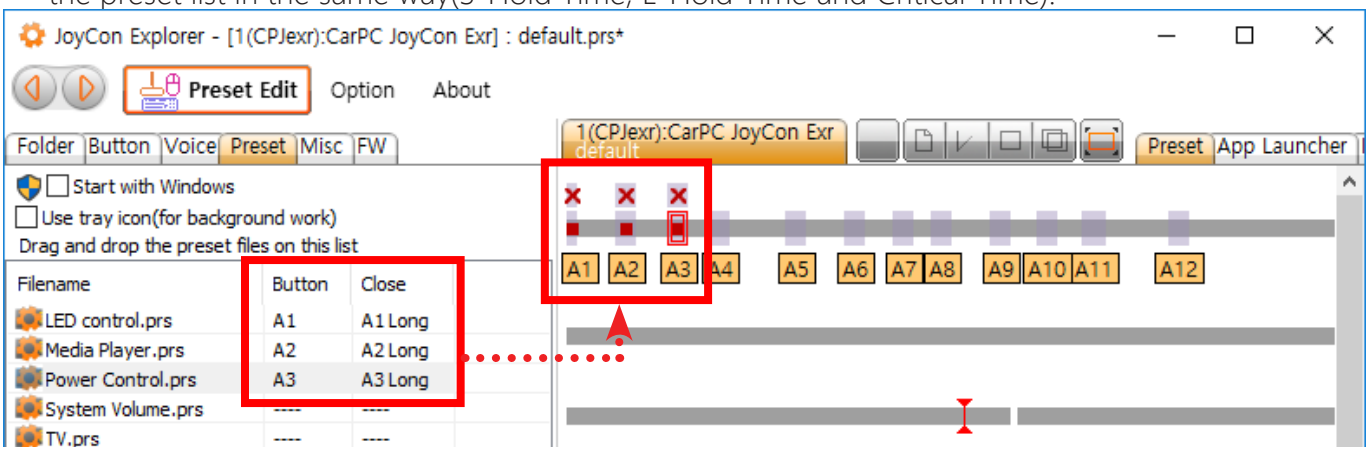
The presets are switched in sequence by **Preset Up/Down Button**. An application which is associated with the current preset in Application Launcher is closed by **Close Button**, Launched by **Launch Button**. Configure the Preset Button of every preset file in the preset list in the same way(S-Hold Time, L-Hold Time and Critical Time).



To use **Close Button** or **Launch Button**, check **Use Launch Button** or **Use Close Button** at Application Launcher for each preset file.

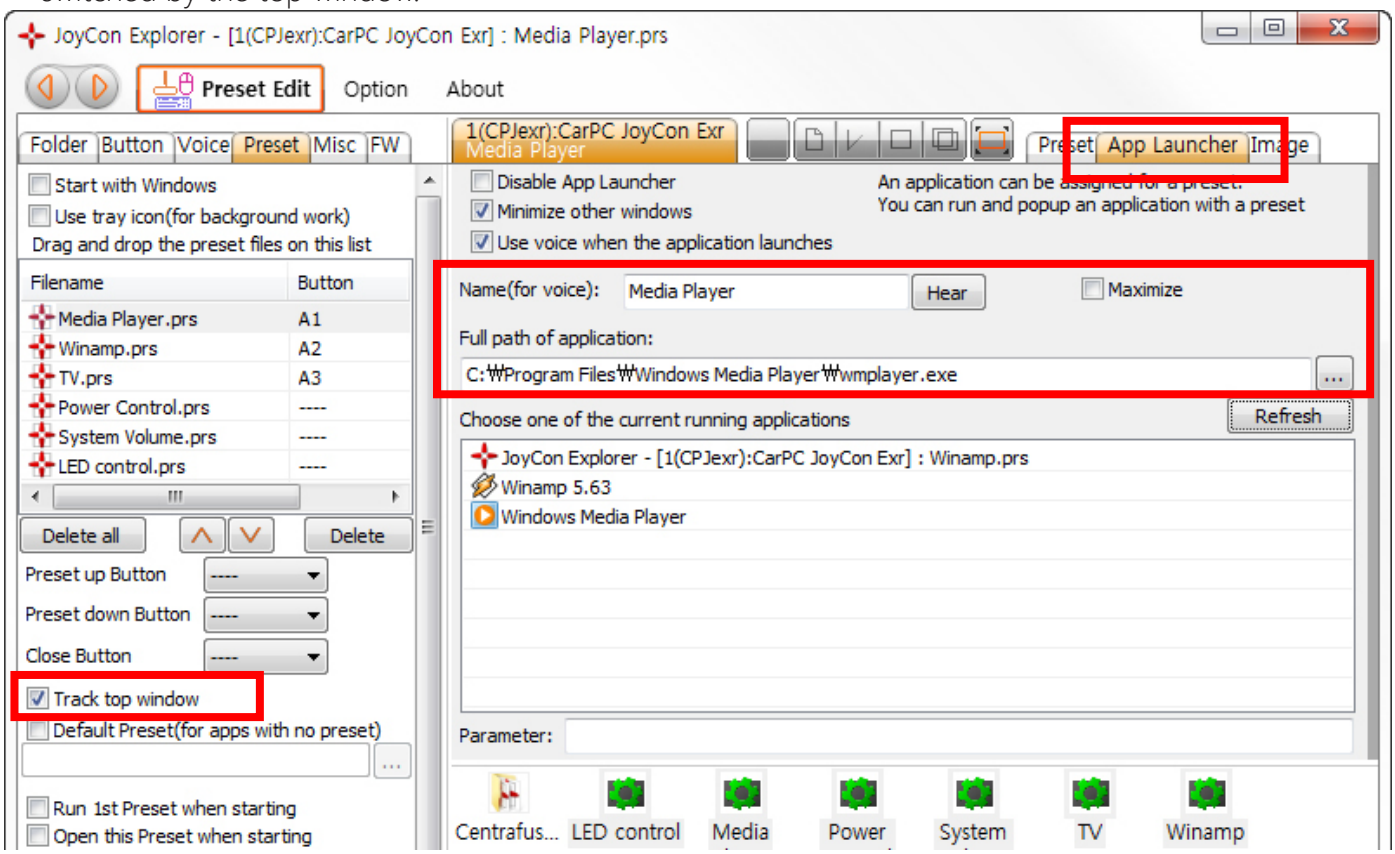


There is another way to switch the presets. You can switch a preset and launch an application directly not in sequence with **Preset Button** in the preset list. The application which is associated with the preset is closed by **Close Button** in the Preset List. Configure the Preset Button of every preset file in the preset list in the same way(S-Hold Time, L-Hold Time and Critical Time).



3. Application Launcher

Application can be launched and popped up when Preset is switched. Drag-drop (.exe) file(or short-cut file) or double-click current running application in the list box. **Name** is spoken when the application is launching. If the application is not running, the application is launched. If the application is already running, the application pops up. If **Track top window** is checked, Preset is automatically switched by the top window.



4. Start option

Check **Start with Windows** to run JoyCon Explorer when Windows starts.

Check **Run 1st Preset when Starting** to run the first preset in the preset list when the JoyCon Explorer starts. "Run Preset" means to launch or pop up the application by preset switching(or opening).

Check **Open this Preset when Starting** and drag-drop a preset on the edit box, to open the preset when JoyCon Explorer starts.

The latest manual is at
http://www.rcjoycon.com/mn/cpjexr