

CarPC JoyCon Exr Manual

JoyCon Exr - Steering wheel controls USB interface

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



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.



Remote Controls

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.



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.)



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.

A5

A6

A7 A8

A9 A10 A11

A1 A2 A3 A4

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.

+ JoyCon Explorer - [1(CPJexr):CarPC JoyCor					
(1) Preset Edit	Option A				
Folder Button Voice Preset N	lisc FW				
A B C/D LED Onboard ED ♥ Control ♥ Reverse ♥ Turn off on sleep					
• On by a button					
Period(ms) 0					

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.

+ JoyCon Explorer - [1(CPJexr):CarPC JoyCon Exr] : default.prs*				
Option	About			
Folder Button Voice Preset Misc FW	1(CPJexr):CarPC JoyCon Exr default Preset App Launcher Image			
A B C/D LED				
Resistor Button Range Position				
A1 6 📥 43 📥	A1 A2 A3			
A2 6 🐳 149 🜩				
A3 6 🚔 168 🚔				
A4 0 🐳 0 🐳				
A5 0 🖨 0 🖨				
A6 0 🐳 0 🐳	Drag-Drop			
A7 0 💌 0 🐳	Esci F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 8rt ScriBrk 4+14 4-1			
A8 0 🐳 0 🐳	1 2 3 4 5 6 7 8 9 0 F = \ ← Ins Home Page Num			
A9 0 🐳 0 🐳				
410 0 🖨 0 🖨	Caps A S D F G H J K L i Enter 4 5 i $\leftarrow \rightarrow 0$			
411 0 🔷 0 🗢 Auto Detect	Shift Z X C V B N M / / Shift ↑ 1 2 🚬 - 🗹 🖸 💽			
412 0 🖨 0 🖨	Ctrl 1 Alt Alt Alt 1 Ctrl $\leftarrow \psi \rightarrow 0$			
Clear Setting Save/Apply	A3 = Onboard 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).

🛟 JoyCon Explorer - [1(CPJexr):CarPC J	pyCon Exr] : default.prs*	_		×
Option	About			
Folder Button Voice Preset Misc FW	1(CPJexr):CarPC JoyCon Exr default	Launche	r Image	
Start with Windows Use tray icon(for background work) Drag and drop the preset files on this list			I	
Filename Button	A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12			
💭 LED control.prs			_	_
Media Player.prs			_	_
Power Control.prs				
System Volume.prs			T	
🗰 TV.prs			^	•
<	Esci E1 E2 E3 E4 E5 E6 E7 E8 E9 E10 E11 E12 Brt IscriBrk		(+)	<[-
Delete all 🔨 🔽 Delete	1 2 3 4 5 6 7 8 9 0 F E V K Ins Home Page Num /	*		•
Preset up Button A2 ~		9 +		>>
Preset down Button 🛛 A1 🛛 🗸	Caps A S D F G H J K L F Enter 4 5	6	$\left(\leftarrow \right)$	U
Launch Button A3 \checkmark	Shift Z X C V B N M / Shift ↑ 1 2	3 🖓	N.S	0
Close Button 🛛 🗸 🗸	$Ctrl : Alt Alt Ctrl \leftarrow \psi \rightarrow 0$		1	2

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

😳 JoyCon Explorer - [1(CPJexr):CarPC JoyCon Exr] : default.prs* — 🗆 🗙							
Option About							
Folder Button Voice	Preset Misc	FW	1(CPJexr):CarPC JoyCon Exr default	Preset App Lau	Incher II	mage	
Start with Windows Use tray icon(for background work) Drag and drop the preset files on this list			□ Disable App Launcher An application can be application and the application launches ☑ Minimize other windows You can run and point and the application launches	be assigned for a opup an application	preset. n with a p	reset	
Filename	Button	Close	Name(for voice):	Mavinian			
ED control.prs			Eull anth of analysis	Use Laur	nch Buttor	1	
Media Player.prs			Fuil path of application:	Use Clos	e Button		
Power Control.prs						_	
System Volume.prs			Choose one of the current running applications	-	F	Refres	
💭 TV.prs				•			
				•			
Delete all	V Dele	te					
Preset up Button	\sim						
Preset down Button V							
Launch Button A3	\sim			•			
Close Button	~		<			3	
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There is another way to switch the prosents. You can switch a prosent and launch an application direct							

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).

🛟 JoyCon Explorer - [1(CPJexr):CarPC JoyCon Exr] : default.prs*					—		\times
Option About							
Folder Button Voice Preset Misc FW					Preset	App Lau	Incher
😜 🗌 Start with Windows				XXX			^
Use tray icon(for background work)							- 1
Drag and drop the preset files on this list							
Filename	Button	Close		A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11	A12		
LED control.prs	A1	A1 Long					- 1
🌉 Media Player.prs	A2	A2 Long					_
Power Control.prs	A3	A3 Long					
💭 System Volume.prs							- 1
📖 TV.prs							

3. Application Launcher

Application can be launched and popped up when Preset is switched. Drag-drop (.exe) file(or shortcut 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.

+ JoyCon Explorer - [1(CPJexr):CarPC JoyCon Exr] : Media Player.prs					
Option About					
Folder Button Voice Preset Misc FW		1(CPJexr):CarPC JoyCon Exr Media Player			
Start with Windows Use tray icon(for background work) Drag and drop the preset files on this list	Î	Disable App Launcher An application can be assigned for a preset. Minimize other windows You can run and popup an application with a preset Use voice when the application launches			
Filename Button		Name(for voice): Media Player Hear Maximize			
Media Player.prs A1 Winamp.prs A2 TV.prs A3		Full path of application: C:\Program Files\Windows Media Player\Wmplayer.exe			
Power Control.prs System Volume.prs LED control.prs III ▶		Choose one of the current running applications Choose one of the current running applications Refresh • JoyCon Explorer - [1(CPJexr):CarPC JoyCon Exr] : Winamp.prs Ø Winamp 5.63 • Winamp 5.63			
Delete all Oelete Preset up Button Preset down Button	III				
Close Button					
Track top window					
Default Preset(for apps with no preset)		Parameter:			
Open this Preset when starting		Centralus LED control Media Power System TV Winamp			

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 <u>http://www.rcjoycon.com/mn/cpjexr</u>