

Current Designs fORP Interface Unit

What does it look like?



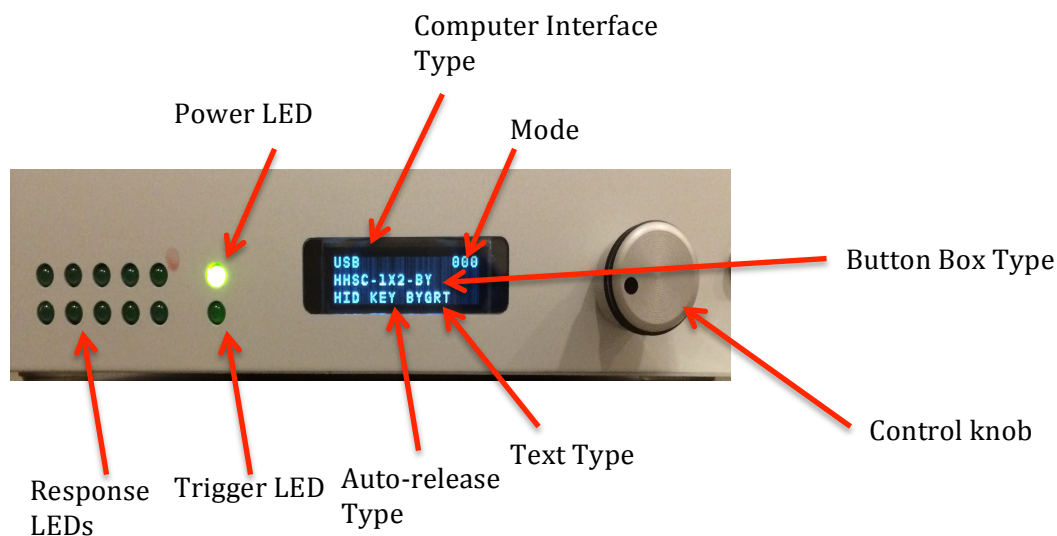
What does it do?

The interface unit receives signals from the MRI scanner and the buttons pressed by the subject and delivers them to a computer.

How do I use it?

Before setting up the controller, **YOU MUST CLOSE YOUR STIMULUS PROGRAM (especially Matlab)**. Otherwise, Matlab or other programs will not recognize it. The box must be connected to your computer with a USB cable and configured.

The display on that controller reports the current configuration.



Computer Interface Type: This is USB for all of CAMRI's applications.

Button Box Type: This is the type of button box for which the controller is currently configured; "1x2" describes two-button box and "BY" describes blue-yellow button box.

Text Type: This describes what characters are sent to the computer when a button is pushed. 12345 = numerical representation, BYRGT = alphabetical representations.

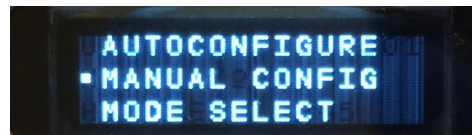
Auto-release Type: Auto-release sends a single character for each button press. Without this the controller continually sends characters until the button is released, just like holding a key on a keyboard down. For some applications with MATLAB and Psychology toolbox, you should use no auto-release despite the fact that you may only need a single character. This is because of how the keyboard is polled. If the button is not depressed at the exact moment MATLAB reads it. There will be nothing recorded: “KEY” describes auto-release, “NAR” describes no auto-release.

How do I configure it?

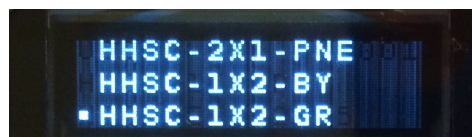
- 1) Plug in desired button box/joystick (**it is CRUCIAL that this step is done FIRST**)
- 2) Press the control knob. It will ask you to change modes. Turn the knob to underline “Yes”, and press the knob again.



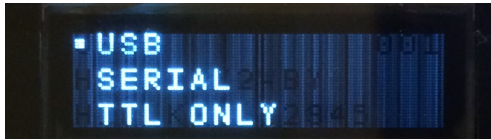
- 3) Use the knob to scroll the bullet point to “MANUAL CONFIG” and press the knob.



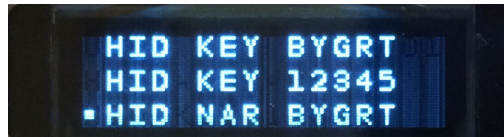
- 4) Next, Scroll down to the desired button box and press the knob. (“BY” describes blue-yellow button box and “GR” describes green-red one.)



- 5) Scroll to “USB” and press the knob.



- 6) You will then be asked what “Text Type” you want for the output. There are several possibilities and please see the following table.



Mode	Selection	Numerical	Alphabetical	Trigger	Auto-release
000	HID KEY BYGRT		Yes	Yes	Yes
001	HID KEY 12345	Yes		Yes	Yes
002	HID NAR BYGRT		Yes	Yes	
003	HID NAR 12345	Yes		Yes	
051	HID KEY 1-9 no 5	Yes			
052	HID KEY NAR NO T		Yes		
053	HID KEY NAR NO 5	Yes			

If you are using other response box such as a joystick, trackball et al., please see the manual in the control room for detail.

- 7) Press knob once you select proper “Text Type”
- 8) Test the configuration. Open up a text editing program on your computer and press button in the scanner room. Text should appear in your text editing program (e.g. "b" should appear if you press the blue button in the above configuration).

Note: If your computer does not get a proper response, please unplug USB and close the stimulus program, and then re-plug USB and follow step 1-7, and then run the stimulus program.