Response Box

This compact and modular trigger box solution allows you to synchronise precisely in real-time, down to a few microseconds, different inputs in order to accurately measure reaction times and thus collect precise experimental data.

The basic unit links a video trigger detector for on-screen visual stimulus presentation to a push button keypad to acquiring subject's physical feedback.

Through the built-in I/O channels, the unit can however be linked to additional external trigger sources, as well as feed to or from any TTL compatible device (EEG, TMS…).

Main features

True real-time system: a digital eye captures the screen variations and sync it with the pad interactions

USB interface which powers the device and communicates to the host PC through an emulated serial port supported by all operating systems

Compatible with the most diffused application frameworks such as MatLab®, Octave, E-Prime®,LabView®, PsychoPy

Custom build electronics module minimises noise and delays to allow a precise synchronization from/to external TTL compatible devices

Open programmable Arduino based architecture, allowing you configure and personalize all aspects: the standard firmware means you will be able to program the unit yourself, or choose to have us build a specific customized solution for your research needs

Multiple response pad configurations available and customizable to specific research needs (available upon request)

Elegant though unobtrusive ergonomic design with 3D printed parts

Trigger BOX

OS support	Windows®, MAC®, GNU/Linux using Arduino Due drivers
Software compatibility	Python, MatLab®, Octave, C, C++,E-Prime®,LabView®, PsychoPy
Communication	USB 2.0 (USB 3.0 supported)
Video triggering	Up to 200Hz
I/O	1 BNC TTL compatible Output (0-5 V) 1 BNC TTL compatible Input (0-5V, 10V tolerant)
Trigger inputs	1 analogue Input for audio/video SYNC
Extension ports	USB 2.0 host (mouse, keyboard, key pad capable)
Power	Self-powered by 5V USB connection (< 5W)
Compliance	CE EN 61000-6-3:2007
Dimensions	200 x 100 x 70mm
Weight	470g

Keypads

Buttons	Up to 6 buttons, upgradable on request and totally customizable
Cable length	1.2m
Dimensions	100 x 50 x 30mm
Weight	160g (2 button version)
Power	Self-powered trough the Trigger Box connection

Screen Sensor

Shape	3D printed plastic monitor sensor, adaptable to almost all flat monitor models by a simple and adjustable three points clamp (minimum screen thickness 45mm,
Positioning	Any of the four screen corners
Screen thickness	Min: 42mm Max: 8mm
Screen bevel	Max: 35mm
Cable length	1.2m
Dimensions	140 x 58 x 67mm (MAX)
Weight	90g
Power	Self-powered trough the Trigger Box connection

Options/add-ons

➢ Alternative keypads, with different number, layout, colours or types of buttons
➢ EEG and fMRI compatible keypads (coming soon)
➢ Additional trigger sensors
➢ Ruggedized carrying case
➢ Customized solutions to meet your specific research needs