

Synchronized. Integrated. Fast.



## Revolutionizing EEG

Wireless triggering

Multiple input modalities

Auto-triggering

Adjustable thresholds

Untethered ambulatory research

High accuracy timing synchronization

Versatile event marking

Easy interfacing with 3rd party systems

## Applications

Neuroscience Research  
Evoked Response Potentials (ERPs)  
Interfacing with Multiple Devices  
Synchronization of many EEGs (Hyperscanning)  
and many more...

The wireless trigger hub enables interfacing between Wearable Sensing's Dry Sensor Interface (DSI) EEG headsets and other systems, facilitating device synchronization and third-party system integration. The hub allows you to acquire triggers from and transmit triggers to many sources, consolidating up to 8 trigger sources into a single multi-channel output that inputs directly into DSI systems.

The use of standardized input connectors and cables allows the user to connect and synchronize a wide range of third-party devices with the hub and with DSI systems. Triggers from the input parallel port are distributed across the connections on the output panel. The trigger output voltage is 0 - 5 V, which is sufficient to drive the trigger inputs of standard devices.

## Wireless Trigger Hub Technical Specifications

### Inputs/Outputs

- 1 parallel port (DB-25 connector, 8 channels)
- 4 analog inputs
  - 2 via BNC connectors
  - 2 via 3.5 mm stereo connector
- 1 line-level audio input (3.5 mm stereo connector)
- 2 switch inputs (3.5 mm stereo connectors)
- 1 auto-trigger function (output on all ports)

### Uses Standard Input Connectors

- Digital (parallel port (DB-25))
- Analog (BNC connectors; 3.5 mm jack)
- Line-level audio (3.5 mm jack)
- Switch inputs (3.5 mm jack)

### Analog/Parallel Port

- Input voltage range: 0-20 V

### Audio Input

- Input voltage range: line-level, 2 Vpp
- Min. audio signal level (2 kHz): 140 mVpp
- Bandwidth: 40 Hz - 20 kHz (-3 dB)

### Output Triggers

- Voltage: 0-5 V
- Current: 100 mA continuous/200 mA impulse
- Min. pulse width: 20 ms
- Min. Inter-trigger interval (rising edge): 40 ms
- Latency:
  - <100 micro s (digital/analog/switch inputs)
  - <0.5 ms (audio input)
  - 12 ms wireless with <400 micro s jitter
- AutoTrigger: 1 Hz

### Wireless

- Transmission range: 10 m
- Repeater eliminates transmission shadow effect
- Increases fidelity of transmission to 99.999%

### Hub Outputs to DSI Systems

- 8-bit wireless trigger
- 8-bit wired (DB-25) trigger

### AutoTrigger

- Distributes a 1 Hz square wave to all outputs
- Enables synchronization across multiple systems

### Threshold

- Number of settings: 10
- Range: 0.63-5.8 V
- Adjustable thresholding circuit on every input
- Resulting triggers are consolidated and transmitted to DSI systems

### Power

- Micro-USB 1.x/2.0 receptacle

### Accessories

- Photodetector
- Push-button trigger
- Stereo cable
- Wired trigger cable
- Wireless dongle
- Wireless repeater

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