

Synchronized. Integrated. Fast.



## Revolutionizing EEG

Wireless triggering

Untethered ambulatory research

Multiple input modalities

High accuracy timing synchronization

Auto-triggering

Versatile event marking

Adjustable thresholds

Easy interfacing with 3rd party systems

## Applications

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

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 acquires triggers from and transmits triggers to many sources. It consolidates up to 8 input sources into a single multi-channel output that connects directly into DSI or other 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.

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 DSI systems.

## Wireless Trigger Hub Technical Specifications

### Various Input / Output Options

- 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)

### 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 Input Specifications

- Analog input voltage range: 0-20 V
- Min. pulse width: 20 ms
- Min. Inter-trigger interval (rising edge): 40 ms

### Audio Input Specifications

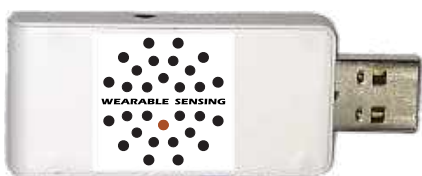
- Input voltage range: line-level, 2 Vpp
- Min. audio signal level (2 kHz): 140 mVpp
- Bandwidth: 40 Hz - 20 kHz (-3 dB)

### Threshold

- 10 adjustable threshold levels for all inputs
- Resulting triggers are consolidated and transmitted to DSI systems

### Mini-Trigger Box Version

- Switch or Analog Input
- 1-bit Wired Output
- USB Powered



### Outputs to DSI Systems

- 8-bit wireless trigger
- 8-bit wired (DB-25) trigger
- Wired Latency:
  - <100 micro s (digital/analog/switch inputs)
  - <0.5 ms (audio input)
- Wireless Latency: 12 ms with <400 micro s jitter

### Outputs to Other Devices

- Voltage: 0-5 V
- Current: 100 mA continuous/200 mA impulse
- Various Output Options and Connectors

### Wireless

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

### AutoTrigger

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

### Included Accessories

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

