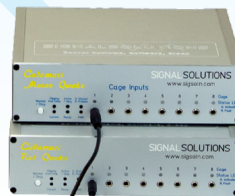


Non-Invasive Sleep Disruption



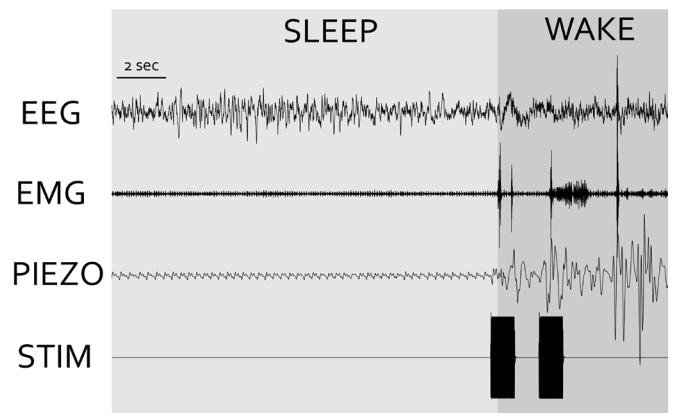
RatQwake



MouseQwake

How It Works

The Qwake family of sleep disruption systems utilize non-invasive, vibro-tactile stimulation to affect sleep in real time. *PiezoSleep™* software records sensor data, classifies animal behavior into sleep or wake, and applies open- or closed-loop stimulation in up to 8 cages simultaneously. Stimulation is adjustable in frequency, intensity, and duration, which are independently configurable as fixed or randomized. The non-invasive nature of the system, paired with its wide range of stimulation parameters make it a versatile tool in preclinical sleep research.



Product Features

- Continuous sleep-wake classification
- Non-invasive sleep disruption
- Supports up to 8 independently controlled cages
- Open- or closed-loop operation
- User-configurable stimulation parameters
 - Frequency, Duration, Intensity
- Multiple Control Protocols:
 - Open Loop, Closed Loop, Sleep Based, Activity Based
- Optional support for external TTL triggering

Research Applications:

- Closed-Loop Sleep Disruption
- Somatosensory Evoked Potentials
- Startle Response/Pre-Pulse Inhibition

Need a custom solution?

Let our engineers configure a system for your research!

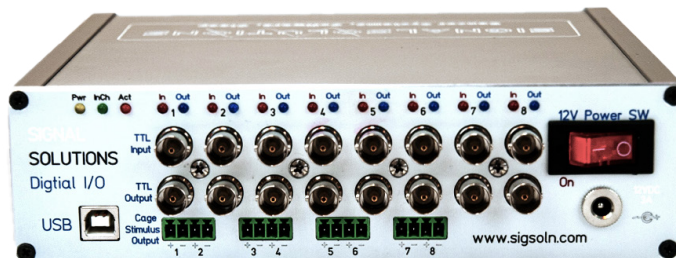
Contact us at 1-877-SIG-SOLN or info@sigsoln.com

Digital Triggering

The optional Digital I/O accessory expands system functionality, allowing the system to be integrated with third-party hardware. Digital inputs/outputs can be configured for 3V or 5V signaling in both normally high or low configurations.

Research applications:

- Control stimulation timing using third-party systems
- Activating third-party hardware/software from *PiezoSleep*TM (optogenetics, imaging, etc)
- Annotating third-party data collection with sleep onset or stimulation activation
- Using yoked controls in experimental designs



Add third-party hardware support with Digital Triggering!

Our *Digital I/O Accessory* allows the Qwake system to trigger or be triggered by external hardware.

Technical Specifications



Cage Assembly:

MouseQwake:

13" L x 8" W x 12" H (330 mm x 203 mm x 305 mm); 7 lb

RatQwake:

18" L x 11" W x 14" H (457mm x 279 mm x 356 mm); 6 lb 11 oz

Calamari (MouseQwake/RatQwake Models):

8" x 7.25 x 2.25" (205mm x 185mm x 89mm); 3 lbs

Power Supply: 12V DC, 5 A (included)

Interface: USB 2.0

System Features	RatQwake TM	MouseQwake TM
Sensor Format	Adapt-a-Base	Film Sensor
Cage Format	1291	Custom Cage
Max. Supported Channels	8	8
Closed-Loop Intervention	Yes	Yes
Stimulation Duration	0.1 - 2 sec	
Stimulation Frequency	20 - 200 Hz	
Schedule-Based Intervention	Yes	Yes
Per-Cage Input Triggering	Yes ¹	Yes ¹
Per-Cage Output Triggering	Yes ¹	Yes ¹
EEG Compatibility	Telemetry	Tethered ² or Telemetry

¹ With Digital I/O accessory; ² With cage wall extender