

SR-HLAB™

Human Startle Response System – Used extensively in the investigation of schizophrenia, drug dependency and PTSD



PRODUCT OVERVIEW

The SDI SR-HLAB™ Startle response system plays a key role in the investigation of the pharmacology and physiology of schizophrenia, drug dependency, post traumatic stress and other disorders.

The SR-HLAB™ Startle Response System measures startle response by recording the eyeblink reflex via electromyographic (EMG) or photoelectric cell (PEC) recording. Additional response items are Heart Rate and Galvanic Skin Resistance. SR-HLAB is a complete hardware and software solution for a wide variety of startle applications. Intuitive yet powerful features cater to users from the educated non-specialist to the sophisticated behaviorist.

SR-HLAB is portable, making it the first startle analysis system that can be easily transported from the laboratory to offsite test facilities. The complete system weighs only 8 pounds and comes with a carrying case. SR-HLAB uses a USB interface so laptop or desktop computers can be used.

SR-HLAB COMPONENTS

The SR-HLAB Control Box includes an integrated impedance meter and interchangeable modules:

- › Stimulus Module
- › Response Module – EMG
- › Response Module – PEC
- › Response Module - Heart Rate
- › Response Module - Galvanic Skin Resistance

Features & Benefits

- › Complete solution for a wide variety of startle applications
- › Lightweight system transports easily from laboratory to offsite test facilities
- › EMG electrodes or photoelectric cell (PEC) sensors
- › Point & Click software controls cues and response recording
- › USB interface makes laptops available to run the system
- › Protection circuits limit excessive sound
- › Available with optional heart rate sensor

- › Digital I/O Module
- › Software
- › EMG electrodes or headband with PEC sensors
- › Calibrated headphones
- › All cables and connectors

All models utilize the same software and scoring algorithms.

SR-HLAB MODELS

SR-HLAB is available in several models depending on the hardware modules selected. The basic system is a Stimulus Module and either a Response Module-EMG or Response Module-PEC. The EMG model uses electrodes positioned over the subject's Orbicularis Oculi muscle to capture the eyeblink reflex. The PEC model uses a photoelectric cell monitoring the eyelid to capture the eyeblink reflex. The PEC model was developed to meet the needs of researchers who need reduced setup time or have subjects that will not accept EMG style electrodes.

To these basic models you can add any of these modules in any combination to create new models:

Additional Response Module-EMG or Response Module-PEC

- › Heart Rate Module
- › Galvanic Skin Resistance Module
- › Digital Output Module to control other devices

RESPONSE MODULE

The data for each type of response module included in the SR-HLAB Control Box is recorded on a separate channel. Data from all channels can be viewed at the same time. Exporting data allows a researcher to graph all channels together for visual comparison.

STIMULUS MODULE

The SR-HLAB Stimulus Module contains sound generation circuits. Selectable auditory stimuli allow you to choose between white noise, 1kHz or 1.2KHz of pure tone. The Stimulus Module provides 1 ms resolution for the timing of all stimulus parameters. The hardware protection circuit limits excessive sound amplitude and sound duration to the subject. Calibration settings allow you to adjust for response standardization and headphone testing.

DIGITAL I/O MODULE

The Digital I/O Module provides up to 8 ports that can be set for input or output to control additional stimuli or receive trigger signals. Each port utilizes a 5V TTL signal and is controlled by SR-HLAB software commands.

SR-HLAB™ SPECIFICATIONS

Dimensions	9" (W) x 9 1/2" (D) x 8 3/4" (H)
Weight	8 lbs.
Maximum # Stations	1
Standard Cable Length	6 ft.
Stimuli Options	Tone, Air
Certifications	CE

SR-HLAB SYSTEM COMPUTER REQUIREMENTS

Windows XP/Windows 7 compatible computer systems with one USB port. Minimum disk and memory sizes specified to support Windows XP/Windows 7 are acceptable.

SDI CONFIGURED COMPUTERS

SDI offers high performance Cobalt™ Configured Computers that are pre-installed with the Windows® operating system, USB Drivers and applicable SDI software. Each computer is fully tested with your system prior to shipment. When your SDI system arrives, all you have to do is unpack it, attach the cables and begin testing.



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SAFETY

All modules are optically isolated from any external electrical systems for safety precautions.

SR-HLAB SOFTWARE

The SR-HLAB software applications include Test Administration, Reports and the View Wave analysis tool.

Test Administration & Report Programs – The SR-HLAB administration and report programs store test data immediately to a secure disk file. 16 bit resolution (ranging from 0 to over 4000 mv) records the full range of stimulus responses. Summary data reports can easily be printed and data files transferred into spreadsheets or other statistical programs for later use.

View Wave – This post session data analysis tool allows you to fully verify your startle response data. You can view the complete waveform for every response to verify the calculated numeric data. With the use of the Programmable Scoring Parameters, you can greater refine data via settable parameters that include baseline, onset window start, end analysis and onset criterion.

SDI STARTLE RESPONSE TEST SYSTEMS

- › SR-LAB™
- › SR-HLAB™

FOR MORE INFORMATION

To learn more about SDI behavioral testing systems, please visit www.sandiegoinstruments.com. If you have any questions or would like to request a quote please call (858) 530-2600 or email us at sales@sandiegoinstruments.com.

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