GEMINI AVOIDANCE SYSTEM

SYSTEM COMPONENTS

Gemini Test Station

- Shock
- Shock and Air

Removable Grid Floor

Software with PC Interface

User Manual

All Cables and Connectors

PART NUMBERS

- 2325-0441 Gemini Avoidance System with Shock
- 2325-0442 Gemini Avoidance System Additional
- 2325-0443 Gemini Avoidance System with Shock and Airstim
- 2325-0444 Gemini Avoidance System Additional with Shock and Airstim
- 2325-0104 Gemini Isolation Cabinet

PRODUCT OVERVIEW

SDI's Gemini Avoidance System is purposely designed for active and passive avoidance and learned helplessness testing in both rats and mice. A total of 16 photobeams, eight each side, track the animals movement during testing. GEMINI is available in two configurations: Shock or Shock and Airstim. On the Shock model, shock is used for the Unconditioned Stimulus (US). Shock uses a scrambled delivery to the rods of the floor preventing the animal from discerning a pattern. On the Shock and Airstim model, the user can choose shock or air puff for the US. The Air Puff is delivered through tubes with multiple outlets spanning the length of each compartment. The tubes are mounted both in the front and back of the compartment. Conversion from rats to mice or mice to rats is possible in less than five minutes. A key feature is the very silent center Auto-Door which will not induce unwanted behaviors. It also lowers by gravity alone so no animal can be injured. Option to turn off specific beams to customize requirements for full cross of animal. GEMINI can be configured with up to 8 stations for testing large subject groups. GEMINI provides maximum flexibility in test paradigms by allowing the use of one or more stimuli simultaneously. Each station starts and runs independently making continuous testing quick and easy.

FEATURES & BENEFITS

Cues include non-heating LED house lights, laboratory standard cue lights, user selectable auditory stimuli and quiet auto door

Two unconditioned stimulus available, shock or air puff

Configure up to 8 stations for rapid testing of subjects

Gate opens in 500 milliseconds

Independent station start makes continuous testing quick and easy.

All study data are stored in a database, providing quick and easy export

GEMINI SOFTWARE

GEMINI's easy to use menu-based software offers both avoidance paradigms are, Passive Avoidance (Classic, Trials to Criterion, Continuous), Active Avoidance (Trials to Criterion, Continuous) and Learned Helplessness. GEMINI utilizes a database to store all study results in a single file in table format ready for export. This eliminates the need to cut and past multiple files together before exporting study results to statistical packages.

Power. Flexibility. Ease of Use.

GEMINI AVOIDANCE SPECIFICATIONS

GEMINI System Components

- Software for Active and Passive Avoidance and Learned Helplessness
- Test stations with 2 compartment enclosures and grid floor for rats or mice, 16 photobeams, 2 “house” and 2 “cue” lights and 2 speakers for sound
- Auto Door (for passive avoidance testing)
- USB Interface
- All necessary cables and Power Supply

Gemini Components & Accessories (optional)

- Mouse passive avoidance start box
- Mouse Shock Box
- Additional Grid Floors (for rats or mice)
- Isolation Cabinet

USER DEFINABLE PROTOCOLS

Passive Avoidance

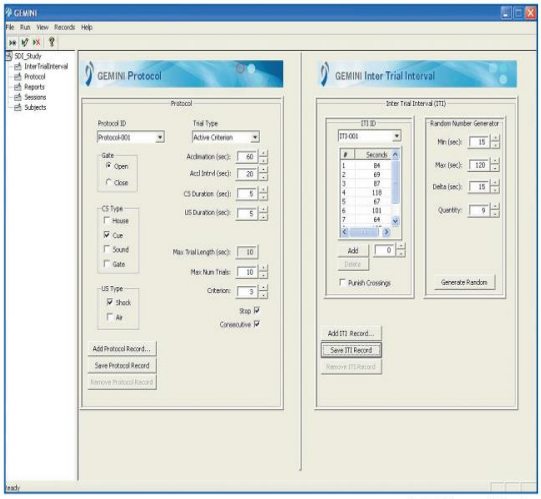
Test parameters include subject identifiers, length of acclimation period, CS selection (houselights, cue light, sound or any combination), CS duration, US selection (SHOCK and AIRSTIM model), US duration and optional US delay (a delay time after the Auto Door closes before the US is administered). The three protocols supported use the Auto-Door. They are Classic (single trial), Trials to Criterion (shuttles the subject back and forth until the subject meets the criterion set by the user, a Maximum Trials parameter is also set), and Continuous (shuttles the subject back and forth until the trials equal the Maximum Trials parameter). On Trials to Criterion and Continuous an Inter-Trial interval table is set up to rest the subject before starting the next trial. The software handles both a cross and no cross by locating the subject and determining the correct start compartment for the next trial. Scoring is the latency to cross or no response if no crossing.

Learned Helplessness

Learned Helplessness (Non-Contingent Sequential Stimuli) permits the application of a timed series of CS (conditioned stimuli) and US (unconditioned stimuli) called a CS-US Cycle. The gate is closed and a subject can be placed in both the right and left compartment allowing preconditioning of two subjects at a time. The user defines a CS-US Cycle (CS and US types and durations) and sets the maximum number of trials. An Inter-Trial interval table is set up to rest the subject before starting the next trial. At the completion of the preconditioning the subject is tested using Active Avoidance to see if the subject will cross.

Active Avoidance

Test parameters include subject identifiers, length of acclimation period, CS selection(house light, cue light, sound, auto-door or any combination), CS duration, US selection (SHOCK and AIRSTIM model), US duration. Protocols supported are Trials to Criterion(shuttles the subject back and forth until the subject meets the criterion set by the user, a Maximum Trials parameter is also set), and Continuous (shuttles the subject back and forth until the trials equal the Maximum Trials parameter). The software handles both a cross and no cross by locating the subject and determining the correct start compartment for the next trial. On Trials to Criterion and Continuous an Inter-Trial interval table is set up to rest the subject before starting the next trial. Scoring is latency to cross applied as follows: Avoidance (crossed during CS), Escaped (crossed during US) and No Response (did not cross).



GEMINI Protocol Display

COMPUTER REQUREMENTS

SDI offers high performance Configure Computers that are pre-installed with the Windows operating system, USB Drivers and applicable SDI software. Windows 10 compatible computer systems with one USB port.

ONSITE TRAINING

SDI offers on site training to ensure understanding of how to operate the Gemini Avoidance System

For more information on any of our products or services please visit us on the Web at:
www.sandiegoinstruments.com
Or contact us via email at
sales@sandiegoinstruments.com

GEMINI AVOIDANCE SPECIFICATIONS

Gemini Enclosure	
Dimensions Outside	26” (W) x 13” (D) x 17.25” (H)
Dimensions Inside	9.5” (W) x 8” (D) x 8” (H)
Weight	35 lbs
Material Composition	Acrylic and aluminum
# of Photobeams	16 total : 8 on left 8 on right
Photobeam spacing	1”
Grid Floors	
Rat	28 rods
Mouse	62 rods
Material	Stainless Steel
Sound Parameters	
Type	Sine Wave and White Noise
Frequency	Up to 20kHz
Amplitude	% to be used when releasing the sound stimulus
Shock Stimulus	
Shocker Output	0-5mA
	0-2mA
AirStim	
Air source	Compressed Air Tank
Max pressure	30psi
Number of holes	18 total
	9 each side
Spacing	1”
Door Dimensions	
Space opening	3.5” (W) x 3” (H)
Gate speed	500ms
Optional Accessories Dimensions	
Isolation Cabinet	26” (W) x 19.5” (H) x 26” (D)
Start box	5.25” (L) x 3” (H) x 5.8” (D)
Shock box	5” (W) x 2.4” (H) x 6.25” (D)
Certifications	FDA Part 11

For more information on any of our products or services please visit us on the Web at:
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SERVICES AVAILABLE

Technical Support
Installation and Setup
Maintenance
Application Support
Hardware Support
Guaranteed Warranty

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