Elevated Plus Maze for Anxiety Studies

Key Features

- Available in a number of colors
- Supplied with two pairs of fully interchangeable perspex walls
- Modular structure which allows storage in minimum space

Parameters Measured

- Animal position and number of entries into the different sectors (see MAZESOFT-4)
- Animal position, speed, distance and more... (see SMART video-tracking)

Components Included

- Plus-Maze
- MAZESOFT-4 Software and LE3846 Interface for PC (only for LE846 and LE848)
- Grey colored walls
- Transparent walls (only for LE840)
- 2 year warranty

Options

- SMART Video Tracking System (only for LE840 and LE842)

Elevated Plus Maze

The standard elevated plus-maze is commonly used to assess anxiety-like behavior in laboratory animals (rats/mice). The maze is usually a cross shaped maze with two open arms and two closed arms, which is elevated above the floor.

This task exploits the conflict between the innate fear that rodents have of open areas versus their desire to explore novel environments. Security is provided by the closed arms whereas the open arms offer exploratory value. When anxious, the natural tendency of rodents is to prefer enclosed dark spaces to opened brightly lit spaces. In this context, anxiety-related behavior is measured by the degree to which the rodent avoids the unenclosed arms of the maze.

Specifications

Dimensions

<table>
<thead>
<tr>
<th>Model</th>
<th>Product</th>
<th>Order #</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE840/846 Rats Maze</td>
<td>1000 (W) x 1000 (D) x 660 (H) mm; arms: 100 (W) x 450 (D) mm</td>
<td>BH1 76-0074</td>
</tr>
<tr>
<td>LE842 Mice Maze</td>
<td>650 (W) x 650 (D) x 550 (H) mm; arms: 60 (W) x 295 (D) mm</td>
<td>BH1 76-0075</td>
</tr>
<tr>
<td>LE848 Photoelectrical Cells Mice Maze</td>
<td>640 (W) x 640 (D) x 550 (H) mm, arms: 60 (W) x 295 (D) mm for normal mice; 370 (W) x 370 (D) x 350 (H) mm, Arms: 60 (W) x 160 (D) mm for very small mice (provided with 2 interchangeable arm dimensions)</td>
<td>BH1 76-0076</td>
</tr>
</tbody>
</table>

Material Composition

- Methacrylate, aluminum
- Transparent walls (for LE840): 100 mm rats
- Grey walls (for LE840): 150 mm mice; 500 mm rats
- 2 year warranty

Position Detection Technique

- IR beams with MAZESOFT-8 or video-tracking with SMART/JUNIOR

Power Supply (When Applicable)

- 110V/220V, 50/60Hz

Certifications

- CE compliant

Options

- SMART Advanced Video-Tracking Software for LE840/842 Standard Maze
- SMART JUNIOR Standard Video-Tracking Software for LE840/LE842

Citations


MAZESOFT-4 Software for Automated Elevated-Plus Maze

Key Features
- Complete and easy-to-use for standard experiment
- Use of photoelectrical cell technology for animal position detection
- Provides integrated parameters (ie: permanence time in arms, number of entries)
- Data reports can be re-organized according to factors entered in the trial header (ie: animal, groups)

Parameters Measured
- Number of visits into the zones (or association of zones)
- % of visits into the zones / total number of visits
- Total permanence time in each zone (or association of zones)
- % of permanence time in each zone / total duration of the trial
- Mean time of visit duration into each zone (or association of zones)
- % of the mean time of visit duration into each zone / total duration of the trial
- Number of entries into each zones (or association of zones)
- % of the entries into each zone / total number of entries
- Chronological sequence of animal displacements

Components Included
- Software and USB protection key
- PCI-7200
- Cables and connectors
- Instruction manual

Mazesoft-4 Software
MAZESOFT-4 is an easy and complete software for monitoring Elevated-Plus Maze experiments. It has been specially designed to work with the Panlab/Harvard Apparatus Plus Maze apparatus equipped with rows of infrared photocells for the automated detection of animal position.

MAZESOFT-4 is easy to configure as the user only have to enter the desired duration of experiment. A “trial header” can be use for recording all the necessary information associated with the current experiment (code of trial, experimenter, challenge, dose, subject identification, comments).

The Plus Maze is divided into 9 sections: 4 identified arms (2 open and 2 closed), each one divided into proximal and distal section and a central area. One experiment can be composed of several trials, depending on the number of experimental groups and animals per group used in the study. During each trial, the elapsed time, permanence time in each area and current position of the animal can be visualized in real-time. Full information about the animal’s position is also shown graphically on the screen.

MAZESOFT-4 provides two type of result presentation: a raw data table and integrated results. The raw data table initiates with the header of the trial (name of the experimenter, code identifications, etc.) and continues with the detailed chronological listing of the animal positions for each trial. Integrated results calculated from the raw data table are provided in an additional summary table. For each arm, the information is separately given for the proximal zone, for the distal zone and for both of the zones of the arm. Identical information is shown for the base zone in the middle of the maze and for the union for opposite arms (closed and open arms).

The tables of trials can be re-organized before exportation according to parameters previously entered in the trial header (by subjects, by groups, by experimenter, etc.).

Data from the raw data base and from the table of result can be easily exported in formats widely used to perform complementary analysis (Word, Text, HTML, or Excel).

This MAZESOFT-4 Software is not available as a separate product. It is included with the following systems, BH1 76-0076 Rats Elevated Plus Maze with Position Detection and BH1 76-0077 Mice Elevated Plus Maze with Position Detection. See facing page for complete descriptions.

Specifications
- Computer Requirements: 1 GHz processor or higher (CELERON excluded), 128 MB of RAM (256 MB recommended) with PCI 32-bit bus master expansion slot available, need installed printer
- Software Requirements: Windows™ 98, ME, 2000, NT or XP compatible operating system

Citations