Manual 8-arm radial maze

References:
LE760 (76-0227), LE762 (76-0228)

Publication:
PB-MF-MAN-048-REV1.0
Limitation of Liability

PANLAB does not accept responsibility, under any circumstances, for any harm or damage caused directly or indirectly by the incorrect interpretation of what is expressed in the pages of this manual. Some symbols may have more than one interpretation by professionals unaccustomed to their usage. PANLAB reserves the right to modify, in part or in total, the contents of this document without notice.
1. SYMBOLS TABLE

Recognising the symbols used in the manual will help to understand their meaning:

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>SYMBOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warning about operations that must not be done because they can damage the equipment</td>
<td>⚠️</td>
</tr>
<tr>
<td>Warning about operations that must be done, otherwise the user can be exposed to a hazard.</td>
<td>⚠️</td>
</tr>
<tr>
<td>Decontamination of equipments prior to disposal at the end of their operative life</td>
<td>⚠️</td>
</tr>
</tbody>
</table>

2. GOOD LABORATORY PRACTICE

Check all units periodically and after periods of storage to ensure they are still fit for purpose. Investigate all failures which may indicate a need for service or repair.

Good laboratory practice recommends that the unit be periodically serviced to ensure the unit is suitable for purpose. You must follow preventive maintenance instructions. In case equipment has to be serviced you can arrange this through your distributor. Prior to Inspection, Servicing, Repair or Return of Laboratory Equipment the unit must be cleaned and decontaminated.

Decontamination prior to equipment disposal

In use this product may have been in contact with bio hazardous materials and might therefore carry infectious material. Before disposal the unit and accessories should all be thoroughly decontaminated according to your local environmental safety laws.
3. UNPACKING AND EQUIPMENT INSTALLATION

WARNING: Failure to follow the instructions in this section may cause equipment faults or injury to the user.

A. Due to the dimensions of the structure of the maze, keep caution when assembling to avoid cuts and contusions.
B. Inspect the instrument for any signs of damage caused during transit. If any damage is discovered, do not use the instrument and report the problem to your supplier.
C. Ensure all transport locks are removed before use. The original packing has been especially designed to protect the instrument during transportation. It is therefore recommended to keep the original carton with its foam parts and accessories box for re-use in case of future shipments. Warranty claims are void if improper packing results in damage during transport.
D. Place the equipment on a flat surface and leave at least 10 cm of free space between the rear panel of the device and the wall. Never place the equipment in zones with vibration or direct sunlight.

The manufacturer accepts no responsibility for improper use of the equipment or the consequences of use other than that for which it has been designed.

PC Control

Some of these instruments are designed to be controlled from a PC. To preserve the integrity of the equipment it is essential that the attached PC itself conforms to basic safety and EMC standards and is set up in accordance with the manufacturers’ instructions. If in doubt consult the information that came with your PC. In common with all computer operation the following safety precautions are advised.

WARNING

• To reduce the chance of eye strain, set up the PC display with the correct viewing position, free from glare and with appropriate brightness and contrast settings

• To reduce the chance of physical strain, set up the PC display, keyboard and mouse with correct ergonomic positioning, according to your local safety guidelines.
4. **TABLE OF CONTENTS**

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SYMBOLS TABLE</td>
<td>2</td>
</tr>
<tr>
<td>2. GOOD LABORATORY PRACTICE</td>
<td>2</td>
</tr>
<tr>
<td>3. UNPACKING AND EQUIPMENT INSTALLATION</td>
<td>3</td>
</tr>
<tr>
<td>4. TABLE OF CONTENTS</td>
<td>4</td>
</tr>
<tr>
<td>5. INTRODUCTION</td>
<td>5</td>
</tr>
<tr>
<td>6. EQUIPMENT DESCRIPTION</td>
<td>6</td>
</tr>
<tr>
<td>7. ASSEMBLING THE RADIAL MAZE</td>
<td>7</td>
</tr>
<tr>
<td>8. WORKING WITH THE EQUIPMENT</td>
<td>10</td>
</tr>
<tr>
<td>8.1. CONDUCTING AN EXPERIMENT</td>
<td>10</td>
</tr>
<tr>
<td>8.2. CLEANING PERSPEX</td>
<td>10</td>
</tr>
<tr>
<td>8.3. CLEANING METALLIC PARTS</td>
<td>10</td>
</tr>
<tr>
<td>9. PREVENTIVE MAINTENANCE</td>
<td>10</td>
</tr>
<tr>
<td>10. SPECIFICATIONS</td>
<td>11</td>
</tr>
</tbody>
</table>
5. INTRODUCTION

Mazes are commonly used in neuroscience. An eight-arm radial maze makes it possible to study animal spatial memory.

The animal's position in an 8-arm radial maze is detected by means of a video camera located over the maze and Smart software (This option is not included with the equipment it has to be ordered apart) or the experimenter does visual recognition.

![Eight-arm radial maze diagram](image)

**Figure 1. LE 762 Eight-arm radial maze.**

There are two models of 8-arm standard radial mazes:

<table>
<thead>
<tr>
<th>CODE</th>
<th>ANIMAL</th>
<th>POSITION DETECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE 760</td>
<td>Rat</td>
<td>Video Camera + Smart software</td>
</tr>
<tr>
<td>LE 762</td>
<td>Mouse</td>
<td>Video Camera + Smart software</td>
</tr>
</tbody>
</table>

Each arm in the radial maze has a door activated manually by means of a pull ring.
6. EQUIPMENT DESCRIPTION

The radial maze is mounted on a tripod. Doors are activated by pulling a ring with a string. At the end of each arm there is a cylindrical container for food.
7. ASSEMBLING THE RADIAL MAZE

1. Insert the structure arm into the circular base using the corresponding orifices.

Figure 3. Inserting the arm in the circular base

2. Screw the Allen screws into the base to fix the structure arms.

Figure 4. Screwing the Allen screws

3. Secure the screws with a hexagonal key.

Figure 5. Securing the screws
4. Fit the platform with the 8 structure arms to the tripod.

![Figure 6. Placing the platform on the tripod.](image)

5. Secure the platform to the tripod with a hexagonal key.

![Figure 7. Securing the platform to the support.](image)

6. Place the maze arm in the structure arm and push it until it reaches the central area.

![Figure 8. Placing the maze arm.](image)
7. Secure the maze arm to the structure arm with the screw.

![Figure 9. Securing the maze arm](image)

8. Affix the maze arm’s sliding door.

![Figure 10. Introducing the maze arm sliding door](image)
8. WORKING WITH THE EQUIPMENT

8.1. CONDUCTING AN EXPERIMENT

In case of working with the video tracking system (camera and Smart program) read carefully the instructions given of the Smart program for conducting an experiment.

Once the experiment has ended you should clean the maze so that it is in good condition for the next experiment.

8.2. CLEANING PERSPEX

To clean the Perspex pieces you can use a slightly wet cloth and then dry them with a dry cloth. If they’re too dirty you can wet the cloth with a soapy solution to clean them, then remove foam with a wet cloth and finally dry them with a dry cloth.

WARNING: To clean Perspex parts never use alcohol or alcohol derived products, otherwise stripes will appear in the material.

8.3. CLEANING METALLIC PARTS

To clean the metallic parts you can use a slightly wet cloth and then dry them with a dry cloth. If they’re too dirty you can wet the cloth with a soapy solution to clean them, then remove foam with a wet cloth and finally dry them with a dry cloth.

9. PREVENTIVE MAINTENANCE

<table>
<thead>
<tr>
<th>EXPERIMENT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CLEANING THE PERSPEX PARTS</td>
<td>✔</td>
</tr>
<tr>
<td>CLEANING THE METALLIC PARTS</td>
<td>✔</td>
</tr>
</tbody>
</table>
## 10. SPECIFICATIONS

### EXPERIMENTATION CAGE DIMENSIONS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>ANIMAL</th>
<th>ARM DIMENSIONS [Width x Height x Depth]</th>
<th>BASE [Diameter x Height]</th>
<th>DOOR [Height]</th>
<th>WALLS [Height]</th>
<th>TRIPOD [Height]</th>
</tr>
</thead>
<tbody>
<tr>
<td>LE760</td>
<td>Rat</td>
<td>144x345x715</td>
<td>Ø 1249x114.5</td>
<td>90</td>
<td>From 294 to 41</td>
<td>850</td>
</tr>
<tr>
<td>LE762</td>
<td>Mice</td>
<td>357x201x102</td>
<td>Ø 616x116</td>
<td>50</td>
<td>From 150 to 26</td>
<td>850</td>
</tr>
</tbody>
</table>

1. Dimensions are expressed in millimetres.
DECLARACIÓN DE CONFORMIDAD
DECLARATION OF CONFORMITY
DECLARATION DE CONFORMITÉ

Nombre del fabricante: Panlab s.l.u.
Manufacturer’s name: www.panlab.com
Nom du fabricant: info@panlab.com

Dirección del fabricante: Energía, 112
Manufacturer’s address: 08940 Cornellà de Llobregat
Adresse du fabricant: Barcelona SPAIN

Declara bajo su responsabilidad que el producto:
Declares under his responsibility that the product:
Déclare sous sa responsabilité que le produit:

Marca / Brand / Marque: PANLAB
Modelo / Model / Modèle: LE 760 – LE 762

Cumple los requisitos esenciales establecidos por la Unión Europea en las directivas siguientes:
Fulfils the essential requirements established by The European Union in the following directives:
Remplit les exigences essentielles établies pour l’Union Européenne selon les directives suivantes:

2011/65/EU Restricción de ciertas Sustancias Peligrosas en aparatos eléctricos y electrónicos (ROHS) / Restriction of the use of certain Hazardous Substances in electrical and electronic equipment (ROHS) / Restriction de l'utilisation de certaines substances dangereuses dans les équipements électriques et électroniques (ROHS)

Analisis de riesgos / Risk assessment / Analyse des risques

Para su evaluación se han aplicado las normas armonizadas siguientes:
For its evaluation, the following harmonized standards were applied:
Pour son évaluation, nous avons appliqué les normes harmonisées suivantes:

En consecuencia, este producto puede incorporar el marcado CE:
Consequently, this product can incorporate the CE marking:
En conséquence, ce produit peut incorporer le marquage CE:

En representación del fabricante:
Manufacturer’s representative:
En représentation du fabricant:

Cornellà de Llobregat, Spain
26/06/2014

Carme Canalís
General Manager
Panlab s.l.u., a division of Harvard BioScience