Hardware User’s Manual

Black & White test box

References:
LE810 (76-0007), LE812 (76-0009)

Publication:
PB-MF-MAN-051-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>![Symbol]</td>
</tr>
<tr>
<td>Warning about operations that must be done, otherwise the user can be exposed to a hazard.</td>
<td>![Symbol]</td>
</tr>
<tr>
<td>Protection terminal ground connection.</td>
<td>![Symbol]</td>
</tr>
<tr>
<td>Warning about a hot surface which temperature may exceed 65°C</td>
<td>![Symbol]</td>
</tr>
<tr>
<td>Warning about a metal surface that can supply electrical shock when it's touched.</td>
<td>![Symbol]</td>
</tr>
<tr>
<td>Decontamination of equipments prior to disposal at the end of their operative life</td>
<td>![Symbol]</td>
</tr>
<tr>
<td>Waste Electrical and Electronic Equipment Directive (WEEE)</td>
<td>![Symbol]</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. No special equipment is required for lifting but you should consult your local regulations for safe handling and lifting of the equipment.
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.
E. Once the equipment is installed in the final place, the main power switch must be easily accessible.
F. Only use power cords that have been supplied with the equipment. In case that you have to replace them, the spare ones must have the same specs that the original ones.
G. Make sure that the AC voltage in the electrical network is the same as the voltage the equipment is made for (115V AC or 230V AC not selectable). Never connect the equipment to a power outlet with voltage outside these limits.

For electrical safety reasons you only can connect equipment to power outlets provided with earth connections.

WARNING

This equipment can be used in installations with category II over-voltage according to the General Safety Rules.

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>5</td>
</tr>
<tr>
<td>5. INTRODUCTION</td>
<td>6</td>
</tr>
<tr>
<td>6. EQUIPMENT DESCRIPTION</td>
<td>7</td>
</tr>
<tr>
<td>7. EQUIPMENT CONNECTION</td>
<td>9</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>9. RECOMMENDATIONS</td>
<td>11</td>
</tr>
<tr>
<td>9.1. WALLS CLEANING</td>
<td>11</td>
</tr>
<tr>
<td>9.2. FLOORS CLEANING</td>
<td>11</td>
</tr>
<tr>
<td>10. TROUBLESHOOTING</td>
<td>12</td>
</tr>
<tr>
<td>11. PREVENTIVE MAINTENANCE</td>
<td>13</td>
</tr>
<tr>
<td>12. TECHNICAL SPECIFICATIONS</td>
<td>14</td>
</tr>
</tbody>
</table>
5. INTRODUCTION

Numerous behavioural paradigms using several conflict procedures, social interaction or exploration of novel environments have been proposed as animal anxiety models. B Costall et al have described (Pharmacol Biochem Behav. 32(3): 777-785, 1989) a new model based on the aversive properties of the open field in which anxiolytic drug-induced ease of exploratory activity is compared between light and dark-coloured compartments.

This model permits simple and quick evaluation of anxious behaviour and its modification by pharmacological agents. Panlab has developed a complete system to carry out this experiment including both cages for the experimental subjects.

![Black and White Test Box](image)

The cages are composed of 2 compartments with walls 24 cm high. One of the compartments is smaller, and coloured black, and the other is larger and coloured white.

Both compartments are separated by a higher wall (to act as a separator) with an opening to allow the animal to pass from one side to the other. This wall also supports the lighting system: a 40W white bulb on the white side and a 25W red bulb on the black side.

The two floors are easily removable. They are made of Perspex in the same colour as their respective compartments and are marked in 9 sectors by lines. The cages do not have a top lid.
6. EQUIPMENT DESCRIPTION

The experimentation cage has two compartments. The left compartment is larger, and coloured white. The right compartment is smaller and coloured black. The floors have the same colour as the walls of their respective compartments and are divided into 9 sectors with lines.

The experimentation cage is mounted on a platform. On the platform there are four holes in each compartment for the correct placement of floors. The floor is easily removable for cage cleaning.

Figure 2. Experimentation Cage.

Figure 3. White and black compartments floors.
Two bulbs are installed at the upper part of the cage, a 40W white bulb for the white compartment and a 25W red bulb for the black compartment.

Animal position detection can be done by looking at the cage or by means of a video camera and the Smart program.

Figure 4. Back face of the cage detail.

In the back face of the lighting system there are the output of the power cord and a 3-position switch, in the centre position of the switch both bulbs are off, in the right position turns on white bulb and in the left position turns on red bulb.
7. EQUIPMENT CONNECTION

Figure 5. Equipment Connections.

Figure 5 shows the connections used when working with one cage. The necessary cables are outlined in the next table.

<table>
<thead>
<tr>
<th>FROM</th>
<th>TO</th>
<th>CABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cage lamp</td>
<td>AC Mains</td>
<td>Power cord</td>
</tr>
</tbody>
</table>


8. WORKING WITH THE EQUIPMENT

8.1. CONDUCTING AN EXPERIMENT

The following procedure must be followed to work with the equipment:

1. Connect all the cables (see chapter 7 in this manual).
2. Turn on the PC and run Smart program.
3. Turn on the video camera.
4. Place the experimental subject in the cage.
5. Follow the Smart program indications for conducting the experiment with the animal.
6. Remove the experimental subject from the cage.
7. To work with the next animal return to point number 4 and repeat the procedure.
8. Once the experiment has finished, unplug the cage, turn off the PC and video camera and clean the cage.
9. RECOMMENDATIONS

1. It will be periodically necessary to clean the experimentation cage.

2. Floors can be removed for cleaning, gently lift them up to free the 4 legs from the holes in the platform.

3. Once you return floors to the cage check that they are correctly placed (the four legs of the floor must be in the platform supports).

9.1. WALLS CLEANING

To clean the walls a slightly wet cloth can be used and then they should be dried with a dry cloth. If they are too dirty a wet cloth with a soapy solution can be used to clean them, afterwards the foam has to be removed with a wet cloth and finally dried with a dry cloth.

9.2. FLOORS CLEANING

To clean the floors a slightly wet cloth can be used and then they should be dried with a dry cloth. If they are too dirty a wet cloth with a soapy solution can be used to clean them, afterwards the foam has to be removed with a wet cloth and finally dried with a dry cloth.
10. TROUBLESHOOTING

This table features instructions to solve the most frequent problems.

<table>
<thead>
<tr>
<th>PROBLEM</th>
<th>SOLUTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>The light stimulus does not work.</td>
<td>• Check that power cord is connected to AC mains.</td>
</tr>
<tr>
<td></td>
<td>• Check that the light bulbs are not melt.</td>
</tr>
<tr>
<td></td>
<td>• Check that the light bulbs are correctly screwed in the lamp holders.</td>
</tr>
<tr>
<td></td>
<td>• Check that the switch is not in the central position (lights off).</td>
</tr>
</tbody>
</table>
# 11. PREVENTIVE MAINTENANCE

<table>
<thead>
<tr>
<th>EXPERIMENT</th>
<th>WHEN NECESSARY</th>
</tr>
</thead>
<tbody>
<tr>
<td>WALLS CLEANING</td>
<td>✓</td>
</tr>
<tr>
<td>FLOORS CLEANING</td>
<td>✓</td>
</tr>
<tr>
<td>CHECK FLOORS PLACING</td>
<td>✓</td>
</tr>
<tr>
<td>BULBS REPLACING(^a)</td>
<td>✓</td>
</tr>
</tbody>
</table>

\(^a\) Bulbs must be replaced by ones with the same specs (see specifications)
# 12. TECHNICAL SPECIFICATIONS

## POWER SUPPLY
- **Input voltage:** 115 VAC or 230 V AC not selectable
- **Frequency:** 50/60 Hz
- **Maximum power:** 40 W

## ENVIRONMENTAL CONDITIONS
- **Operating temperature:** 10°C to +45°C
- **Operating relative humidity:** 0% to 85% RH, non-condensing
- **Storage temperature:** 0°C to +50°C, non-condensing

## LIGHT
- **White Bulb:** 40W 230V screw E27 / 40W 115V screw E27
- **Red Bulb:** 25W 230V screw E27 / 25W 115V screw E27

## SWITCH
- **Type:** C&K 1 circuit 3 positions

## DIMENSIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Animal</th>
<th>Compartments</th>
<th>Shared Wall</th>
<th>Opening</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Black</td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>LE 810</td>
<td>Mouse</td>
<td>16 x 25 x 24</td>
<td>25 x 25 x 24</td>
<td>47 x 25</td>
</tr>
<tr>
<td>LE 812</td>
<td>Rat</td>
<td>20 x 31 x 24</td>
<td>31 x 31 x 24</td>
<td>56 x 31</td>
</tr>
</tbody>
</table>

*Dimensions are expressed in centimeters.*
DECLARACIÓN DE CONFORMIDAD
DECLARATION OF CONFORMITY
DECLARATION DE CONFORMITÉ
nombre del fabricante: Panlab s.l.u.
Manufacturer’s name: www.panlab.com info@panlab.com
Nom du fabricant: 
Dirección del fabricante: Energía, 112
Manufacturer’s address: 08940 Cornellà de Llobregat
Adresse du fabricant: Barcelona SPAIN
Declara bajo su responsabilidad que el producto: BLACK & WHITE TEST BOX
Declarations under his responsibility that the product: 
Déclare sous sa responsabilité que le produit: 
Marca / Brand / Marque: PANLAB
Modelo / Model / Modèle: LE 810-812
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:
2006/95/EC Directiva de baja tensión / Low Voltage / Basse tension
2012/19/EU La Directiva de Residuos de Aparatos Eléctricos y Electrónicos (WEEE) / The Waste Electrical and Electronic Equipment Directive (WEEE) / Les déchets d'équipements électriques et électroniques (WEEE)
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)
2006/42/EC Directiva mecánica / Machinery directive / Directive mécanique
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:
Seguridad / Safety / Sécurité: EN61010-1:2011
EMC: EN61326-1:2012 Class B
Safety of machinery: EN ISO 12100:2010
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:
Carme Canals
General Manager
Panlab s.l.u., a division of Harvard BioScience
Cornellà de Llobregat, Spain
30/04/2014
Note on environmental protection:

After the implementation of the European Directive 2002/96/EU in the national legal system, the following applies:

Electrical and electronic devices may not be disposed of with domestic waste. Consumers are obliged by law to return electrical and electronic devices at the end of their service lives to the public collecting points set up for this purpose or point of sale. Details to this are defined by the national law of the respective country. This symbol on the product, the instruction manual or the package indicates that a product is subject to these regulations. By recycling, reusing the materials or other forms of utilizing old devices, you are making an important contribution to protecting our environment.

Nota sobre la protección medioambiental:

Después de la puesta en marcha de la directiva Europea 2002/96/EU en el sistema legislativo nacional, Se aplicara lo siguiente:

Los aparatos eléctricos y electrónicos, así como pilas y baterías, no se deben tirar a la basura doméstica. El usuario está legalmente obligado a llevar los aparatos eléctricos y electrónicos, así como pilas y baterías, al final de su vida útil a los puntos de recogida municipales o devolverlos al lugar donde los adquirió. Los detalles quedarán definidos por la ley de cada país. El símbolo en el producto, en las instrucciones de uso o en el embalaje hace referencia a ello. Gracias al reciclaje, a la reutilización de materiales i a otras formas de reciclaje de aparatos usados, usted contribuirá de forma importante a la protección de nuestro medio ambiente.

Remarques concernant la protection de l'environnement :


Elles concernent les déchets d’équipement électriques et électroniques. Le pictogramme "picto" présent sur le produit, son manuel d’utilisation ou son emballage indique que le produit est soumis à cette réglementation. Le consommateur doit retourner le produit usager aux points de collecte prévus à cet effet. Il peut aussi le remettre à un revendeur. En permettant enfin le recyclage des produits, le consommateur contribuera à la protection de notre environnement. C’est un acte écologique.

Hinweis zum Umweltschutz:

Ab dem Zeitpunkt der Umsetzung der europäischen Richtlinie 2002/96/EU in nationales Recht gilt folgendes:


Informazioni per protezione ambientale:

Dopo l’implementazione della Direttiva Europea 2002/96/EU nel sistema legale nazionale, ci sono le seguenti applicazioni:

I dispositivi elettrici e elettronici non devono essere considerati rifiuti domestici. I consumatori sono obbligati dalla legge a restituire i dispositivi elettrici e elettronici alla fine della loro vita utile ai punti di raccolta collaterali preposti per questo scopo o nei punti vendita. Dettagli di quanto riportato sono definiti dalle leggi nazionali di ogni stato. Questo simbolo sul prodotto, sul manuale d’istruzioni o sull’imballaggio indicano che questo prodotto è soggetto a queste regole. Dal riciclo, e re-utilizzo del materiale o altre forme di utilizzo di dispositivi obsoleti, voi renderete un importante contributo alla protezione dell’ambiente.

Nota em Proteção Ambiental:

Após a implementação da directiva comunitária 2002/96/EU no sistema legal nacional, o seguinte aplica-se:

Todos os aparelhos eléctricos e electrónicos não podem ser despejados juntamente com o lixo doméstico. Consumidores estão obrigados por lei a colocar os aparelhos eléctricos e electrónicos sem uso em locais públicos específicos para este efeito ou no ponto de venda. Os detalhes para este processo são definidos por lei pelos respectivos países. Este símbolo no produto, o manual de instruções ou a embalagem indicam que o produto está sujeito a estes regulamentos. Reciclando, reutilizando os materiais dos seus velhos aparelhos, esta a fazer uma enorme contribuição para a protecção do ambiente.