

Hardware User's Manual

Black & White test box



References:

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

Publication:

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Limitation of Liability








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Some symbols may have more than one interpretation by professionals unaccustomed to their usage.

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1. SYMBOLS TABLE

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

DESCRIPTION	SYMBOL
Warning about operations that must not be done because they can damage the equipment	
Warning about operations that must be done, otherwise the user can be exposed to a hazard.	
Protection terminal ground connection.	
Warning about a hot surface which temperature may exceed 65°C	
Warning about a metal surface that can supply electrical shock when it's touched.	
Decontamination of equipments prior to disposal at the end of their operative life	
Waste Electrical and Electronic Equipment Directive (WEEE)	

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.**



WARNING

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

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.

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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.

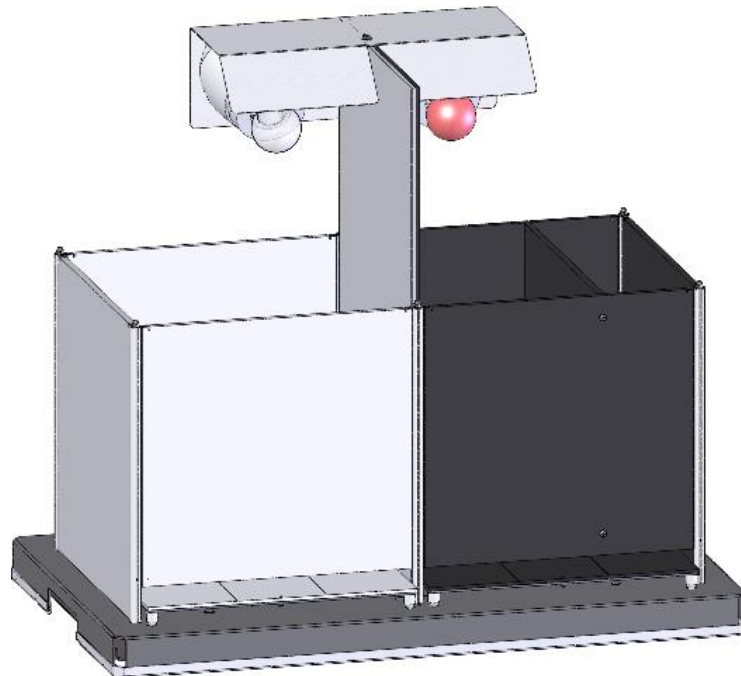


Figure 1. Black and White Test Box.

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

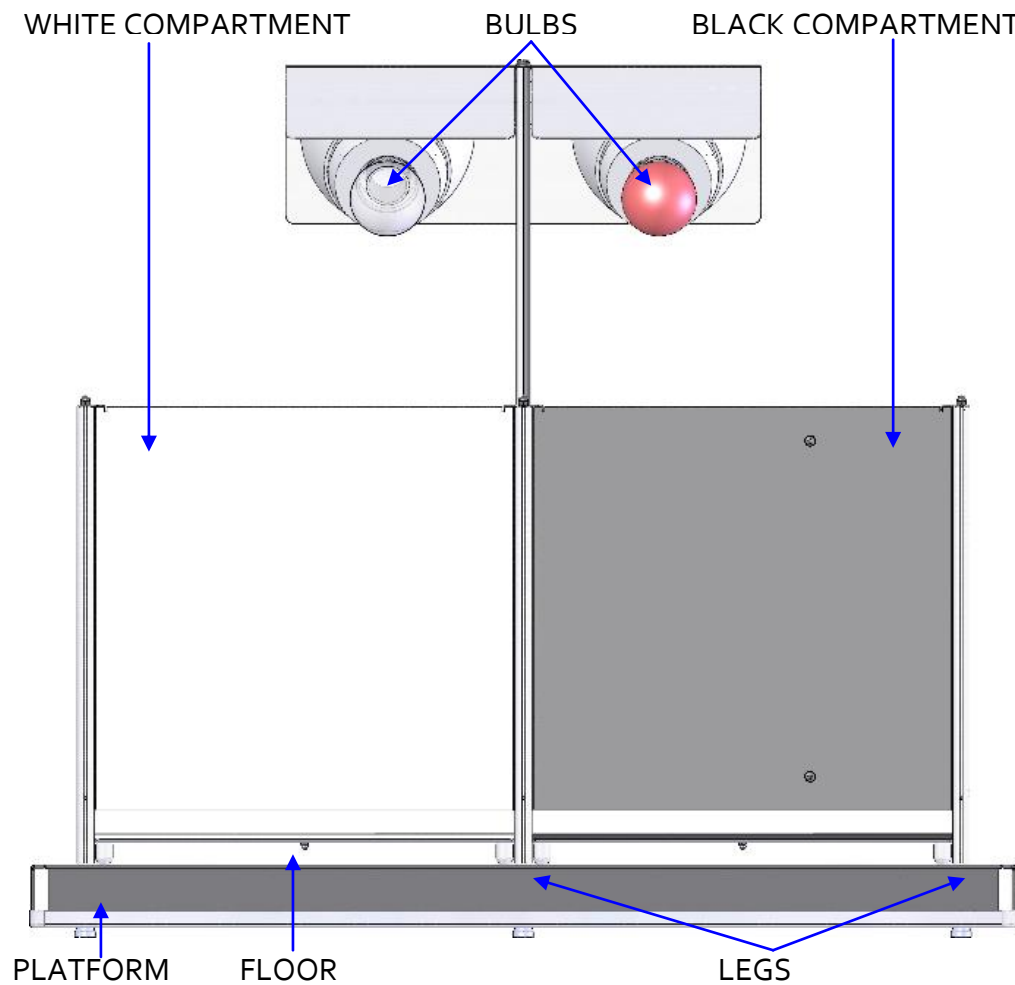


Figure 2. Experimentation Cage.

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 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

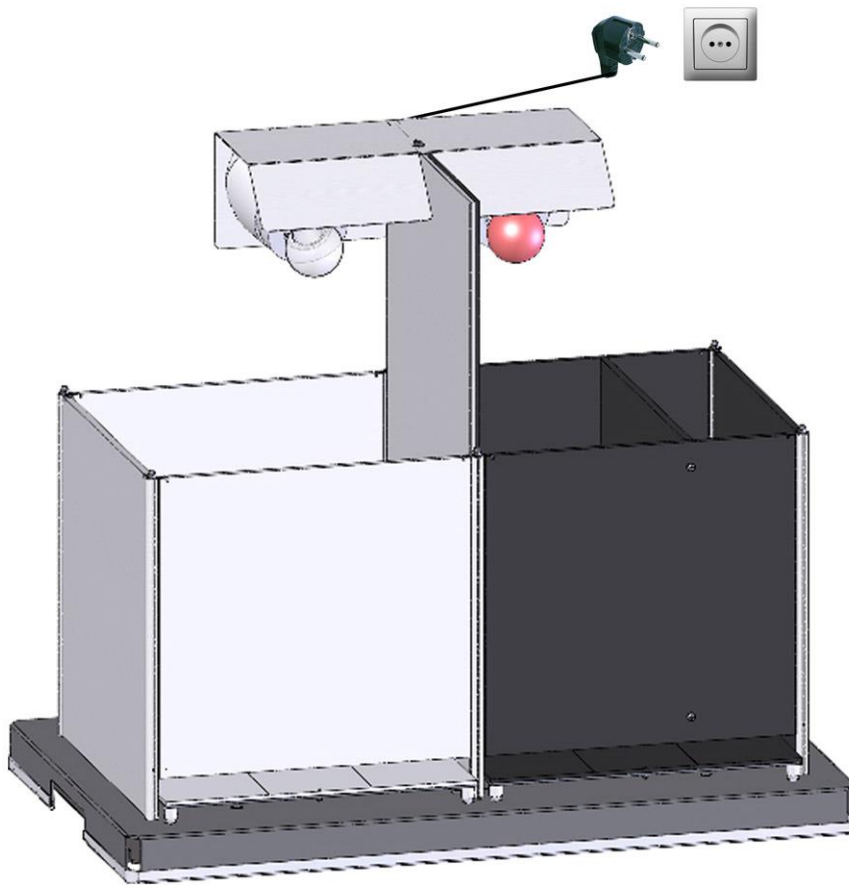


Figure 5. Equipment Connections.

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

	FROM	TO	CABLE
1	Cage lamp	AC Mains	Power cord

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.

PROBLEM	SOLUTION
The light stimulus does not work.	<ul style="list-style-type: none"> • Check that power cord is connected to AC mains. • Check that the light bulbs are not melt. • Check that the light bulbs are correctly screwed in the lamp holders. • Check that the switch is not in the central position (lights off).

11. PREVENTIVE MAINTENANCE

	EXPERIMENT	WHEN NECESSARY
WALLS CLEANING	<input checked="" type="checkbox"/>	
FLOORS CLEANING	<input checked="" type="checkbox"/>	
CHECK FLOORS PLACING	<input checked="" type="checkbox"/>	
BULBS REPLACING ¹		<input checked="" type="checkbox"/>


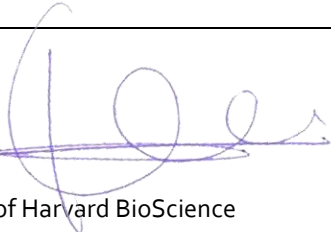
¹ Bulbs must be replaced by ones with the same specs (see especifications)

12. TECHNICAL SPECIFICATIONS

POWER SUPPLY Input voltage: Frequency: Maximum power:	115 VAC or 230V AC not selectable 50/60 Hz 40 W																				
ENVIRONMENTAL CONDITIONS Operating temperature: Operating relative humidity: Storage temperature:	10°C to +45°C 0% to 85% RH, non-condensing 0°C to +50°C, non-condensing																				
LIGHT White Bulb: Red Bulb:	40W 230V screw E27 / 40W 115V screw E27 25W 230V screw E27 / 25W 115V screw E27																				
SWITCH Type:	C&K 1 circuit 3 positions																				
DIMENSIONS ²																					
<table><tr><th rowspan="2">Model</th><th rowspan="2">Animal</th><th colspan="2">Compartments</th><th rowspan="2">Shared Wall</th><th rowspan="2">Opening</th></tr><tr><th>Black</th><th>White</th></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><td>7 x 7</td></tr><tr><td>LE 812</td><td>Rat</td><td>20 x 31 24</td><td>31 x 31 x 24</td><td>56 x 31</td><td>10 x 10</td></tr></table>		Model	Animal	Compartments		Shared Wall	Opening	Black	White	LE 810	Mouse	16 x 25 x 24	25 x 25 x 24	47 x 25	7 x 7	LE 812	Rat	20 x 31 24	31 x 31 x 24	56 x 31	10 x 10
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LE 812	Rat	20 x 31 24	31 x 31 x 24	56 x 31	10 x 10																

² Dimentions 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
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:	BLACK & WHITE TEST BOX
Declares 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
2004/108/EC	Directiva EMC / EMC Directive / Directive CEM
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:	 Carme Canalís General Manager Panlab s.l.u., a division of Harvard BioScience
Manufacturer's representative:	
En représentation du fabricant:	
Cornellà de Llobregat, Spain 30/04/2014	

(GB) 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 utilising old devices, you are making an important contribution to protecting our environment.

(E) 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 quedaran 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.

(F) Remarques concernant la protection de l'environnement :



Conformément à la directive européenne 2002/96/CE, et afin d'atteindre un certain nombre d'objectifs en matière de protection de l'environnement, les règles suivantes doivent être appliquées.

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.

(D) Hinweis zum Umweltschutz:



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

Elektrische und elektronische Geräte dürfen nicht mit dem Hausmüll entsorgt werden. Der Verbraucher ist gesetzlich verpflichtet, elektrische und elektronische Geräte am Ende ihrer Lebensdauer an den dafür eingerichteten, öffentlichen Sammelstellen oder an die Verkaufsstelle zurückzugeben. Einzelheiten dazu regelt das jeweilige Landesrecht. Das Symbol auf dem Produkt, der Gebrauchsanleitung oder der Verpackung weist auf diese Bestimmungen hin. Mit der Wiederverwertung, der stofflichen Verwertung oder anderer Formen der Verwertung von Altgeräten leisten Sie einen wichtigen Beitrag zum Schutz unserer Umwelt.

(I) 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 ed elettronici non devono essere considerati rifiuti domestici. I consumatori sono obbligati dalla legge a restituire i dispositivi elettrici ed elettronici alla fine della loro vita utile ai punti di raccolta collerici 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'imballo indicano che questo prodotto è soggetto a queste regole. Dal riciclo, e re-utilizzo del material o altre forme di utilizzo di dispositivi obsoleti, voi renderete un importante contributo alla protezione dell'ambiente.

(P) Nota em Protecção 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.