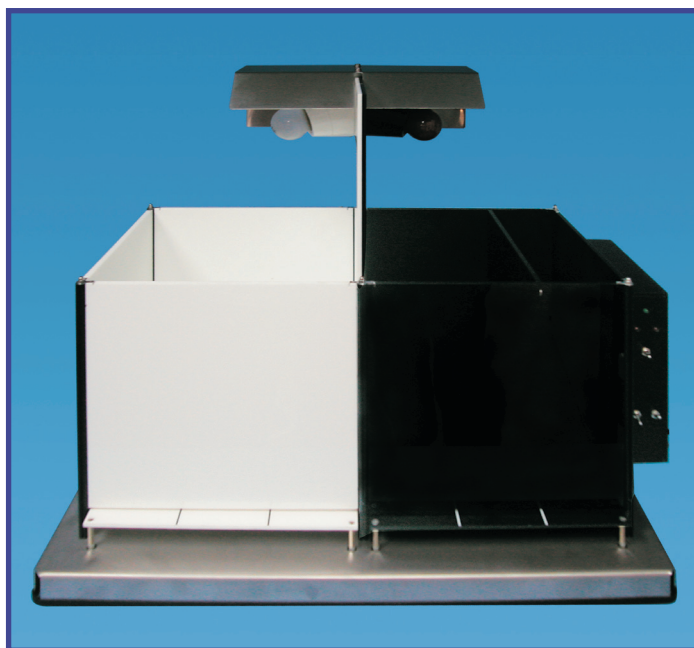


BLACK & WHITE TEST BOX

Numerous behavioural paradigms using several conflict procedures, social interaction or exploration of novel environments have been proposed as animal models of anxiety. 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 and in which anxiolytic drug-induced ease of exploratory activity is compared between an illuminated compartment and a dark one.

This model permits simple and quick evaluation of the anxious behaviour and its modification by pharmacological agents. Panlab s.l. has developed a complete system for the carrying out of this experiment, including both boxes for the experimental subjects and the appropriate control instrumentation



Test boxes

The test boxes, entirely constructed of perspex, consist of two compartments with walls 270 mm high. The first of these, coloured matt black, measures 270 x 180 mm; the other, matt white, measures 270 x 270 mm (interior dimensions). Both compartments are separated by a wall (470 mm high, to act as a light separator) with a 70 x 70 mm opening in its base. The box does not have a top cover.

Each compartment has its own removable floor, constructed with perspex of the same colour of the respective walls and with 90 x 90 mm sectors delimited by lines.

Each compartment is independently illuminated: the white one with a 100 W bulb (white) and the black one with a 40 W bulb (red). Both bulbs are 370 mm from the floor of the box.

The following table summarizes the characteristics of the test box models available:

| | | White compartment | | Black compartment | |
|------------|--------|-------------------|---------------|-------------------|--------------|
| Models | Specie | Dimensions (1) | Nº photocells | Dimensions | Nºphotocells |
| LE 810 | mouse | 270x270x271h | --- | 270x270x271h | --- |
| LE 816 (2) | id. | id. | 4 | id. | 3 |
| LE 812 | rat | 360x360x360h | --- | 360x360x360h | --- |
| LE 818 | id. | id. | 4 | id. | 3 |

(1): width, depth, height (mm)

(2): Has a load cell in each compartment to detect the position of the experimental subject.
Requires to be connected to a LE 3816 Control Unit.

The Control Unit.

The LE 3816 Control Unit is capable of controlling up to eight LE 816 and/or LE 818 boxes. It permits the determination of the total duration of each experimental trial and records the results obtained in all the boxes connected to it.



The control unit provides for each trial a) the total time spent in each compartment, b) the number of transitions between the white and black areas, c) the latency of the first change of compartment (regardless of the initial position) and d) the number of line crossings in the white and the black sections. It is capable of storing more than 1200 trials (150 trial/cage; up to 13 hours of work on a basis of trials of 5 min with the 8 boxes functioning simultaneously). The data integrity is guaranteed independently of power supply failures through back-up batteries.

The LE 3816 Control Unit has an alphanumeric display which provides information about the status of each cage and through which it is possible to obtain, using the keyboard, information on the accumulated results. This information is also supplied by the built-in thermal printer and can be transmitted to a PC computer by an RS 232 communications port.