

# LOCOTRONIC

The Locotronic is a unique machine for the detailed modeling of walking and its disorders in mice and rats, with respect to motor and psychomotor skills and cognition

- **Cognitive components of walking:** the decision to step, hesitation, path chaotization
- **Central motor control disorders**
- **Nerve and spinal damage**
- **Study of fine motor control in walking and gait in rodents**
- **Motor coordination**
- **Aging of motor functions**

## PURPOSE

This device reveals defects in fine motor coordination during walking, making it suitable for use in functional, toxicological, and genetic models (toxicosis, alcoholism, ataxia, Parkinson's disease, etc.).



## PRINCIPLE

The equipment consists of a departure box, a corridor, and an arrival box. The corridor is a flat ladder on which the animal can move from the starting box towards the arrival box. On both sides of the ladder, infrared sensors allow you to visualize and record the displacement of the animal as well as motor control displacement of the animal as well as motor control defects (distinguishes front and rear legs). The location and precise length of time of all the errors are recorded. The error rate increases according to the rodent's difficulty moving and the level of difficulty of the task (traps can be created by withdrawing one or more bars).



## SIMPLICITY

The corridor is removable, which allows an easy and fast cleaning. It is adaptable, which makes it possible to test the small one or large rodent with the same apparatus: interchangeable rat/mouse corridors.

**INTELLIBIO**

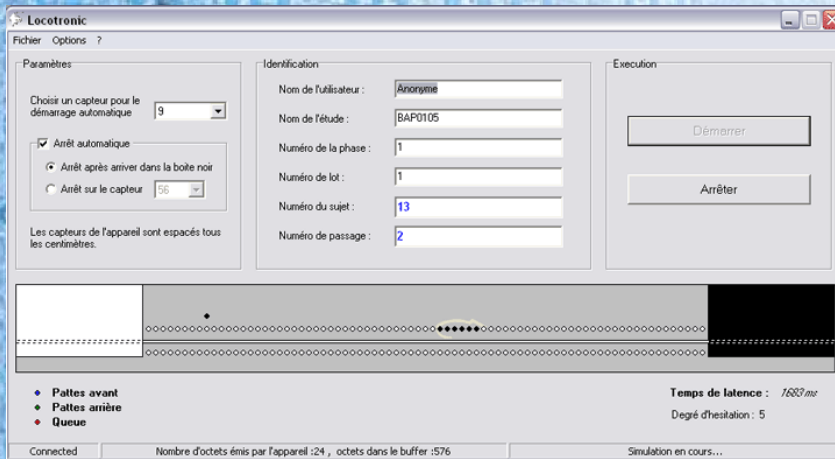
*Innovating for laboratories*

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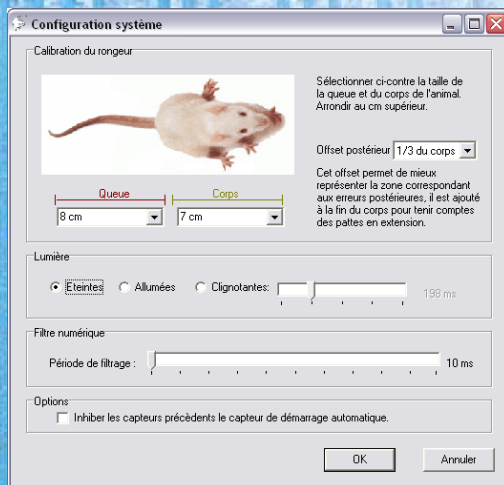
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## SOFTWARE

Software records data collected by the sensors and calculates leg (both front and rear) and tail errors. It creates a separate results file for each animal, which is easily exportable to Excel format. The software also automatically sorts errors and directly calculates the time/report ratio of the course and error rate.



## GENERAL SPECIFICATIONS

- Acquisition speed: 10 ms
- Number of sensors: 154
- Aversive starting box using cool white light, adjustable by software
- Adjustable bar height with respect to error sensors
- Power supply: CE 15-V standard charger
- Connector: USB compliant
- Dimensions: 124 x 28 x 20 (L x W x H cm)
- Corridor width: 80 mm for rats and 50 mm for mice
- Space between bars: 1/3 cm (customisable)

**Computer and software delivered ready to use.**

Publication:

*Neurobiology of Disease* 14 (2003) 218-228 "Behavioral changes are not directly related to striatal monoamine levels, number of nigral neurons, or dose of parkinsonian toxin MPTP in mice".

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