



Passive Avoidance Step-Down *New Model*

Cat. No. 40570

General

The **Passive Avoidance step-down cage**, for **mice or immature rats**, is based on the step-down scheme in which the animal is dropped on an elevated platform which becomes uncomfortable because of vibrations.

The instrument basically consists of an **arena**, shaped as a cage (Cat. No. **47573**) and a control unit with touch-screen

The method is based on the mouse tendency to step-down a small platform, uncomfortable because of vibrations, onto the floor of the testing apparatus, which is electrified.

The animal inhibits its behaviour in order to avoid shock; this is measured by longer latency or refusal to step down. Latency is used to assess memory.

Increase or decrease of the **retention latency** gives an indication of improvement or impairment in memory and learning processes.



Step-Down Cage

Multiple-Cage Set-Up

Measures the increase/decrease of retention latency to study memory & learning processes



Main Features

- The electronic unit encompasses all controls for **up to 4 animal cages!**
- Specifically designed for mice or immature rats
- Latency time recorded down to 0.1 seconds

NEW on the 2014 version!

- The new "launcher" application, makes it possible to manage other UB behavioral cages with the same **Touch-Screen Controller 40500-001**; just purchase the hardware and the application software for the additional test!
- **Remote Control feature** will make remote service and software upgrades extremely simple!

Instrument Description

Different set-ups, depending on the number of cages, can be obtained by combining the following elements:

- **Programming/Recording Unit with Shocker**
- **Mouse Cage** (up to 4 with one controller)
- **Expansion Box**, for multiple cage set-up

Programming/Recording Unit

The **40500-001** Programming/Recording Unit, encompassing all controls, incorporates a constant-current high precision 8-pole shocker, and manages data acquisition: data are stored inside the unit and can be downloaded via the USB key provided as standard, for further processing via Excel, Access, etc.



The Unit, incorporating a 12" touch-screen, manages the Passive Avoidance Test via the **40570-010** Software. Up to 4 cages can be connected to the same Controller.

If more than one cage is connected, an expansion box **40500-005** is required for each additional cage.

Passive Avoidance Cage (step-down)

The cage, dimensioned 28(w)x23(d)x26(h)cm, is provided with a top lid; the cage floor is made of 0.2cm diam. bars, spaced 0.5cm apart, wired to the constant current 8-pole scrambling circuit, located in the control unit.



The detachable circular platform, diam. 7cm, is positioned at the centre of the cage, on a protruding stud fastened to the actuator, the mechanism which energizes the platform vibration.

A larger platform diam. 11cm, is also supplied with the standard package.

Principle of Operation

When the elevated platform onto which the animal is dropped becomes uncomfortable because of vibrations, the animal steps down to an electrified grid.

When the mouse confronts the electrified grid and re-returns to the platform, the stop command (or pedal switch) is used to halt platform vibration, and stop the latency counter; the touch-screen controller records the latency time in tenths of seconds.

The latency figure remains frozen until a new "session" is started. experimental data are stored inside the controller memory, for further processing.

The vibration intensity is selected from 10 to 100Hz, in 10 steps (10Hz each). The shock intensity can be preset in the range 0 to 3mA, in steps of 0.1mA.

A delay up to 15 seconds can be set in steps of 1s.

Ordering Information

- 40500-001** Programming/Recording Unit & Shocker
- 40570-010** P.A. Software and activation
- 47573** Mouse Cage, complete 2 platforms
- 40500-005** Expansion Box, for multiple cage set-up

Specifications

Start	from the touch screen, or via pedal switch
Stop	from the touch screen, or via pedal switch
Vibration	10-100Hz, in 10 steps (10Hz each)
Shock	0 to 3mA, in 0.1mA steps
Delay	0-15 seconds, in 1s steps.
Latency Time	0.1s steps

Physical

Dimensions	28(w)x23(d)x26(h)cm (Cage)
Dimensions	33(w)x25(d)x5.5(h)cm (Control Unit)
Weight	8Kg
Shipping Weight	16Kg (approx.)
Packing	80x60x44cm

Bibliography

Papers which quote the P.A. Test (step-down)

- A. Mikulecká et alia: "Consequences of early postnatal benzodiazepines exposure in rats. I. Cognitive-like behavior" *Front. Behav. Neuroscience* 8 : 101, 2014
- I.K. Celikyurt et alia: "Effect of harmaline, an endogenous β -carboline, on learning and memory in rats" *Pharmacol. Biochem. & Behavior* 103: 666-671, 2013
- D.S. Dimitrova & D.P. Getova-Spassova: "Effects of Galantamine and Donepezil on Active and Passive Avoidance Tests in Rats With Induced Hypoxia" *J. Pharmacol. Sciences* 101 : 199-204, 2006
- M. Sakaguchi et alia: "Effects of beta-casomorphin-5 on passive avoidance response in mice" *Biosci. Biotechnol. Biochem* 67 (11): 2501-2504, 2003