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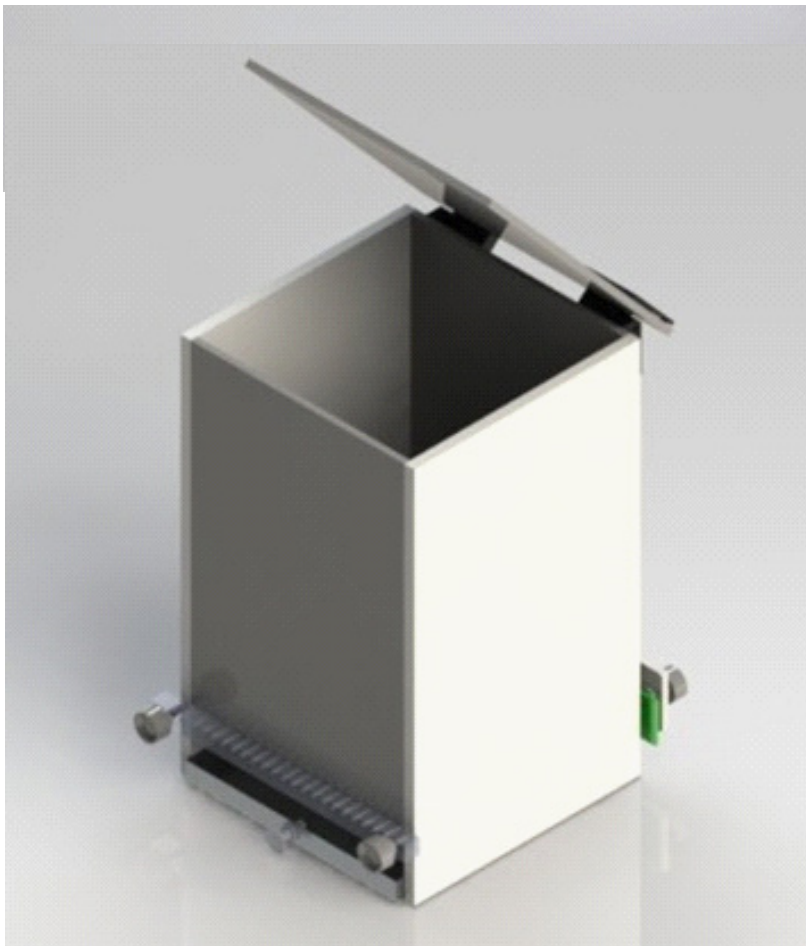
Learned Helplessness

Cat. No. 47500



General

When rodents are exposed to inescapable and unpredictable stress, such as forced swim or inescapable footshock, they often develop deficits in memory and learning tasks (**e.g. Active Avoidance**), and they often show also analgesic reactions (**S.I.A. Stress-Induced Analgesia**).

The **Ugo Basile Set-Up for Learned Helplessness** is based on a sophisticated generator of unpredictable random shocks delivered to the grid floor of a rodent box where no escape is possible.

Electric shocks can be randomized in terms of shock length and interval.

Complex trains can be programmed.

Up to 4 animals can be treated simultaneously in 4 independent boxes, controlled by the same electronic unit and software.

The set-up for Learned Helpless is part of the new UB Behavioral Cage program, exploiting the potentiality of a modern controller with touch-screen.

IDEAL TO STUDY

- Depression & Stress
- Learning & Memory Impairment
- Stress-Induced Analgesia (S.I.A.)

New Model

tip! this is part of the beehive cage-manager system; buy a single touch-screen controller, and manage all UB conditioning cages. Ask for details!

Main Features

- Ramdomizable shock patterns
- **Maximum flexibility**: configure your own Experimental Schedules on the touch-screen controller
- The electronic unit encompasses all controls for **up to 4 animal cages!**
- 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!

Ugo Basile: more than 10,000 citations

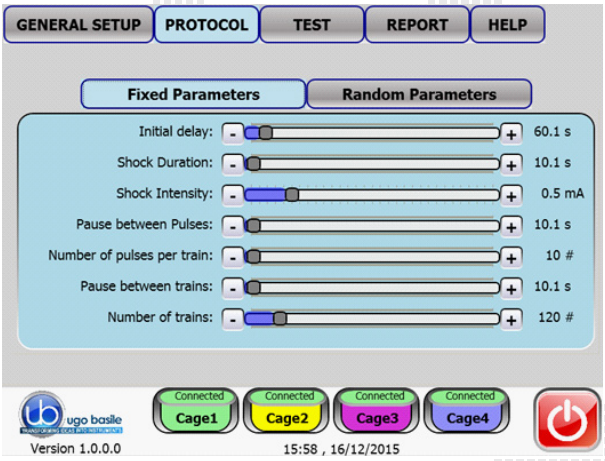
System Description

Different set-ups, depending on animal (rat or mouse) and number of cages, can be obtained by combining the following elements:

- **Touch-Screen Controller with Shocker**
- **Rat Cage** (up to 4 with one controller)
  or
- **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 Learned Helplessness Test via the **40530-010** 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.

The trials can be configured on the touch-screen controller, entering the setting via the virtual keyboard: train features, shock and timing of the different experimental sequences.

The system includes a user-friendly reporting software, to collect, visualize and manage data related to the delivered shocks; his is especially important to analyze the randomized shocks and have full control on the performed stimulation.

Randomizer

The **Touch-Screen controller** is also a sophisticated generator of unpredictable random shocks delivered to the grid floor of the cage.

Electric shocks can be randomized in terms of shock length, interval and complex trains can be programmed. It connects to up to 4 cages.

Rat and Mouse Cage

The dimensions of **Rat Cage 47502** are 22x22x20(h)cm; **Mouse Cage 47503** is dimensioned 17x17x20 (h) cm.

Both Cages include an electrified floor and a catch pan.

The electrical stimulus is applied to the floor bars of the cage and by an 8-pole "scrambling" circuit incorporated in the touch-screen controller.

All necessary cables and connectors are included to make it a ready-to-use system!

Ordering Information

40500-001	**Touch-Screen Controller** & Shocker
47500-010	**Learned-Helplessness Software** and activation
47502	**Rat Cage**, complete with electrified floor & catch pan
47503	**Mouse Cage**, complete with electrified floor & catch pan
40500-005	**Expansion Box**, for multiple cage set-up

Specifications :

Power Requirement	115/230V, 50/60Hz, 30W max.
Shock Parameters :	constant current, from 0.1 to 2.9mA in 0.1mA steps

Manual or external operation (via 5V TTL signals), with optional I/O box 46000-150

Physical:

Weight	3.9Kg	(40500-001)
	5.3Kg	(47502)
	3.4Kg	(47503)
Shipping Weight	5.7Kg	(40500-001)
	9Kg	(40552)
	6Kg	(40553)
Packing	80x60x44 (control unit & one cage)	

Bibliography

- Method: W.H. Freeman: "**Helplessness: On Depression, Development, and Death**" ISBN 0-7167-0752-7. (Paperback reprint edition, W.H. Freeman, ***1992***, ISBN 0-7167-2328-X)
- K. Szklarczyk et alia: "O**pioid-Dependent Regulation of High and Low Fear Responses in two Inbred Mouse Strains**" Behav. Brain Res 292: 95-101, ***2015***
- Guilherme dos Santos et alia: "**Antidepressive-like effects of electroacupuncture in rats"** Physiology & Behavior 93: 155-159, ***2008***
- Kademian et alia: "**Biphasic effects of adrenal steroid on learned helplessness behavior by inescapable shock"** Neuropsychopharmacology 30: 58-66, ***2005***
- Borsini & Cesana: "**Mechanisms of action of flibanserin in the learned helplessness in rats**." European Journal of Pharmacology 433: 81-89, ***2001***
- Grau et alia: "**Long-term analgesia and activation of the opiate system"** Science 213:1409-1411, 1981