New Fear Conditioning System
Series 46100

General
The Ugo Basile Fear Conditioning Systems 46000 includes all the components to run experiments on mice or rats, according to the paradigms:
- Contextual Fear Conditioning
- Cued Fear Conditioning

The detection of Freezing is automated and based on video analysis. The shock, light and sound parameters are controlled by software (USB) or manually, via the new Electronic Unit, based on touch-screen technology.

System Configuration
A typical Basic System consists of:
- Controller with touch-screen
- Animal box with electrified floor and Context Kit (3 floors, 9 walls)
- Isolation Cubicle, with dual (visible/I.R.) light, speaker and fan

The complete system also include:
- Freezing-detection Software
- USB Videocamera

Preinstalled PC can be supplied as optional

Main Features
- All controls managed by a single unit
- AUTOMATIC detection of FREEZING also in Total Darkness
- Specific versions for rats or mice
- Multiple Cage Set-up (up to 16 cages, in

“...I have been using your fear conditioning setup pretty heavily in the last months and I am really happy...”
Dr. Alexandra Klein, Max Planck Institute

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!

New software NG on board

Ugo Basile: more than 10,000 citations
FEAR CONDITIONING SYSTEM

System Components

Software and IR-CCD camera

The Ugo Basile Fear Conditioning system benefits of a specific version of the Any-maze software, Cat. No. 60000-FC; the software controls the Ugo Basile hardware, automatically detects the freezing behavior and analyzes the results across time.

Measured parameters include:
- Total Freezing time
- No. and duration of freezing episodes across time

The USB videocamera 47400-030, is sensitive to IR light and allows for freezing detection even in total darkness. Wide angle lenses and IR filters are included.

Controller

The new FC Controller 40500-001, with the aid of the new application software 46000-110 consolidates all controls in a single compact electronic unit.

On its 12” touch-screen, the researcher sets the following parameters via the user-friendly interface:
- Sound, in the range 100Hz-18KHz; 55-100dB or white noise. The speaker is included in the Cubicle.
- Shock: constant current (from 0.1 to 2.9 mA in 0.1 mA steps). The shock can be controlled via external operation (via 5V TTL signals)
- Light

Connections are arranged on the controller back panel:

Animal Box with Electrified Grid Floor

- 46003 Mouse Box: inside dimensions: 17x17x25(h) cm
- 46002 Rat Box: inside dimensions : 26x26x30(h) cm

Context Kit

A complete set of removable contexts is provided to alter the colour of the box walls and floor. Each animal box includes a kit with: 3 striped walls, 3 chessboard, 3 grey walls and 3 plastic floors (white, black, grey).

Isolation Cubicle

The new-design Isolation Cubicle 46000-590 includes a dual (visible and I.R.) LED light, a loudspeaker and a noiseless fan all conveniently positioned inside the sound-attenuating cubicle. Multiple-cage set-ups include an expansion-cubicle with its slave electronics on board.

Preinstalled PC (optional)

Our Fear Conditioning systems can be used with Windows laptop or desktop PCs. We also offer ready-to-use systems, including a PC, with preinstalled software & hardware, fully tested.

Ordering Information

COMPLETE SYSTEMS (with software and USB camera)

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BASIC SYSTEMS (without software/camera)

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Additional Animal Kits, including Cage, expansion cubicle & electronics (no camera) are available:

- 46102-002 Rat
- 46103-003 Mouse

All components can be ordered separately.

Bibliography

- D. Sierra-Mercado et alia: “Controlled cortical impact before or after fear conditioning does not affect fear extinction in mice” Brain Research 1606: 133-141, 2015
- A. Sirri et alia: “Temporal gene expression profile of the hippocampus following trace fear conditioning” Brain Research 1308, 14-23, 2010