

# New Fear Conditioning System

Series 46001

## General

The **UGO BASILE ANY-maze controlled Fear Conditioning system** automates the two most common fear conditioning paradigms: **Contextual Fear Conditioning** and **Cued Fear Conditioning**. The detection of Freezing is automated and based on video analysis.

A typical **FC-System** consists of:

- an FC-Unit, encompassing a Sound-Attenuating Box, with ventilating fan, a dual (visible/ I.R.) light, a speaker & a USB-camera. Each FC-Unit has an individual controller on-board
- an FC-cage, for mouse or rat, (see ordering information for available models), with electrified floor & context kit (3 floors and 3 sets of patterned walls)
- ANY-maze software (from version 6.0, FC or full license)

Multiple systems, with virtually no limit, are easily assembled by multiplying the number of FC-Units and FC-cages, with no additional multiplexer or interface required.

ANY-maze controls the shocker, the sound generator and the light (I.R. and visible), and automatically detects the animal **freezing**, reporting information such as: total freezing time, number and duration of freezing episodes, latency times between stimuli and freezing events.



*“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*

## Main Features

- **AUTOMATIC** detection of **FREEZING** also in **total darkness**
- Specific versions for rats or mice
- Select the most suitable cage: two sizes, available with optional features, such as specific versions for tethered animals, etc.

## NEW to 2.1 version

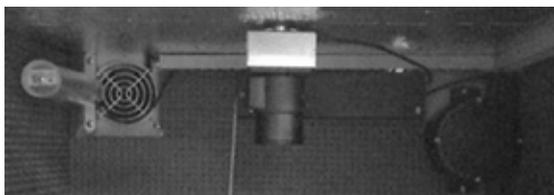
- Extremely simple to set-up: just plug a USB cable into a single USB port on the FC-Unit
- Multiple Cage Set-up, with virtually no limit in number
- ANY-maze controls all phases of the test, managing the experimental parameters, detecting the animal response and analyzing the experimental data.

## System Components

### FC-Unit

The new FC-Unit encompasses all that you need to set-up a Fear Conditioning test:

- a **Sound-Attenuating Chamber** 46000-596
- a **noiseless fan** for ventilation
- a **dual (visible and I.R.) LED light** 46000-325
- a **loudspeaker** 46000-165



- a **controller on-board** 46000-105
- a **USB camera** 47400-035

The 47400-035 USB-camera is sensitive to IR light, which allows for *freezing* detection even in total darkness.

Freezing



Wide angle lenses and IR filters are included.

Each FC-Unit is individually connected to ANY-maze, with virtually no limit in number: hence setting-up multiple cage systems, just means adding extra FC-Units, and nothing else!

To complete the system, just add the selected cage/s and ANY-maze software (FC-specific or full license), according to your experimental needs.

### Animal Cages with Electrified Grid Floor

- **46002** Rat Cage, I.D.: 25.5x25.5x36(h)cm
- **46003** Mouse Cage, I.D.: 17x17x25(h)cm
- **46004** Mouse XL Cage, I.D. 25.5x25.5x36(h)cm, with mouse floor



Optional models for tethered animals are available.

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

### ANYmaze Software

ANY-maze is the brain of our new FC-system: it controls the experimental setting, such as light, sound (in the range 100Hz-18KHz; 55-100dB or white noise), and shock (constant current presettable from 0.1 to 3.0mA in 0.1mA steps).

An **Ugo Basile Fear Conditioning mode** is provided in the **Protocol list to facilitate the set-up**: by asking some questions about the way you want to set up the cages, ANY-maze creates lots of the protocol items for you!



During the testing phase, ANY-maze detects freezing, collects experimental data, and analyzes the results.

### Ordering Information

- 46001** FC-Unit
- 46001-2** Bundle of 2 FC-Units
- 46001-3** Bundle of 3 FC-Units
- 46001-4** Bundle of 4 FC-Units
- 46002** Rat Cage
- 46003** Mouse Cage
- 46004** Mouse XL Cage
- 60000-FC** ANYmaze FC-software
- 60000** ANYmaze Full License



*You own a previous version of our FC-System? No worries: you can upgrade it to the new version, and/or add extra units. Ask for details!*

### Bibliography

- CL Bender et alia: "Prior Stress Promotes The Generalization Of Contextual Fear Memories: Involvement Of The Gabaergic Signaling Within The Basolateral Amygdala Complex" Progress in Neuro 83:18-26, 2018
- SR Blume et alia: "Sex-And Estrus-Dependent Differences In Rat Basolateral Amygdala" J. Neurosci., 0758-17, 2017
- PL Roubertoux et alia: "Differential Brain, Cognitive and Motor Profiles Associated with Partial Trisomy. Modeling Down Syndrome in Mice" Behav. Genetics 47(3), 2017
- M. Verma & JS Schneider: "Strain Specific Effects of Low Level Lead Exposure on Associative Learning and Memory in Rats" NeuroToxicology 62:186-191, 2017



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