

IntelliCage for Rats

IntelliCage for Rats is a novel yet proven approach for studying cognitive behavior of rats without interference by the experimenter. The system takes advantage of transponder technology for the individual recognition and treatment of animals.



YOUR BENEFITS

- Home cage measurement
- Rapid data generation
- Walk-away system
- Long-term monitoring
- Strictest animal welfare regulations met

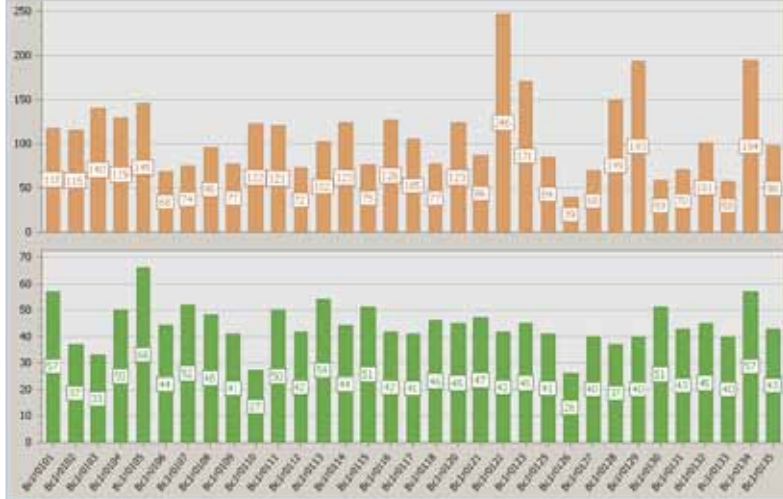
Benefits

- **Rapid Data:** Long-term monitoring of group housed animals, i.e. for neural degeneration and regeneration
- **Enhanced animal welfare:** Measures learning behavior of rats without stress and in a social context. Compatible with increasingly restrictive legislation on animal welfare
- **Minimized experimental interference:** Fully automated screening of complex spatial and non-spatial learning procedures with online monitoring
- **“Intellectually enriched” environment:** can be provided, the degree of the challenge being variable
- **Saving manpower:** Significant reduction of repetitive and boring routine work for technicians and scientists
- **Data comparability:** Standardized procedures
- **High-throughput:** Up to 8 rats per system monitored simultaneously
- **Easy to use:** Advanced IntelliCage Plus Software features

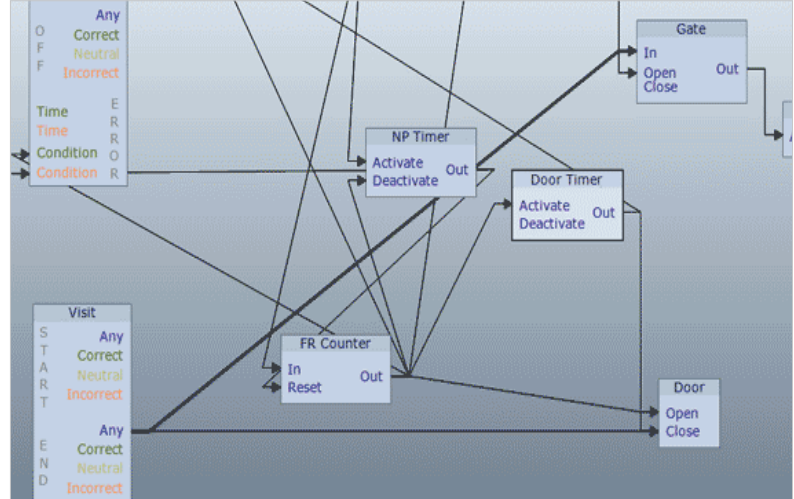
Overview

The system consists of interconnected standard home cages for rats, providing space for social interaction. Each home cage is linked to a separate operant conditioning corner. Animals are identified by implanted standard transponders when entering a corner. Each corner contains an operant conditioning unit. Rats can obtain liquid reward triggered by nose-pokes from water bottles in each corner. Conditioning is controlled by multicolored LED's and air-puff punishment. Each corner includes 2 nose-poke sensors, 2 lickometers and one presence sensor. Depending on the complexity of the learning schedules selectable on a controlling computer, each IntelliCage for Rats can handle the learning behavior of up to 16 rats simultaneously, while each controlling computer can be connected to as many as eight IntelliCages at one time.

The system operates continuously and fully automated, typically requiring cleaning only once a week. Progress of experiments can be followed via intranet outside the test room, but also from anywhere else via internet. Experimental data are extracted in a format suited for import into standard statistical software packages.



Analyzer - Charts (number of licks, nosepokes, visits)



Designer - Advanced Module

Features

Complex conditioning tasks or complete experiments can be graphically designed in a uniquely flexible manner and controlled for each individual animal in the IntelliCage.



Behavioral Features

IntelliCage for Rats monitors a wide range of behavioral abilities: exploration, approach/avoidance, spatial preference, spatial patrolling (including short-term spatial memory tasks), spatial avoidance, and even temporo-spatial learning. Individual rats are easily trained to work in a permanently assigned corner and can be subjected to long/lasting operant conditioning schedules such as fixed ratio and DRL schedules.

Flexibility of the System

Each IntelliCage for Rats unit allows simultaneous monitoring of up to 16 rats (according to Swiss animal welfare regulations, local regulations may vary), depending on the task. Experimental and control animals can be kept in the same cages. The system is scaleable and can be set up in different configurations, such as horizontal layout or stackable into racks.

Software

Using the tested IntelliCage Plus Software, designing, controlling and analyzing your experiment has never been so easy and comprehensive! Freely programmable tasks and customer specific experimental designs can be implemented with ease.

Support and Service

TSE Systems offers an 2 Year All-In Warranty on all new systems, and outstanding global 24/7 premium customer service. Our experienced experts are dedicated to complete customer satisfaction and will solve your problem by e-mail, phone or an on-site visit.

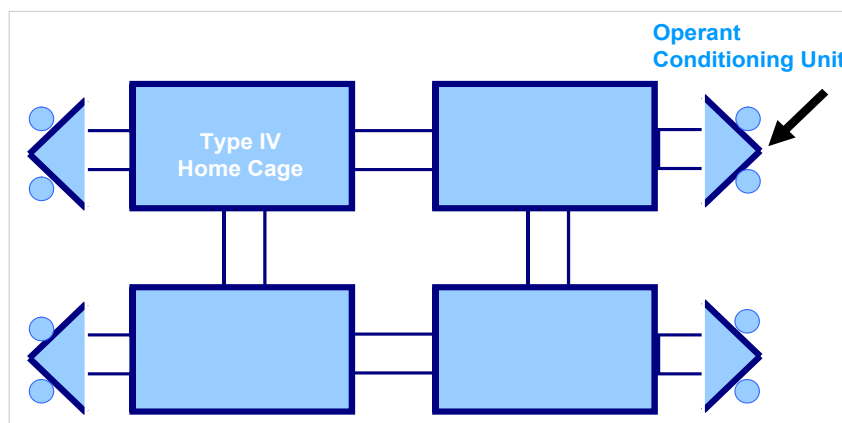
Every solution starts with a conversation

We are interested to understand your scientific needs. Feel free to contact us and explain your ideas to us. We may already work on a solution.

Ordering Information

IntelliCage for Rats:

- Product Nr: 290000



IntelliCage for Rats: System Scheme