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Technology Offer

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Multifunctional Mainboard to Observe and Manipulate Organisms (MOMO)

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Background

In many areas of behavioral science, the use of technical devices is far behind the possibilities of modern electronic and communication techniques. This is often not based on a lack of functional devices but a missing implementation of complementary or supplementary techniques to enable complex monitoring systems.

Technology

Scientists of the Max Planck Institute for Ornithology have developed a Multifunctional Mainboard to Observe and Manipulate Organisms (MOMO). MOMO can incorporate and control different electrical components used for automated data collection and manipulation in behavioral science. Possible combinations of such components are, for example, the connection and control of (various) RFID transponder readers or light gates that can in turn be used to control other devices like cameras or automatic feeding devices. Thereby it is possible to selectively observe and manipulate specific individuals within a mixed population. MOMO therefore allows the collection of high-quality data without imposing disturbance and stress on the sampled individuals. Another advantage of MOMO is that it can be used independently of a main power supply due to its highly efficient energy design. Furthermore, based on the regular monitoring of any connected components through MOMO, any malfunctioning components can be located easily through the evaluation of the data sets and can be immediately and selectively targeted for any necessary maintenance.

Summary

MOMO allows for the effective observation and manipulation of the behavior of individuals.

MOMO

- Can support a multiplicity of data logger applications in combination with other automated behavioral science devices
- Allows for the passive recording of the presence, identity and behavior of individuals
- Can be used to carry out behavioral manipulations and record the behavioral responses of different individuals
- Has a low power consumption leading to long lasting working periods
- Is applicable world-wide due to its compatibility with different types of radio clock receivers
- Can send the collected data to external devices, such as a personal computer
- Provides high-quality observation and manipulation data by keeping the disturbance to the individuals minimal.

We are now looking for a licensing or cooperation partner for this technology and will be pleased to share detailed information and scientific data.