

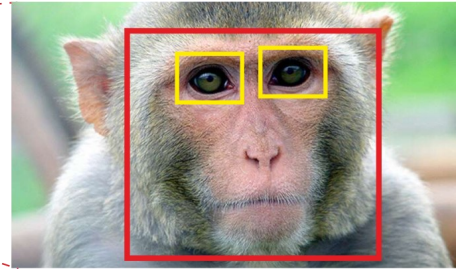


Thomas RECORDING GmbH

„We have the solution!“

Thomas Oculus Motus (TOM) fmm

*Modular Behavioral Analysis & Eye Tracking System
for freely moving monkeys*



Product Features

Module 1: Behavioral Recording Setup

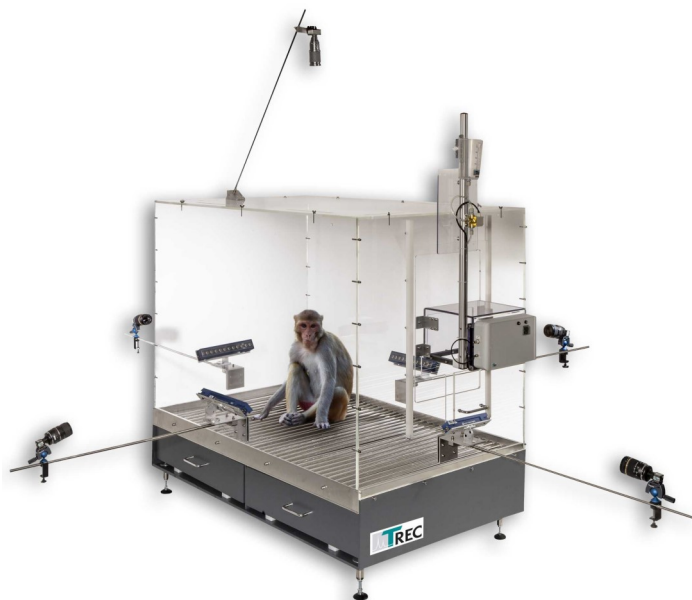
- Rugged primate cage with transparent walls (1.5x0.9x1.3)m
- Up to 5 high resolution and high speed video cameras with wide-angle lenses
- High speed computer system with Microsoft Windows operating system for time synchronized video recording

Module 2: Behavioral Analysis Setup (soon)

- Online body position & pose measurement (output via LAN or analog signal)

Module 3: Eye Tracking Setup (soon)

- 4 Integrated high intensity infrared illumination units (940nm)
- Thomas eye tracking software with face recognition and detection of eye movement parameters from a freely moving non-human primate



 Made in GERMANY



Easily upgrade your Setup with additional features at any time!

www.ThomasRECORDING.com

TOM freely moving monkey system



Fig. 1: TOM camera mounted on a tripod stand (if the TOM fmm cage system (AN001560) is ordered, a tripod stand is not necessary)

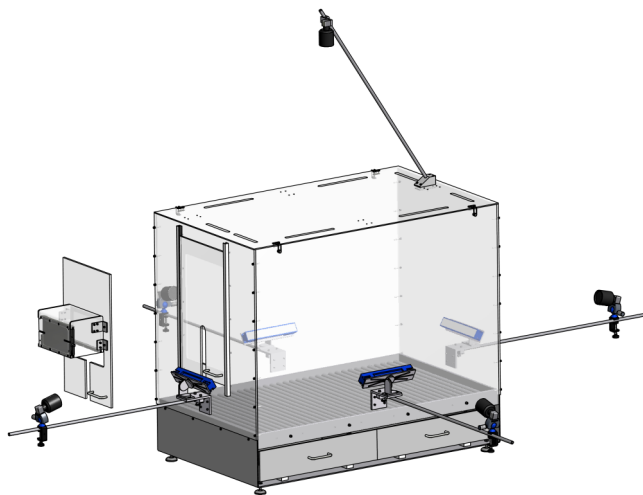


Fig. 2: TOM fmm primate cage made of transparent plastic walls with mounted eye-tracking cameras and infrared illumination units. The door of the cage can be replaced by a Thomas incage training system (ICTS) which is optional available with AN001272 (see left side of the drawing)!

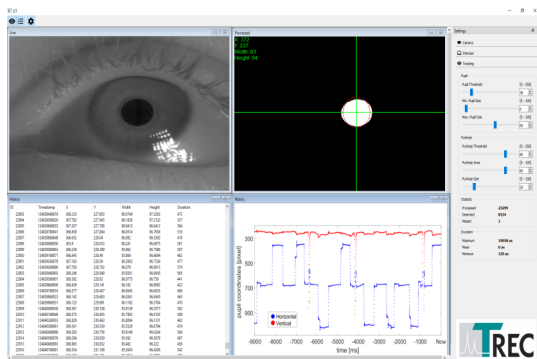


Fig. 3: Graphical user interface of the eye tracking software application

The TOM – **F**reely **M**oving **M**onkey (TOM - FMM) system is a modular, fully-integrated device for the non-invasive measurement of behavior, pose and eye movements in freely behaving and moving non-human primates. The non-invasive, contact-free measurement principle requires no special accustoming from the animal and allows an easy combination with other neuroscientific techniques like telemetric electrophysiological recordings. Due to its modularity, it is ideally suited for basic behavioral or oculomotor research in non-human primates.

The TOM – FMM offers the unique feature of optimizing both, the temporal and spatial resolution of the video image, according to the demands of the researcher. Thus, unlike any other device, the cameras can be operated with a spatial resolution of 1024 x 750 pixels at approximately 410Hz. Furthermore, in order to allow the exact detection of more subtle body movements, facial expressions or even eye movements, the eye tracker can also be operated with a spatial resolution of 2032 x 1500 pixels at 120 Hz. An additional scene camera can be used to continuously track the position of the animal within the cage.

All systems consist of a fully equipped, high-quality and transparent cage for the temporary housing of the animal during the experiment and up to five high performance video cameras connected to a data recording system for time synchronized recordings for later offline analysis. The optional second module will soon be available and will automatically compute the animals position and pose online and provide this data via LAN or analog output for easy synchronization with other devices. The third module is currently in development and will upgrade the TOM - FMM to record the full 3-D gaze direction of the freely moving animal. This feature easily opens a rather unexplored research field, e.g. for the identification of neural correlates of oculomotor functions.

Ordering Information:

Article	Order Number
TOM fmm - Recording (incl. cage)	AN001653 (available)
TOM fmm - Online Pose Analysis	AN001654 (coming soon)
TOM fmm - Eye Tracking	AN001655 (coming soon)
InCage Training System (ICTS)	AN001272 (available)