



Thomas RECORDING GmbH

„We have the solution!“

Tetrode Screw Drive (TSD-2-VV)



Product Features

- Reusable Microdrive system
- Electrode travel range up to 8.000µm
- Small and lightweight
- No electrode connection cables free in air! Complete metal shield around all microelectrodes
- Suitable for cortical and deep brain recordings
- Stable long-term recordings with thin microelectrodes for hours
- Integrated 4 channel low noise pre-amplifier
- Electrode movement by screw turning
- Multichannel commutator (swivel) optional for freely moving applications optional available

 Made in
GERMANY

Certified  TÜV Rheinland®
ISO 9001 Precisely Right

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Innovative Products for Neurophysiology

The **Thomas Tetrode Screw Drive (TSD-02)** was developed for awake behaving small animals experiments (e.g. rats). One of the biggest obstacles to chronic single unit recording is how to move microelectrodes or tetrodes into or through the desired brain area while maintaining sufficient stability to allow recording of the same cell over hours or days. Our **TSD-2** screw microdrive is based around a precision screw machined to a pitch of 400µm which advances the microelectrode or tetrode in 50µm steps (1/8th turn). A spring tensions the screw and prevents it from moving spontaneously. The screw drive carries one Thomas quartz glass insulated platinum/tungsten single electrode or a Thomas tetrode (4 core electrode).

The TSD-2 drive is designed as a reusable device (weight 7g without implanted base plate). It is mounted on an implanted metal base plate (weight with cover 1g) to guarantee a stable contact to the animal's skull.

The mini matrix has an integrated 4 channel low-noise preamplifier. The microelectrodes are shielded by the microdrive chassis so that there is no electrical noise pickup from the environment.



Fig. 1: Thomas Tetrode Screw Drive with preamplifier cable connected to a multichannel commutator (swivel)

Device	Article number
Tetrode Screw Drive with integrated preamplifier (TSD-2-VV)	AN000754
TSD Base Plate	AN000756
Cover for implanted base plate	AN000758
Laboratory stand for TSD-2	AN000759