



Advancing EEG-TMS Recordings

ULTRA-FLAT ACTIVE
EEG ELECTRODES
AND HIGH-PERFORMANCE
AMPLIFIERS DESIGNED FOR
ARTIFACT-FREE RESEARCH

g·tec

www.gtec.at

High-Quality EEG-TMS Recordings with g.Hlamp and g.LADYbird Electrodes

The combination of the g.Hlamp biosignal amplifier and g.LADYbird active and passive electrodes provides researchers with the most advanced solution for simultaneous EEG and TMS recordings. Designed specifically to handle the unique challenges of TMS-EEG, this setup delivers fast assembly, quick recovery times, minimal artifacts, and unmatched data fidelity.

PRODUCT HIGHLIGHTS

- ◆ **Ultra-thin design (3 mm):** Positions the TMS coil closer to the scalp, enabling stronger stimulation with fewer artifacts.
- ◆ **Active vs. passive electrodes:** Choose active electrodes for fast, abrasion-free setup and clean high-impedance recordings, or passive electrodes for the fastest TMS pulse recovery—ideal for short-latency TMS-evoked potentials (TEPs).
- ◆ **High-resolution biosignal amplifier (g.Hlamp):** 0–10 kHz bandwidth, 24-bit resolution, and specialized filters ensure precise EEG capture and artifact suppression.
- ◆ **Fast setup and reproducibility:** 64-channel active electrodes can be mounted in 5 minutes without abrasive gel, with electrodes fixed in the cap for consistent positioning and quick reuse.
- ◆ **Robust artifact management:** Passive EEG electrode signals typically recover within 0.5 ms after stimulation offset, enabling accurate TEP analysis. Active EEG electrode signals return to baseline within 0.5 ms, allowing the recording of early and immediate EPs.
- ◆ **Seamless ecosystem:** Fully integrated with g.Recorder for data acquisition and EPs, g.Hlsys Professional for real-time processing, and g.BSanalyze for offline processing and closed-loop TMS-EEG studies.



Good read: www.gtec.at/2024/10/25/tms-eeg-closed-loop-systems



g.tec medical engineering is a global leader in biosignal amplifiers, high-performance brain-computer interfaces, and neurotechnologies. Our solutions are used by top universities and hospitals worldwide to advance neuroscience research and clinical innovation.

