

g.GAMMACLIP

ACTIVE ELECTRODES



The g.GAMMAclip contains an amplifier inside and allows you to attach disposable EMG/ECG electrodes for high quality recordings. The active electrode system greatly reduces noise produced by movements and interference with other devices, and thereby provides very high-quality data, even in challenging usage situations.

PRODUCT HIGHLIGHTS

- Compact active clip for recordings with disposable electrodes
- Fully compatible with g.GAMMASys and g.Hlamp's active headbox
- Super-fast and reliable setup

TECHNICAL SPECIFICATIONS

Amplification	Inside the clip
Cables	Required 1.5 kV protection
Connector	2-pin safety



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g.SAHARASYS

ACTIVE DRY ELECTRODE SYSTEM



Normally, the electroencephalogram (EEG) is recorded from the surface of the head with gel-based electrodes to provide a low electrode-skin impedance. If passive electrodes are used, the skin must be abraded beforehand to reduce the impedance. With active electrodes, which contain an amplifier inside, the electrode gel is injected between the electrode material and the skin. This allows the electrode system to be mounted more quickly.

One of the main advantages of gel-based active electrodes is their robust signal quality, but the main disadvantages are the long mounting time and the need to wash the cap and the user's hair after the recording. g.tec thus developed a dry electrode system that does not require electrode gel. The patented g.SAHARA electrode system consists of an 8 pin electrode made of a special golden alloy. The pins have sufficient length to reach through the hair to the skin. The golden alloy and the 8 pins reduce the electrode-skin impedance. The electrode itself can be connected with a clip to the active electrode system on top of it.

EEG recordings may be obtained from frontal, central, parietal and occipital regions of the head. Therefore, electrodes are usually mounted in a cap that holds the electrodes on the skin with a constant pressure at every recording location. EEG electrodes are typically positioned according to the international 10/20 system. g.tec hence developed the 2nd generation of the g.GAMMAcap, with a total of 160 positions according to an extended 10/20 system, to allow a very flexible electrode montage.

The design of the g.SAHARA electrode system allows users to just plug the electrode and the clip into the cap at the desired location.

PRODUCT HIGHLIGHTS

- The first and only dry electrode system that works for all frontal, central, occipital, temporal and parietal sites
- The first dry active electrode available on the market
- Patented technology
- The first and only dry system successfully tested with all major BCI approaches in group studies, reported in peer-reviewed papers
- Same cost range as an active EEG electrode with gel—but requires no gel
- Captures the whole EEG frequency spectrum from 0.1–40 Hz
- Mount the cap in under one minute!
- No more need to wash the hair or cap!
- Able to pick up frequency spectra for P300, motor imagery and SSVEP based BCIs

TECHNICAL SPECIFICATIONS

Amplification	Inside the electrode clip
Cables	Required 1.5 kV protection
Connector	2-pin safety
Pin length	7 mm or 16 mm
Number of pins	8

The clip fits very well in the electrode and holds the electrode precisely within the cap. g.SAHARA electrodes are available with different pin lengths. This is very useful for different head shapes and hair thicknesses. For example, users with some hairstyles may prefer to use shorter versions at central regions and longer versions at parietal sites.

