



EASYCAP

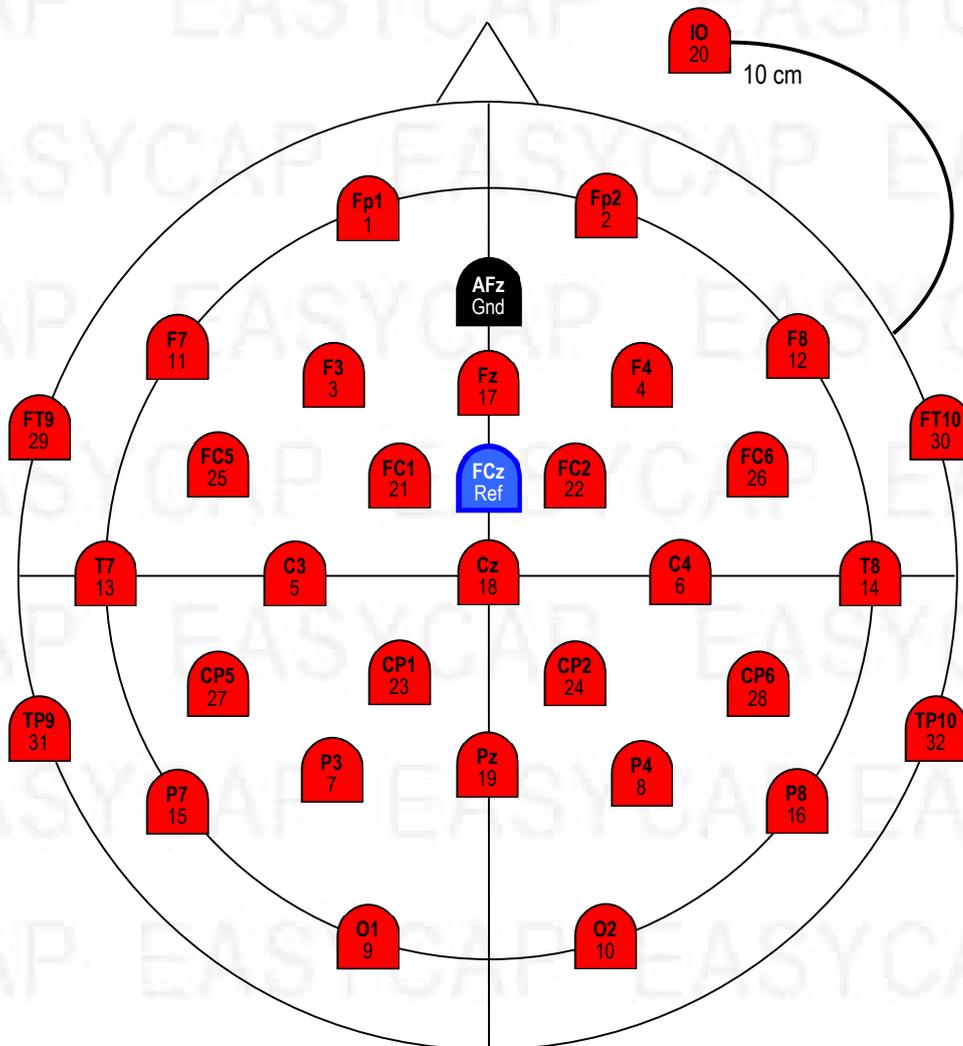
EEG Recording Caps and Related Products

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32Ch Standard BrainCap for MEG with Multitrodes

Electrode Layout and Channel Assignment



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Details for Users

Ordering information

For ordering please give **Article Number, Cap Cut, and Size**

(e.g. *BC-MEG-32, Caucasian, 56*):

- Article Number: **BC-MEG-32**
- Cap Cut: **Caucasian** or **Asian**
- Size (given in cm head circumference):
 - Adult caps: **54, 56, 58, 60, 62, 64** (average male: 58, average female: 56)
 - Children caps: **50** (3-4 years), **52** (5-10 years), **54** (11-14 years)
 - Infant caps: **34, 36** (newborn), **38, 40** (3 months), **42, 44** (7 month), **46, 48** (2 years)

The catalogue-number comprises the cap as described, serial number, and this document; all packed in a labelled cardboard box. For further information about accessories or consumables, please visit our website or contact our local distributor.

Cap

Standard: Subtemporal Cap with integrated chin belt, white

Sizes 52-64 made from High Precision Fabric, Sizes 50 and smaller made from High Comfort Fabric

Options: *Caucasian* or *Asian*, *Size*

Electrodes

All electrodes are Multitrodes for MEG with sintered Ag/AgCl sensors (total height 3.5mm). They are buttoned directly into the cap or can be attached to the skin with washers (= double-sided adhesive rings).

All electrodes are

- name-labelled at sensor end, cable colours according to above graphic
- attached to the cap with nylon threads.

The cables are attached to the cap with nylon threads. Two cable trees leave the cap plait-like behind the ears, pointing downwards, and meet at the connector-box. The length of cable trees is approx. 170 cm.

Termination

The cable trees are led into a Connector box. From here the caps are connected to BrainAmp with 30 cm-flat-ribbon-cables. These flat ribbon cables come with the BrainAmps. They can be re-ordered from BrainProducts (Cat-No. BP-02400-NN) or from EasyCap (Cat.-No. E80).

Theta/Phi-Coordinates

Please find a table with Theta/Phi-Coordinates of all electrode sites at the end of this document.

Hints for Handling MEG-compatible Electrodes

It is important to understand that although MEG-compatible electrodes are and stay non-magnetic if handled correctly; they still contain soft metals, which will become magnetic if exposed to a magnetic field. Therefore, please never take them close to sources of electromagnetic fields, e.g. into a MR-scanner. Even closeness to neon-bulbs, wall outlets etc. should be avoided.

Further, cleanliness is important not only for hygienic but also for technical reasons: it is astonishing how many ferro-magnetic particles are contained in ordinary household dust. Thus, not only the cap but also the storage room should be kept clean.

As tap water may contain metallic particles, the whole cleaning process should be performed with purified water (pharmacy-available). If this is not possible, then at least the last step of each cleaning should be to rinse the electrodes with purified water.

In case electrodes become (slightly) magnetized, in most cases they can be made MEG-compatible again either by simple cleaning or else by de-magnetizing the electrodes with e.g. a hand-held degausser (among others available from us).

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Table of Coordinates for BC-MEG-32

| Channel-number | Name | Theta | Phi |
|----------------|------|-------|-----|
| 1 | Fp1 | -90 | -72 |
| 2 | Fp2 | 90 | 72 |
| 3 | F3 | -60 | -51 |
| 4 | F4 | 60 | 51 |
| 5 | C3 | -45 | 0 |
| 6 | C4 | 45 | 0 |
| 7 | P3 | -60 | 51 |
| 8 | P4 | 60 | -51 |
| 9 | O1 | -90 | 72 |
| 10 | O2 | 90 | -72 |
| 11 | F7 | -90 | -36 |
| 12 | F8 | 90 | 36 |
| 13 | T7 | -90 | 0 |
| 14 | T8 | 90 | 0 |
| 15 | P7 | -90 | 36 |
| 16 | P8 | 90 | -36 |
| 17 | Fz | 45 | 90 |
| 18 | Cz | 0 | 0 |
| 19 | Pz | 45 | -90 |
| 20 | IO | --- | --- |
| 21 | FC1 | -31 | -46 |
| 22 | FC2 | 31 | 46 |
| 23 | CP1 | -31 | 46 |
| 24 | CP2 | 31 | -46 |
| 25 | FC5 | -69 | -21 |
| 26 | FC6 | 69 | 21 |
| 27 | CP5 | -69 | 21 |
| 28 | CP6 | 69 | -21 |
| 29 | FT9 | -113 | -18 |
| 30 | FT10 | 113 | 18 |
| 31 | TP9 | -113 | 18 |
| 32 | TP10 | 113 | -18 |
| Gnd | Afz | 67 | 90 |
| Ref | FCz | 23 | 90 |

These values are standardized to a Theta of 90° for the plane through Fpz, T7, T8, Oz.

The signs follow this convention:

