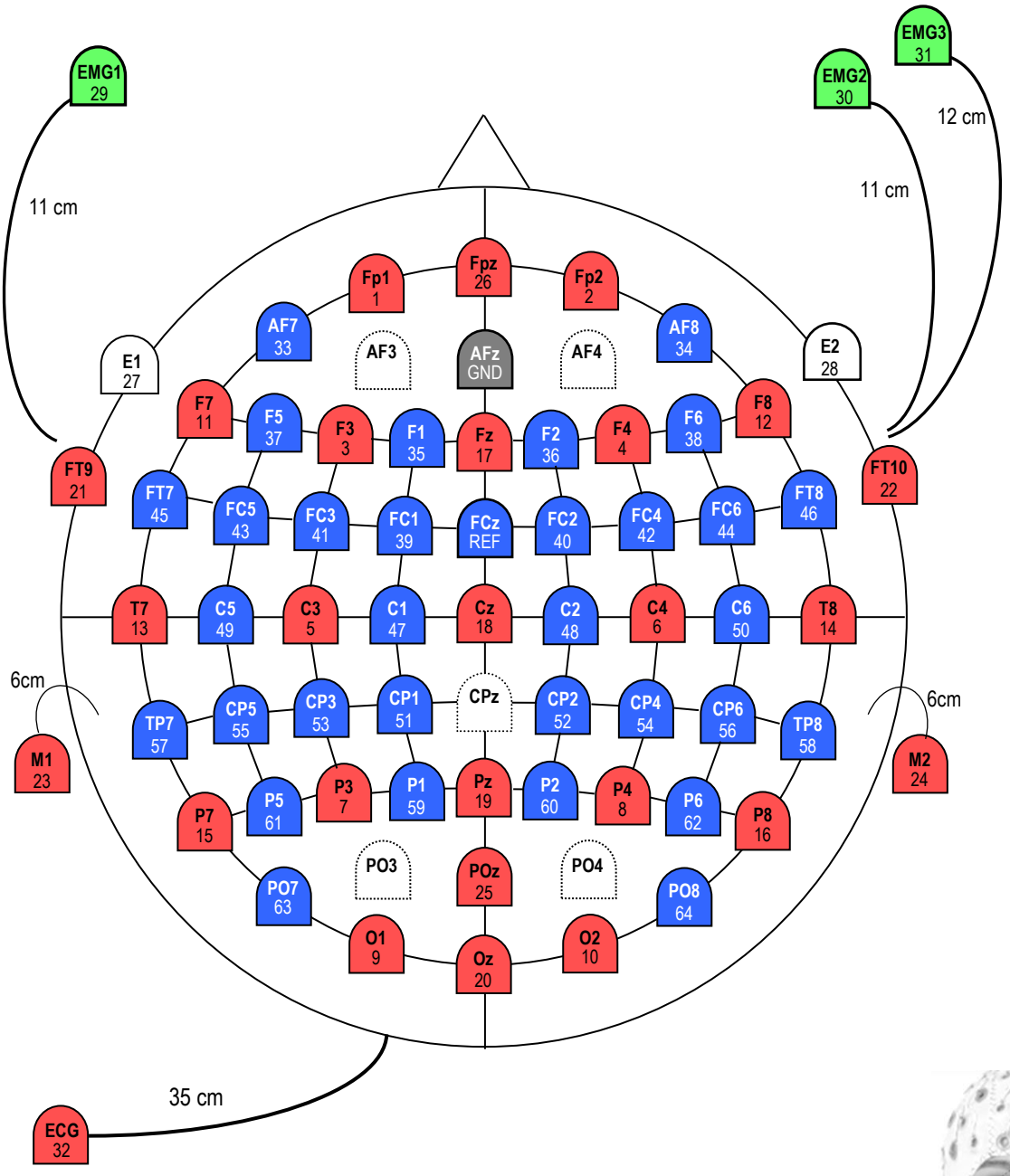
# 64Ch Standard BrainCap for Sleep Recordings with Multitrodes

Layout in accordance with AASM guidelines "The AASM manual for the Scoring of Sleep" 2007
Cap with single sockets, no input board included

## Electrode Layout and Channel Assignment







FCz offers a reliable position for online recording reference.
For mastoid reference we suggest to reference the data *offline* to M2 as recommended in AASM.

For EOG, please reference the "E1" and "E2" channel offline to Fpz, for EOG left/right, as indicated →

BC-SL-64-X11.docx

## Details

### Ordering Information

For ordering please give **Layout Name, Cap Cut, and Size** (e.g. *BC-SL-64-X11, C-Cut, 56*):

- Layout Name: ***BC-SL-64-X11***
- Cap Cut: ***C-Cut*** or ***A-Cut***
- 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: ***42***, ***44*** (7 month), ***46***, ***48*** (2 years)

The catalogue-number comprises the cap as described, no input board included. For further information about accessories or consumables, please visit our website or contact our local distributor.

### Cap

Standard: Sub-Inion Cap "CSC" with integrated chin belt, black
All Sizes made from High Comfort Fabric
*Options: C-Cut or A-Cut, Size. For further variations, contact us.*

### Electrodes

All electrodes are Multitrodes with sintered Ag/AgCl sensors. They are buttoned directly into the cap (total height 3,5 mm) or can be attached to the skin with washers (= double-sided adhesive rings).

All electrodes are name-labelled at the sensor and number-labelled at the socket end.
The cable colours correspond to the above figure.

Mastoid positions in the cap are approximated with TP9' / TP10' , 1cm below TP9 / TP10. Mastoid electrodes can however easily be removed from the cap fabric, and placed directly on the skin at mastoid positions.

EOG positions E1 / E2 in the cap are approximated with F9' / F10', at the lower outer canthus of the eyes.

White positions in the layout depict additional openings in the cap, in case electrodes are preferred at those positions.

The cables are attached to the cap with nylon threads. Two cable trees leave the cap plait-like behind the ears, pointing downwards. Cables are kept flat to the cap for better comfort. Cable trees are covered in soft fabric for better comfort. The length of cable trees is approx. 120 cm

### Termination

Cables end with number-labelled 1.5mm safety sockets.

### Cap Layout download

The QR code and link below take you to the download section of our website, where you can search for and download this cap layout document including Theta/Phi coordinates:
https://easycap.de/cap-layout-download/

## Table of Coordinates of BC-SL-64-X11

| 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 | Oz | 90 | -90 |
| 21 | FT9 | -113 | 18 |
| 22 | FT10 | 113 | -18 |
| 23 | M1 | -121 | 18 |
| 24 | M2 | 121 | -18 |
| 25 | POz | 67 | -90 |
| 26 | Fpz | 90 | 90 |
| 27 | E1 (F9‘) | -121 | -30 |
| 28 | E2 (F10‘) | 121 | 30 |
| 29 | EMG1 | - | - |
| 30 | EMG2 | - | - |
| 31 | EMG3 | - | - |
| 32 | ECG | - | - |
| 33 | AF7 | -90 | -54 |
| 34 | AF8 | 90 | 54 |
| 35 | F1 | -49 | -68 |
| 36 | F2 | 49 | 68 |
| 37 | F5 | -74 | -41 |
| 38 | F6 | 74 | 41 |
| 39 | FC1 | -31 | -46 |
| 40 | FC2 | 31 | 46 |
| 41 | FC3 | -49 | -29 |
| 42 | FC4 | 49 | 29 |
| 43 | FC5 | -69 | -21 |
| 44 | FC6 | 69 | 21 |
| 45 | FT7 | -90 | -18 |
| 46 | FT8 | 90 | 18 |
| 47 | C1 | -23 | 0 |
| 48 | C2 | 23 | 0 |
| 49 | C5 | -68 | 0 |

| Channel-number | Name | Theta | Phi |
|---|---|---|---|
| 50 | C6 | 68 | 0 |
| 51 | CP1 | -31 | 46 |
| 52 | CP2 | 31 | -46 |
| 53 | CP3 | -49 | 29 |
| 54 | CP4 | 49 | -29 |
| 55 | CP5 | -69 | 21 |
| 56 | CP6 | 69 | -21 |
| 57 | TP7 | -90 | 18 |
| 58 | TP8 | 90 | -18 |
| 59 | P1 | -49 | 68 |
| 60 | P2 | 49 | -68 |
| 61 | P5 | -74 | 41 |
| 62 | P6 | 74 | -41 |
| 63 | PO7 | -90 | 54 |
| 64 | PO8 | 90 | -54 |
| Gnd | Afz | 67 | 90 |
| Ref | FCz | 23 | 90 |
| | AF3 | -74 | -68 |
| | AF4 | 74 | 68 |
| | CPz | 22 | -90 |
| | PO3 | -74 | 68 |
| | PO4 | 74 | -68 |

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

The signs follow this convention:

