

5. After electrodes have been attached onto the subject's head, avoid contact of conducting parts of the electrodes, including reference (REF) and isolated preamplifier signal ground (GND) electrodes, to actual ground or other conducting parts which may be grounded or become live at mains voltage. Do not ground subject to actual ground (e.g. the wall of the magnetically shielded room). Do not place conducting grounded objects near the subject that he/she may touch while connected to the equipment.

6. When combined MEG-EEG measurement is performed using the EEG cap, exact locations of the electrodes are defined by digitizing them. EEG electrode positions are needed if modeling of the EEG signals is required in the analysis phase. The default digitization order for EEG electrodes is sequential by channel number. However, this is not the physical order of the electrodes in the cap, and thus the digitization can be time-consuming and possibly prone to errors. Therefore, enhanced digitization order following the physical order of the electrodes on the cap is available on *SW24407N Support CD for EEG caps* (revision C or newer), delivered with the caps. The enhanced digitization configuration file on CD needs to be installed in the data acquisition workstation. If the cap digitization orders are not present in your system and you need a copy of the CD or assistance in installation, contact your Elekta representative.

7. Proceed normally with the digitization of anatomical landmarks and HPI coils. Before starting the EEG digitization, instead of "Sequential" digitization order, select the "EEG Cap nn" (nn is the number of electrodes on the cap) in the lower part of the "EEG electrodes" partition of the digitization window. Start the EEG electrode digitization by digitizing the reference electrode. After each successfully digitized electrode, DACQ moves to the next and shows the number of the EEG channel on the lower part of the "EEG electrodes" window. After "EEG ref" DACQ displays "EEG001", "EEG020", "EEG002" and so forth. The order of digitization proceeds from frontal to occipital channels, and from left to right, in the order depicted in Figures A.1 through A.3 of Appendix A, depending on the number of channels. DACQ only displays the EEG channel numbers, not the channel names that are marked on the EEG caps; the channel number can be found from Figures A.1 through A.3 if needed. However, this should not be necessary in the everyday use if the suggested order is used. During the digitization, follow the appearance of the digitized electrodes to the EEG electrodes digitization display. In case of errors, use previous and next buttons and digitize again. Note, however, that in single operator mode it is not possible to go back to the previous electrodes after the last electrode has been digitized. When all the electrodes are digitized, stop as usual by clicking the digitization pen far away from the EEG cap. Refer to *Elekta Neuromag Data Acquisition User's Manual* for detailed digitization instructions. See also the channel layouts in the Appendix A.

8. Connect the EEG cap to the EEG interface on the side panel of the Elekta Neuromag® TRIUX (see Fig. 1.3). The connectors on the panel have color codings that must match with the mating adapter cable connector. For information connector colors and corresponding channels are listed in Table 1.2.