

Cable Connections

The following cable connections are necessary to perform eABR testing on a patient with a COMBI 40[®] series cochlear implant:

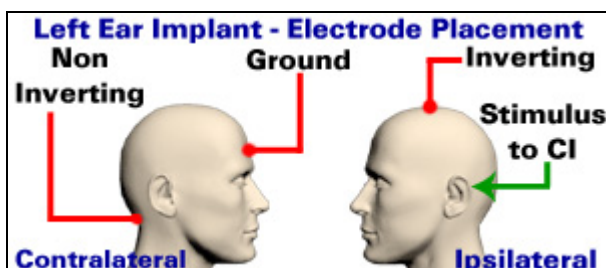
- Med-EI DIB unit to the COMBI cochlear implant using Med-EI's provided cables, to deliver stimulation to the implant.
- Med-EI DIB unit to a computer running the DIB software.
- Trigger output from the DIB unit to the trigger input of the IHS USB Box with a BNC cable (an adapter may be needed) for synchronization.
- Fiber optic cable from the IHS USB box to the IHS Opti-Amp.
- Electrode leads from the IHS Opti-Amp to the patient as indicated by this guide or as required by your region or institution.

The USB box may be connected to the same computer where the DIB software resides via USB cable.

Electrode Placement

Med-EI Corporation recommends this setup when testing COMBI 40 cochlear implants:

- Inverting (-) : Vertex or Cz
- Non-Inverting (+) : Nape
- Ground: Center Forehead or Fpz



When testing both ears, in a dual channel system, it is possible to maintain the electrode placement as outlined, while switching the leads at the Opti-Amp and the stimulus to the opposite ear, maintaining referential integrity.

DIB Settings

Triggering should be turned ON in the DIB system by choosing **Internal** in the configuration software and setting the switch on the back completely to the left. In addition, set the configuration to Hz rather than milliseconds. Med-EI recommends using single pulse stimulation of 26.7 microseconds with a rate anywhere between 10 and 70 Hz; the rate must not be a sub-multiple of the mains frequency which is 60Hz in the US, e.g. 23.2 Hz and 19.30 are good choices. Use alternating mode only when artifact is a problem. Consult the DIB manual for further details.

SmartEP Settings

Start SmartEP and under the stimulus menu select the appropriate option under **Modality > Auditory eABR**. Set your EEG and Amplifier settings as necessary, recommended filter settings are 30 – 3000 Hz with a gain of 100K and the notch filter OFF (unless there is excessive electrical interference). On the control panel, set the number of sweeps and specify which ear to acquire from.

Acquiring a Recording

Start delivery of stimulus on DIB, and then click on **Acquire** in the SmartEP control panel. Verify that acquisition is taking place on SmartEP. SmartEP will stop acquiring once the number of sweeps specified is reached.

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