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(54) **Method and electronic medical device for simultaneously measuring an impedance and a biopotential signal**

(57) A method and device for continuously and simultaneously measuring an impedance signal and a biopotential signal on a biological subject's skin. The method comprises the steps of: attaching input and output electrodes to the biological subject's skin; applying a predetermined alternating current having a first frequency to the output electrodes for creating an alternating voltage signal over the input electrodes, the first frequency being above a predetermined minimum frequency;

measuring an input signal from the input electrodes, the input signal comprising a biopotential signal and the alternating voltage signal; extracting from said input signal the biopotential signal; extracting from said input signal the alternating voltage signal and determining the impedance signal from the alternating voltage signal. The alternating voltage signal is extracted by amplifying and demodulating the input signal using a control signal having a frequency equal to the first frequency of the applied alternating current.

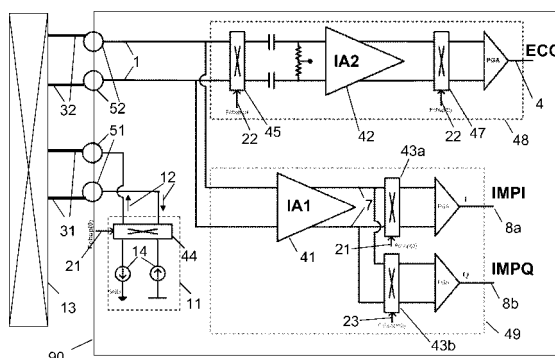


Fig 4