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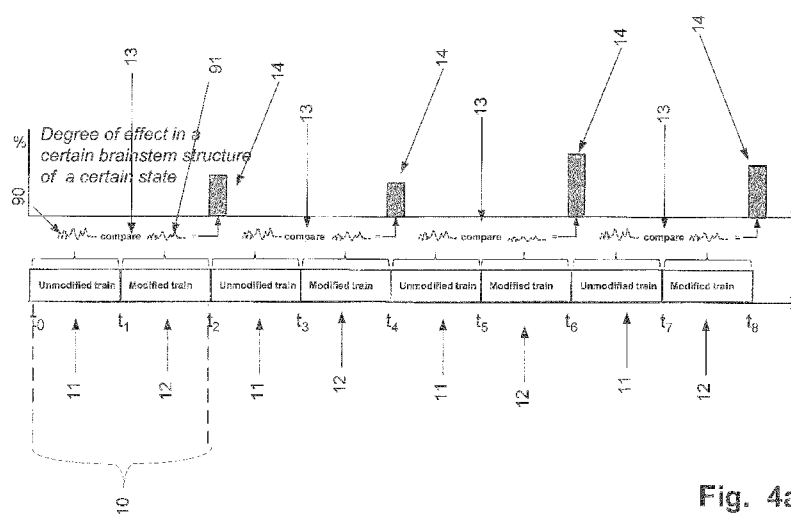


Fig. 4a

(57) Abstract: A system, method and computer program are disclosed that are adapted to detect a lateral brainstem response state development of a subject over a period of time as a function of a population of neurons evoked response patterns to sound stimuli. In these a sound stimuli generating unit is operative to repeatedly send a sound stimulus to the subject to evoke the neurons response patterns. The sound stimulus comprises a first and at least a second consecutive train of sounds pulses. A detection unit is operative to detect a brainstem response signal related to the neurons response patterns, wherein a first response signal is caused by the first train of sound pulses and a second response signal is caused by the second train of sound pulses. A storage unit may be included that is operative to store information based on the brainstem response signals. Further, a control unit is operative to determine the lateral brainstem response state development based on a comparison between the first and second response signals.