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(54) Title: SYSTEM AND METHOD FOR PRODUCING PARAMETRIC MAPS OF OPTOACOUSTIC DATA

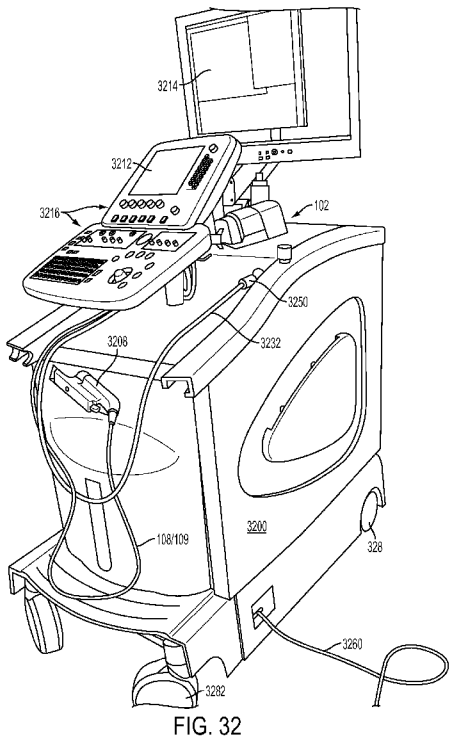


FIG. 32

(57) Abstract: A method is disclosed for creating and outputting a masked parametric map (e.g., hemoglobin oxygenation) that reflects parameters in a first parametric map (e.g., relative oxygenation) and second parametric map (e.g., relative hemoglobin). In an illustrative embodiment, the method comprises a steps of generating a first parametric map, generating a second parametric map, and then generating a masked parametric map that reflects parameters in the first and second parametric maps. The masked map may present information not readily apparent from the first parametric map and the second parametric map, and not obtainable from the first and second parametric maps independently. The first parametric map may be based upon portions of two optoacoustic images created using differing wavelengths of light. The first parametric map is reflective of areas within the volume of tissue that have a differing response to the longer wavelength light event compared to the shorter one. The second parametric map is reflective of areas within the volume of tissue that have a stronger response to the longer and shorter wavelength light events than the surrounding areas. A masked parametric map is output which is reflective of a combination of information in the first and second parametric maps. In an embodiment, the masked parametric map is generated by generating a mask reflective of a combination of information in the first and second parametric maps, and applying the mask to one of the first or second parametric maps to form the masked parametric map. In an embodiment, one or more of the parametric maps is coregistered with, and overlayed on an ultrasound image of the same volume of tissue before being output.

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