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(54) Title: INTELLIGENT UNDERWATER ACOUSTIC IMAGING SYSTEM AND CORRESPONDING METHOD

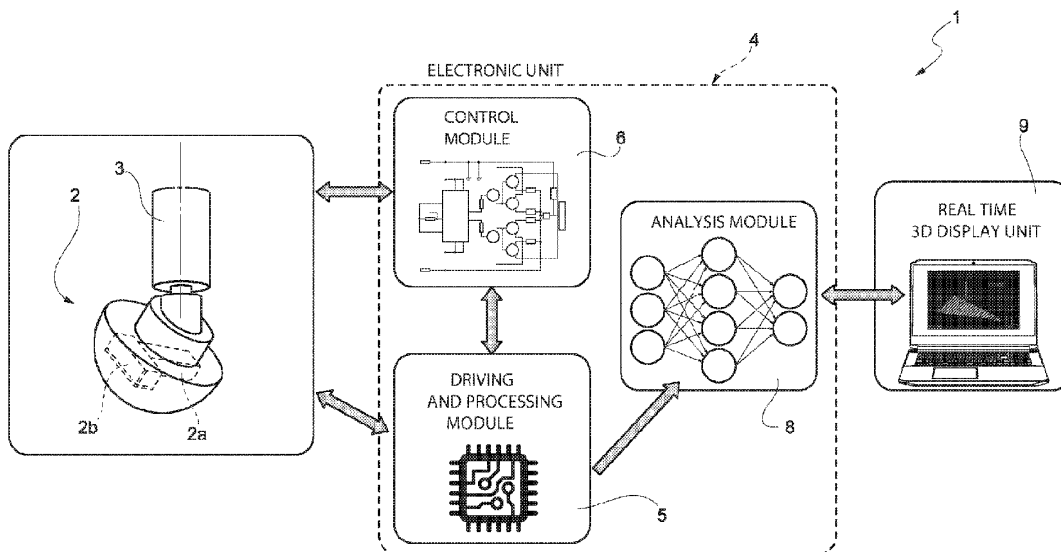


FIG. 1

(57) Abstract: An underwater acoustic imaging system (1), designed to be coupled to a water vehicle (100), is provided with: an acoustic imaging device (2), to acquire three-dimensional acoustic images of a water volume; a mechanical movement module (3), coupled to the acoustic imaging device (2) to cause underwater movement thereof; and an electronic unit (4) coupled to the acoustic imaging device (2) and to the mechanical movement module (3). The electronic unit (4) controls the mechanical movement module (3) to implement two distinct operating phases of the acoustic imaging device (2), cooperating to generate a continuous stream of said three-dimensional acoustic images: a searching phase, in which the acoustic imaging device (2) is designed to be held substantially still and is configured to perform a scan as a result of a movement of the water vehicle (100); and an in-depth analysis phase, in which the acoustic imaging device (2) is designed to be driven in a scanning movement by the mechanical movement module (3) for an in-depth

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analysis of an element of interest identified in the water volume.