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- [54] **APPARATUS FOR PRODUCING IMAGES ACOUSTICALLY**
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- [52] U.S. Cl. **367/7; 367/11**
- [58] Field of Search **367/7, 11, 103, 105; 128/660.01, 660.07**

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[57] ABSTRACT

Apparatus for imaging an object underwater. A detector array of operationally independent transducers is deployed in a medium such as water. Each transducer generates an electrical signal across independent first and second electrodes corresponding to impinging acoustic energy. Each of the positions in the detector array is identified in sequence along with the identification of a corresponding pixel position or display position in a display structure. A first multiplexer connects to all the first electrodes and a second multiplexer connects to all the second electrodes to enable the identification circuit to select corresponding electrodes for each detector position. A single amplifier circuit couples the signals from the multiplexer to a circuit for controlling the illumination of a selected display position.

- [56] **References Cited**
- U.S. PATENT DOCUMENTS**
- 3,979,711 9/1976 Maginness et al. 367/7

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Buckingham, "Incoherent Imaging With Ambient Noise", *Oceans 92: Mastering The Oceans Through Technology Proceedings*, vol. 1, Oct. 26-29, 1992.

15 Claims, 3 Drawing Sheets

