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(71) Applicant and

(72) Inventor: BARTZ, James, C. [US/US]; 279 Aikane Place, Kailua, Hawaii 96734 (US).

(74) Agents: KRIZ, Paul, P. et al.; Chapin Intellectual Property Law, LLC, Westborough Office Park, 1700 West Park Drive, Westborough, Massachusetts 01581 (US).

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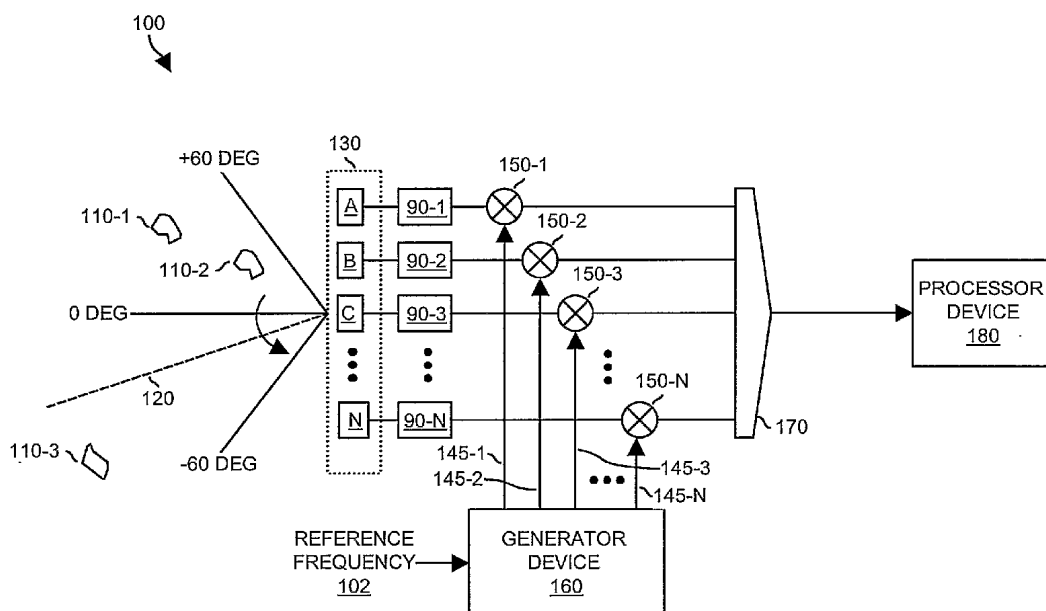
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(54) Title: METHODS AND APPARATUS FOR BEAMFORMING APPLICATIONS



(57) Abstract: A beamforming system includes an array of transducers that detects echo signals in a scanned region. The array of transducers produces respective electronic signals based on receipt of echo signals. The beamforming system further includes an array of multipliers (e.g., mixers) to receive the respective electronic signals (e.g., echo signals converted to an electronic form of echo signals by the transducers) from the array of transducers. A generator device of the beamforming system generates multiple oscillator signals (e.g., square wave, sine waves, pulses, etc.) based on a relatively low frequency reference signal to simulate frequencies not capable of being precisely derived from the reference signal and continuously steer a directional beam through a scanned region.

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INTERNATIONAL SEARCH REPORT

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PCT/US06/05049

A. CLASSIFICATION OF SUBJECT MATTER IPC: A61B 8/00 (2006.01); G01S 15/00 (2006.01), 3/80 (2006.01) A61B 8/14 (2006.01) USPC: 600/437,443,447;367/103,111,123 According to International Patent Classification (IPC) or to both national classification and IPC											
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) U.S. : 600/437,443,447;367/103,111,123 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)											
C. DOCUMENTS CONSIDERED TO BE RELEVANT <table border="1"> <thead> <tr> <th>Category *</th> <th>Citation of document, with indication, where appropriate, of the relevant passages</th> <th>Relevant to claim No.</th> </tr> </thead> <tbody> <tr> <td>Y</td> <td>US 20040019277 A1 (BAE et al.) 29 January 2004 (29.01.2004), abstract, sections [0005-0009], figure 1, claims 1,3,5</td> <td>1-27</td> </tr> <tr> <td>Y</td> <td>US 5,675,552 A (HICKS et al.) 07 October 1997 (07.10.1997), abstract, figures 1,4-6, columns 1, lines 51-67, 2, lines 1-47, 3, lines 1-10, claims 1, 2, 6, 13, 16-17, 29</td> <td>1-27</td> </tr> </tbody> </table>			Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.	Y	US 20040019277 A1 (BAE et al.) 29 January 2004 (29.01.2004), abstract, sections [0005-0009], figure 1, claims 1,3,5	1-27	Y	US 5,675,552 A (HICKS et al.) 07 October 1997 (07.10.1997), abstract, figures 1,4-6, columns 1, lines 51-67, 2, lines 1-47, 3, lines 1-10, claims 1, 2, 6, 13, 16-17, 29	1-27
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