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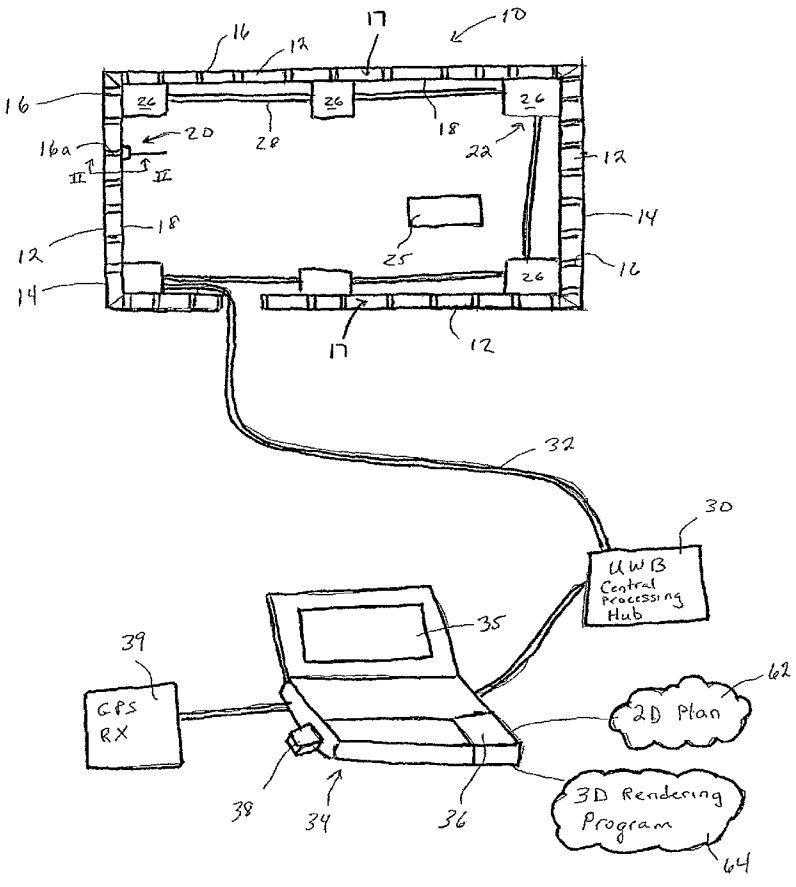
(54) Title: SYSTEM AND METHOD FOR GENERATING THREE-DIMENSIONAL DENSITY-BASED DEFECT MAP



(57) Abstract: A system for mapping a condition of a structure (10) that includes a plurality of support members covered by a wall is disclosed and includes a computer processor having a memory, a two-dimensional model of the structure stored in the memory and a three-dimensional model generator operatively associated with the computer. A density sensor that includes an ultrasonic transducer is operatively connected to the computer processor and provided with an ultra wideband transmitter (24). A position locating system (22) is provided for determining the position of the ultra wideband transmitter, and hence the density sensor, in a frame of reference and communicating the position to the computer processor which displays indications of density on a three-dimensional model of the structure. A method for mapping a condition of a structure is also disclosed.

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A. CLASSIFICATION OF SUBJECT MATTER
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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 73/618. 624. 625. 628

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

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6.054,950 A (FONTANA) 25 April 2000 (25.04.2000), see entire document.	1-33
A	US 5,005,416 A (VICK et al.) 09 April, 1991	1-33
A	US 6,883,375 B2 (DUNEGAN) 26 August 2005 (26.08.2005), see entire document.	1-33
A	US 5.285,668 A (TOKAI) 15 February 1994 (15.02.1994), see entire document.	1-33
A	US 6.419,632 B1 (SHIKI et al.) 16 July 2002 (16.07.2002), see entire document.	1-33

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