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United States Patent [19]

Murphy

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[54] RADAR TOMOGRAPHY

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[*] Notice: The portion of the term of this patent subsequent to Jul. 9, 2008 has been disclaimed.

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Related U.S. Application Data

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[51] Int. Cl.[5] G01S 13/04; G01S 13/06

[52] U.S. Cl. 342/22; 128/777; 128/653.1

[58] Field of Search ..... 342/22, 179, 180, 190; 378/4, 38, 210; 433/25; 128/653 R, 777

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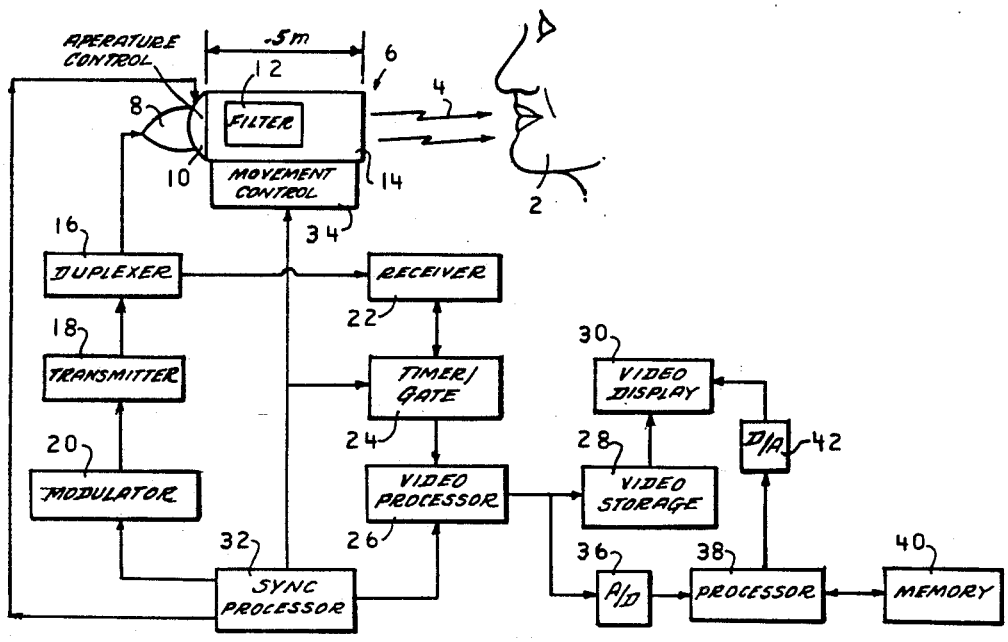
[57] **ABSTRACT**

A radar tomography method and apparatus usable in industrial applications emits a plurality of radar pulses toward an adjacent object. A transmitter provides the plurality of radar pulses to the antenna, and a receiver receives the plurality of reflected radar pulses which correspond to the emitted plurality of radar pulses reflected from internal structure within the object. Timer/gate means selects predetermined radar pulses from among the received radar pulses, the selected radar pulses corresponding to a predetermined area of interest within the object. The selected radar pulses include pulses which represent internal structure of interest and pulses which represent internal structure which is contiguous to the internal structure of interest. The selected pulses include information which discriminates the internal structure of interest from the contiguous internal structure.

38 Claims, 2 Drawing Sheets