

[54] **CIRCUIT FOR TRACKING AND MAINTAINING DRIVE OF ACTUATOR/MASS AT RESONANCE**

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[58] **Field of Search** ..... 331/116 M, 154, 155, 331/156, 157, 158; 318/114, 116, 118, 126, 127, 128; 310/316, 317, 25, 26; 366/116; 74/126, 143; 73/59

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[57] **ABSTRACT**

A drive circuit (10) for driving an actuator/mass (A) at its natural resonance and for maintaining the instantaneous output signal of the mass at a predetermined constant value over a wide range of dynamically changing resonant frequencies, is disclosed. Current sensing circuitry (C) detects an instantaneous current passing through the actuator/mass (A). A compensation circuit (D) modifies the instantaneous sensed circuit signal to compensate for dynamically changing physical parameters of the actuator mass and for phase irregularities introduced into the sensed signal when the mass oscillates near its natural resonance. Automatic gain control circuitry (E) alters the actuator drive signal to maintain amplitude of the mass oscillation at a predetermined constant value. A drive circuit (B) performs the actual drive function in response to the feedback signal received from the automatic gain control and compensation circuitry.

**18 Claims, 5 Drawing Figures**

