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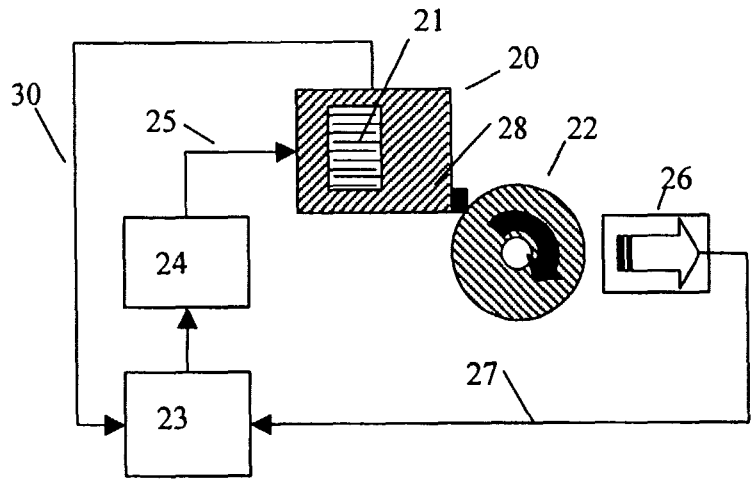
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(54) Title: PIEZOELECTRIC MOTOR CONTROL



(57) Abstract: A piezoelectric system has a piezoelectric motor (20) driving a driven element (22) so as to move the driven element 822) in response to an electric signal (25). The motor (20) has at least a first optimal operating frequency at which the motor (20) moves the driven element (22) an amount that meets predetermined criteria. The motor (20) and driven element (22) have a desired performance criteria when operated at that first operating frequency. A plurality of concatenated sinusoidal sweeping frequencies are repeatedly supplied to the piezoelectric motor (20) with at least one of the sweeping frequencies being sufficiently close to the first operating frequency to cause detectable motion of the driven element (22). The frequencies are varied in response to movement of at least one of the motor (20) and the driven element (22) to produce an average performance of the motor (20) and driven element (22) for a time corresponding to the time for one sweep of frequencies. The average performance is greater than an actual performance of the driven element (22) for the same period of time but when the actual performance is less than the desired performance.

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