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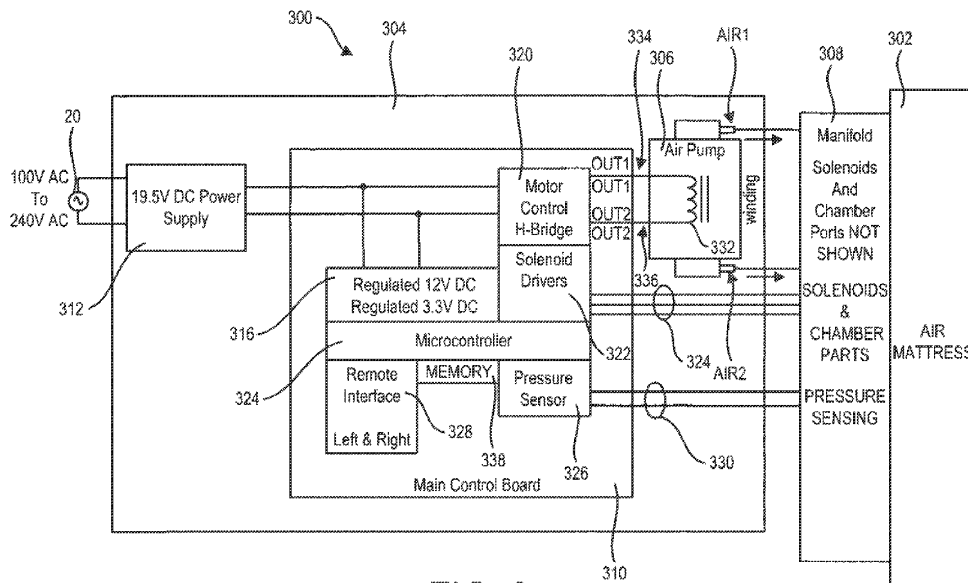


FIG. 3

(57) Abstract: An air pump unit (304) having an AC diaphragm air pump (306) and a DC Motor driver circuit (320). The AC diaphragm air pump (306) has a winding (332) with a first AC power connection at a first end of the winding (332) and a second AC power connection at a second end of the winding (332). The DC motor driver circuit (320) is configured to provide an OUT1 signal to the first AC power connection and an OUT2 signal to the second AC power connection. The OUT1 and OUT2 signals are each DC square waveforms having a frequency that corresponds to a motor frequency setting. Each of the OUT1 and OUT2 DC square waveforms are 180 degrees out of phase.

[Continued on next page]

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