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(54) Title: SYSTEMS AND METHODS FOR CONTROLLED BATTERY HEATING SOURCING CURRENT TO AND FROM THE BATTERY AND DISCHARGE SIGNAL

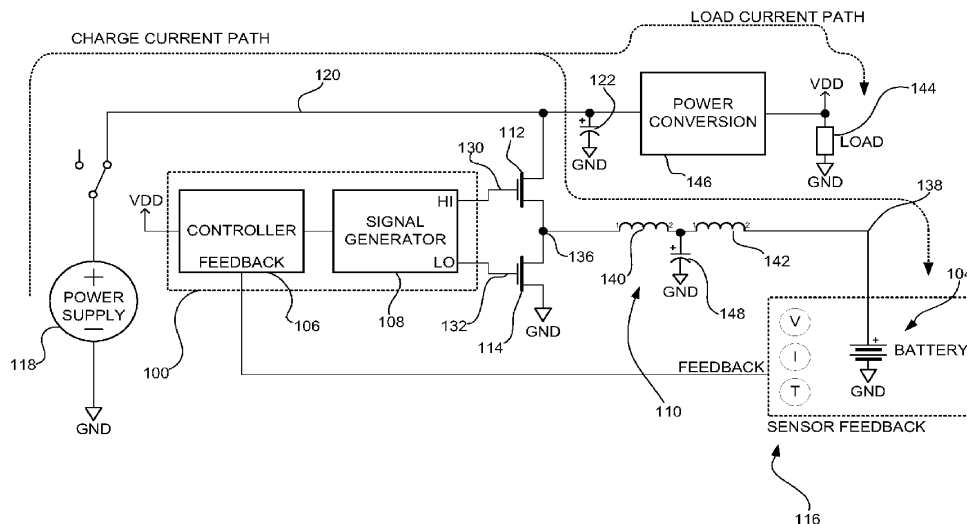


FIG. 1

(57) Abstract: A system for heating a battery comprising a first switch operably coupled with a power supply. An inductive element, which may be a part of filter, is in operable communication with the first switch and a second switch. The system includes a processor in communication with the switches to execute instructions to control the switches to controllably source current to and from the battery, wherein the sources current to and from the battery may be of arbitrary shapes tuned to harmonics optimized for heat generation.

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