

**(12) United States Patent
Bruwer**

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**(54) INTELLIGENT ELECTRICAL DEVICE
COMPRISING MICROCHIP**

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362/184; 362/205**

**(58) Field of Search 315/200 A, 241 R,
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DIG. 4, 307, 185 S, 360; 36/137, 136;
362/184, 205, 276**

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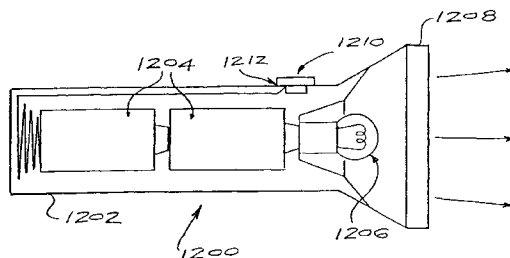
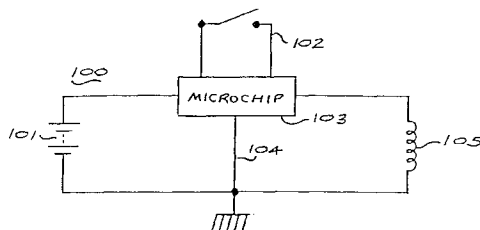
Primary Examiner—Don Wong
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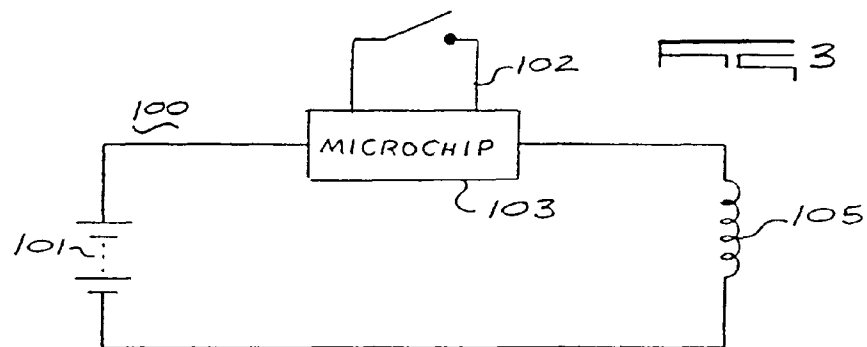
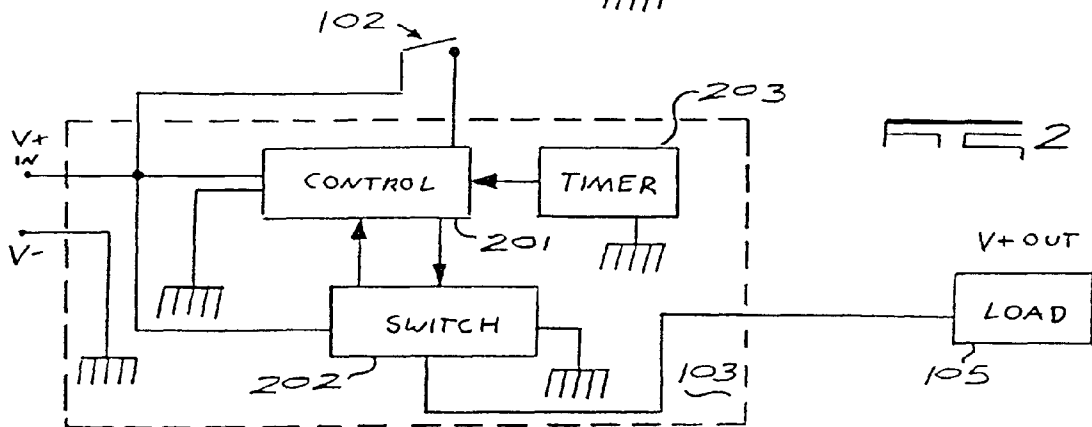
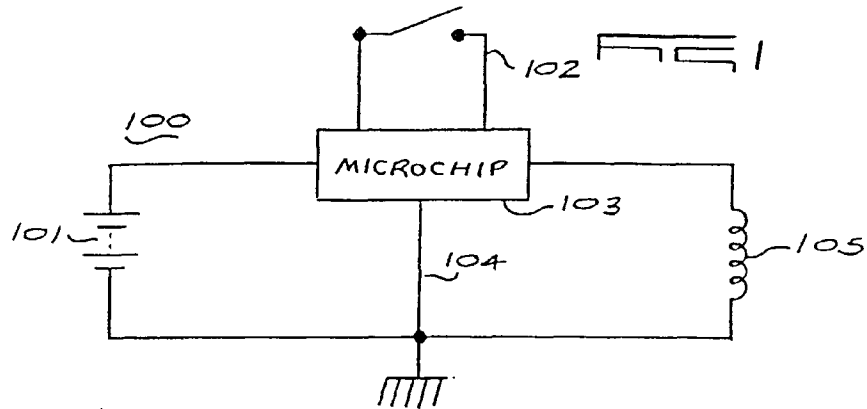
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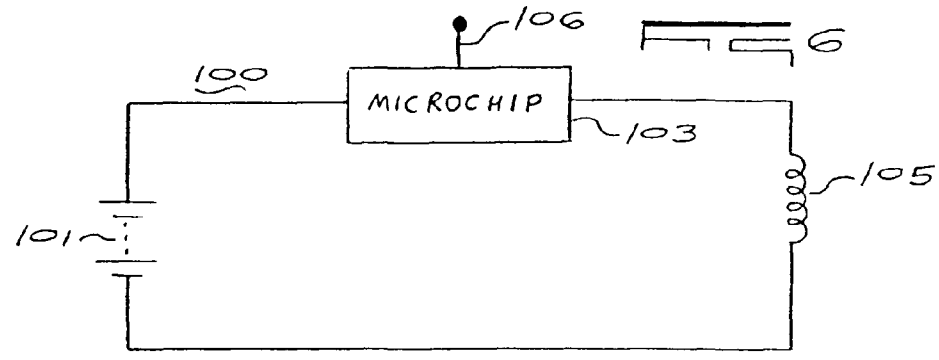
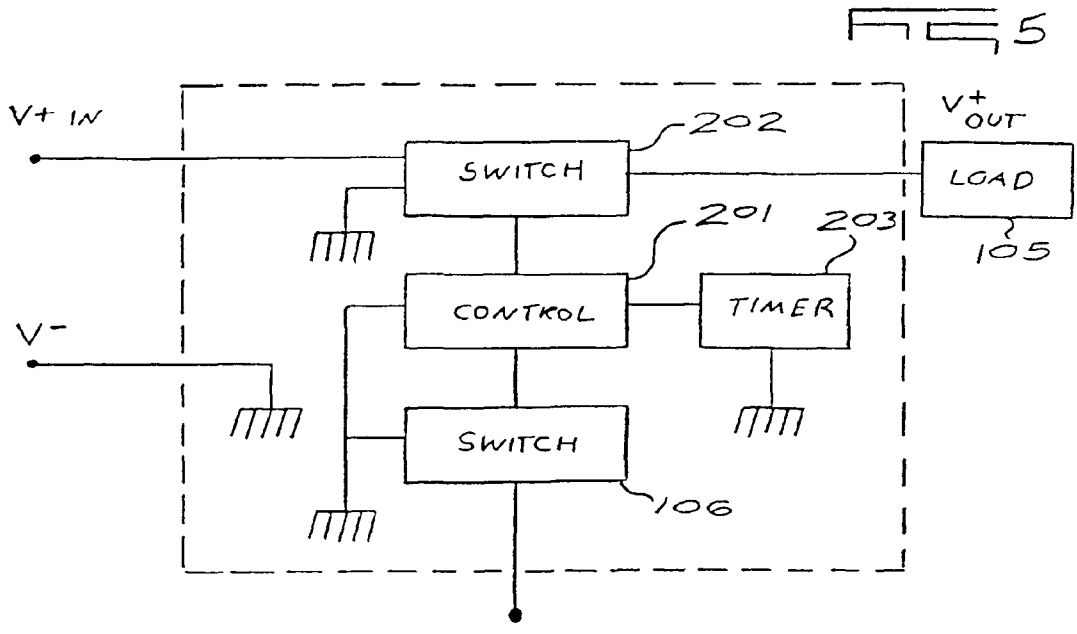
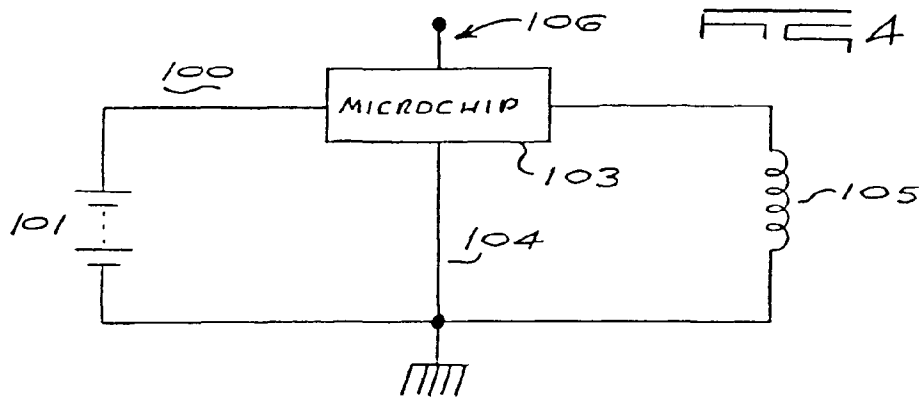
(57) ABSTRACT

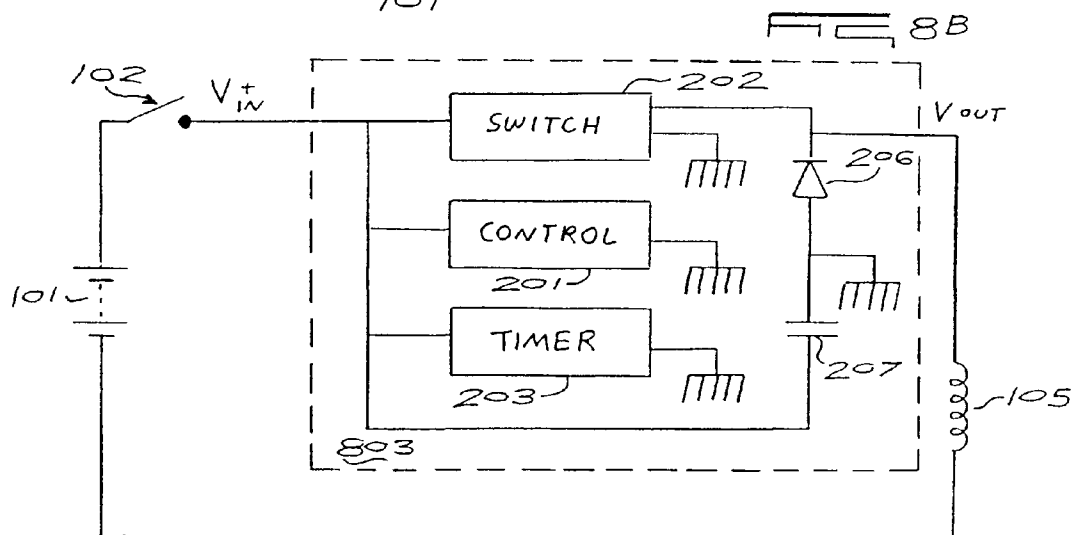
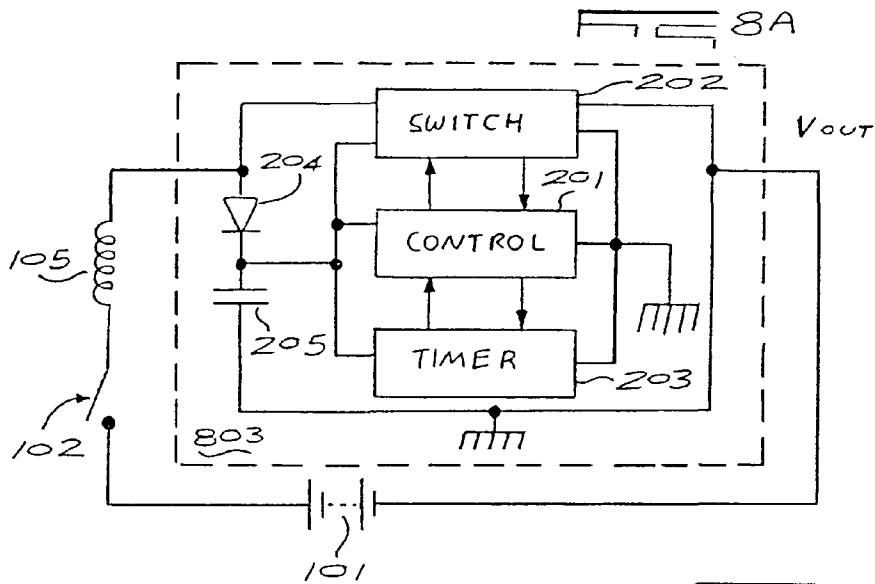
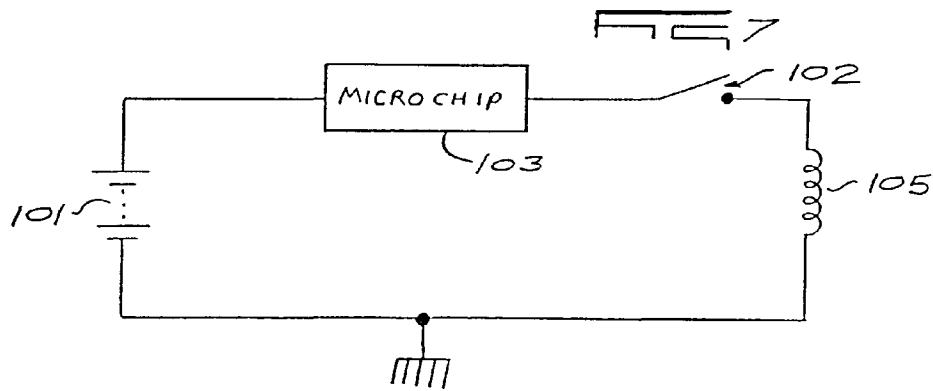
The present invention, according to a preferred embodiment, is directed to portable electronic devices which operate on exhaustible power sources, for example, batteries. The electronic devices of the present invention comprise at least one signal switch and a microchip in communication with the switch wherein the switch is only capable of transmitting a signal to the microchip that the switch has been activated or deactivated. The microchip is in communication with the exhaustible power source of the electronic device and controls (i) the power on/off function of the device, (ii) at least one other function of the device in response to activation and deactivation signals from the switch, and (iii) an automatic shut off function in response to the receipt of an activation signal from the switch. The present invention, according to other embodiments, is also directed to (i) intelligent batteries with microchips embedded therein, and (ii) portable microchip devices for insertion into electronic devices to provide additional features and functions to the nonintelligent electronic devices.

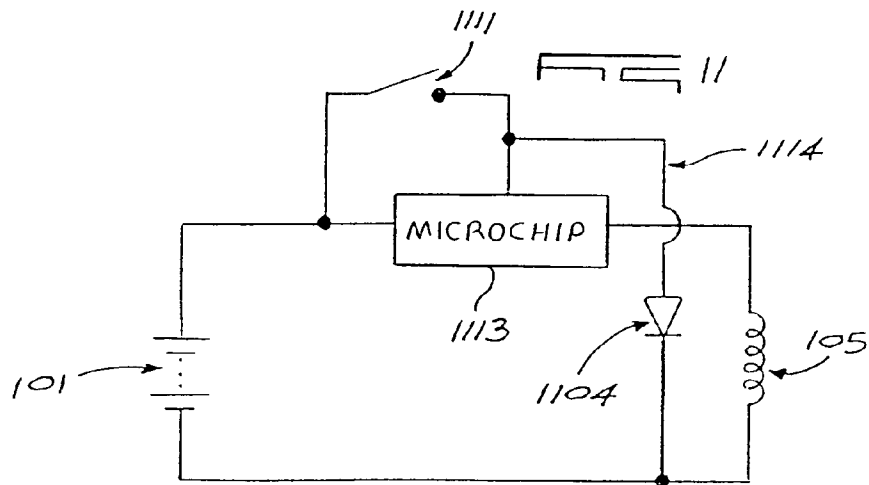
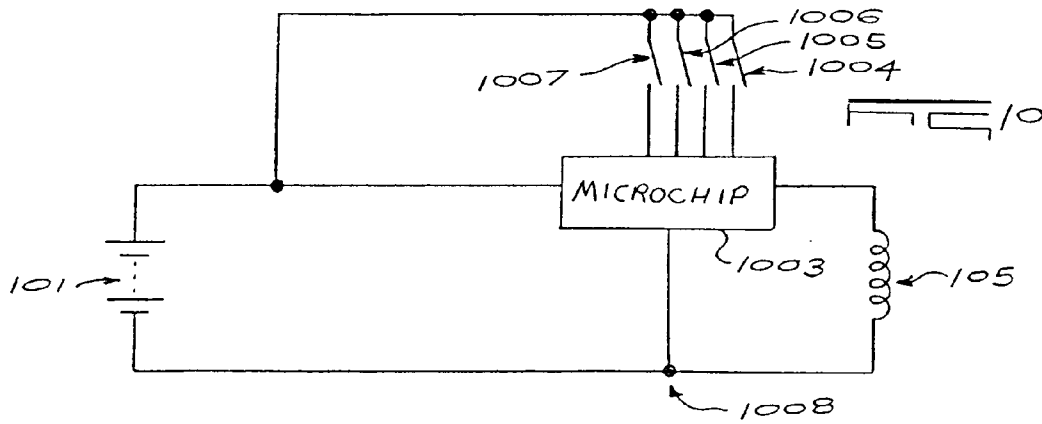
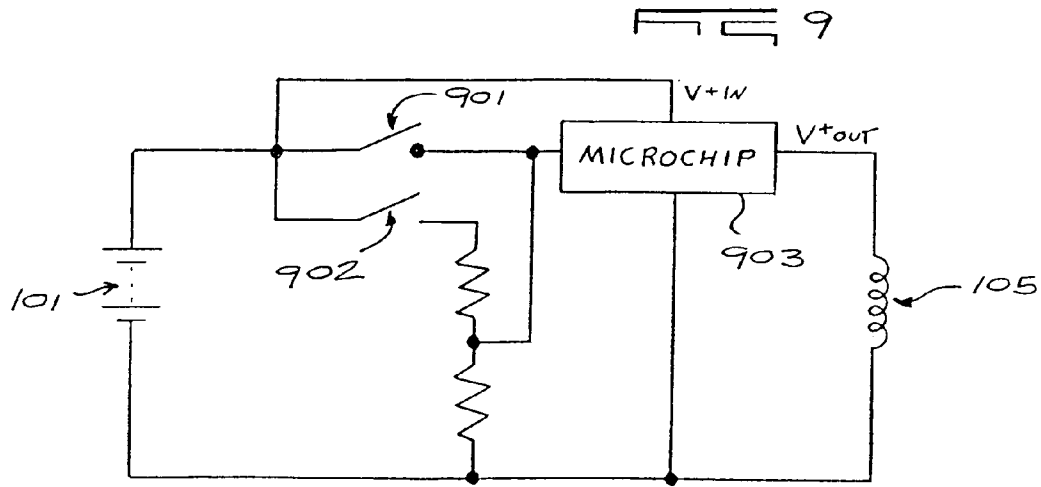
15 Claims, 6 Drawing Sheets











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