

## **Operational Descriptions: HA07 – Master Controller**

The HA07 controller utilizes a dual microprocessor setup. The first microprocessor, located on the Z-wave ASIC, governs the RF module functions, including the RF transmission and reception at the front-end, and the operations of the Z-wave protocol. The second microprocessor, located on the main HA07 PCB, governs the processes that involve low-battery detection, button matrix scanning, EEPROM, and LCD driving. DC power is supplied by 4 size AA alkaline batteries, whose voltage is passed through a voltage regulator to supply a constant 3.3VDC.

The RF module PCB is a separate PCB that houses the Z-wave ASIC, crystals, EEPROM, various supporting components, and the RF front end. This entire PCB is completely enclosed by a metal shield connected directly to circuit ground. The RF module PCB is attached directly to the main HA07 PCB via headers. The 908.42MHz antenna measuring approximately 3.25" in length, exits the metal shield via a small hole near the bottom of the shield.

This controller can operate either manually via pushbutton controls, or automatically by using a timer program. Pressing various buttons or combinations of buttons allows the user to program the controller's functions such as timekeeping, date keeping, and executing timed events. Types of button presses allowed are momentary press and release, and press and hold.