Remote Control PCB Operational Description

The remote control PCB is used to provide operator input to the console while permitting the operator to move about the procedure room. The remote control microcontroller conserves battery life by exiting the Idle mode only in response to a button press.

Logical inputs and outputs to the remote control PCB are:

- Keyboard inputs (6).
- LED driver output (1).

The microprocessor on the remote control board utilizes an external crystal running at 32.768 kHz.

RF communication to the console utilize the Cypress CYWUSB6932 Wireless USB® chip, operating in the 2.4 (2.40 to 2.483) GHz ISM band. The CYWUSB6932 utilizes Direct-Sequence Spread-Spectrum (DSSS) technology and Gaussian Frequency Shift Keying (GFSK) across 78 different 1 MHz channels in the ISM band. Frequency synthesis is performed on-chip from an external 13 MHz crystal. The CYWUSB6932 drives a Johanson Technology 2450AT45A100 chip antenna, which is mounted directly to the PCB.

The PCB is fabricated from FR4 fiberglass, and is constructed in four layers: two signal, one power, and one ground. The PCB is powered by two alkaline AAA batteries, and is contained in a plastic enclosure.