BBQ GURU PROCOMM 4 HANDHELD OPERATIONAL DESCRIPTION

The handheld is used to communicate with and indicate modify the settings of the Procomm 4 Temperature Control. The handheld is engaged in continuous 2 way wireless data communication with the controller. A 10 mS long 916.48MHz FSK modulated RF data packet is sent to the controller every approx 240mS. The 240mS interval is randomized slightly to manage conflicts between other handheld - controller pairs in the same RF field.

The handheld uses a PIC 16LF877 microcontroller running at 3.579 MHz to service the keypad and LCD display. The microcontrollers UART is wired to a Linx Technologies TXM-916-ES transmitter and RXM-916-ES receiver. The transmitter is only on when the 10 mS data packet is being sent. The receiver is on for entire period between transmits and just monitors for relevant data. If the handheld has not received relevant data in the timeout period it alerts the user with an out of range message and alarm.

The MAX 1724 is a switch mode regulator used to boost the 3V battery to 5V for the microcontroller and circuitry.