1.1 Theory of Operation

1. *Functional Description*

The Handheld Data Terminal uses its LF transceiver (at any time when it commanded to do so) to communicate by short range link with the end devices (active RFID electronic sensors) It logged their data and transfer it via a serial RS-232 port to a PC. The Data Terminal is battery operated, it has an internal replaceable 4 AA size alkaline batteries. It consists of a graphic LCD and an alphanumerical keypad to configure data into the sensors when required.

2. *Hardware Description*

2.1. There are 2 PCBs in the Data terminal. Main PCB and keypad PCB (Top PCB). The main PCB includes digital parts (µP, memory, RTC,A/D, RS232 driver etc.) and LF transceiver which utilizes on-off keying (OOK) modulation over a 125KHz carrier (4Kbit data rate) at short range. The Keypad PCB is located over the main PCB, it consists of keypad drivers and LEDs indicators.