

## **Tagmate QC Reader/Starter Description**

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The Tagmate QC RFID Reader/Starter unit consists of one PC board, a 2X16 LCD display module, and a 5 button membrane keypad mounted into a plastic enclosure. The PC board that makes up the reader unit is the Main Board. The board is secured to the enclosure by means of threaded fasteners. The LCD module is electrically connected to the Main board by a 14 pin header / receptacle pair. The reader unit can be configured to operate from a single 9 volt internal battery or from a 9 volt DC external power supply.

**Main Board** – The Main board consists of the following sub-systems: Microcontroller (8 bit), 3.3 and 5 volt regulators, IrDA Protocol Controller, IrDA Transceiver, Flash Memory, Shift Register, Keypad Interface circuit, Real Time Clock circuit with 32kHz oscillator, Loop Antenna on PC board, Tank Circuit, RFID Voltage Regulator, and ISO15693 Protocol Controller. The Main board provides all of the functions required to interface with the LCD display, keypad, IrDA Link, and the RFID Link. The purpose of the Main Board is to provide all of the data processing and storage functions required and the RF link between the reader and the passive RFID tag. The board demodulates and converts the RF signal to a CMOS level clocked serial data stream for use by the Microcontroller(See schematic).

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