CAMDATA RASPBERRY TERMINAL SPECIFICATION

The Camdata Raspberry terminal consists of a Raspberry Pi Computer board fitted into the Microscribe T4000 terminal enclosure. The terminal is battery powered, but can be powered from an external power adapter (batteries will be required to maintain the Real Time Clock operation).

The Raspberry Pi is a widely supported platform providing a standard programming environment.

The Terminal consists of:

- The Microscribe rugged enclosure
- Full QWERTY rubber keyboard
- 40 character by 8 line text based LCD display
- 6 AA cell NiMh battery pack
- Raspberry Pi computer board
- External 25way D connector for I/O
- External USB connector
- External 8 way DIN socket for charging and auxiliary serial connector
- Camdata Terminal PCB

The Camdata Terminal Board provides:

- **Console interface.** The board provides a DEC VT100/220 terminal emulation connected to the Raspberry Pi serial channel. This gives the Raspberry Pi access to the display and keyboard. No graphical user interface is provided.
- **I/O conditioning**, so that the Raspberry Pi GPIO pins can be connected externally. Eight of the GPIO pins are available on the 25 way D connector. They can be individually selected for input or output using jumpers on the board. The output is configured as an open drain transistor which can sink 500mA. The input is configured for a switch to GND
- **Analogue inputs**. Two analogue inputs are provided on the 25way D type. Using jumpers on the board these can be configured either as, differential inputs to an instrumentation amplifier with a full scale of +-30mV and a common mode range of 0 to 3.3V, a differential amplifier with a full scale and range of +-15V, or two single ended amplifiers. The micro-controller AD inputs on the controller board are used, and the conversion results are made available to the Raspberry Pi via the I2C bus.
- **Real Time Clock**. Utilizing the micro-controller SmartClock. Made available to the Raspberry Pi on the I2C bus.
- **Power circuitry and battery management**. Battery data is made available to the Raspberry Pi on the I2C bus.
- **Auxiliary serial interface.** This is accessible to the Raspberry Pi as the printer function of the VT100 emulation for data output, and appears as keyboard input for data input. The terminal is available with this interface implemented with RS232 signals on the 8 way DIN connector, or as a wireless link using Camdata's 868MHz wireless serial protocol.

One of the Raspberry Pi USB connectors leads to the external USB connector. The other is available for attaching USB devices inside the case. The Raspberry Pi Ethernet and video/audio connectors are not available on the outside of the case.

The internal Raspberry PI specification is:

SoC:	Broadcom BCM2835 (CPU + GPU + DSP + SDRAM)
CPU:	700 MHz ARM1176JZF-S core (ARM11 family) with 256/512MB SDRAM
Supported operating systems:	**OpenELEC**, **Raspbmc**, **XBian**, Raspbian, Debian GNU/Linux, Fedora, Arch Linux, RISC OS