(c)  Built in EPROM programmer allowing files/programs to be archived using external plug in EPROM packs as the storage medium.

(d)  RS232 port for printer connections or the interchange of files with another Z88, a BBC Micro or an IBM compatible.

(e)  State of the art 'supertwist' liquid crystal display, with 8 lines x 106 characters format.


## 2.    BUILD STANDARD

2.1    There are two build standards of the Z88 Computer in UK circulation, an early model using Issue 3 pcb artwork and the current model (November 1987) using Issue 4 artwork.  Although electrically identical to the Issue 4 pcb Issue 3 is recognisable by the small number of hand soldered components added as a result of early development work.  On the Issue 4 pcb the components have been incorporated as part of the revised artwork.

2.2    A further version of the Z88 is envisaged for the American market. This will have a metallised case interior and additional pcb components designed to reduce RFI emission to the statutory level.


## 3.    ARCHITECTURE

3.1    The architecture of the Z88 computer, shown in Figure 1.4, is characterised by the small chip count.  They include a CMOS version of the Z80 microprocessor, a 128k byte EPROM and a  32k byte RAM.  A customised gate array connected between the CPU and the memory completes the basic design, providing the memory, liquid crystal display (LCD) and RS232 interfaces.  The keyboard interface with the CPU is via the computer data and address buses.

3.2    Figure 1.5 shows the LCD and RS232 interfaces together with the discrete power circuit.  The latter includes the power supply, fed either from the internal batteries or a plug in mains adaptor, and various monitoring circuits designed to sense abnormal circuit conditions and effect an ordered shut down of the machine.  The gate array 'sense' line used for this purpose also monitors the memory and peripheral expansion slots, shutting the machine down whever a memory or peripheral card is inserted or removed.


3.3    Machine States

3.3.1  For diagnostic purposes, it is important to recognize that the Z88 has four operational states.  These are:

(a)   Active : Z80 clock running and the LCD display on
              (ie Z80 running program instructions).

(b)   Snooze : Z80 clock stopped and the LCD display on
              (ie Z80 waiting for a keyboard input).