Serial Ports
Two RS232 ports are incorporated, suitable for driving a printer and a modem. The more common (Centronics) printer interface must be purchased as an add-on

Keyboard
Though the keyboard is based on a membrane construction (thereby guarding it against coffee spillages, etc.) it features 65 full-travel keys, and the 'feel' is every bit as good as some of the most expensive business machines. There are four cursor control keys, and five programmable function keys. The copyright symbol and pound sign are also included

TV Socket
The QL will work with a TV set, but will normally only display 40 or 60 columns, where 85 are possible with a monitor

Monitor Port
Unlike the Spectrum, the QL can drive an RGB monitor directly, and indeed this is needed to take advantage of the maximum resolution of 512×256 pixels in four colours

Network Interface
Up to 64 QLs and Spectrums (the latter with Interface 1 added) can be linked together into a Local Area Network

Microdrive Extension Slot
Like the Spectrum, the QL can handle up to eight microdrives

Microdrives
Each of these uses a tiny wafer cartridge, containing a continuous loop of tape to store up to 100K each

Second Microprocessor
This Intel 8049 controls the keyboard, sound, and serial ports, leaving the 68008 free for running user programs

PROTOTYPE BOARD
The photograph shows the PCB of a pre-production QL, so elements of the design may change for the production models

IAN McKINNELL

Sinclair QL

PRICE
£399 inc VAT

SIZE
472×138×46mm

CPU
Motorola 68008

CLOCK SPEED
7.5 MHz

MEMORY
128K RAM, expandable to 512K
32K ROM, expandable to 64K

VIDEO DISPLAY
25 lines of 85 characters (with monitor), high resolution graphics: 512×256 pixels (4 colours), 256×256 (8 colours)

INTERFACES
Serial RS232 (2), Joysticks (2), Microdrives, LAN, TV, RGB monitor

LANGUAGE SUPPLIED
BASIC

OTHER LANGUAGES AVAILABLE
Several are planned, most notably the 'C' language

COMES WITH
Instruction manual, four applications programs

DOCUMENTATION
The provisional manual is of a high standard, comes in a ringbound folder, and includes manuals for the standard software

contained business system, the Microdrives must be viewed as something of a weak point when compared with the remarkably efficient processor. It takes an average of 3.5 seconds to locate a data item on the Microdrive, compared with perhaps half a second for the new generation of mini floppy drives.

Sinclair say that they intend to produce an interface to a hard (Winchester) disk unit, but there are no plans for floppy disks — though some independent manufacturer will undoubtedly offer them. Without disks, unfortunately, the QL will be unable to run the Unix operating system, which is usually considered to be one of the main reasons for choosing a Motorola 68000 CPU, and is tipped to replace CP/M as the standard operating system for business software.

The QL comes with four business packages as standard, all developed by the software house Psion. Quill is a word processor; Abacus, a spreadsheet package; Archive, a database; and Easel a graphics package. All run under the resident operating system, which Sinclair have dubbed QDOS. The popularity that this machine is likely to achieve means that a lot of software will be developed for it, though it will not be easy for software houses to transfer their existing packages onto the QL. Still, it might be argued that if Sinclair adopted industry standards, its products would not have the market lead that they do have.

The resident BASIC has been upgraded from the Spectrum version, and as if the name Quantum Leap weren't immodest enough, Sinclair have called this SuperBASIC. It includes facilities for handling procedures (thereby encouraging structured programming) and for accessing the operating system from within a BASIC program. Both the BASIC and QDOS are contained in the 32 Kbytes of ROM as standard.

The Sinclair QL is without doubt a very impressive machine and, perhaps more important, has sufficient expansion possibilities to guard against obsolescence. It is a fitting addition to a long line of Sinclair milestones: the ZX80, the ZX81, and the Spectrum.