Sinclair Spectrum

Superb colour graphics and the unique Microdrive storage system at an amazingly low price are the star features of the Spectrum — but beware the keyboard

The Sinclair Spectrum is a small personal computer with colour graphics, the ability to produce sounds and a large memory. The main reason for its success is that it is cheap — the 16K version of the Spectrum was the first colour computer to be sold for under £100. The low cost of the Spectrum has resulted in high volume sales which, in turn, have led to the existence of companies producing programs to be run on the Spectrum and extras that can be added to it.

The Spectrum offers a large amount of memory to its users, up to 48K in fact, so that it can act as a vehicle for long programs written in the machine's own BASIC computer language. These programs can be ready-written (stored on cassette, or disks), or they can be written by the Spectrum's users. The Spectrum's version of BASIC, like that of almost any other personal computer, has its own distinctive features, but it is sufficiently close to the generally accepted standard version of BASIC to be familiar to any BASIC programmer.

The facilities of the Spectrum for producing sounds and for creating graphics can both be controlled from BASIC. The Spectrum's control of sound is fairly primitive, using the appropriately named BEEP command. With some ingenuity it can be made to produce a small repertoire of sound effects. In contrast, the colour graphics capabilities are very impressive. They permit the creation of displays with features ranging from the cleverly named PAPER and INK commands for the control of background and foreground colours to commands for drawing circles and causing areas of the screen to flash on and off.

The ready-written programs that are available for the Spectrum include a tremendous variety of games. These range from the ever-popular Space Invaders and Pac-Man types to adventure games and flight simulators, and can display startling originality in their conception.

The Spectrum's capability for expansion has been satisfied to some extent by Sinclair itself with the provision of a supporting printer and storage system, the ZX Printer and ZX Microdrive. However, many other manufacturers provide add-ons for it, and these include joysticks, interfaces with which it can control or communicate with other equipment, typewriter-style keyboards, and sound and speech synthesisers.

The Sinclair Keyboard

The Spectrum has a low cost keyboard with limited movement in the keys. Sinclair opted for an improvement over the flat keyboard of the ZX81 but without incurring the extra costs of a full moving keyboard.

The Spectrum's keyboard uses a single moulded piece of rubber incorporating the keytops, which protrude through the casing. When a key is pressed it closes a contact underneath. The computer then recognises that a key has been pressed and operates the appropriate character. The means to pop the key up again is provided by the elasticity of the rubber sheet, which is stretched when the key is depressed.

This design technique has cut down the cost of the keyboard and has helped make the Spectrum the low cost computer it is