



merely its specification. The 318 has all the Microsoft BASIC graphics extensions, for example single commands to draw points, lines, boxes, circles, arcs and ellipses. A PAINT command fills any enclosed shape with a particular colour. If you want greater control, special VPOKE and VPEEK instructions write to and read from the screen memory directly. There's also a mini graphics language used with the DRAW command to create complex shapes and drawings.

Any rectangle of the screen can be 'picked up' by reading it off the screen into a BASIC array with GET and replaced on the screen with PUT. These commands make it easy to produce regular patterns, simple animation or special effects such as reversing out an image. The finishing touch is that the 318 has sprite graphics. The 9929 display chip provides the facility for programmers to design their own animated shapes, such as people, space invaders, or missiles.

The ON SPRITE GOSUB instruction enables you to set up an 'event trap'. In this case, the program proceeds quite normally, but if two sprites collide, BASIC will jump to a special routine to deal with the collision. This could be used to detect a missile hitting a spacecraft for example. Using this interrupt facility, the programmer has no need to check continually for all the events that might happen. As a result, the programming is easier and the program runs much quicker. Similar event trapping is available for the function keys, the cursor keys and so on.

Good sound is an essential requirement and the Spectravideo's sound chip has three voices and a range of special effects. This can produce some impressive results, although the more complex effects are quite difficult to achieve from BASIC. The sound is replayed through the television, providing a convenient volume control.

The Spectravideo has a small selection of interfaces: two joystick ports, a cartridge port, a cassette port and an expansion connector. There is an interesting range of add-ons available, but



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Spectravideo Joystick

A built-in joystick replaces the four arrow keys you'll find on most computers. Without the handle, you can tap the disc in the right spot to move up, down, left or right. With the handle in position, moving the joystick tips the disc in the appropriate direction. This is more than a cosmetic improvement as the joystick allows you to move diagonally by pushing in two directions at once; something that would be hard to achieve using four separate keys

ROM

Spectravideo BASIC resides in two 16 Kbyte ROMs

Expansion Connector

A range of expansion boxes and options connect here

CPU

The popular Z80 is used as the processor chip

Monitor Output

A separate modulator connects here to drive a television set. This enables the Spectravideo to be used with different standard televisions by selection of the appropriate modulator

Cartridge Port

Cartridges plug in through the top of the case into a firmly mounted socket



Big Brother

An attractive alternative to the 318 is the Spectravideo 328. This is a more sophisticated version, with a full moving keyboard, 80 Kbytes of RAM and built-in word processing software. It costs about £275, and is intended to be a better starting point for users who intend to upgrade to a full business system

they tend to be rather expensive. To connect any add-on, you need to buy the mini-expander. This will allow you to add one extra option, usually a 16 or 64 Kbyte memory expansion. Further expansion is via the super-expander that will provide for up to seven add-ons, using a slot system similar to that of the Apple II. You can plug in more memory here, as well as printer interfaces, disk drives and modems. If you are a games enthusiast, you could opt for a very interesting add-on, the Coleco games adaptor. This will enable the 318 to run cartridges from a Coleco television game, although it is a comparatively expensive way of running games software.

Cassette Port

An edge connector is used as the interface for the Spectravideo's dedicated cassette recorder