Commodore Plus/4

This is the machine that may well eventually replace the Commodore 64. Both machines have a similar 320 by 200 pixel graphics resolution and 64 Kbytes of RAM, but the Plus/4 can display 121 colours and has a much improved BASIC, giving the user more control of the screen display. In the highest resolution mode, two colours only may be displayed in a single character square, but selection of the 160 by 200 pixel mode allows four per square. The sound does not quite match up to the high standards of the Commodore 64, with a maximum of two 'voices'; however, the improved BASIC makes sound-handling considerably easier. The Commodore 64's sprite graphics facility has been omitted in the new model. A machine code monitor is built into the micro, as are four small 'serious' programs — word processor, spreadsheet, database and graphics program. However, a disk drive is needed to make the best use of these. The Plus/4, in line with Commodore policy, requires its own cassette recorder, but this is not the same model as is used on the Vic and Commodore 64. Special joysticks are also required. The Plus/4 uses the same printers and slow disk drive as the Commodore 64, although a faster drive is under development. **Price:** £300

MSX Standard Computers

MSX is a 'minimum standard', and many manufacturers will offer more than the basic specification, although any improvements will not affect compatibility. The machine in our illustration is the Toshiba HX-10 (see page 669). The MSX standard specifies a particularly good version of BASIC, which includes easy-to-use graphics, sound and event-handling commands, as well as a good editor. MSX machines feature function keys, which can be programmed for 10 different functions or commands. The display gives a graphics resolution of 256 by 192 pixels in 16 colours; 32 sprites are also available. To cope with the display, 16 Kbytes of the 80 Kbytes of RAM are reserved for screen-handling. Of the remaining 64 Kbytes, 28 Kbytes may be used by the BASIC programmer; machine code or the use of a disk drive is required to access the remainder. **Price:** around £280

Commodore 64

A well-established micro, with a wealth of available software, the 64 suffers from its poor BASIC, which lacks built-in commands to take advantage of the excellent sound and graphics (see page 10). Maximum resolution is 320 by 200 pixels with 16 colours onscreen, although only two colours may be displayed in each character square. Sprites are also supported. Despite the 64 Kbytes of RAM, no more than 39 Kbytes are available for use. A special cassette recorder is required for use with the C64, and Commodore 'own brand' printers and disk drives are needed if expansion is desired. These are low in cost, but the disk in particular is extremely slow in operation and is prone to errors. **Price:** £200

Atari 600/800 XL

These machines are upgraded versions of the old Atari 400/800 series (see page 189). This means that a wide range of software is available, although the computers themselves now look a little old-fashioned. The Atari 600XL is being phased out, but remains a good buy while stocks last as its 16 Kbyte RAM may be expanded to 64 Kbytes at a cost of £90, effectively turning it into an 800XL. The maximum graphics resolution is 320 by 192 pixels, although two colours only may be displayed in this mode. Selection of a lower resolution permits 16 colours in 16 different shades. Outstanding sound and sprite graphics are other notable features, although the BASIC used by Atari is now somewhat out of date. Atari machines require a special 'dedicated' cassette player, which adds £35 to the price. An annoying feature of Atari micros is the fact that a full manual is not supplied; this must be bought separately. Atari peripherals are non-standard, but are generally widely available and are reasonably priced. **Price:** £100 (16 Kbytes), £170 (64 Kbytes)

Commodore 16

Designed to replace the ageing Vic-20, the Commodore 16 is supplied in a 'starter pack' containing cassette recorder, BASIC tutorial tape and book, and four 'recreational' programs. Although the casing gives the 16 a similar appearance to the Commodore 64 and Vic-20, inside the machine is closer to the £300 Plus/4, using as it does the same BASIC and machine code monitor. In normal use, 12 Kbytes are left for BASIC use, although high resolution graphics will reduce this to a mere two Kbytes. This meagre memory allocation means that most 16 software will be produced on cartridge. Little software has yet appeared for the new machine, but the supplied programs include two arcade games, a chess program-cum-tutor, and a graphics design program. This machine is certainly good value, especially for the novice, but the small amount of free memory could cause problems to software writers. **Price:** £140

Falling Prices
Readers will notice that prices given in this article differ from those quoted in the original reviews: the prices of most machines have dropped significantly in recent months, sometimes by as much as £100

Commodore Plus/4		
Poor		Good
		Price
		Memory
		Backup Store
		Keyboard Quality
		BASIC Graphics
		BASIC Sound
		BASIC Editor
		BASIC Facilities
		Software — Quality
		Software — Quantity
		Interfaces
		Monitor Output

Commodore 64		
Poor		Good
		Price
		Memory
		Backup Store
		Keyboard Quality
		BASIC Graphics
		BASIC Sound
		BASIC Editor
		BASIC Facilities
		Software — Quality
		Software — Quantity
		Interfaces
		Monitor Output

Commodore 16		
Poor		Good
		Price
		Memory
		Backup Store
		Keyboard Quality
		BASIC Graphics
		BASIC Sound
		BASIC Editor
		BASIC Facilities
		Software — Quality
		Software — Quantity
		Interfaces
		Monitor Output

Atari 600/800 XL		
Poor		Good
		Price
		Memory
		Backup Store
		Keyboard Quality
		BASIC Graphics
		BASIC Sound
		BASIC Editor
		BASIC Facilities
		Software — Quality
		Software — Quantity
		Interfaces
		Monitor Output

MSX Standard Computers		
Poor		Good
		Price
		Memory
		Backup Store
		Keyboard Quality
		BASIC Graphics
		BASIC Sound
		BASIC Editor
		BASIC Facilities
		Software — Quality
		Software — Quantity
		Interfaces
		Monitor Output