



APPLE BITES BACK

Apple's Macintosh microcomputer is designed to make life easy for the novice computer user. Based on the technology developed for the more expensive Apple Lisa, the Macintosh, with its built-in disk drive, integral monitor, mouse and easy-to-use operating system, represents a major step forward in computer design.

The Macintosh is unlike any of the computers we have discussed so far in the course. In fact, it is unlike any other machine on the market. Although the Macintosh is primarily a business machine, Apple has chosen to create its own niche rather than follow the path taken by most other manufacturers who have adopted IBM standards in their machine designs. By taking this risky course, Apple has maintained its reputation as an innovator in an industry filled with 'lookalikes'.

The Macintosh comes in an unusual package. The sleek and slender system unit is small for a machine of its processing power. The display is a high resolution nine-inch screen, and the drive uses Sony $3\frac{1}{2}$ in disks. There is a moulded handle on the cabinet casing, so the Macintosh can be classed as a truly portable machine. Together with the keyboard, mouse and an optional carrying case, the system weighs a total 11.6kg (25.6lb). The carrying case has compartments for all of the Macintosh's components, in the fashion of a picnic basket.

The Macintosh has a typewriter-style keyboard, which has an excellent 'feel' and is suitable for touch-typing. The keyboard has its own processor to handle special functions and international character sets. The other component of the 'Mac', as it is familiarly known, is the mouse. Named partly because of the 'tail' that connects it with the system unit, this hand-held device, the size of a cigarette packet, is moved around a flat level surface. A cursor makes corresponding movements on the screen, and can be used to select the activities the user wants the machine to perform. This is regarded as a much more 'user-friendly' approach to computer design than that employed by the majority of machines, which require a knowledge of specific operation commands. For example, if you wished to open a document file, you would manipulate the mouse so that the cursor fell on the small picture symbol (icon) representing a sheet of paper. A press of the button on the mouse would then open the screen for that activity. Having entered your file from the keyboard, the mouse would be used to return you to the main menu of icon commands, and the file



IAN MCKINWELL

could be saved to disk by placing the cursor over the symbol showing a disk.

The Macintosh comes with 128 Kbytes of user memory, which can be increased to 512 Kbytes by replacing the existing RAM with 256 Kbyte chips. The Mac also has 64 Kbytes of ROM tightly packed with operating software, which handles virtually all of the system operations, as well as some special features. The Sony disk drive uses $3\frac{1}{2}$ in disks, which store up to 400 Kbytes on one side and are more reliable than the $5\frac{1}{4}$ in disks.

The Macintosh screen is 512 by 342 pixels, and is 'bit-mapped' so that each of its more than 175,000 points can be addressed individually. This

Macintosh System

The Macintosh is designed to occupy as little space as possible on a desk-top. The extremely high resolution of the screen makes it possible to do graphics tricks usually seen only on machines costing 10 times the price