

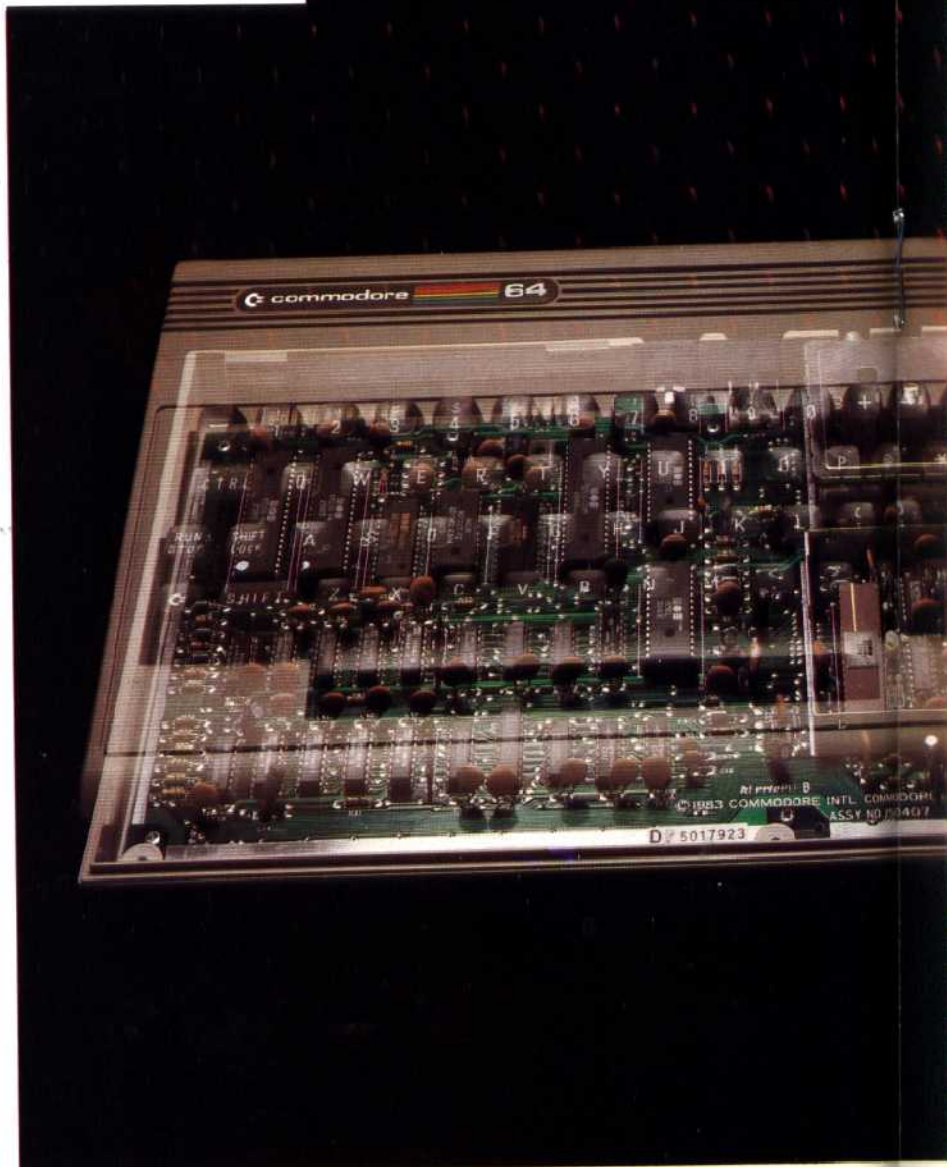


# COMMODORE 64

At £200, the Commodore 64 contains a lot of hardware — 64 Kbytes of memory, sophisticated sound and graphics facilities. It is a very suitable machine for the serious home computer enthusiast, and with the addition of suitable peripherals, could be used for small business applications, too. The design makes use of 'bank switching' to squeeze the memory into the space available.

The physical similarity between the Commodore 64 and the Vic-20 is deceptive. Although there is a measure of software compatibility between the two, in hardware terms the 64 represents a considerable advance. Let's begin by looking at the 64 Kbyte of RAM from which the computer derives its name. This feature is a considerable advantage in selling terms since it was, until the advent of the 16-bit microprocessor, as much RAM as was available on any business microcomputer. However, there is a certain amount of difficulty associated with equipping a home computer with this much memory. Though an eight-bit microprocessor such as the widely-used 6502 can address a total of 64 Kbytes, this must include all the ROM and the input/output chips for controlling keyboard, screen and peripherals in addition to the RAM.

The answer lies in 'bank switching', a technique whereby sections of memory are switched into and out of the addressable memory map as they are needed. There is no theoretical limit to the total amount of memory that a computer can incorporate using this method, but because the microprocessor can still only address 64 Kbytes at



## Box Of Tricks

The SX-64 is a self-contained portable version of the Commodore 64, which can be purchased in a variety of different configurations. The most popular version features one disk drive (the space above can be used for storing diskettes) and a five inch colour monitor. The SX-64 will run disk or cartridge based software from the standard Commodore 64 without modification.

In many respects it is one of the best designed 'luggable' computers — a phrase coined to distinguish them from truly portable machines such as the Epson HX-20 and Tandy Model 100. The keyboard features fully sculptured keys with the graphics legends inscribed on the front, and it is detachable from the main unit. There is a slot in the top of the casing to take ROM cartridges; when not occupied the opening is covered by a flap to keep out dust.

The casing itself is both rugged and compact, resembling the portable test equipment used by service engineers, particularly in the way that the carrying handle doubles up as a stand. The handle is ridged to prevent it from slipping on the desk, though this makes it slightly uncomfortable to carry. Overall, the physical design is the best to have come from Commodore to date, and is marred only by the fact that the mains cable and plug cannot be stored anywhere inside the casing



SX-64 COURTESY OF COMMODORE

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