



DRAGON COMES OF AGE

The Dragon 64 is simply an enhanced version of the original Dragon 32. Thirty-two Kbytes of memory and a serial port have been added, and a new range of disk-based software is also available. Although the Dragon 64 has maintained compatibility with existing programs, it is clearly intended for more serious business work.

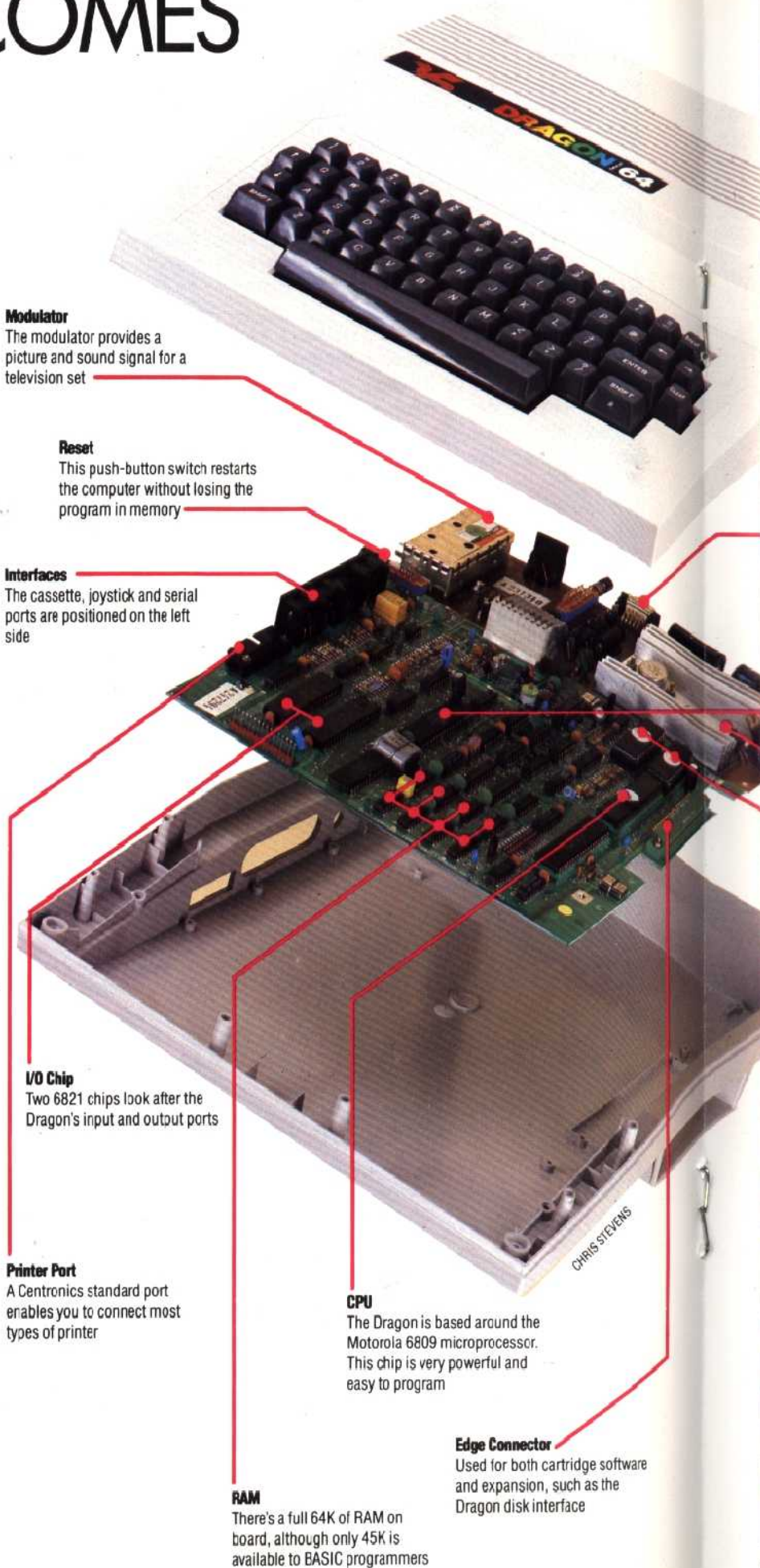
The Dragon 64 has the same keyboard as the later 32s, although it is of better quality than that of the earlier machines. But it lacks many useful keys, including Escape, Tab and Control.

When first switched on, the Dragon 64 — like the 32 — will automatically be in the '32 mode' in which it can run all Dragon software. BASIC users have up to 30 Kbytes of free memory. The command EXEC 48000 switches off the BASIC ROM and switches in the top 32 Kbytes of free memory. BASIC is then copied into high memory, leaving up to 45 Kbytes free. The full 64 Kbytes is available only under the other operating systems or machine code programs. Dragon DOS will reset the system to 32 mode, leaving only about 23 Kbytes free for BASIC programs.

Surprisingly, the 64's printed circuit board is very different from the 32's. It is the same computer, but the chips have been moved in order to make room for the new serial port and extra memory. As a result, 32 owners wishing to upgrade their machines will have to replace their machines with 64s, they will not be able to extend their 32s by plugging in extra components. The 64's CPU is the Motorola 6809 — an eight-bit design that arrived too late to gain the popularity of the 6502 and the Z80. A matching 6847 chip generates the display on either a television set or a composite video monitor. This chip gives the Dragon its rather curious display modes.

The Dragon works with a text screen of 32 x 16 characters on either a green or orange background. This limited display, while not a problem for the Dragon 32 user, has serious implications for those who want to use the Dragon 64 as a business machine. The new disk-based software, in particular the professional OS9 operating system, is severely restricted by the small display area.

For detailed graphics the Dragon has a number of high resolution modes, ranging from a resolution of 128 x 96 in four colours to a maximum of 256 x 192 in two colours. In comparison with many other machines this is very limited, particularly since the quality of display can be very poor. However, it does enable the



Modulator
The modulator provides a picture and sound signal for a television set

Reset
This push-button switch restarts the computer without losing the program in memory

Interfaces
The cassette, joystick and serial ports are positioned on the left side

I/O Chip
Two 6821 chips look after the Dragon's input and output ports

Printer Port
A Centronics standard port enables you to connect most types of printer

CPU
The Dragon is based around the Motorola 6809 microprocessor. This chip is very powerful and easy to program

RAM
There's a full 64K of RAM on board, although only 45K is available to BASIC programmers

Edge Connector
Used for both cartridge software and expansion, such as the Dragon disk interface