LED indicates that the machine is switched on, but the leaflet fails to mention that the Sega will not function unless a cartridge, holding either BASIC or a game, is inserted into the ROM port. There is no internal BASIC interpreter, and once the BASIC cartridge has been loaded the SC3000H is left with a derisory 515 bytes of user RAM — less memory than provided by the unexpanded ZX81. This is a distinct disadvantage in the marketplace, as it means that the user will need to purchase an expansion module to use the machine for anything other than simply running games cartridges.

The manual may also lead to confusion as it refers to the 'soft' keyboard of the SC3000 and necessitates the user consulting the printed keyboard diagram to locate any required graphic symbol. This fault may be corrected on later versions. The keyboard diagram also shows BASIC keywords printed on or above many of the keys, Spectrum-style. These are accessed by holding down the function key at the same time as the relevant alphanumeric key. Commands such as RUN, LOAD, and GOTO, mathematical functions (ABS, SIN, COS, TAN) and string functions such as LEFT$, RIGHT$ and MID$ may all be accessed in this way, but again constant reference to the manual is necessary to find the relevant keys.

In operation, the SC3000H graphics are very impressive. The display features two screens — the text screen gives 24 rows of 40 columns in two colours, while the graphics screen has a resolution of 256 × 192 pixels and can display 16 colours. Brightness levels may be adjusted to give up to 210 shades, and up to 32 sprites may be created. The Sega BASIC, which is similar to Microsoft Extended BASIC, uses DRAW, COLOR, PAINT and SPRITE commands for programming graphics.

The SC3000H also has six sound channels, which can be addressed via POKE commands or by using the BASIC commands BEEP and SOUND. A music cartridge aids the composition of melodies, although the tunes produced fall short of the 'synthesiser quality' claimed in the manual.

Sega's arcade experience is reflected in the quality of its games software. Game graphics are generally good, although the SC3000H appears to have difficulty in displaying both text and graphics at the same time. Visually, the games are very much like their arcade counterparts, and the high-quality sound makes them all the more enjoyable. The Reset key is used in an unusual fashion: instead of restarting a game, it functions as a toggle switch to provide a pause in the action.

Sega supplies two different types of joystick, but neither of these provides fast, smooth movement. However, the sensibly designed cursor 'cluster' allows easy keyboard operation of games software.

The company markets a good range of peripheral equipment for the machine, including a cassette recorder, colour printer/plotter and an expansion unit. This gives an extra 64 Kbytes of RAM and has a built-in compact disk drive. The expected price of this unit is a reasonable £150.
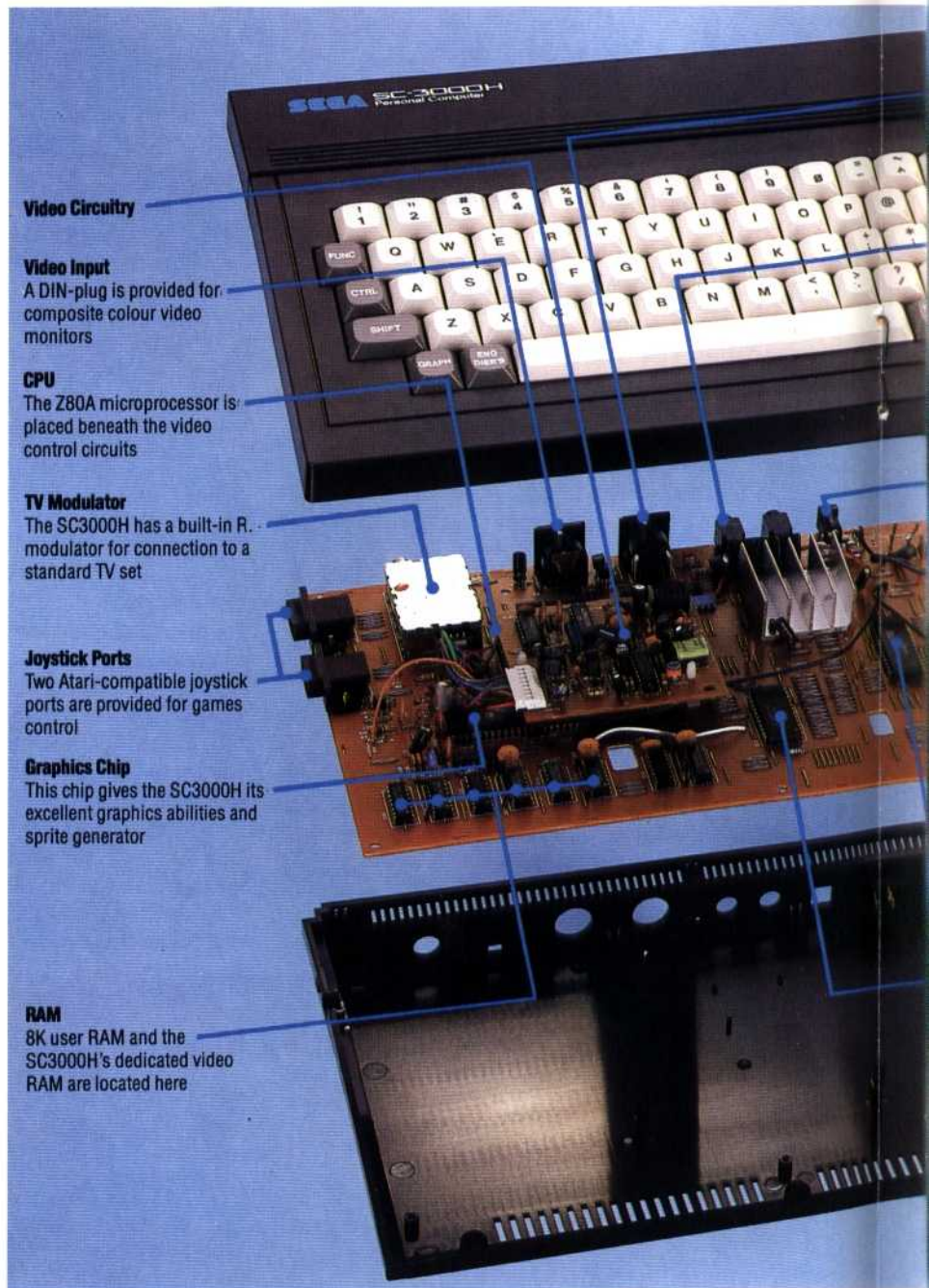
Video Circuitry

Video Input
A DIN-plug is provided for composite colour video monitors

CPU
The Z80A microprocessor is placed beneath the video control circuits

TV Modulator
The SC3000H has a built-in R.F. modulator for connection to a standard TV set

Joystick Ports
Two Atari-compatible joystick ports are provided for games control

Graphics Chip
This chip gives the SC3000H its excellent graphics abilities and sprite generator

RAM
8K user RAM and the SC3000H's dedicated video RAM are located here

Sega SC3000H Joysticks
There are two different joysticks for the Sega, each suited to different playing styles. Both use an eight-position switch mechanism for stick movement and are compatible with the standard Atari nine-pin connector

CHRIS STEVENS