Flying The Flag

MSX Standard

CPU	Z80A, 3.58 MHz
RAM	Minimum 8K
ROM	32K including BASIC
SCREEN	16 colours, 256×192 graphics, 32 sprites, 40×24 text display (or 32×24) (TI 9918 video chip or equivalent)
SOUND	3-channel, accessible from BASIC (AY38910 sound controller chip)
INTERFACES	MSX cartridge port, modulated TV output, Centronics parallel printer, cassette interface
KEYBOARD	QWERTY keyboard plus special function keys, 4 cursor keys, 10 programmable function keys

MSX Flavours

SONY HIT-BIT	Built-in database software, RGB output, optional 4K Ram packs
TOSHIBA HX-10	Expansion bus, 2 joystick ports
YAMAHA CX-5	Mini-music keyboard and software with MIDI
PIONEER	Video disk controller interface
SANYO MPC100	Optional light pen and software
JVC HC7GB	RGB output
SPECTRAVIDEO SVI 728	Full numeric keypad

Although the MSX standard calls for a minimum 8K of memory, all the above manufacturers have supplied 64K user RAM, plus 16K video RAM in their machines.

typical example of this can be found in Space Invader type games. The program must keep the aliens moving around the screen, all the while checking whether the 'fire' button has been pressed. The program needs to do two things at once, by switching rapidly between tasks.

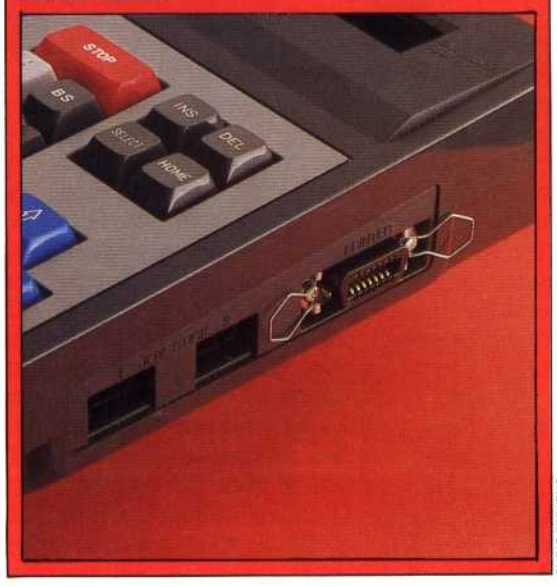
The MSX solution is to designate certain things as 'events'. Instructions are provided to tell the computer to look out for an event. When one occurs, the computer automatically switches to a subroutine to deal with the event.

The MSX graphics screen can display 16 colours with a resolution of 256 by 192 pixels. Up to 32 eight by eight pixel sprites can be defined (or 16 sprites of 16 by 16 dots, or eight sprites of 32 by 32 dots). To make the most of the sprites, MSX BASIC includes a full set of dedicated commands, such as SPRITE to define a sprite, and PUT SPRITE to position one anywhere on the screen.

As the MSX manufacturers have claimed, plenty of cartridge software is already available for the machines. And the promise of compatibility appears to be true — software for the Toshiba HX-10 works perfectly on the Sony Hit-Bit, and vice versa. This applies both to cartridge software and cassette programs. After years of non-compatible systems, it seems almost magical to take a cartridge out of one computer and use it on another. The MSX companies are relying on this feature to make a wide range of software very quickly available for all the machines.

Whether MSX will have the market impact that the Japanese are hoping for remains to be seen. With strong competition ahead from Sinclair, Commodore and Amstrad, among others, a sales struggle looms. Nevertheless, the MSX machines do live up to their manufacturers' claims. They are well-equipped, fun-to-use computers at a reasonable price.

Standard Interface



CHRIS STEVENS

TOSHIBA HX-10 MSX

PRICE
£280

DIMENSIONS
365 × 245 × 60 mm

CPU
Z80A, 3.58 MHz

MEMORY
64K RAM(28K available for BASIC) 16K video RAM, 32K ROM including BASIC

SCREEN
40 columns × 4 rows text, 256 × 192 graphics, with 16 colours and up to 32 sprites

INTERFACES
Centronics printer, TV, monitor, audio output, 2 joystick ports, cassette port, ROM cartridge slot, expansion bus

LANGUAGES AVAILABLE
Microsoft Extended BASIC

KEYBOARD
68-key typewriter style with cursor cluster, plus 5 programmable function keys

DOCUMENTATION
Set-up guide and BASIC programming reference guide. Both are well done, but not sufficiently thorough

STRENGTHS
MSX BASIC has many useful features, including good graphics and sound commands. The standardisation of MSX is a strength because it will mean more software and peripherals

WEAKNESSES
MSX BASIC lacks structured programming abilities; availability of MSX and peripherals is slow in coming

DIFFERENCES
The Sony Hit-Bit has 3 programs built into ROM, RGB monitor output, and the keyboard arrangement is slightly different