

ENTERPRISE 64 AND 128.

TECHNICAL DESCRIPTION.

1. PROCESSOR.

Z80 microprocessor running at 4MHZ. Extended addressing allows up to 3.9 megabytes of memory.

2. MEMORY.

User RAM	50K (Enterprise 64) 113K (Enterprise 128)
ROM	32K internal (EXOS + WP) 16K cartridge (IS-BASIC)

Memory can be expanded to a total of 3.9 megabytes (RAM and/or ROM). Memory extensions are automatically recognized and used by EXOS. Multiple BASIC programs may exist in memory and can be CHAINED from other programs with parameter passing. Operating system (EXOS) extensions can reside in ROM or RAM.

3. GRAPHICS.

The following graphics and text modes are available.

42 column text mode (2 colour pairs)
84 column text mode (4 colour pairs)
672 x 256 HIRES graphics mode (2 colour)
336 x 256 HIRES graphics mode (4 colour)
168 x 256 HIRES graphics mode (16 colour)
84 x 256 HIRES graphics mode (256 colour)
336 x 256 LORES graphics mode (2 colour)
168 x 256 LORES graphics mode (4 colour)
84 x 256 LORES graphics mode (16 colour)
42 x 256 LORES graphics mode (256 colour)
GRAPHICS ATTRIBUTE mode (16 colour)

In the 2, 4 and 16 colour modes, the colours can be chosen from the palette of 256.

Directors
D.N.L. Levy, R.H. Madge
L.I. Mahtani, D.M. Mirpuri
M.L. Mirpuri, K.J. O'Connell

Registered office
9 Cavendish Square
London W1M 9DD
Registered in England
No. 1674248

Additionally, the 'interlace' modes give 2 colour, 84 x 50 column text and 672 x 512 graphics resolution. These require the 'interlace driver' to be loaded from the demonstration tape supplied with the computer. A long persistence monitor would be required to minimise the 'flicker' present on the interlaced display.

The graphics on the Enterprise are handled by a custom video processor (NICK) and can easily be manipulated from BASIC.

4. SOUND.

Comprehensive 4-source (3 tone and noise) custom sound generator (DAVE) with full stereo control of all sources. 8 octave range with facilities for ring modulation and filtering.

Sounds can be easily manipulated from BASIC with PITCH, DURATION and ENVELOPE control.

5. KEYBOARD.

The keyboard is full sized, full travel with the ISO standard layout. It has 69 keys plus a joystick for cursor control. The 8 function keys are pre-programmed with functions for BASIC programming and the word processor. The keys can be re-programmed in BASIC to give 16 user defined commands (NORMAL and SHIFTEd) or 32 functions (using ALT and CONTROL) for applications programs. The joystick is decoded 8 ways for games use. Editing keys include ERASE, DELETE and INSERT.

6. BASIC.

The Enterprise uses a fully structured BASIC based on the new ANSI standard. It supports DO loops and CASE statements and is fully recursive. Extensions to the ANSI standard allow the easy use of graphics and sound.

7. Large range of interfaces:-

- a) 2 joystick control ports, configured as 3 x 5 matrix so could be used for keyboard extensions. Readable from BASIC.
- b) Centronics compatible printer port. This is a full 8-bit port.
- c) RS423 serial port. Software controlled, baud rates from 75 to 9600, full data format control.
- d) Built-in Local Area Network (LAN). This allows 32 Enterprise computers to be linked to each other and/or disk drives, printers, etc.. There is no need for expensive add-ons, as the built-in hardware and software controls the net. Pupil/Teacher cartridges will be produced for specific applications.
- e) Two remote control sockets for controlling cassette recorders, plus tape in/out sockets.
- f) TAPE OUT socket doubles as a stereo output for headphones with 3.5mm jacks.
- g) Monitor Socket allows connection of composite (monochrome) and R,G,B, analogue monitors. (Analogue inputs are required to allow all 256 colours to be displayed), and stereo sound output for hi-fi or monitor with audio.
- h) Built-in UHF modulator tuned to channel 36 for use with domestic TV sets (colour or black and white).
- i) 9.5v power supply input socket. (Separate transformer supplied).
- j) Versatile cartridge port (up to 64K ROM in 16K segments).
- k) 66-pin expansion port complete with four extra address lines for almost unlimited expansion. See future products.
- l) A disk interface will be available later in 1985. This will allow the use of Cumana or similar drives as used with the BBC microcomputer. The interface is 'double density' and will allow more than 700K on a single 80 track double sided drive.

8. SCREEN EDITOR.

The Enterprise has a full screen editor with reverse scrolling of the 4K editor buffer. Programs may be easily edited using the INSERT, DELETE and ERASE keys. These work in conjunction with the SHIFT and ALT keys to delete letters, words or whole lines.

9. WORD PROCESSOR.

This is an expansion of the screen editor and allows margin setting, justification, centering and paragraph moving. Text can be saved and loaded from tape and sent to the printer or serial device. The word processor works in both 40 and 80 column modes. 'Help' screens are available by pressing a function key and the remaining keys are set up to operate the other word processor commands.

10. OPERATING SYSTEM.

The Enterprise eXpandable Operating System (EXOS) resides in ROM. It allows extensions (either RAM or ROM based) and can access memory up to the full addressing range of the Enterprise (3.9 megabytes). The input/output system is channel based and channels may be OPENed, CAPTUREd, REDIRECTed, etc., and I/O devices specified. Under normal circumstances, this system is transparent to the user with default channels handling keyboard, screen, cassette, printer, etc..

11. PERIPHERALS.

Enterprise have a range of peripherals including a dot matrix printer, R,G,B, colour monitor and joysticks. Cables and adaptors are available to connect the computer to other commercially available compatible devices.

12. FUTURE DEVELOPMENTS.

a) Disk Interface

A disk interface will be available later this year. It will allow the use of SHUGART 410 compatible 5 $\frac{1}{4}$ " and 3 $\frac{1}{2}$ " drives such as CUMANA supply for use with the BBC micro. The DOS uses a MS-DOS compatible file structure and will be able to run CP/M programs subject to memory availability.

b) Memory Expansion

64K RAM packs will also be available later this year. They also contain a ROM socket for use with system extensions or other languages.

c) Base Unit

A single RAM pack or the disk interface can be connected to a computer using a simple (supplied) adaptor. To connect more than one item, the Base Unit would be required. This will accept up to six expansion packs and has its own power supply.

13. DIMENSIONS.

Width 39 cms.

Depth 26 cms.

Height 3 cms.

Excluding joystick top and BASIC cartridge.

Separate mains power supply unit.

Weight (packaged) 4.5 kgs.

14. SUPPLIED ACCESSORIES.

Power supply

BASIC cartridge

BASIC programming guide

Demonstration cassette

Cassette leads (2)

TV lead

Setting up guide

Demo. cassette guide

Enterprise Computers Ltd. reserve the right to change specifications at any time without notice.

JULY 1985