

PORTABLE COMPUTER

A portable computer is being introduced to the UK market by Epson, a Japanese manufacturer, well known in the world's computer industry for its dot matrix printers.

Epson (UK)'s Sales and Marketing Director, John Patterson, says, "The computer market continues its rapid growth. We analysed this market as well as current consumer life-styles and saw potential new market segments. The HX 20, we feel, ushers in a new era in computers. This product symbolizes our commitment toward expanding this market, yet meeting current consumer needs".

The HX 20 is Epson's first export product in Europe's computer market.

Relying on its reputation for dot matrix printers of which it has a 40% world market share, Epson will begin their product launch in the UK from October 1.

The HX20 is designed to be used anywhere and is

the programmes assigned them.

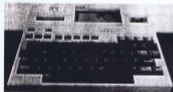
A liquid crystal display on the HX20 shows segments 20 column by four lines. Maximum screen area, however, is 255 columns or characters (per line) wide by 255 lines long.

Upper and lower case type, numbers, punctuation and graphics are part of the HX20.

One final feature is that the Epson HX20 prints hard copy via a built-in 24 column printer with an output of 42 lines per minute.

This portable computer comes complete with cartridge ribbon, full ASCII character set and the international symbols needed to print most western languages.

Four nickel-cadmium batteries supply power for up to 40 hours of typical operation. Custom-designed CMOS circuitry assures low power consumption. Batteries are rechargeable on regular household current.



about the size of an A4 notebook, it offers power and capabilities comparable to many desk top computers.

It comes with standard 16K RAM of which the free area available for use is about 12,600 characters. The memory expands up to 28.6K bytes or 28,600 characters. The 32K ROM can be increased to 72K and it uses an extended version of Microsoft BASIC.

The HX20 has an ASCII keyboard with 10 function keys that automatically run

The Epson HX20's system expands as needs change. Several advanced options include a display controller that allows use of a CRT as a monitor, floppy disk drives for maximum memory capacity and an acoustic coupler for transmitting data by telephone. Price is expected to be under £500.

For further information contact Michael Cartwright on Unibridge 52131, or John Patterson or Robert Stead on 01-900 0466/9.

ZX99 CONTROL SYSTEM



This is a control system for up to four different tape recorders which also has a RS232 tape interface for running a Printer. The tape commands are all stored in a 2K ROM, but use up all the 8K to 16K space. The ZX99 divides the tape recorders (there must be at least two to make up a sensible system) into INPUT and OUTPUT tape recorders. The normal cassette leads are plugged into the ZX99 and a lead is provided to connect up to the ZX81. There is a 50 page manual that comes with the ZX99 and it is well worth reading before starting. It is well written and contains not only a chapter on all of the commands, but example programs, problems that may occur and any peculiarities of the system.

The user calls the various routines by using $USR(X)$, where X is the command required. There are six different routines which can (a) Turn on or off one input or up to two output recorders. (b) Read or Write a string data array onto tapes (up to 2 copies). (c) PRINT a data array onto the Printer via the RS232 interface. (d) PRINT a full LIST of the program onto the Printer (No Graphics). (e) Skip a program or data block on tape. (f) LOAD a program from tape and SAVE it on to one or two tapes. All of the routines will give back an error code except the load/save routine, giving either the users error or the tape error which caused the fault. Several variables are used by the ZX99, there are a single dimensioned string

(DIMXS(X)), ZS, Z and Y. The dimensioned string can be any single letter and is used to store the data to be sent or received from the tape. ZS is used to tell the ZX99 which string is used for the buffer (i.e. ZS="X") and variable Z the length of that buffer string to be sent. The Y variable is used to control the printing operations of the RS232 interface. All have to be set before using the routines. The print routines has no checking on the status of the printer, so the speed of the printer routine must be adjusted to that the printer can cope. Instead of graphics it will print a blank space for the user to fill in the appropriate inverse character or set of pixels. When dumping a string array however all the graphics represent control codes to the printer and can be used to produce different layouts for word processing or letters.

The tape routines are all done using the Sinclair ROM routines so there is no increase in speed for programs or data. There is a minimum limit of 40 bytes per data record and a clear screen (CLS) command is recommended before SAVEing.

Conclusions

A very useful device for the business user, but for the hobbyist a bit expensive at £52.90. Data-asset, 44 Shroton Street, London NW1 6UG. Tel: 01-258-0409 also do a set of programs to use with the ZX99 including word processing.