TAKING ON BOARDS

Realising that an absence of built-in disk drive interfaces may have detracted from the otherwise highly-regarded Memotech 500 series of micros, the company has recently released the RS128, with full interface facilities. The new machine is a stylish addition to the Memotech range.

Despite being highly regarded machines, the Memotech 500 series of microcomputers — the MTX500 and MTX512 — has been largely overlooked by home computer buyers. Attractive features — such as high resolution graphics, a built-in assembler, a sophisticated BASIC and a unique text-handling language called NODDY — have certainly not detracted from these machines, but their failure to achieve great popular success could be attributed to their falling between two distinct segments of the home computer market.

On the one hand, priced at around £300, the machines are a little expensive for the games player who may think that more sophisticated features are not worth the higher cost. On the other hand, the 'serious' user (Memotech says that the series is aimed at the small business user) may have been deterred by the fact that the 500 series lacks built-in interfaces, which would allow it to be connected to disk drives. These interfaces were available, but they came as separate boards, designed to be fitted to an edge connector inside the machines. This is not altogether surprising coming from a company that made its name by providing add-on boards for the ZX81 (see page 580), but it seems to have failed to impress users who wanted a machine that they could just plug in and run. Memotech seems to have recognised this problem and has introduced the RS128, a machine with interfaces built in.

THE LOOK OF THE MACHINE

At first glance, the RS128 looks identical to the 500 series — it gives the impression of being stylish and a little up-market. Like its siblings, the machine is cased aluminium, instead of the usual plastic, and this makes a Memotech machine considerably heavier than most other micros. There is a standard QWERTY keyboard and a numeric keypad, which holds some of the commands for the NODDY text programming language. There are also eight programmable function keys to the right of the keypad. The keys have an excellent feel and are built to a high professional standard.

There are a few minor niggles with the layout: the Return key is not much larger than the ordinary keys and touch typists may at first have difficulty in locating it, and the Delete key is not on the typewriter keyboard itself, but located on the numeric keypad instead. There is a Backspace key in the top right hand corner, but unlike most computer keyboards, where the Backspace also acts as a Delete-left key (known as a 'destructive backspace'), on the Memotech it is simply a cursor-left.

On the back of the machine there is a number of interfaces. Some of these were provided with the 500 series, and others are recent additions. On the far left of the machine is a pair of RS232 ports, which enable the machine to be connected to FDX floppy disk drives. These ports can also be used for other purposes, such as serial printers and networked communications. To the right of the RS232s is a composite video jack and a hi-fi jack — the latter allows the computer's sound to be amplified through a normal stereo system. The power socket and RF jack come next, followed by a Centronics-type printer interface. The cassette interface consists of a pair of microjack sockets, for EAR and MIC, in the same style as the Sinclair Spectrum. Finally, there is a pair of nine-pin Atari-style joystick ports.

The interface ports are labelled in white lettering, which can be clearly read from the back of the machine. This would seem to allow peripherals to be plugged in without having to lean over to look at the back. Unfortunately, Memotech has set the ports into depressions in the

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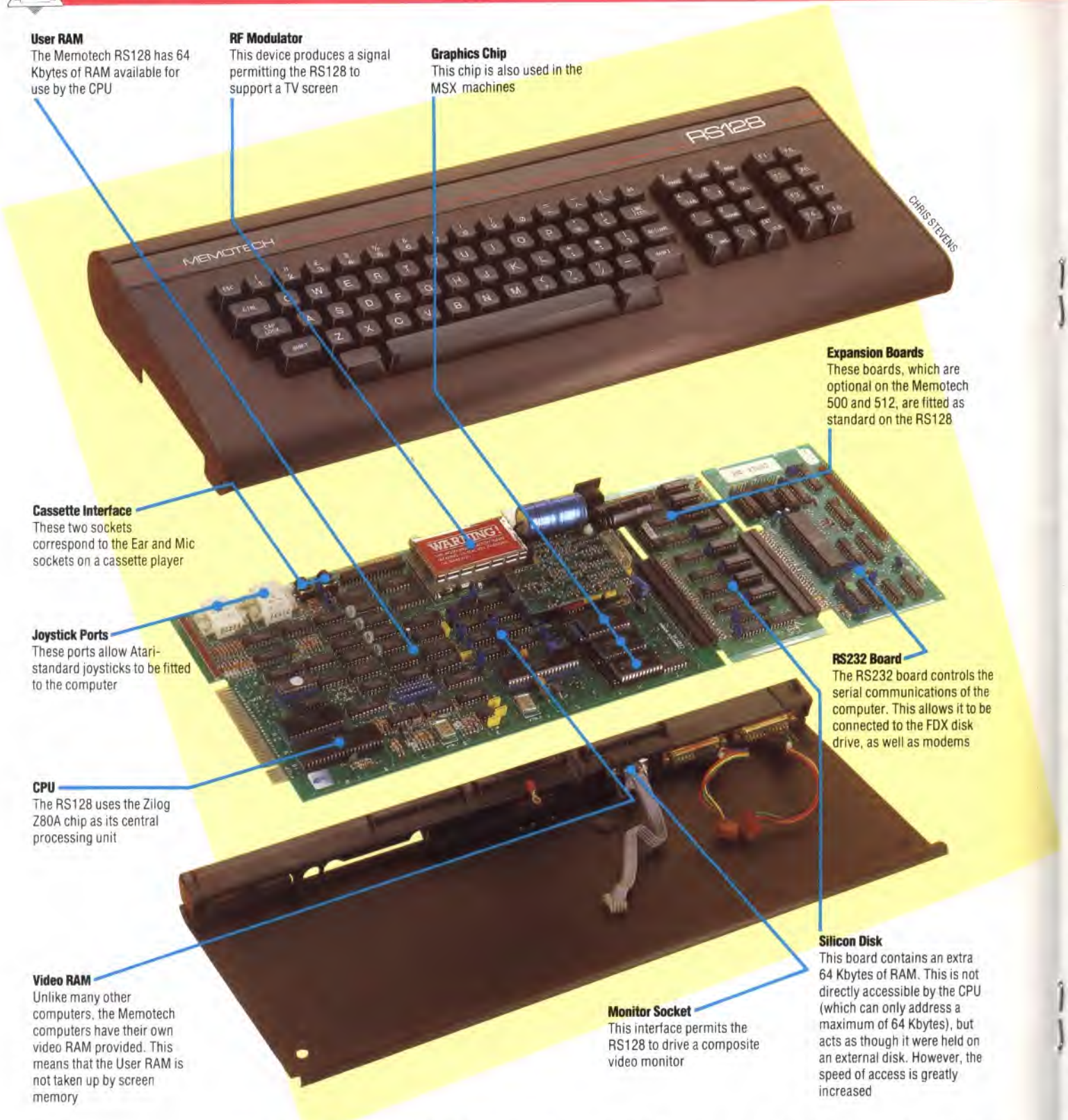
Much Improved
The Memotech RS128 is an improved version of the MTX500 series. This new model is fitted with twin RS232 sockets, which enable the machine to run the FDX floppy disk drives. This means that the computer is especially attractive to the serious home micro user or the small business user



machine so that the user still has to peer over to locate the plugs.

The 24 by 40 character BASIC screen is divided into three sections, which are best shown on power-up. The top 19 rows are the main screen, where program listings are scrolled. Below this is the EDIT screen, where new lines are entered. At the bottom of the screen is a single line for displaying error messages. Like the Sinclair machines, program lines are altered by use of an EDIT command. Furthermore, the operating system will not allow a line to be inserted into the program from the EDIT screen if the line contains a syntax error.

The BASIC itself is a close relative of MSX BASIC containing such commands as SOUND, PAPER, INK, and CIRCLE. However, the BASIC also contains some useful commands not available in MSX BASIC. These commands, on the whole, relate to the screen-handling capabilities of the machine.

As an example, the command CSR x,y will position the cursor at the point with the co-ordinates (x,y) on the screen. A more powerful command is CRVS, which enables the user to define a window anywhere on the screen. Text or graphics can be displayed within these windows.

There are also commands built into the language to enable the control of sprites. A particularly useful command in this respect, GENPAT, allows you to set the sprite pattern, rather than having to put the pattern into data statements. The Memotech graphics are provided by the TMS9929A Video chip — which is the one specified for MSX machines.

The central processor of the Memotech machines is the Z80, and this of course, enables them to run the CP/M operating system. Many small computer manufacturers choose the Z80 processor because it runs CP/M, which avoids the problem of having to generate a large software base before the customers can take full advantage of a new computer. Of course, to really make the most of CP/M, the computer has to have an 80-column screen, and, unusually, Memotech has provided an 80-column card inside the disk drive. The drives themselves are double-sided and double-density, and have a transfer rate to the computer of 9,200 baud.

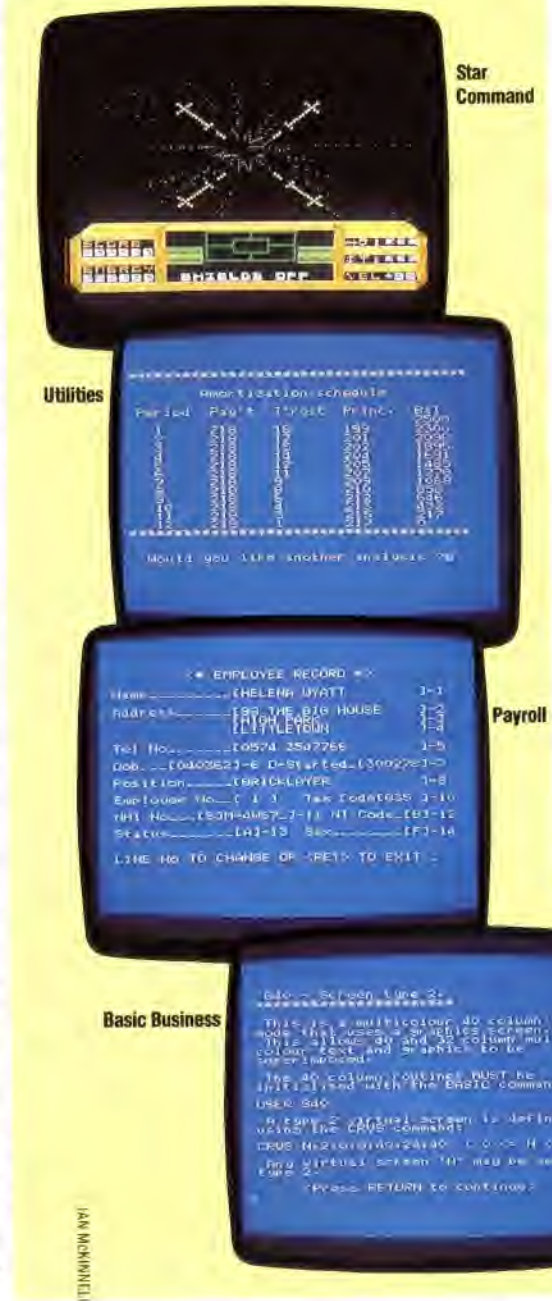
Provided with the disk drive is a package of bundled software. Apart from a CP/M systems disk, the package includes the NewWord word processor, the SuperCalc spreadsheet, Compact and Televideo — which allow the drives to read disks written in other disk formats (Memotech claims this includes IBM disks) — and Contact, which enables the second RS232 port to link into a networked system.

The RS128 has 128 Kbytes of RAM on board. However, as it uses an eight-bit processor, and is only able to address 64 Kbytes, the other 64 Kbytes are provided as a 'silicon disk'. A silicon disk stores files and programs in exactly the same way as a floppy disk, but as it is held on chips it is up to 50 times faster than a conventional floppy disk. Information held on a silicon disk is transferred to addressable RAM when it is required. At the end of a work session, the data can be permanently stored on a floppy disk.

The manual provided with the machine is much larger than those usually provided with home computers, although this is predominantly because it has not been typeset, and there is not a great deal more information included. However, Memotech has included all the technical details a user might need, including circuit diagrams, pinouts and operating system calls.

In upgrading the Memotech 500 series to the RS128, the company has made strenuous efforts to produce a business standard machine. At £399, the machine certainly looks worthy competition for the Sinclair QL, the BBC Micro and the Commodore Plus/4. However, it remains to be seen whether the machine will generate sales to compare with those of its rivals.

FDX Twin Disk Drive
The FDX twin disk drive allows the computer to run the popular CP/M operating system. Each of the 5¼ inch disk drives can store up to 500 Kbytes of information



IAN McKINNELL

Memotech RS128

PRICE
£399

DIMENSIONS
488×202×56mm

CPU
Z80A running at 4MHz

MEMORY
64K RAM and 24K ROM

SCREEN
40×24 in text mode. Text with graphics mode: 32×24 text and 256×192 pixels in 16 colours. There are also facilities for up to 32 independently controllable sprites

INTERFACES
Cassette (Mic and Ear) ports; I/O interface; two joystick ports; two RS232 ports; hi-fi jack; composite video jack; TV jack; parallel interface

LANGUAGES
BASIC, FORTH, PASCAL

KEYBOARD
57 typewriter keys; keys F and J are recessed for finger location. 12 function keys on a numeric keypad and eight programmable function keys

DOCUMENTATION
The manual provided is the same as that for the MTX500 series. The manual is extremely comprehensive, although perhaps much of the tutorial is pitched a little too high for the beginner

STRENGTHS
The addition of the RS232 boards make the RS128 a very attractive buy for the 'serious' home user and small businessman

WEAKNESSES
Despite the machine's ability to run CP/M, the RS128 is still poorly supported in terms of software written especially for the machine

Software Support

These are some of the business and games packages that are currently available for the Memotech machines. Compared with some other machines, the amount of software available is rather limited, but access to the CP/M pool of software should go some way towards rectifying this problem