Memotech on the up and up

Memotech hits the business market with a system consisting of an RS128 micro and twin 500K FDX disk drive. Max Phillips finds it a good budget CP/M package

Someone who knows nothing about computers would find the Memotech range very attractive. The kit is not only pretty but it shames the engineering on most home micros. Funnily enough, take someone who knows about computers and describe the features and prices of the Memotech range and they'd probably find it very attractive too.

But so far the former ZX81 add-on company has failed to be more than a fringe micro manufacturer and the MTX series micros have never really caught on. Recently, two new introductions should go a long way to changing this. When *What Micro?* first looked at the MTX500 and 512 in March, we said that they might never make it at their current prices. Memotech has recently added a third version of the machine – the RS128 – at £400 as a direct competitor to the Sinclair QL and BBC. The RS128 is an MTX512 with both an extra 64K Ram board and a Twin RS232 communications board fitted as standard.

Perhaps more importantly, any of the range can be simply upgraded to a genuine CP/M business computer by buying the communications board (if you've not already got it) and the FDX disk system. A business system consisting of on a RS128 and twin 500K FDX comes in at around £1250. This is very reasonable for a budget CP/M machine particularly since the system has a much better specification than the majority of budget machines which usually suffer from few ports, small disks and no graphics.

Circuit boards

The range centres on the Z80-based MTX micro which now comes in 48K, 64K and 128K sizes. It's housed in an attractive brushed metal case with a well laid out 79-key quality keyboard. The unit can work as a cassette based home micro and has ports for a TV, monitor, two joysticks and optionally two RS232 interfaces.

Inside the case, there's room for two add-on circuit boards – the number being so limited because of the size of the machine. You can expand your system by buying extra 64K Ram boards, the RS232 board or programs in ROM such as MTX Pascal and the NewWord word processor. These latter options aren't really practical on the

RS128 since it already has the RS232 and 64K boards fitted.

Setting up should have been very easy. When used on its own, the 128 has a separate power supply with its own on/off switch and then plugs into a cassette recorder, TV or composite monitor. The FDX system is one of the neatest upgrade units around but fitting it proved troublesome. You have to open up the 128 and connect a ribbon cable to the RS232 board. You then close up, plug the other end into the underside of the FDX, connect your monitor to the FDX (not the computer) and run a power cable from the FDX to the 128. You will no longer need the separate power supply.

The first problem is simply that for some stupid unfathomable reason, the MTX micros are held shut with six allen bolts. Normally you get the relevant allen key free with the communications add-on pack but not with RS128 (probably because it's got the comms board already fitted.) So it's off to the shops to buy a selection of allen keys in the hope of finding the right one!

Once we'd sorted that out and noticed that you need a different sort of cable to connect your monitor to the FDX than you did to connect it to the micro, it still took several attempts and the usual pushing in of chips and boards to get the FDX going.

The finished system is a bit awkward – the FDX is large and you can't really move the keyboard away from it. Besides it's not really a detached keyboard – printers, joysticks, modems and so on all plug in the back of the micro and not where you might expect at the back of the FDX. However, the system is not the nasty mess that results from fitting a Torch disk pack to a BBC, or CP/M to a

Camputer's Lynx. Nor is it the gigantic monster of a full grown Advance.

We've already discussed the MTX in detail in the March issue of *What Micro?* so we just recap on its features here. The system is very similar to an MSX micro – it's a Z80 with a Texas 9918 family video chip. This provides a 40 column screen in sixteen colours with high resolution graphics up to 256 x 192 pixels. More importantly, the Texas chip provides sprites making it much easier to write games and graphics programs.

The built-in software is quite sophisticated. The MTX has a complex operating system which supports several 'windows' on screen at once to let you create sophisticated displays. The built-in Basic language is home-grown but fairly similar to Microsoft.

The Basic has some unusual and very sophisticated features but is let down by some awkward commands that are difficult to remember and use, in particular the sprite and sound commands. But Basic is not the only thing going on in the ROM. Memotech believes in giving you lots to do. There's also a 'language' called Noddy, a machine code Assembler and a Front Panel program waiting to be called up. You shouldn't get too excited by these freebies.

Basic assembler

Memotech makes a strong case for Noddy being some sort of serious language so much so that one magazine even attempted to compare it to Logo. But Noddy as implemented here is a little application program tacked onto Basic. It lets you store away screens full of text for later recall. Some screens you store have programs on them on a simple eleven command language that recall other screens. You can't really achieve much except maybe store a few help pages away to be called by a Basic program. Even then, I suspect the hassle involved will be avoided by most users.

The Assembler too seems to be more short change. It works but does so in a very unusual and not very sensible way. You ASSEM machine code straight into particular Basic lines at the point you want it to be run. Fair enough but if you then change the Basic program, the code is moved in memory and may no longer work. Writing serious machine code is a bit of an uphill task. If Memotech wanted an assembler built

into the Basic
it should have looked
more at the way its done in BBC Basic.

It's a bit of a shame because the final ROM program is a front panel emulator. This lets you look at the working registers and memory of the computer as it executes a machine code program – you can step and trace programs or fix them as they run. It's a useful debugging aid but more importantly a very handy way newcomers to learn. Few machines bother with them (the RML 380Z being the only notable example) and although the MTX version is fairly simple, it is a very welcome extra.

The whole system is transformed by the FDX upgrade. This big box provides twin 500K floppies and the 80 column video display that business programs need. Having a second video board is a bit curious. You can use both displays at once – the usual MTX graphics and 40 column text from the computer and 80x24 text and 160x96 low res colour graphics from the FDX. The FDX board can also do fancy things such as blink, underline and bold. This is a nice system but you do have to pay for a second video board and it may have been a better idea to have had an 80 column mode on the original MTX.

The unit can support a variety of additional disk drives including 8 inch disks. Memotech also supplies 'Silicon disks' – blocks of RAM used to impersonate disk drives with very fast access. Up to 8Mb of Silicon disk can be fitted. There's been some criticism of the cost of the FDX – many users just want a
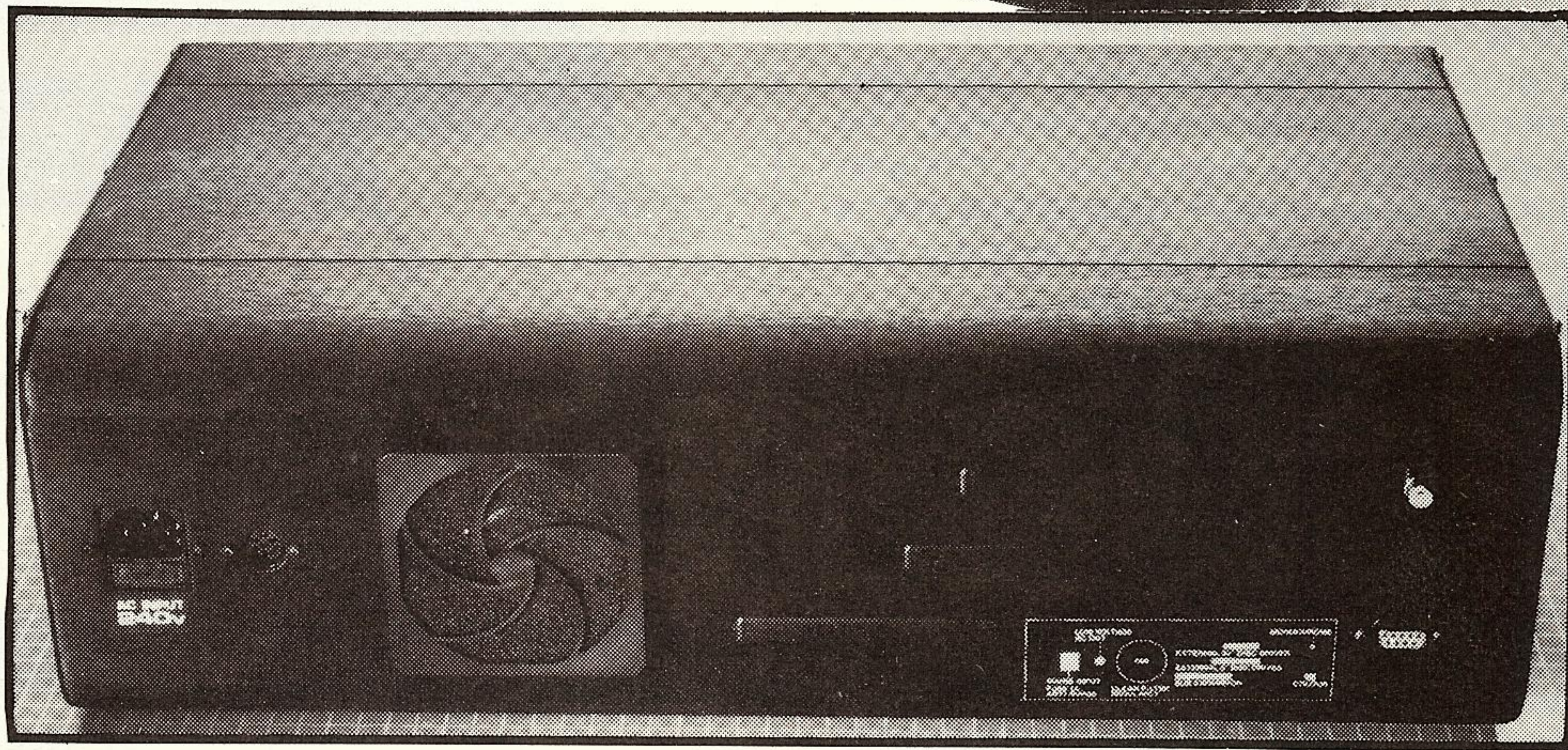
Above: The body is held together with six allen bolts which makes fitting the FDX a little difficult

Right: An additional strip connector is provided on the left of the keyboard

single floppy they can add on to speed loading and saving up. But the advantages of a proper CP/M system shouldn't be underestimated and it would have been plain frustrating to see another Z80 home micro not get a sensible CP/M option.

Once you've bought the FDX disk system you'll have little time for the software built into the MTX. The FDX runs the CP/M 2.2 operating system – still the most popular operating system in the world. There are hundreds of off-the-shelf programs available for CP/M – mostly business and systems software but also such things as adventure games. So an FDX turns an MTX into a workable office or business computer.

Memotech provides two disk versions of its Basic – one runs on the MTX screen and behaves like a normal MTX system. The other works on the 80 column board. It may seem a small point but it is makes upgrading from the cassette system very painless and provides the programming language you're used to.

Being into lots for you to do, Memotech even bundles several applications programs with the FDX system. The major ones are a word processor (NewWord) and a spreadsheet (Supercalc). However, there's also Memotech's own comms program called Contact and several other bits and pieces. Some of these were undocumented.

NewWord is a curious product – the first in what must be a whole new market area – lookalike Software. NewWord is written by people from the original WordStar team and is a derivative of that market leading package. The theory goes that NewWord is cheaper and a bit easier to use but perhaps not as capable as its inspiration. And for the most part, the theory is true.

NewWord sacrifices a few of WordStar's multitudous extras and replaces them with neat, simple menus and clear messages. Many of the little niggles in using WordStar have been fixed. NewWord's installation program lets you do all the customisation that dedicated WordStar users sit up into the night trying to get right. And this version of NewWord has been carefully installed for the FDX – underlining and bold appear on-screen where they will be printed. However, the program does go slower and is definitely less capable at handling large documents.

Most users will be very happy with NewWord. It's a definite improvement on some of the bundled programs around – Psion Quill and Perfect Writer being the obvious talking points. There's no doubt that it will crop up on other machines too.

From a brand new program to a venerable old one. The spreadsheet is the original bundled spreadsheet program – Sorcim's Supercalc 1 as produced way back in history for the first Osbornes. Here, the transfer onto the FDX has been more rushed and Supercalc fails to use some of the display features available to it. Supercalc 1 is a bit old fashioned as spreadsheet programs go but it's pleasantly usable and incredibly well-proven!

One of the most popular mistakes with new CP/M machines is to prevent software being readily available for them by adopting a strange disk format. New FDXs come with software that allows the FDX to read and write Televideo Double sided disks and this should help to make it easy to buy off-the-shelf programs.

Future expansion

Although Memotech seems to handle the technicalities of design and manufacture very well, it still seems to have trouble with its manuals. These come in variety of stages from rushed to incredibly rushed. They are black and white A4 books and some of the new material such as the NewWord manual is still in its dot matrix draft form.

However, the books are at least comprehensive and all the information is there if a little bland. There's a basic tutorial and a reasonable introduction to CP/M so you should be able to get started. A bit more work and Memotech could have its manuals looking as professional as the rest of its kit.

It's hard to judge the Memotech range. The systems are based on existing and possibly even old fashioned technology but they do provide an excellent all round performance for reasonable money.

The home systems are very much hobbyist machines. There's lots to discover and try out on them and there's room for later expansion. That said, the machines haven't attracted the software and support that make it such good fun to own machines like the Spectrum and BBC.

As a business system some would say it's a bit expensive. If you need a budget business computer, you can buy a Wren (£1000) or an Osborne 1 (£700) or a Sanyo (£1000) and have a neat plug-in-and-go unit with lots of software. Then again, the FDX and RS128 combination still compares well with latest in wonder technology from manufacturers such as ACT and Apple. ACT's new F1 has little memory, a single microfloppy that it's very hard to get disks for, few ports and a flimsy keyboard and costs about the same. Apple's Macintosh has similar problems with its disk drives and memory, almost no software and is distinctly more expensive.

So it's a bit hard to sum up Memotech at the moment. There's little doubt that the kit itself is very attractive, well designed and well put together. The company is in a hard market but the RS128 and FDX are steps forward. ■
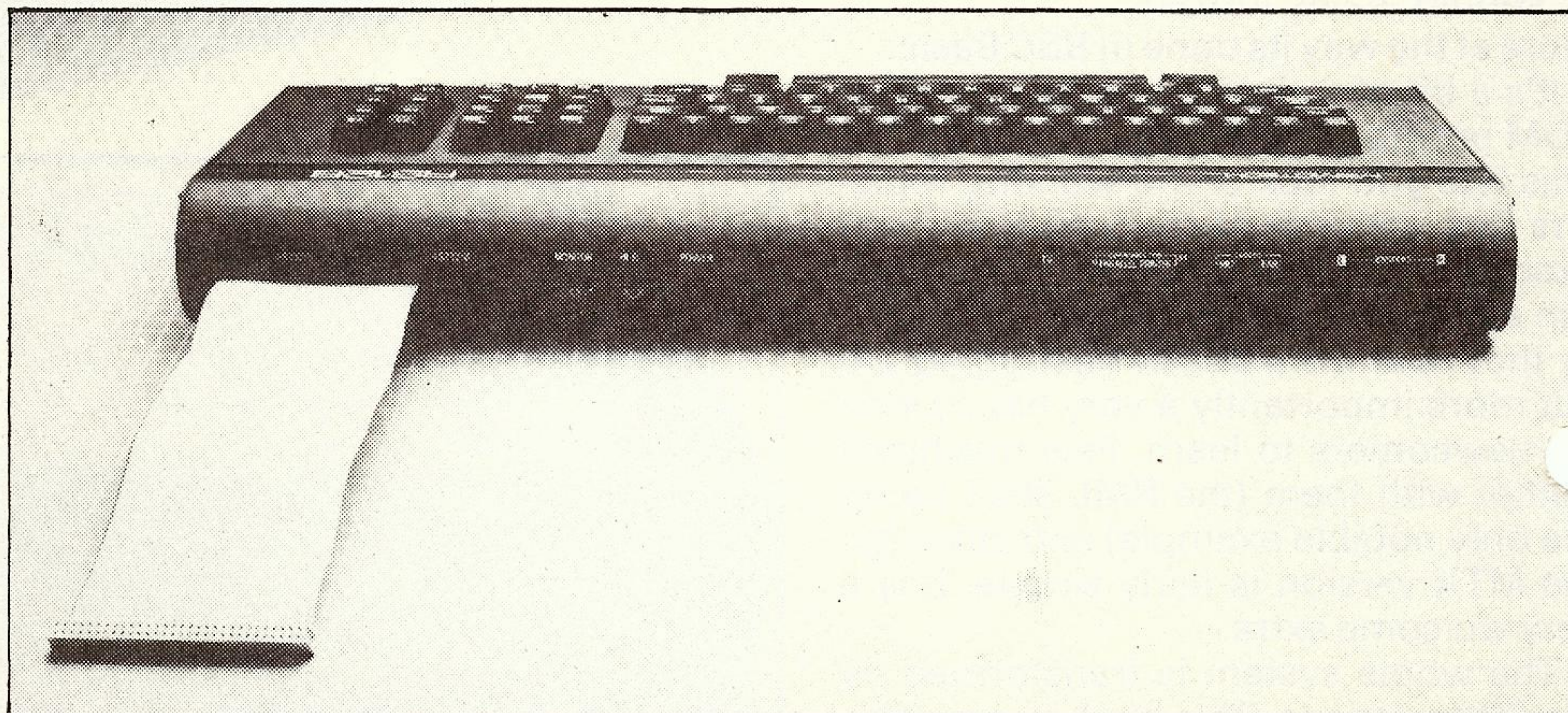
COMPARABLE MICROS

Model	Price	Memory	Free Memory Range	Memory Options (approx price)	Size (in)
Atari 800	£300	48K	38½-45½K	None	13½x11½x4½
BBC Model B	£400	32K	9-28K	None	16x13x3
Commodore 64	£229	64K	38K	None	16x8½x3
Lynx	£235	48K	14½K	144K (£180)	13x8x2½
Memotech RS128	£400	128K	126K	Disks (£399)	19x8x2
Spectravideo SV-318	£199	32K	12K	48K (£33) 96K (£102)	16x8x3
Spectrum 48K	£100	16K	9K	48K (£30)	9x5½x1

VERDICT

The RS128 and FDX upgrade are a big improvement for Memotech making their range a very viable alternative to systems such as the BBC micro, Commodore 64 and Amstrad. You should consider the system very seriously before opting for anything else. However, it remains to be seen if they mark the start of a brighter future for the company.