

Thor – god of thunder?

John Lettice takes a close look at CST's Thor micro, based on QL technology, and evaluates its chances of success

Rumours of the death of the QL were, it would seem, greatly exaggerated. A few weeks back, even as Alan Sugar was knocking the machine firmly on the head, work on its successor was in progress.

Son of QL, produced by Stevenage-based QL add-on manufacturer CST, now exists in prototype, and is scheduled for launch at the *Personal Computer World* show, in September.

The machine is the Thor, and it will be available in two basic versions, one sporting a single 720K floppy and costing £550, and the second equipped with one floppy and one 20Mb hard disc for £1,300. The casing of the machines has been subject to a radical redesign, and now houses a wealth of I/O slots along with the original QL circuit board. Microdrives are conspicuous by their absence.

The Thor is actually the QL mark two – the machine that has been subject to Sinclair's on-off plans for the QL's successor.

This project was repeatedly cancelled and re-adopted in the year prior to Sinclair's sale to Amstrad, but while its future with Sinclair was never certain, CST, to which Sinclair had subcontracted the development work, continued work on the machine that was to become the Thor.

Thor is essentially a radical repackaging of the QL. It consists of a compact steel box housing main circuit board, Ram expansion to 640K, ports for the QL's stan-

dard I/O plus Centronics and mouse ports. Production machines will also sport four Rom slots internally.

The disc drives and interfaces are housed in the front right hand side of the box – the whole shebang is decidedly full up and crowded, but the QL's expansion bus has been re-routed round to the back, and really serious expandaholics will be able to buy an expansion box to plug into it from CST.

New keyboard

The keyboard is one of the more interesting points about the current prototype. Sinclair's wobbly Scandinavian designed keys have been thrown out of the window (CST's neighbours will be complaining about the mess in the back garden if the Thor really takes off) and have been replaced by one compatible with the IBM PC AT.

The layout of this differs from the QL layout, but most of the IBM-specific keys have been wired in, and the rest will be dealt with on the production machines. These will include IBM's *Print Screen* key, which will actually have a screen dump routine patched into it rather than simply dumping the characters from the screen, as it does on IBM machines.

The feel of the keyboard is streets ahead of the standard Sinclair feel, and although I personally didn't feel it matched the classiest of IBM compatibles it's still good, and

at this level feel is largely a matter of taste.

Because the Thor is still essentially a QL there should be no problem with running software – provided it's on a 3½ inch disc, that is.

David Oliver of CST says he's been looking at the Microdrive transfer problem, and proposes to operate some kind of data transfer facility for users who are upgrading their machines.

Program software is a little trickier, firstly because it may be protected and secondly because copying it from microdrive to disc is illegal, but CST will be asking software houses for some kind of blanket permission to transfer programs, and the incentive should be there.

The company has some ammunition that should help it secure this permission, in the shape of 'water marking' of machines.

This will be analogous to a 'dongle' in many respects. Each machine will have its own individual code number which will be transferred to applications software discs before the application can be used.

Individual disc programs can therefore only be used by the machine they were installed for – or to be more precise, one machine in 256 – and there's therefore no need for further copy protection. Users can therefore take as many backup copies as they like, because they'll only work on their machine.

CST also intends to put window/icon software on the machine to run with the mouse. This wasn't installed on the machine I saw, but marks a change from Sinclair's earlier resistance to the idea of windowing front ends.

Multitasking

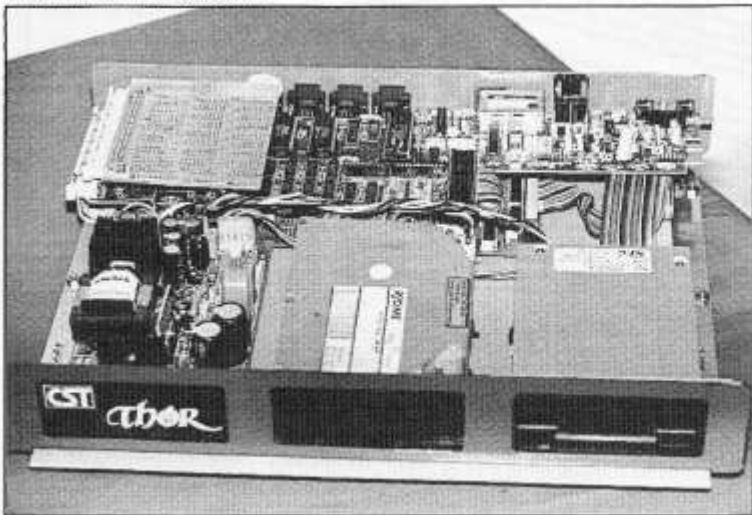
It may seem illogical for CST to develop its own system when Digital Research's Gem, which runs on the Atari ST, is available off the peg, but Oliver points out that Gem currently won't multi-task, and that it's important that the QL's multitasking capability is maintained both from the point of view of existing users and from the point of view of future developers.

But CST isn't ignoring the ST altogether, and is considering development of some kind of emulator allowing the Thor to run some Atari software.

The Thor's status is slightly confusing, in that it's part new machine and part upgrade.

CST will be offering it as an upgrade to existing QL users, but will also want to produce complete units for new purchasers, both corporate and individuals sever-

Inside the Thor – the circuit board





The Thor system - note the new keyboard

al of whom already exist.

Oliver says he's already been approached by both individuals and organisations, one Eastern Bloc would-be purchaser in particular, is making noises about 20,000 units over five years. The latter's chances of getting a hi-tech machine like the QL through export controls are, it must be admitted, somewhat dubious, but the request is an indication that CST's eventual production target of 1,000 machines a month errs, if anything, on the modest side.

Circuit board supply

But where are the circuit boards to come from? CST needs to get its hands on a steady supply of these, and Amstrad, which gives the impression of preferring export to Rockall to discount in Dixons as a fate for the QL, isn't a likely source. CST, however, says it has identified a source willing and able to supply circuit boards for the foreseeable future, and says this source isn't subject to any right of veto by Amstrad.

The next step for CST, the QL mark three, is already being planned. This should appear in 1987, and will use the Motorola 68020 processor, which is the fully 32-bit version of the QL's 68008. It will almost certainly incorporate hard discs, as CST predicts price reductions in this even in the next year or so.

This variant sounds very much like the QL the world briefly thought Sinclair had launched two years ago.

Its hardware will incorporate multitasking, which means text windows won't be overwritten by other windows, and will all remain active, changing even

when they aren't on view, and will initially incorporate 1Mb of Ram made up of 256K chips.

The sockets for these, however, will be wired to accept 1Mb chips, so although the first machines will be able to have a 'mere' 4Mb of Ram on board, fitting 1Mb chips will allow you a much roomier 16Mb.

Will it succeed?

Because the multitasking will be hardware rather than software the system software will also be upgraded to produce much more sophisticated windowing than on the current Thor.

But will it succeed? When the original QL was launched in 1984 many people, including myself, pegged it as the next micro breakthrough.

Its conspicuous failure to shape up as the world-dominating micro we thought it would be in the intervening period surely proves that it was after all a daff idea, best dead, best forgotten.

We've all been a little sensitive about earth-shattering wonder machines since that particular debacle.

That's one way of looking at it. But look at the way the micro market has gone since then, with the launch of 68000-based machines like the Atari ST and Amiga, and think a little about where the software and hardware support is going to be over the next couple of years.

There's now so much 68000 experience around that any half-way decent machine based on this processor, and selling for a reasonable price, stands some chance of carving out a section of the market for itself, now that the programme are there.

Magic in the name

Now think about the QL. It hasn't achieved the success of the 64, the Spectrum or the Amstrads, but it has a decent sized user base, and the magic of the Sinclair name (if somewhat faded now) means that it still has the support of many competent hardware and software support companies.

The QL is therefore at the right price, and with the right amendments, poised to take advantage both of existing support and of the impending 68000 boom. Now it would probably be just plain foolhardy to expect the QL in any form to sell 500,000 units at this stage in its life, which is why Amstrad isn't interested, but although Sinclair probably thought ruefully that 50,000 units over two years is pretty small potatoes, volume sales do not necessarily a successful machine make.

CST accepts this, and is gearing its production to cater for a small but steady number of sales.

No way has the company either the resources or the inclination to start making Tramlish noises about world domination, but because of its experience producing low runs of add-ons it is actually well placed to make a success, if only a moderate one, of the Thor.

Thor is planned for launch at the PCW show in September at the prices quoted above. CST can be contacted at 24 Green Street, Stevenage (0438 352150).

John Lettice

Thor's 20Mb hard disc (left) and 3½ inch disc drive (right)

