

History of the QL

By Dilwyn Jones

Presentation by Iwan and Dilwyn Jones



The QL History Exhibition



Welcome to the Sinclair QL and
Quanta Silver Jubilee.





Clive Sinclair



- Clive Marles Sinclair born to George William Carter Sinclair and Thora Edith Ella Sinclair near Richmond, Surrey on 30th July 1940
- His father and grandfather were both engineers
- Attended Box Grove Preparatory School
- Took O-levels at Highgate School in 1955
- Took S-levels (physics & maths) at St George's College, Weybridge
- Built a "punch card" binary calculating machine in his early teens
- Built radios etc for his family and friends while still in his teens

- Joined Practical Wireless as an editorial assistant in 1958
- Becomes Editor at just 18 years old!
- Joined Bernard Babani book publishers same year
- Joins MENSA in 1959
- Registers Sinclair Radionics Ltd on 25/07/1961
- Joins United Trade Press as a technical editor in 1962
- Marries Ann Trevor-Briscoe in December 1962
- First Sinclair Radionics Ltd advert in November 1962
- First product - Sinclair micro-amplifier
- Sinclair Slimline radio launched in Feb 1963
- Quickly gains a reputation as an electronics miniaturisation pioneer



Clive Sinclair



- Moves company to Cambridge in 1967 as turnover hits £100,000
- Continued expansion takes company to St. Ives in 1972
- Sinclair Executive pocket calculator launched in 1972
- Cambridge range make Sinclair number one calculator seller in the UK
- Black Watch wristwatch and DM2 multimeter launched in 1975
- Additional funding from National Enterprise Board sought in 1976
- Sinclair Research formed in 1979 after previous company split up
- Sinclair ZX80 computer launched in February 1980 - 100,000 sold!
- ZX81 launched in March 1981 - 1,000,000 sold in two years!
- Spectrum launched in 1982, breaks all sales records!
- Guardian Young Businessman of the Year and Computing's Person Of The Decade in 1983 then knighted in June 1983, so becomes Sir Clive Sinclair
- Flat screen pocket TV launched September 1983
- QL launched on 12th January 1984
- Sinclair C5 launched in 1985
- Sinclair computer business sold to Amstrad in the summer of 1986
- Shaye Communications launched in 1986 to develop digital phones
- Anamartic launched in 1986 to develop Wafer Scale Integration technology
- Z88 portable computer launched by Cambridge Computer Limited in 1987
- Starts producing 'flat' satellite dishes in 1989
- Zike and Zeta electric bicycle technology launched
- X1 FM button radio launched in 1997, then Z1 micro AM radio in 1999
- Launched Wheelchair Drive Unit in 2000 providing electric assistance for wheelchairs
- Develops the A-bike foldable portable bicycle



The QL



The Sinclair QL was Sir Clive Sinclair's first serious attempt at a computer for business. The QL signalled a move away from Sinclair's previous use of the Z80 processor to a multi-tasking system based on a 68008 processor and 8049 second processor.

Specifications

Processor 7.5MHz Motorola MC68008

RAM 128KB, expandable to 640KB or 896KB

ROM 48KB on board - QDOS and SuperBASIC

Plug-in ROM 16KB via ROM connector port

Storage Two 100KB microdrives (removable tape loop cartridges)

Display 512x256 in 4 colours, 85x25 text; 256x256 in 8 colours, 42x25 text

Operating system QDOS, Single user pre-emptive multitasking

Expansion ports Main I/O connector, EPROM connector, 2 joystick ports, 2 RS-232 C ports, TV modulator, RGB monitor, Composite video, External microdrives, 2 QL network sockets.

On board programming language QL SuperBASIC (Sinclair's structured BASIC interpreter)

Supplied software Quill word processor, Abacus spreadsheet, Archive database, Easel business graphics. Some QLs were also supplied with a games cartridge.

Thursday 12th January 1984



Whilst the QL did not find its way into the hands of users until later in 1984, 12.01.84 was the date when Sinclair invited journalists to a high profile launch event at the Intercontinental Hotel, Hamilton Place, in London.

sinclair

Sinclair Research Limited (London)

INVITATION

12 January 1984

I have great pleasure in inviting you to attend a press conference, given by Clive Sinclair and Nigel Searle on Thursday 12 January, to launch Sinclair Research's new micro-computer.

It will take place in the Ballroom at the Hotel Inter-Continental, Hamilton Place, (off Park Lane), W1, starting at 10.30 prompt and be followed at approximately 11.45 by a detailed technical demonstration and discussion for those who wish to remain.

You are also very welcome to join us beforehand for breakfast which will be available from 9.30.

On arrival, please use the Ballroom entrance.

I apologise for the short-notice and do hope that you, or your representative, will be able to attend. It would be most helpful if you would RSVP either by returning the enclosed reply-paid card or by 'phoning.

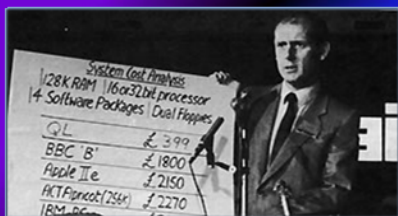
PLEASE NOTE: The information contained in this invitation is confidential and EMBARGOED UNTIL 11am JANUARY 12.

An invitation
letter to the
event

Clive Sinclair
proudly shows
a QL.



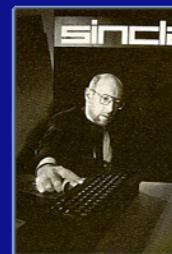
More Pictures from the launch



NCE
27/1/90

Nigel Searle, Sinclair MD at the outset, was the victim of a practical joke perpetrated at the launch. Someone had carefully poured the contents of a jug of water into the cushion of his chair! And when he sat down...

John Torofex



sinclair

Alison Maguire -
Software Director



Nigel Searle -
Managing Director



Sir Clive Sinclair

The most important Sinclair QL team members



David Karlin -
Hardware Designer



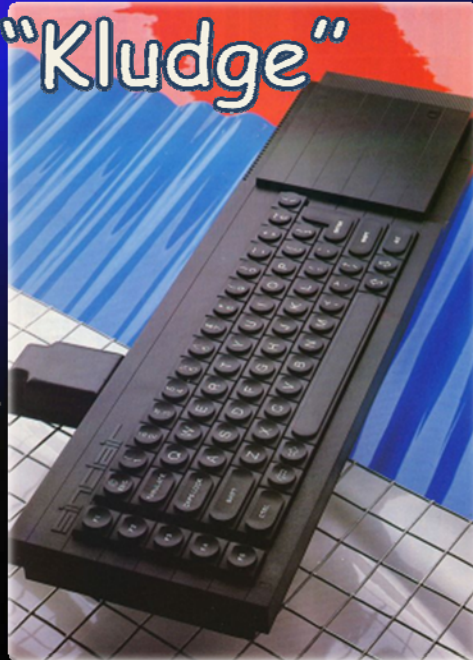
Jan Jones -
SuperBASIC author



Tony Tebby -
QDOS Operating
System designer

The "Kludge"

Early QLs were supplied with unfinished version FB ROMs on an external EPROM carrier board, affectionately referred to as the "Kludge" or "Dongle". These were soon replaced by machines with onboard 48K ROMs.



QL Delivered!

After the inevitable Sinclair delivery delays, QLs started arriving with customers in April 1984. Once the initial problems with the unfinished operating system, buggy SuperBASIC and slow version 1 Psion Software had been dealt with, things began to settle down and users began to see that they were getting a pretty good system.

The system ROMs soon changed from the problematical version FB ROMs to more usable AH, JM and JS ROMs. The QL had a large, impressive user guide to get you going, unlike some computers at the time. The QL was supplied with the Abacus, Archive, Easel and Quill programs, and some lucky users even got a free games cartridge! The QL could multitask, it had a good structured version of BASIC and once software and third-party hardware started flowing the QL was soon in full swing!



Tony Tebby Resigns!

A resigned attitude . . .

One of the three people who created the QL resigned in disgust the day it was launched.

The big three were Jan Jones (who wrote the Basic compiler), David Karlin (responsible for the hardware) and Tony Tebby – author of QDOS. It was he who, appalled by Sinclair's promise that the QL would be shipped within six weeks handed in his notice immediately after the machine's January unveiling.

In the event Tony hung on a little longer, eventually fixing a date to leave after Sinclair's management decided to ship those first 89 machines without, he says, telling the software division.

From QL User, Oct 1984

All was not well in the Sinclair camp, however. Tony Tebby, the designer of the QDOS operating system (who had apparently been recruited to work on Sinclair flat screen TVs originally) was so appalled at the premature launch of the QL and the promise of a six-week delivery that he handed in his resignation just after the launch on 12th January, although he stayed a little longer before leaving to form his own QL company, QJump, which became associated with many innovative QL products.



Tony Tebby

Only 89 QLs were dispatched in that first shipment at the end of April, no more appearing until the half-way decent machines were sent out a month later.

So one vanload of half-finished QLs was responsible for the endless series of appalling reviews which appeared in monthly magazines – including this one.

But look on the bright side: the shipment did enable Clive to say that the machine had only been two months late.

From QL User, Oct 1984

Alternative OS for QL?

The tangled story of the QL's operating system receives another twist with the announcement that Cambridgeshire-based GST is to offer its K/OS (yes, that's right!) operating system for the machine to end users.

GST was commissioned by Sinclair in early 1983 to write the operating system for a new micro and at the QL launch in January it was GST software which was responsible for the stunning demonstration of multi-tasking and multiple windowing.

But this GST operating system was dropped by Sinclair Research and the QL is now issued with firmware written by the company itself, QDOS.

GST 68k/OS

68K/OS BRINGS POWER TO YOUR QL

The revolutionary 68K/OS operating system for advanced home users, software developers and OEMs is available now as a plug-in card for your Sinclair QL.

- Plug-in card with switch to select 68K/OS or QDOS
- Secure EPROM slots for applications software
- Real-time multitasking software with multiple screen windows
- Much faster microdrive access times
- Utility software on microdrive including an editor and file maintenance programs
- User manual and applications programmer's manual

Also available

- 68K/ASM assembler
- Systems programmer's manual

Coming soon

- Full WYSIWYG Word Processor
- Pascal, Fortran IV and C
- Disk Support
- and lots more . . .



91 High Street, Longstanton, Cambridge CB4 5BS

Quantity	Item	Item price	Total
_____	68K Operating System	£39.95	_____
_____	68K/ASM Assembler	£39.95	_____
_____	Systems Programmer's Manual	£4.95	_____

Please send a cheque payable to GST Computer Systems Limited for: £ _____

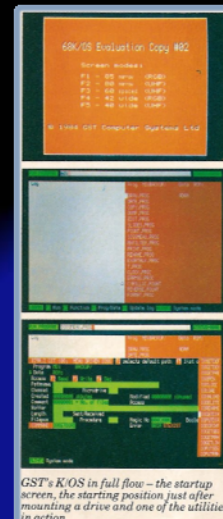
Name _____

Address _____

Telephone _____

Expected delivery within 28 days

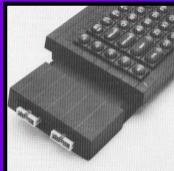
GST



GST's K/OS in full flow – the startup screen, the starting position just after mounting a drive and one of the utilities in action.

The QL was to have used GST's 68k/OS operating system, but Sinclair wanted an OS which would fit in 48K of ROM, so used Tony Tebby's QDOS instead, and GST sold 68k/OS separately.

Other QL operating systems?



CP/M 80 from PCML



CP/M 68K from Quest

CUMANA UPGRADE

For all BBC B and QL micro users, the Cumana UPGRADE offers the chance to step into a truly professional environment.

Powered by the UNIX-like, high performance OS-9 operating system, the UPGRADE is easily installed with no soldering or wiring required. With a single keyboard command, the user changes from standard mode to UPGRADE mode; the result is multi-tasking, real-time, true microcomputer performance!

The Cumana UPGRADE available only from Cumana.

- RAM expansion of 312 Kbytes standard
- Double-density floppy disk controller
- Winchester disk interface for

Upgrade

CUMANA intended to show its new OS-9/68000 upgrade system for the QL at Compec '85 in London this month. Cumana promises that the system will be a low-cost, high-performance, real-time operating system incorporating complete multi-tasking capabilities for single or multi-user operation.

OS/9
CUMANA
The best name in memory

GEM on its way for QL?

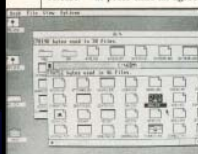
THE DIGITAL Research Macintosh-like Graphic Environment Manager operating environment could soon make an appearance on the QL. DR boss John Rowley says he has had discussions with Sinclair Research about taking GEM to the machine and said that the plan has good prospects and that it would be relatively straightforward to do.

Although no definite dates have been set for a GEM QL release — at press time an agree-

ment had not been concluded with Sinclair Research. The popularity of the WIMP, downs, Icons, Mouse and systems — technology as used by the Apple Mac should encourage both to move quickly towards the need for it was made by recent announcement Atari and Commodore that will begin to ship WIMP machines.

The Atari offering, a range of micros, uses the DR GEM as its system and uses the same family microprocessor QL, while the new Commodore computer has its own operating system again uses the 68000.

The announcement of a badged 3.5in. disc drive the QL and the prospect GEM implementation round the corner means that neither Commodore nor Atari will be permitted to be complacent about their new machines.



The GEM Desktop supports overlapped windows which may be placed anywhere on the screen.

Minix

I've just heard on the grapevine that someone has ported the Minix operating system to the QL. Minix is best described as a "poor man's Unix" and is more suitable than Unix for use on small single-user machines like the QL. It has been available for some time for the PC and Atari ST.

The Minix source code is in the public domain, so the QL implementation should be quite inexpensive. It comes with a C compiler (which presumably is good enough to compile itself and the Minix source code), and might be worth getting just for the C compiler.

The aforementioned Colin Adams was responsible for the QL Minix implementation mentioned last week, according to Ralph Allen, who has set up a Minix marketing operation.

Minix is not in the public domain, as I indicated incorrectly, but is in fact owned by the conglomerate Prentice-Hall. Presumably Prentice-Hall purchased the rights from the original author, Andy Tanenbaum. But then, that is simply presumption. Minix is quite cheap, however, at £85 from Ralph Allen. So, all in all, Minix is well worth a look.

NCE, Nov 89 JOHN TOROFEX

The QL in Education

A PROGRAMME OF LINKED COURSES.
INTRODUCTORY & ADVANCED APPLICATIONS
(044 282 7301)

Sinclair hoped that the QL would become successful in the educational and training fields like the BBC micro.



QL to link students

Strathclyde University, in Glasgow, plans to have a campus network of 2000 QLs linked to a central VAX minicomputer. That's one QL for every student... a major investment project in a university which is now a leading centre for artificial intelligence work.

Sinclair is giving support worth £250,000 to the project. And it's likely that QL users

everywhere will benefit — the students, plan to develop AI programs to run on the QL.

The QL has impressed Prof James Alty of the University's Computer Science Department, who says only the QL could offer the computing power, range of applications, and above all the portability, at a realistic price.

Intelligent Terminal

The supply of several hundred QLs to students at a Scottish university seems likely to involve the machine in some of the UK's most advanced computer research.

One hundred QLs from Sinclair Research, and several hundred more from the University itself, will be provided on extended loan to students at Strathclyde University. Strathclyde's importance as a centre of research into machine intelligence, as well as its strong links with the Turing Institute, will mean the development of artificial intelligence (AI) programs on the QL.

The University is keen to use the computer's implementation of Lisp (a language much used in AI work) for tuition and research on such advanced computer capabilities as expert systems

Computers go to college

SEVEN thousand students at Strathclyde University will each have the use of a QL by 1990.

The project is being spearheaded by Professor James Alty — head of the University's Computer Science Department — whose aim is to give all students in related subjects their own personal computers for use in halls of residence as well as on the university campus.

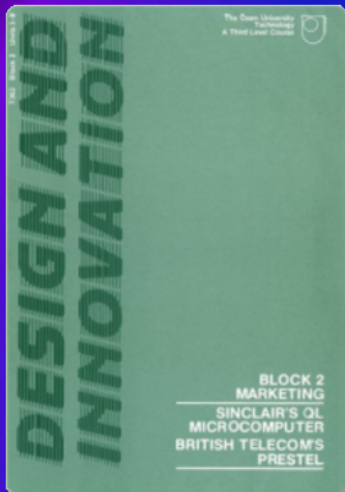
Sinclair Research has provided a grant of over £150,000 and Epson and MBS Data Efficiency are providing printers and co-

monitors respectively. Professor Alty, determined to use British hardware and software for the project, chose the QL as it "could offer the computing power, range of applications and above all, the portability at a suitable price."

Alty explains the need for more computers at the university: "The need is for a work station capable of some stand-alone functions such as local filing, editing and program compilation while being capable of linking to the campus network."



Open University course!



Pages from an
Open University
QL course
document from
1986.



CONTENTS

PREFACE	6	4.5 BUSINESS USERS	39
BEGINNERS START HERE	8	4.6 EDUCATION	39
STUDY NOTES	8	4.7 PRICING THE QL	39
1 INTRODUCTION	8	4.8 LAUNCHING THE QL: MATCHING SUPPLY AND DEMAND	39
1.1 AMS	11	5 OVERSEAS MARKETS	39
2 SINCLAIR RESEARCH: A BRIEF HISTORY	12	5.1 RE-LAUNCHING THE QL	39
2.1 SINCLAIR RADIONICS	12	5.1 MARKET SATURATION AND PRICE WAR	39
2.2 SINCLAIR RESEARCH	15	5.2 FINANCIAL DISASTER STRIKES	39
3 DESIGNING THE QL	18	5.3 RE-LAUNCHING AND RE-MARKETING	39
3.1 CHOICE OF CENTRAL MICROPROCESSOR	19	5.4 THE MARVEL 'TAKEOVER'	40
3.2 MAIN MEMORY STORAGE	19	5.5 SINCLAIR GOES IT ALONE	40
3.3 OPERATING SYSTEM	20	6 BEYOND THE QL	40
3.4 SOFTWARE PACKAGES	21	6.1 THE 'ONE-PER-DESK'	40
3.5 SUPERBASIC	22	6.2 WAIVER-SCALE INTEGRATION	40
3.6 PHYSICAL DESIGN	23	6.3 THE FIFTH GENERATION	40
4 MARKETING THE QL	26	6.4 EXPERT SYSTEMS	40
4.1 MARKET RESEARCH	26	6.5 SOME QUESTIONS AND CONCLUSIONS	40
4.2 TARGET MARKETS	27	REFERENCES	40
4.3 MARKETING	27	ACKNOWLEDGEMENTS	40
4.4 THE HOME USER	28		

Sinclair Adverts

[illegible]

More Sinclair Adverts

News from the world of Sinclair QL computing.

QL NEWS



One year old... and look how we've grown!

When we launched the QL last year, we knew we were starting a revolution.

For the first time, the serious computer hobbyist could afford the same power and performance as the professional computer user. A year later, and the QL is more than a unique computer: it's the heart of a unique system.

And the next 12 months promise even more for QL owners... new software, video, audio storage devices, printers, recorders... Read on, and see how far we've come, and how much further we're going!

Nº1

News from the world of Sinclair QL computing.

QL NEWS



The communications explosion takes shape!

Communications are now the most exciting, essential part of any computer. In the past six months alone, over 150,000 modems have been sold in the UK.

Now, the QL's own communications expansion is taking shape... and it has the potential to make more of communications than any other micro!

Read on and discover exciting new ways to use your QL... with the QL modem... telephony unit... and powerful interface options.

Nº2

Market Research

After the launch of the QL, Sinclair commissioned some market research to find out how best to market the QL to novice users and non-specialist business or professional users.

One result of this was a slogan that Sinclair would use often:

"The most enjoyable introduction to serious computing."

This allowed the QL to be seen as a 'serious' machine, though fun to use and suitable for beginners. It also emerged that the QL manual looked quite impressive, so it became prominent in ensuing adverts.

128K Sinclair QL Personal Computer £399

The most enjoyable introduction to serious computing.



This is the Sinclair QL. The most affordable, approachable, serious computer ever! Praise reviews have been outstanding. And now the Sinclair QL is available in leading high street stores.

"... it is tremendous value for money... any one looking to learn about computers in general will learn a lot from a QL."

What Micro, October 1984

"In hardware terms, the QL currently represents the ultimate in technical achievement in computer price of £400."

Your Computer, July 1984

"... for £399 the QL offers the sort of package that would cost you getting on for 10 times that sum elsewhere in the market place!"

Evening Standard, January 84

"... destined to be one of the most important microcomputers ever... it suddenly puts serious business applications and serious computing in easy reach - even of those who've never dared to touch a computer before!"

Soft, March 84

"Once again, Sinclair is ahead of the field, offering a home/personal computer architecture for under £400!"

Personal Computing Today, April 84

Sinclair Brochures


128K memory
32-bit processor
Professional keyboard
Two Microdrives built in
High-resolution colour display
Software included: spreadsheet,
database, word-processing, business graphics



The Sinclair QL
Sheer professional power in the special Sinclair style

sinclair

QL Order Form



To order by telephone
— Phone Camberley (0276) 685311 (Please do not use this number for other enquiries. The operators do not have general or technical information.)
— Have your credit card number ready (Access/Bankcard/Trustcard only).
— It may be possible to extend your existing credit limit.
— Please ask our telephone staff for more details.

To order by mail
— Complete the form and send it to the address below.
— For credit card purchases it may be possible to extend your credit limit.
— Full details will be sent when we acknowledge your order.
— Please allow 28 days from receipt of order for delivery 14-day money-back option.

For general enquiries
— Phone Camberley (0276) 686100 or write to the address below

Sinclair Research Ltd, FREEPOST, Camberley, Surrey, GU15 3BR.

Send to: Sinclair Research Ltd, Computer Division, FREEPOST, Camberley, Surrey, GU15 3BR.

Qty	Name	Code	Unit Price £	Total £
	Sinclair QL Computer	4000	1895.00	
	QL-UK membership (one year)	4100	25.00	
	Postage & packing (only order over £100)	4200	1.00	
			Total	£

Tick the appropriate box:
☐ I enclose a cheque made payable to Sinclair Research Ltd.
☐ Please charge my Access/Bankcard/Trustcard account number: _____

Signature: _____
 Unit/Module: _____
 Address: _____

sinclair

sinclair

QL-Entrepreneur

sinclair

QL-Project Planner

sinclair

QL-Decision Maker

Software by
Triptych Publishing Ltd

sinclair

QL-Toolkit

sinclair

QL-Cash Trader

sinclair


QL-Chess

sinclair

QL-Assembler

sinclair

QL
Software

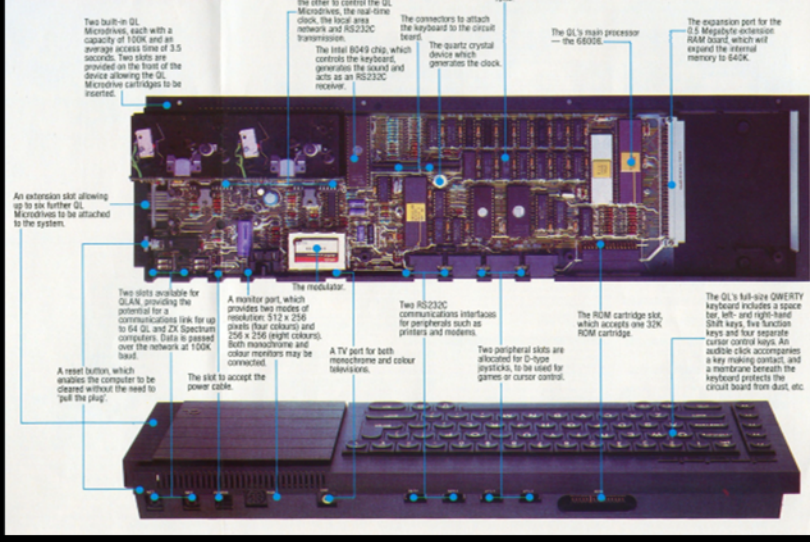


From
Sinclair Research Ltd.

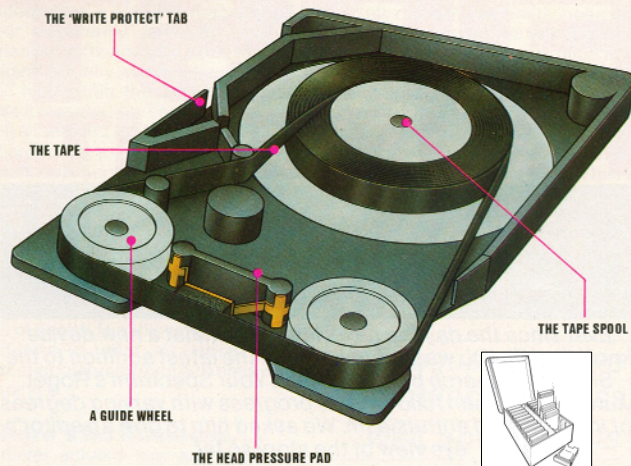
Sinclair's QL Software Catalogue

QL Circuit Board

The Ins and Outs



THE MICRODRIVE CARTRIDGE EXPOSED



The eight metre length of tape in the cartridge comprises 2mm video tape — used for its durability and high storage density and coated with a material that allows it to slip easily from between the metal tape spool and the wound tape. When set in operation in the Microdrive, the read/write head presses the tape against the head pressure pad. While the 'write protect' tab is left in place, data can be read from or written to the cartridge; if the tab is removed, the cartridge can be read only — a fairly crude means of protecting your data.



The QL
Uses
Sinclair's
Microdrive
Cartridges



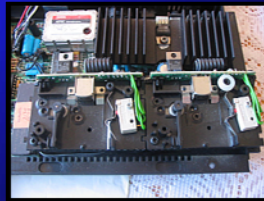
Microdrives

Microdrive cartridges are the QL's own unique storage medium. Each stores up to 100K of information (that's 40 pages of A4 text), on a cartridge no bigger than a book of matches!

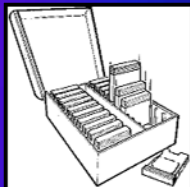
Over 500,000 cartridges are now being used throughout Britain.

You can store up to 50 different data files per cartridge, identified by titles of your own choice.

Did you know...
ZX Spectrum microdrive units can be used on a QL! Twist the cable between the QL and part and the ZX drive faces backward!



An inside look at the QL's microdrive drives



Transform black plastic storage box



The Microdrive Wallet



Reliability OR Credibility

Ablex Audio Video, one of the country's biggest custom duplicators are currently copying programs onto almost 100,000 microdrive cartridges a week. For this they are using 50-60 special QLs. Cartridges are formatted 6 times, auto-recorded, verified, soft-sector tested and so on. All of which ensures, so we are told, 100% duplication quality.

Bearing in mind problems encountered in cloning some of Psion's programs, something however must be at fault. And if not the medium, then the mechanism.

Certainly, on that score, at the OPD launch ICL mentioned that they had improved the QL microdrives to give 99% reliability. Confirming this, Nigel Searle added that most of the improvements had been fed back to Sinclair Research with the result that the drives on the QL were "just as good as the ones on the OPD". And, as if to indicate their faith in the device, Sinclair's MD went on to mention that they were looking into developing a "1 Megabyte Microdrive".

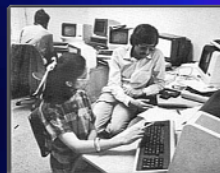
Psion



Psion founder David Potter beside the VAX minicomputer system on which the QL software was developed



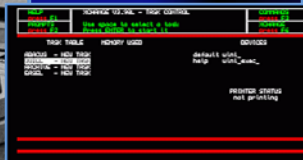
Martin Brown, Martin Stamp, Colly Myers and Charles Davies, team leaders for the Psion QL software packages



Psion was formed in October 1980 and made its name with ZX Spectrum software. It was formed as Potter Scientific Instruments, but since the PSI abbreviation was used by another company, it became known as Psion. In August 1982, Psion decided to develop an affordable business software suite and in Feb 1983 when the software was being developed on a VAX minicomputer, discussions began about putting it on a QL. On April 4th 1983, Psion began work on coding the software on the VAX. A BBC micro had to be used as a graphics terminal for the VAX (which had no hires graphics of its own) to develop Easel, and some of the packages were workign with rack-based early QLs by Late Summer 1983 and after a very busy Christmas period the packages were just about ready to show at the launch of the QL on January 12th 1984!

Psion QL Software

- Quill, Archive, Abacus and Easel weren't just made for the QL. After the first versions of the QL software were replaced with version 2 (and later version 2.3) Psion made separate versions of the 4 packages and sold them under the name 'PC Four'.
- An integrated suite called Xchange was also developed and sold for various computer platforms - note the price in the advert!
- Xchange first appeared on QDOS systems when it was included with the Thor computer system from CST and Dansoft, and a version of this was later independently 'hacked' for QL systems...



PSION XCHANGE

Xchange is a suite of programs including Database, Spreadsheet, Wordprocessor and Business Graphics. Multitasking allows you to run upto 8 applications simultaneously, data sharing allows you to transfer data from one application to another.

ARCHIVE DATABASE

Multitasking relational database. Only memory restricts the number of files in use at one time. Variable length records with a maximum of 255 characters per field, 255 fields per record. EQLS records per file. Command language allows the user to define procedures using a powerful editor. Flexible multiple indices. provides fast access and a form designer for screen and printer. Input and output.

QUILL WORDPROCESSOR

Text and page formatting, underlining, bold, italic, superscript, subscript, justification, tabs, line spacing, page size, page headers, footers and numbering. On screen editing, fast page access, cut and paste, block copy, block move, insert, overwrite modes, search and find, search and replace, try define and mail merge. Document size only restricted by disk capacity, background printing. allows the user to print documents while working on others.

£295
INC. VAT

EASEL BUSINESS GRAPHICS

3D Business graphics including bar, line and pie charts, no limit to the number of values or numbers on each of figures. Automatic rescaling, user defined colours, text annotation of graphs at any point. Intelligent evaluation of data formulas or manipulation of existing data. Images stored in internal format. monitor resolution is the only limit on final image quality. Accepts data from spreadsheet, database, etc.

ABACUS SPREADSHEET

Expansive spreadsheet with 999 rows, 255 columns, virtual memory system buffers to disk only when full, facilitating very large spreadsheets. Efficiency memory used only for full cells, each cell only uses 14 bytes. Variable width cells, block copy, block move, insert, delete columns and rows, merge and consolidation of data from different spreadsheets. Accurate to 15 significant figures, full range of mathematical, scientific, date, average, ASCII and DF conversion.

Xchange is available from Transform Ltd, to run on the following IBM PC/XT/AT and IBM compatibles, APPCOT PC, F SERIES, XEN, ICL DR520, DR5300, OPO, LOGICA, KENNET, BERLIN 4000, VICTOR SIRIUS, TORCH GRADUATE and BT TONTO. We offer on-site training and DATABASE applications to suit your requirements. Network upgrades enables Xchange to run on upto 10 workstations. Evaluation prices available for £10.00p. For further details contact Transform.

Transform Ltd
 24 West Oak, Beckenham, Kent BR3 2EZ 01-658 6350

IQLUG - QUANTA



Leon Heller

Recognising the need for a QL user group as soon as the QL was launched, Leon Heller and Brian Pain quickly set about launching the independent QL Users' Group in early 1984. At first, the organisation was known as IQLUG. The name 'Quanta' referred to the newsletter until the group's name was changed to Quanta in June 1985.

Leon Heller was a self-employed consultant, while Brian Pain lectured in accountancy at a college of higher education. They had formed the National TRS80 and Genie Users Group (NATGUG) in 1979 and thought that they "would organise something along the same lines when the QL came along."

With Leon's experience of 68000/68008 systems and the C language plus some early and unfinished QL documentation manuals, this enabled them to get the first issue out by February 1984, several weeks before the first QLs were sent out to customers. In fact, Leon had written the first newsletter himself in order to get the first issue out quickly, although the aim was to have most of the newsletter written by the membership eventually.

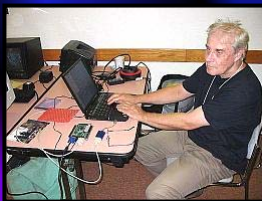


How QL World saw the name change at the time!

They also aimed to start organising workshops for the QL and even managed to send copies of the newsletter to Nigel Searle, Sir Clive, Psion and various other organisations before Sinclair managed to send any QLs out to customers! Leon also managed to find time to write QL columns for magazines such as QL World!

By the time the second issue (March 1984) came out, the group had over 100 members, which wasn't as much as they'd hoped, but now seems remarkable given that few, if any, of them had a working QL at the time!

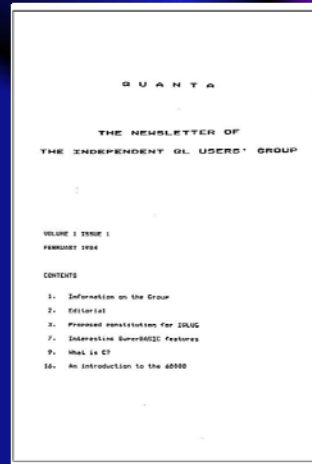
25 years on, the QL is still in use, Quanta is still here, and we are now celebrating 25 years of QL-ing, our Silver Jubilee!



Leon Heller at "QL Is 21" in 2005



First issue of Quanta newsletter



1985 - The Price Cuts

In 1985, it became obvious that QL sales were not living up to early expectations partly because of the general downturn in the computer marketplace and partly due to the negative press the QL had received at launch and probably because the computer was seen as not particularly reliable and the fact that it had been launched without the floppy disk drives or cassette tape interface which many had hoped for.

So Sinclair embarked on a three quarter million pound marketing campaign, and a major price reduction of the QL itself which became possible, if not vital, because Sinclair needed the cash at a difficult time and needed to sell lots of stock quickly! So, from September 2nd, QL and microdrive prices were cut...

THE COLLAPSE of the Sinclair empire may be on the way according to industry watchers and financial pundits. Sinclair Research has had to deal with a £5 million bank overdraft and debts totalling £10 million to pay off creditors Thorn EMI and Times.

Sinclair User, July 1985

As Prism dies Blood mops up

TERRY BLOOD is now the only distributor of Sinclair hardware in the country, following the final liquidation of Prism Technology with total debts of £7.5 million. Terry Blood is also helping to deal with returned Spectrums from Prism customers. "We are really just acting as a postbox for Sinclair in this matter," said a spokesperson. The largest retail outlets such as Smiths and Boots deal directly with Sinclair Research, but others will now have to buy through Terry Blood. Sales of the Spectrum Plus are now said to be running at 7,000 a week, and the QL at about 500 a week, which is described as an improvement. "We have been evaluating dealers and appointing a network of 500," said the spokesperson. "It's selling on home computer profit margins which means retailers have to do a lot more work. But the returns are very low."

Another hiccup which occurred was the loss of distributor Prism Technology, which went into receivership in early 1985 with significant debts, as this article from Sinclair User shows.

QLUR

News for the QL user.

CARTRIDGE PRICES CUT

THE age of the £1.99 Microdrive cartridge is here. As Sinclair Research's Nigel Seale has pointed out, the cartridge prices were slashed when production reached large enough volumes to meet the demand for a better-priced cartridge.

QL price less than £200

As private stocks will ensure by now, the recommended price of the Sinclair QL has been reduced to £199.95 (including VAT).

Through the discounts offered to QL100 owners, the Special Offer on the QL100 software is now £199.95 (including VAT).

Through the discounts offered to QL100 owners, the Special Offer on the QL100 software is now £199.95 (including VAT).

On February 1, the cost of Microdrive cartridges came down from £4.95 to £1.99 each.

Microdrive cartridge price cut to only £1.99!

Qlub's article on cartridges: prices were slashed when production reached large enough volumes.

Price cut

Sinclair Research announced last month that from September 2, the QL would sell for a recommended retail price of £199.95. The price cut came after weeks of speculation about when and whether Sinclair would cut the price of the machine.

Dixon's newspaper advert for the now half - price QL in 1985.

Glad Tidings

Christmas will doubtless be a time of rejoicing for the few games software houses that gambled on the QL. September's price cut has sent sales of machine through the ceiling and catches the big names in the industry on the hop.

QL User, Dec. 1985

Half-price QL will it sell?

Home Computing Weekly

Half-price QL will it sell?

Home Computing Weekly

1985: Half Price!

Sales Boost

Reduction boosts sales

THE PRICE reduction for the QL to less than £200 increased sales of the machine dramatically.

Thousands of QLs were reported to have been sold in the weeks immediately following the price reduction. An independent survey of home computer sales by AGB Lektrak shows that after the price reduction the QL captured 5.8 percent of the home computer market for the four-week period ending September 7.

Sinclair products gave the company a much-needed boost of confidence with the news that it now has 56.8 percent of the market and expects to have more as the crucial Christmas buying season approaches.

The price reduction of the QL to less than £200, increased its sales as it shows in this article (above).

The QL Abroad

Olé QL

Sinclair remains bullish about the possibility of large QL sales abroad, and has begun its assault on non-English speaking countries with a Spanish version of the machine.

Apart from demonstrating the purpose of those funny letters accessible via the CTRL key, the twelve forthcoming local language versions of the QL (according to Charles Cotton, Sinclair's overseas Business Manager), form "the cornerstone of Sinclair's programme to create a strong presence in professional and business computing throughout Europe."

QL International

Despite the QL's slow first year in Britain, Sinclair Research are pushing ahead with a number of overseas launches and foreign language versions of the QL.

France and Spain have already had the QL unleashed upon them, and the June/July period should have seen its launch into Italy, Denmark and Germany. Turkey, Greece, Holland, Portugal, Norway, Sweden and Finland should all get the QL towards the end of this year, while an arabic version is due for early 1985.

Clive across the channel

SINCLAIR RESEARCH has created a European marketing unit in Britain to launch its range of products from new premises in West Germany and France.

The move into Europe is the prelude to a major sales drive which, Sinclair claims, will take place during late 1984 and early 1985. The company anticipates continuing sales of half a million at the end of this year and, with production of the QL, should double within the year.

Cotton, Sinclair's business manager, says the strategy aims to lead to leading positions in the markets and to a major impact on the microcomputer market.

Currently, territories are being developed in Germany, France, Italy, Spain, Greece, Turkey, Norway, Sweden and Finland. Sinclair also has a number of other products in the pipeline, including the QL2 and the QL3.

Sinclair relaunch in States

SINCLAIR is attempting to re-enter the North American market in May by launching the QL onto the unsuspecting American public.

The operation, headed by managing director Nigel Searle, will be based in Boston where the mail order launch will take place. Sir Clive believes that the QL will offer "the experienced US customer outstanding value for money."

Further launches in the States will include the introduction of the fast-screen pocket TV and the FM wristwatch radio, which was first shown in the states at the CES show in January.

Charles Cotton, Sinclair's overseas business manager, comments: "The current drop in the pound has brought about a sizeable price reduction in the QL, which is an extremely competitively priced product for the professional, educational and low-end business levels."

Charles Cotton explains further, "With such a wide range of QL software and peripherals coming onto the market, the QL has the potential of out-selling even the Spectrum."

QL ARRIVES STATESIDE

You will soon be able to send your US penpals messages on Microdrive. The official stateside launch of your favourite micro takes place this month, with UK managing director Nigel Searle moving back across the water to supervise the operation.



Nigel Searle, UK managing director of Sinclair Research, is now directing the US launch of the QL.

QL In The Eastern-Bloc!

I heard recently that Sinclair has just received clearance from CoCom, permitting it to export QLs to Warsaw Pact countries. QLs have been slipping through the Iron Curtain for some time, I heard from someone on the Hungarian import/export agency stand at Compec last year that several people in Hungary had QLs, in spite of the fact that CoCom approval had not been given at that stage.

I was also told that in Poland ZX81s are being used for controlling coal-mining machinery. Perhaps the claim in the old ZX80 advertisements that they could be used for controlling a power station was not so far-fetched after all.

Leon Heller, QL World Sep 1985

QLs and communists

When the QL first came out it was embargoed for export to most of the Eastern Bloc countries under the COCOM regulations.

Apparently, this was due to the use of the much derided Microdrives for mass storage; it was thought that the storage density was too high.

Incidentally, I remember someone at Sinclair telling me that the deputy director of the Soviet Academy of Sciences had a QL. I wonder if he is still using it...?

New Computer Express May 1983

John Torofex

Comrade Clive

SMUGGLING COMPUTERS into Yugoslavia used to be big business because the government frowned upon the import of machines by individuals.

Despite the unofficial ban on microcomputers small groups have been able to smuggle machines into the country. As a result at least 20,000 machines have been smuggled in, two computer magazines have been launched and a game for the Spectrum about computer

smuggling, called Contraband, has just been released.

All that is about to change, though, as Sinclair Research has agreed a deal with ISKRA electronics to import Spectrum parts into Yugoslavia where machines will be assembled and marketed.

Asked whether the decision was taken at government level Julian Goldsmith of Sinclair Research says: "Our overseas policy has always been to work with British embassies and consulates

so I would think that something like that would be the case."

The Yugoslav Embassy could throw no light on the matter and told us to contact the Yugoslav economic chamber. A spokesperson there says: "There is no ban on the import of computers but an individual who tries to bring a computer into the country may have to pay certain duties. I'm afraid I can't tell you any more as it changes so often".

Sinclair User November 1984

As if a knighthood wasn't enough for him...

Sinclair User, August 1985

QL, software win awards

QLUB, July 85

The Xchange software earned Psion a nomination for the 'Business Software of the Year award.' The winner in this category had not yet been announced at press time.

Lack of confidence in City causes Clive to get cold feet

Concern about the plight of Sinclair extended into high places. The Prime Minister was reported to be anxious to ensure that the company, which had hitherto been extolled as a leading example of the kind of adventurous, entrepreneurial, high-technology business which the Government wished to encourage in Britain, should not be allowed to go under. Even the Bank of England's industrial finance division became involved in the rescue talks, by providing a chairman for negotiations between Sinclair and its creditors.

Over the past few days it has become clear that as a result of recent sales successes the proposed refinancing of Sinclair Research is no longer necessary. Our share of the United Kingdom market has climbed over the past few months to a high of 40 per cent. In the United States, sales of our Q1 computer are increasing dramatically. (Sir Clive Sinclair, quoted in Guardian, August 10th 1985)

Clive Sinclair and Robert Maxwell

In 1985, Sinclair was admitting to financial problems. In mid June it seemed that Sinclair could be rescued by publisher Robert Maxwell. However, increased sales after price-cutting carried Sinclair through 1985 and the Maxwell deal fell through.

7/4/86: Sinclair sells to Amstrad



Sinclair sells out

All rights go to Amstrad for £5m.

- Amstrad takes over all Sinclair's manufacturing and marketing.
- QL almost certainly to be dropped.
- Spectrum 128 to be re-packaged with tape deck.
- Research and development on the 'Pandora' portable will continue at Sinclair.

Full details below and inside

AMSTRAD Consumer Electronics announced on Monday (April 7) that it has bought the manufacturing, marketing and brand-name rights to all Sinclair computer products worldwide.

It also has a 'first refusal' option on future Sinclair machines.

The deal, announced jointly by Sir Clive Sinclair and Alan Sugar, meeting between Sinclair and its creditors, held over the Easter weekend to

continued on page 5 ►



Clive Sinclair and Alan Sugar at the announcement



Amstrad-Sinclair deal
Sinclair bows out!

**AMSTRAD
BUY
SINCLAIR!**

**Amstrad axes QL
in Sinclair sell out**

AMSTRAD BUY SINCLAIR

Sinclair Research has sold off its entire interest in the home computer business to Amstrad.

The £5 million deal gives Amstrad worldwide rights to sell and manufacture all existing and future computers and computer products. Amstrad also bought the rights to use the Sinclair brand name. The Sinclair name will not however be used in Amstrad's marketing.

Amstrad will continue to produce Sinclair computers for the 'intermediate' and the 'popular' while existing and planned Amstrad machines will be aimed at the 'serious' user and business sector.

At the press conference to announce the sale, Sir Clive said: "We were the pioneers in the home computer field but we are now handing over to a company which has the resources to do it better."

Alan Sugar, Amstrad's Managing Director, commented: "It's a good deal for us. Sinclair has dominated the entertainment end in Europe and we are now looking at a different market to our own."

Quality control
Asked about his plans for Sinclair machines, Sugar said: "We are going to look at quality control in the production of Sinclair computers and of enhancements. We plan to study the reasons why Sinclair products have given rise to a reputation of unreliability. Part of the problem has been that producers of Spectrum software tend to try and get as much out of the machine as possible which can lead to problems. At Amstrad we advise software houses to writing software for the machines."

Later when asked about using the QL as the basis for a new product, he said: "We would be prepared to look into the architecture of the QL and see if the product could be re-engineered, based on a different architecture, to be encouraged to use this software."

Sir Clive handing over to the company in marketing."

Alan Sugar: "It's a good deal for us."

On building teams in other areas of technology and develop them into self-sufficient units as they grow."

Sinclair Research wants to go on "project development" computer and its development work will also include the Pandora project.

"We are continuing with the project and will talk with Amstrad about it but it they do not intend that we will go elsewhere," said Sir Clive.

Enhancements
One enhancement that Amstrad has in mind for the Spectrum is the addition of a built-in tape recorder.

"Many problems have come from using tape recorders and a way of overcoming this would be to have a built-in recorder in the production stage."

Alan Sugar envisaged that Spectrum 128 and 128 would still be sold for some time.

As for the QL which has been a flop since its launch, he said: "The QL is a good machine and only work in progress. The QL did not get its full publicity when it was launched and we would have a marketing campaign to develop the QL as a new computer product."

One product in the pipeline is a single chip with 40 megabytes of memory. This software company will be given to do the hardware, appropriate partners and independently selected researchers. We will also go

on building teams in other areas of technology and develop them into self-sufficient units as they grow."

Sinclair Research wants to go on "project development" computer and its development work will also include the Pandora project.

"We are continuing with the project and will talk with Amstrad about it but it they do not intend that we will go elsewhere," said Sir Clive.

Enhancements
One enhancement that Amstrad has in mind for the Spectrum is the addition of a built-in tape recorder.

"Many problems have come from using tape recorders and a way of overcoming this would be to have a built-in recorder in the production stage."

Alan Sugar envisaged that Spectrum 128 and 128 would still be sold for some time.

As for the QL which has been a flop since its launch, he said: "The QL is a good machine and only work in progress. The QL did not get its full publicity when it was launched and we would have a marketing campaign to develop the QL as a new computer product."

One product in the pipeline is a single chip with 40 megabytes of memory. This software company will be given to do the hardware, appropriate partners and independently selected researchers. We will also go

on building teams in other areas of technology and develop them into self-sufficient units as they grow."

Sinclair Research wants to go on "project development" computer and its development work will also include the Pandora project.

On building teams in other areas of technology and develop them into self-sufficient units as they grow."

Sinclair Research wants to go on "project development" computer and its development work will also include the Pandora project.

"We are continuing with the project and will talk with Amstrad about it but it they do not intend that we will go elsewhere," said Sir Clive.

Enhancements
One enhancement that Amstrad has in mind for the Spectrum is the addition of a built-in tape recorder.

"Many problems have come from using tape recorders and a way of overcoming this would be to have a built-in recorder in the production stage."

Alan Sugar envisaged that Spectrum 128 and 128 would still be sold for some time.

As for the QL which has been a flop since its launch, he said: "The QL is a good machine and only work in progress. The QL did not get its full publicity when it was launched and we would have a marketing campaign to develop the QL as a new computer product."

One product in the pipeline is a single chip with 40 megabytes of memory. This software company will be given to do the hardware, appropriate partners and independently selected researchers. We will also go

on building teams in other areas of technology and develop them into self-sufficient units as they grow."

Sinclair Research wants to go on "project development" computer and its development work will also include the Pandora project.

Amstrad axes QL in Sinclair sell out

AMSTRAD a year of acquisition over the future of the country's last home computer company, Sinclair Research, ended on April 7 with the announcement that Amstrad has bought out Sinclair's computer business for a cash sum of £5m.

The announcement means that Amstrad will now own Sinclair and Amstrad computer products will now evolve in parallel. The Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

NEWS

AMSTRAD a year of acquisition over the future of the country's last home computer company, Sinclair Research, ended on April 7 with the announcement that Amstrad has bought out Sinclair's computer business for a cash sum of £5m.

The announcement means that Amstrad will now own Sinclair and Amstrad computer products will now evolve in parallel. The Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

complex, the rights to use the Sinclair brand name, and the Sinclair products will concentrate very much on the low-cost, predominantly games computer market, while the Amstrad models will offer more

Sinclair Research is to be immediately reorganised. Amstrad will take over the Sinclair's Cambridge headquarters from given notice. According to one source, it will start up its 'renewal' of the Sinclair brand name in the business which is in the hands of the Sinclair family. We are also looking at research and development companies to do contract research for a limited number of corporate clients.

"The first major scale products will be available next year and the first will be a large memory device with 40 megabits on a single chip."

Sinclair is also to continue with development of its 'Pandora' portable computer incorporating a development of Sinclair's full-screen display, and Amstrad under the April 7 agreement retains the option to manufacture and market any future Sinclair computer products.

The restructuring within Sinclair Research remains the same: 80 per cent to Sir Clive, 10 per cent to Alan Sugar, 10 per cent to the staff.

Amstrad will not get Sinclair's 10 per cent until it has paid back the £5m loan to Sinclair Research.

Reaction from software houses following the news of the Spectrum takeover by Amstrad remained cautious. Owen's managing director, David Ward commented: "In the short term there will probably be a better marketing drive in Europe for the Sinclair machines, but in the long term the sales will not be good."

Amstrad is not a good company and the Sinclair machines are no longer for them.

"There is a possibility that the new replacement for the Spectrum will be an Amstrad machine in a Spectrum case."

Andrew Henson of Henson Consultants said: "The Amstrad version of the Spectrum 128 model before Christmas in Spain, and the sale of 100,000 units of Spectrum 128 models to high street chain stores."

Following the sale of its computer division to Amstrad,

Amstrad will take over the Sinclair's Cambridge headquarters from given notice. According to one source, it will start up its 'renewal' of the Sinclair brand name in the business which is in the hands of the Sinclair family. We are also looking at research and development companies to do contract research for a limited number of corporate clients.

"The first major scale products will be available next year and the first will be a large memory device with 40 megabits on a single chip."

Sinclair is also to continue with development of its 'Pandora' portable computer incorporating a development of Sinclair's full-screen display, and Amstrad under the April 7 agreement retains the option to manufacture and market any future Sinclair computer products.

The restructuring within Sinclair Research remains the same: 80 per cent to Sir Clive, 10 per cent to Alan Sugar, 10 per cent to the staff.

Amstrad will not get Sinclair's 10 per cent until it has paid back the £5m loan to Sinclair Research.

Reaction from software houses following the news of the Spectrum takeover by Amstrad remained cautious. Owen's managing director, David Ward commented: "In the short term there will probably be a better marketing drive in Europe for the Sinclair machines, but in the long term the sales will not be good."

Amstrad is not a good company and the Sinclair machines are no longer for them.

"There is a possibility that the new replacement for the Spectrum will be an Amstrad machine in a Spectrum case."

After the Sale...

Sir Clive decided to start by giving a "bit of a rundown" on the events leading to the Sinclair/Amstrad deal.



"The home computer business, in which we are of course pioneers, hit very big trouble two years ago. The problem arose because retailers misjudged the market and ordered heavily. Then they cancelled and we were left with a dearth of orders, in fact negative orders, effectively for several months.

"That caused us and other people in the business at the time very severe difficulties — cashflow problems and so on. The culmination was a very severe major re-organisation on our part and the route we chose eventually was to sell the existing computer range to Amstrad.

I asked Sir Clive if his reasons for selling to Amstrad were purely financial.



"They were financial. I mean we were in a position where we had a tight cash position. We had a choice. We could have sold some of the company to raise money to stay in the existing business but the only deal which could do that would not have given us sufficient money to do both the existing computers and the new technology — the waferscale stuff; and the new technology was what really mattered so far as I was concerned.

"I mean, yes, of course the old stuff mattered in the sense that it had been important but it ceased to be innovative so far as we were concerned, in particular the Spectrum.

Sir Clive Sinclair talking to Ken McMahon in 1986

Microdrive Shortages?

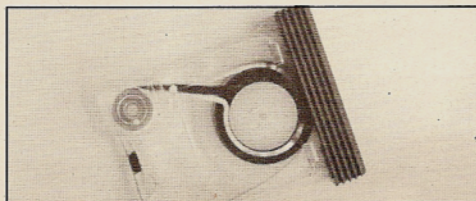
Following the sale to Amstrad, concerns arose about the continued supply of microdrive cartridges. As the article below shows, Sinclair came to an agreement with microdrive manufacturer Ablex in Telford, England to secure future supplies of the cartridges for the next few years.

Sinclair agrees to Sale of Microdrives

Sinclair Research has finally reached agreement with Microdrive manufacturer Ablex which should free the future supply of blank cartridges.

In the Amstrad deal, Sinclair retained ownership of Microdrive rights but has been reluctant to license their production. Ablex is under licence to produce Microdrives containing only pre-recorded software.

The deal is being described by Sinclair as an interim agreement. It covers only present stocks of cartridges held by Ablex which, with demand running at more than 50,000 a month, it is estimated will last for



Microdrives, the inside story. some three months.

Bill Nichols, of NMA Communications, the Sinclair public relations agent, says the purpose of the deal is "to end any confusion over the security and distribution of future

supplies."

Negotiations between the two companies are continuing with the aim of reaching an agreement on continued manufacture and distribution of Microdrive cartridges.

QL World, September 1986

After the Sale...

NEWS

A NUMBER of companies are negotiating to buy existing stocks and manufacturing rights of the QL micro, following Amstrad's announcement that it is not interested in pursuing the micro.

Amstrad has so far had several firm offers for the stock of 19,000 machines and the rights to use that name, but none of the companies concerned have come up with enough cash. Amstrad wants to raise £1¼ million through sale of the stock and throw in the manufacturing rights to the QL free of charge.

The interested parties are said to include Timex, Digital Precision, Quanta, Eidersoft, and the Danish QL distributor Helmut Stüvern. All of the companies, except Timex, currently depend to a large extent on the QL for their livelihood.

Freddy Vaccha, managing director of Digital Precision, sees the Amstrad takeover as a good move and is confident that the QL will survive.

One possibility is that a new QL

Consortium fights for cash to buy QL

compatible disc-based machine will emerge from the wreckage of the QL.

Said Freddy Vaccha, "It is possible that someone might soon produce a QL compatible machine.

If anyone approached us with a reasonable plan to take on manufacture the QL we have funds which we would make available to them.

Apparently the rights to QDOS are owned by Tony

Tebby — the software engineer who designed the QL's system software — and not Amstrad. "I happen to know that he's at present doing some modifications to QDOS," explained Vaccha.

Tebby was unavailable for comment, but it is understood that the operating system, which first saw light on the QL, may be implemented on several new micros. Those include a machine, the Microbox Five,

which it will be possible to buy in either kit or ready-made form and which could include several operating systems including CP/M and MSDOS.

Leon Heller, Chairman of the independent users' group Quanta, hinted that an Amstrad deal was in the air but that it was likely to mean the end of the QL microdrives. Sinclair Research was working on a disc-based QL as well as a 32-bit 68020 version of the machine. Development of a disc-based computer had been finalised but no plans had been laid to market it.

Whatever the outcome, QL software houses and hardware manufacturers are unlikely to let the machine go under the Amstrad guillotine without a fight.



After the Sale...

News Desk

QL rebirth for ZX Microfair?

AN announcement on the attempted buy-out of rights to the QL is expected to be made by the time of next week's ZX Microfair.

Leon Heller, chairman of Quanta, the QL user group, told *Popular Computing Weekly* he knew the details of the bid by a consortium of QL support companies (see *Popular Computing Weekly*, April 17), but he was unwilling to reveal them. He did however feel that Amstrad would be willing to sell the rights, and suggested that the upshot of the deal would be the long-awaited QL

2, with a full 68000 processor, 512-640K Ram and an internal 3½ inch disc drive.

Add-on supplier Micro Peripherals has also been spoken of as a possible buyer for the QL, but spokesman Ian Donaldson dismissed the suggestion. "We're not a micro manufacturer", he said, "we're a supplier of add-ons." He said he'd welcome any takeover of the QL, but felt that any company doing so would have to be "very, very big."

Meanwhile dealers are reporting difficulty in obtaining stocks of all Sinclair products.

QLINK

Support for QL will continue

John Gilbert discovers that the fight to save the QL is by no means over

As confusion reigns over who, if anyone, will continue to produce the QL — see news pages — retailers, distributors and software houses have for the most part pledged continued support for the machine.

Customer support

Leon Heller, chairman of Quanta, the QL Users' Group shares the optimism of companies such as Digital Precision, Talent and DS Enterprises. He confirms that Quanta will continue and even extend its support services for QL owners. Heller says: "A few days before the takeover Pison asked if Quanta would take queries from members of QLUB whose subscriptions had run out.

"Since then I've written to Amstrad to suggest that we'll handle all the customer support for the QL from now on." More

The Futura

Sandy UK PCP advertised Tony Tebby's proposed "QLT" or "Futura" computer, but it never saw the light of day because of the reluctance of Italian parent company, Farmintel.

A PC board version was built but was short-lived.

Elsewhere, plans by various QL peripheral and software companies (sometimes in cooperation with each other and sometimes not) to bring out a new version of the machine are continuing but, as yet, there is little sign of anything on the horizon. One scheme masterminded by QDOS author Tony Tebby reports considerable enthusiasm on the part of dealers and others but (in the last few weeks) some reluctance to match this eagerness with hard cash.

TOMORROW (HAS ARRIVED)

SANDY technology announces . . .

FUTURA

HARDWARE

MC68000 8 MHz MPU
128 kilobyte exchangeable system ROM
512 kilobyte to 8 Mbytes RAM
two external ROM/RAM connectors
two internal ROM/RAM connectors
ROM/RAM (RAM bus)
complete bus connector
QL compatible display controller
two full duplex, independent baud rate serial ports
MIDI output port
QL compatible network through port
parallel port
mouse port
sound generator
up to three 3 1/2" floppy disk drives or one 3 1/2" hard disk drive and up to two floppy disk drives
battery backed real time clock
internal PSU

KEYBOARD

89 key IBM AT style keyboard
CAPSLOCK LED
joystick port

SOFTWARE

QDOS compatible operating system
extended window handling
pull down and static menu handling
integrated pointer environment
improved error reporting
SuperBASIC compatible programming
language faster execution
all Super Toolkit facilities
Hot key / mouse driven interface
file manager
spooler
job manager
TONY TEBBY DESIGN

. . . and much more

Ring (0234) 219814 FOR DETAILS AND APPLICATION FORM

SANDY U.K., Unit 33, Murdoch Road, Bedford MK41 7PQ

QL is a trademark of Sinclair Research Ltd. IBM AT is a trademark of IBM Inc.

QView Medusa

In the period after after the QL was discontinued, a number of QL compatible machines were proposed, but few, if any actually saw the light of day.

QView was a three-man band of Stuart McKnight, Jonathan Oakley and Laurence Reeves. This company, rather modestly referred to as the QView International Megacorporation, had previously brought us the Minerva QDOS replacement ROM, Caps Lock LED kit and a few other bits and pieces. The Medusa was an ambitious step forward, but never saw the light of day as far as I know.

This article is from New Computer Express magazine in 1990

MORE MEDUSA

Some more information about the proposed Medusa QL clone has turned up, courtesy of the QView International Megacorporation – the people behind the Minerva QDOS replacement.

The processor will be either a standard 68008, as used in the original QL, the enhanced 68008FN (it can address up to 4Mb of memory) or the 32-bit 68020, with 512K bytes of 8/16-bit memory and up to 4Mb of 8/32-bit memory. The standard QL custom chips will be used.

Options are to include: a floppy disk interface; improved serial port; PC-compatible keyboard; parallel printer port; maths co-processor; and an SCSI hard-disk interface.

The operating system will be standard QDOS, Minerva or QJump's new SMS2, that is being developed for the Atari ST's QL emulator.



The CST Thor



The CST Thor computers were one of the few QL compatible systems to actually see the light of day in this period - three main models were released.

CST rescues QL from the dead

● A QL upgrade and a rescue plan launched at the ZX Microfair

● CST's Thor to be released with a 68020 processor in September

● Full specifications of the Thor and information on the rescue plan
Full details below and inside

HELP is at hand for the QL, with



at least one, possibly two new machines scheduled for a September launch. The first of the machines, CST's Thor, was previewed at Saturday's ZX Microfair. It is currently an upgrade of the original machine, but CST plans a completely new 68020 processor machine for September.

The single prototype Thor, which the company has at the moment, was completed the day before the Microfair, and is basically a repacked version of CST's QL add-ons fitted into a CPU box with a detachable keyboard. The latter's layout and design is actually that of IBM's AT business computer - streets ahead of the original QL keyboard.

The main system unit houses the QL circuit board, all other parts of the original machine having been thrown away, and additional circuitry from CST to

- Thor 1 - 68008, uses a QL circuit board
- Thor XVI - 68000 based
- Thor 20 - 68020 based

AMSTRAD BLOCKS QL PLANS

- Amstrad insists that CST has no legal right to produce the Thor variant of the QL
- The company insists that the "intellectual property rights" it bought from Sinclair include those to the QL circuit board
- It will block any attempt to produce machines based on the QL's hardware

CST quits U.K. after family splits

Following an extraordinary turn of events, the fledgling 16-bit micro maker Cambridge Systems Technology has abandoned its U.K. base and set up shop in Denmark. All telephone calls to the CST Stevenage premises are now being directed to distributor PQQL in Birmingham.

CST's flight was precipitated by a family row over manufacturing bills for the Thor XVI computer. The first batch of 100 machines was built by CVO Electronics, a company owned by Victor Oliver, father of CST director David Oliver.

Software suppliers in the QL-compatible world estimate that CST owes CVO in the region of \$100,000.

Asked if the figure was near the truth, Victor Oliver told *Popular Computing Weekly*: "The figure of \$100,000 could be inflated but it may exceed that. My lawyers are pursuing the matter."

Clearly distressed at the turn of



continued on page 6 ▶ CST Thor XVI - prospects dimmed by family feud



Graham Priestly and David Oliver of CST



CST quits U.K.

◀ continued from cover

events, Oliver said: "David is my son by birth but I wish to have no further relationship with him."

We telephoned David Oliver in Denmark. He said he had left the country to be nearer Thor International, the joint venture with Dansoft whose aim is to sell the Thor XVI to the Soviets - see *Popular*

Computing Weekly passim.

He claims to be working on the networking side of the Thor operating system, Argos, and is in particular re-writing networking code bought from Q-Jump, the QL software house run by Tony Tebby, who was the original author of the QL Qdos operating system. Tebby claims that Oliver has no rights to his software.

"We gave CST the source code purely for evaluation, and it has not paid for it, has no licence and is using it illegally," Tebby says.

In addition, Tebby is investigating the possibility that Thor Inter-

national is selling Thor XVI machines with Qdos, rather than its own Argos operating system. Any suggestion that this is the case is strongly denied by Thor chief executive Hellmuth Stives.

He says he had the all-clear from Amstrad, owners of copyright on all Sinclair QL products, last year - but an Amstrad press spokesman said that the company is still "keeping an eye on the situation".

Just 100 Thor XVI machines were made in the first production run. The doubts over the nature of the identity of the operating sys-

tem stem largely from the fact that few have been able to obtain a machine to look at it - hence the lack of a Thor review in this magazine.

After CVO, it has not been decided who will make the next batch of machines and Stives does not expect to be manufacturing in the U.S.A. for two years.

QL software suppliers are keen to play down the significance of the Oliver family row, yet there is little doubt that such antics harm the prospects for what is supposed to be the U.K. answer to the ST and Amiga.

Only about 100 Thor XVI machines were built in the UK before CST moved to Denmark amid some controversy

The QL's Cousins



OPD



Sinclair had been willing to licence QL boards for other manufacturers to use. From this came the ICL OPD (One Per Desk) computer as well as a few derivatives such as the BT Merlin Tonto and Australia Telecom's AT Computerphone version. Based on QL hardware, including twin microdrive cartridges, the OPD was not a true QL compatible since ICL developed its own operating system and the microdrive format was different. It also featured a built-in telephone handset. The OPD was launched on 15th November 1984



Merlin Tonto



AT Computerphone

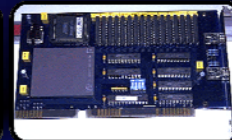
QL Compatibles

A SUPER QL DIY BOARD From a letter from Mike Lilley:

You may remember the little note in Quanta about a DIY-QL photocopies of one of the PCB's (+ other details) - there are at present issue 1. The final version will have the couple of mechanical faults corrected (the board has been powered up and runs ok). The board is tight and skill, it has two non-standard PAL's (#1,#2) which would be supplied by 'buyer'. We would not provide a build-up service but would put people who would provide a build-up service. We hope to have a fully working Easter QL meeting on the 7/8/88.



Sandy Q-XT 640



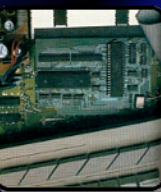
Atari ST-QL emulator



Aurora



Aurora based Minis-QL



TOWER CASED SUPER QL DINSLAKEN, GERMANY - Martin Florichs

Qlympic Computer Systems of Germany, and COWO Electronics of Switzerland, have announced a SuperQL. The machine will consist of a standard QL motherboard, switching power supply, Gold Card, and Disk Drives, all packaged in a custom Tower Case. The production run is limited to 50 units world-wide, at a price of 900 Pounds Sterling. If you are interested, contact:

Qlympic Computer Systems
Quellenweg 18
4220 Dinslaken
Germany Tel: 02134 47852

COWO Electronics
Munsterstr. 4
CH-6210 Sursee
Switzerland Tel: 045 211478

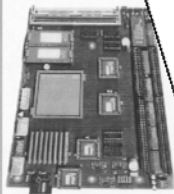
Q40 & Q60

Q60
Q40

**The powerful
Sinclair QL
successor**

Have you ever dreamt of QLs that are more than 100 times faster, have many thousands of colours, high resolution graphics, stereo sound, fast harddisks and modern peripheral capabilities? New complete computers that run your QL software and open the door to unreached 68000 speed and advanced applications? Here they are!

- Q40: 68040 CPU, 40 MHz, Math Coprocessor, MMU
- Q60/66: 68060 CPU, 66 MHz, Math Coprocessor, MMU
- Q60/80: 68LC060 CPU, 80 MHz, MMU
- 68000 supercaching architecture, dual execution units
- Up to 160 Megabit/s performance for QDOS-SMSQ/E
- 4 to 128 MB RAM, PS/2 module sockets
- 256 to 1024 kB ROM
- Highspeed 32 bit graphics, with original QL modes
- 65536 colours at 1024 x 512 pixel resolution
- Multisync monitor output
- PC Keyboard interface (DIN)
- 20 kHz Stereo sound
- Battery buffered dock, 2 KB nonvolatile RAM
- Controller for 2 floppies and 2 IDE harddisks or CD-ROM
- 2 Serial ports with 115200 Baud, Parallel port, Joystick port (on IO card supplied with mainboard)
- Hardware extension slot supports ISA cards
- Fits directly into Minifloppy or other standard case
- +5V / +12V power supply
- No tinkering, no parts from original QL needed
- Mainboard size 6.2 x 6.3 inch



The Q40 and Q60 give you the choice of three different operating systems:

- SMSQ/E** - The QDOS compatible, but faster and more modern operating system. The first choice for most Q40 and Q60 users. Allows you to run the majority of QL programs, has a much improved BASIC. SMSQ/E supports a lot of the advanced Q40 and Q60 hardware capabilities, including full highcolor graphics drivers and sampled sound!
- QDOS Classic** - A multitasking operating system with good compatibility for older QL programs. Includes harddisk and sound support. It was the first operating system for the Q40. Full 68000 support.
- 68k Linux** - The free Unix-like multiuser / multitasking operating system. The Q40 and Q60 are the first and only QL style computers that run Linux. Linux on the Q40 and Q60 offers you an endless amount of application software, including X Window System, full Internet access, graphical Webbrowser, CD-ROM writing, MP3 player. There is a special Q60 Linux distribution with graphical installation tool on CD-ROM.



Claus Graf & Peter Graf

Microdrives - End Of The Line?

Microcassettes - The Search Continues

While the QL community ponders on alternatives to the QL microcassettes, lately reported to have ceased production, investigations are under way to see if the manufacturing process can be resurrected.

Dennis Briggs of Adman Services and Quanta is among those who believes that the technical barriers to continued existence are not so great as the manufacturer, Ablex, believes.

"I have been to see Maxell, the tape manufacturer, which has offices near here. One of its technicians is an old QL user and he reckons the proper tape can be obtained, although it is not very widely available". Briggs told QL World.

The type of tape involved is believed to be specially-lubricated videotape designed for use in continuous-loop video cartridges. The tape must be cut into narrow strips before it can be mounted in the microcassette cases.

EEC Ltd, which has a large quantity of unmounted drives in stock, is understood to be

very concerned about the non-availability of microcassettes and an unconfirmed report says that Sinclair Research, which collects royalties on the microcassettes as copyright holder to the design, still considers the microcassettes a worthwhile source of income, contrary to reports that few are now being sold, and does not wish to see production cease.

Another possible barrier to renewed production would arise if the case-moulding machinery owned by Ablex reached the end of its life-span. The original case design was not entirely successful and the Ablex machinery was made to an improved specification.

"If somebody tries to make microcassettes using the original jigs it could be a disaster," said one observer.

Despite that possibility, it is rumoured that a considerable stock of unused cases of the improved design had at one time been manufactured but it is not known whether this is available for use.

In 1989, a worrying situation arose. Ablex had stopped making microdrive cartridges and no more tape seemed available, so things looked bleak, but....

MICRODRIVE CARTRIDGES

I've just been speaking with Bill Richardson, MD of EEC Ltd, about the Microdrive cartridge situation.

Ablex, which had stopped production, because of the unavailability of the special tape used, has produced a small batch of cartridges using a new source of tape. These have been supplied to some of EEC's customers. If the experiment is successful, Ablex might resume production.

EEC has been shipping about 5,000 cartridges a month, so there must still be lots of QL users around who haven't upgraded to disk systems.

Ablex, manufacturers of the Sinclair microcassettes, are not yet in full production of the revived cartridges, but are able to supply small and medium-sized orders.

"Ideally we would like orders for about 1,000", said Production Manager David MacSorley, speaking to QL World in mid-June. "But we can supply small orders if people phone us for a quotation first, and send cash with order." The number for enquiries is 0952 680131, and ask to speak to David MacSorley.

Ablex name ICL and British Telecom, both of which use the ICL One Per Desk internally as continuing to buy microcassettes in some quantity, but former steady customer, Boots chemist chain, had cancelled its orders, MacSorley said.

Ablex awaits tape with optimism

Tape found

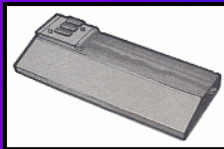
Ablex, manufacturer of the QL microcassettes, report, that it has sourced replacement tape successfully and will "have stocks to see us well into next year", according to production manager David MacSorley.

Earlier this year Ablex told QL World that it would continue to manufacture microcassettes to the end of 1989. Observers now believe that it will continue to meet demand while it is economic and tape supplies last but will be unlikely to source further tape if another shortage occurs.

QL Hardware companies, how many of these do you remember?



CST Interfaces



Q+4 Expansion System



Q-Disk, 2 versions



Graham Priestly and David Oliver



Q+4 Four Slot QL Expansion System with Disk Interface and drives



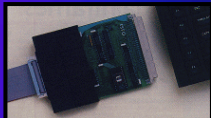
CST Ram Plus Card



2-Slot Expander



Computamate disk drive



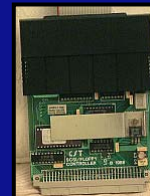
IEEE-488 Interface



Q-PI Parallel Interface



CST Computamate Disk System



SCSI

Di-Ren



Keyboard Interface



Network Prover



Micro Process Controller



Amadeus Interlink System

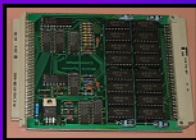


Robin Barker



Amadeus Interlink System

Miracle Systems Limited



Expandaram



Miracle Modem



Stuart
Honeyball



Super gold Card



Drive Expander



Gold Card



Trump Card



Miracle
Floppy Disk
Drives



Miracle Hard Disk



Ser-Par
Interface



Gold Card box



QXL



ED Drives

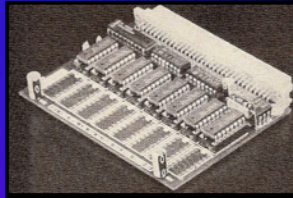


QL Midi

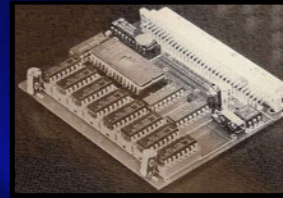


Ser-Par Interface
(later version)

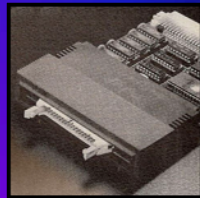
PCML



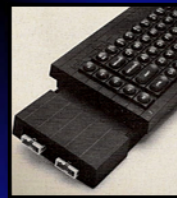
256K RAM Card



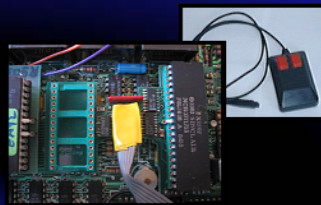
256K RAM Card With ROM Utils



Disk Interface



CP/M 80 Card



QIMI Mouse Interface

QJump



Tony Tebby



QEPIII Eprom Programmer



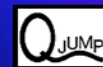
QFLP Floppy Disk Upgrade ROM



QPAC2



Toolkit 2 EPROM cartridge



Although better known as a software company with products like QRAM, QPAC1, QPAC2, QTYP and so on, QJump did release several add-ons for the Sinclair QL in the 1980s, until Tony Tebby "retired" to live in France in 1990.

Qubbesoft



Aurora



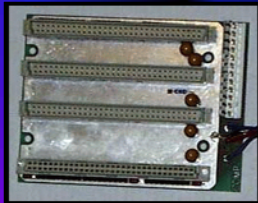
Ron Dunnett



Nasta (Zeljko Nastasic),
who designed
Aurora and
Qubide



Trump Card



Q-Plane



QubIDE



QEPIII Eprom
Programmer

Quest QL Executive Series



CP/M - 68K



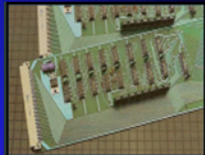
OScard



QL Executive Series



Firefly hard disk



Quest Memory Expansion Cards



Disk Drives



Expansion Console

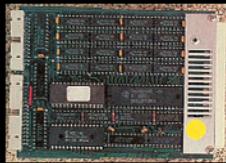


Tally

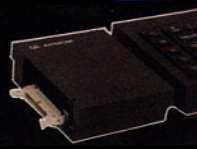


Paul Bygrave, Technical Director

Sandy QL Peripherals



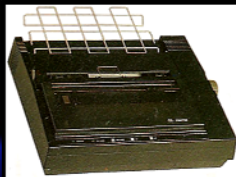
Uncased SuperQBoard



Twin Expander Unit



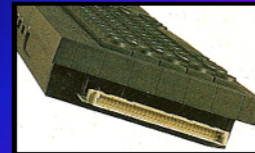
SuperQBoard



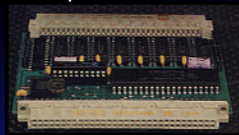
Sandy 'Dark' Printer



SuperQBoard With Mouse



512K thru-con RAM



512K thru-con RAM

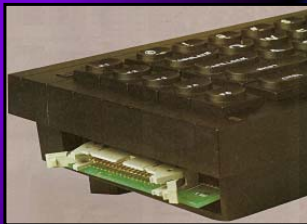


Sandy Disk Drive

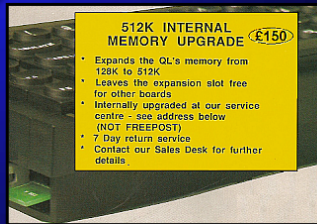


Super-Disk Interface

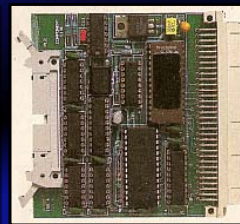
Silicon Express



Insider card



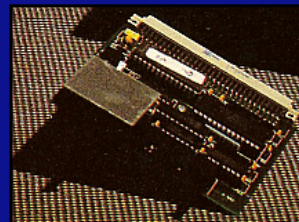
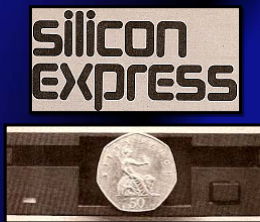
Internal 512K RAM upgrade



Insider disk interface

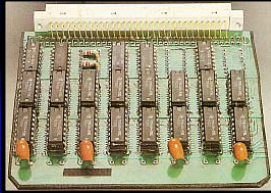


1/3 height disk drives

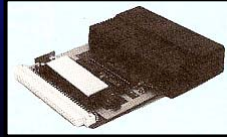


Insider disk interface

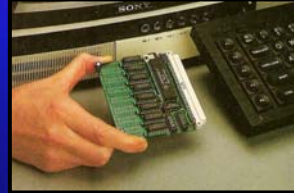
Simplex Data Logic Ltd



Simplex 512K RAM



Simplex cased 512K RAM



Simplex 256K RAM Card



Three different views of the Simplex Q+2 two slot expansion card, which came with its own power supply, allowing 2 peripheral cards (e.g. disk interface and RAM card) to be used simultaneously.

Sinclair's QL Peripherals



Sinclair/Micro -
peripherals Disk
System



Unreleased Sinclair
prototype 128K RAM control



Unreleased Sinclair 512K
RAM card



Sinclair Black Printer



Micro - peripherals
Disk Interface



A Complete
Sinclair System



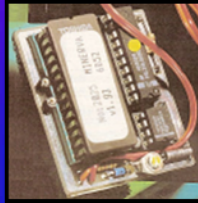
Sinclair Disk Drivers



Sinclair Vision QL Monitor



TF Services



Minerva



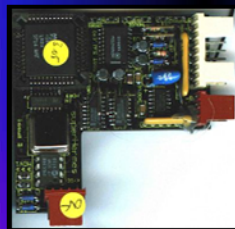
Romdisq



Tony Firshman



Computer Cleaner 4 - Way



Superhermes Lite



Hermes Co-Processor



MPlane backplane



I2C Interfaces for Minerva Mkii

Other QL Add-Ons



ABC Mouse Interface



CL Systems Digitiser



SPeM Digitiser



Oberon Omni-Reader OCR



Cumana Disk Interface



EPROM Services card



Harprom 192K Eeprom Board



Mersey Mouse



Micro Peripherals Printer Interface



Q-Control Board



QLEA Rom-Switcher

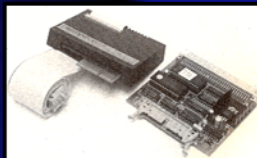


Falkenberg Print-Head Scanner

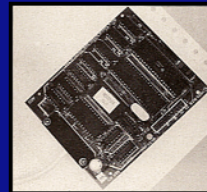
More QL Add-Ons



Medic Disk Interface
With Parallel Printer Port



Kempston Parallel Printer
Interface (left) and Disk
Interface Card



MCS Multi-spooler Card



Adman Services
switchable external
EPROM card



QCON Modem
Stack



Astracom 1000
QL Modem



Modem House
Brightstar
QL Modem



JFC Keyboard-90
Interface



Pandora Case, from
NEMQLUG



Infolink Internal
512K RAM Expansion



TRL Delta 128
Disk/Printer
Interface



MCS Multi-ROM, a 16K
RAM Cartridge For
Switching Between
Multiple ROM Images



MCS
Memo-disk



Schon Replacement
Keyboard



Black Printer, Monitor
and Storage Box
from 4Systems



Microvitec Cub653
QL Monitor



Prism QL14
Monitor

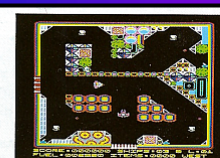
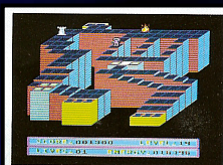
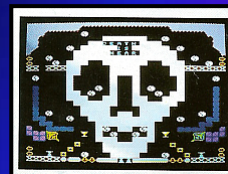
More QL Add-Ons

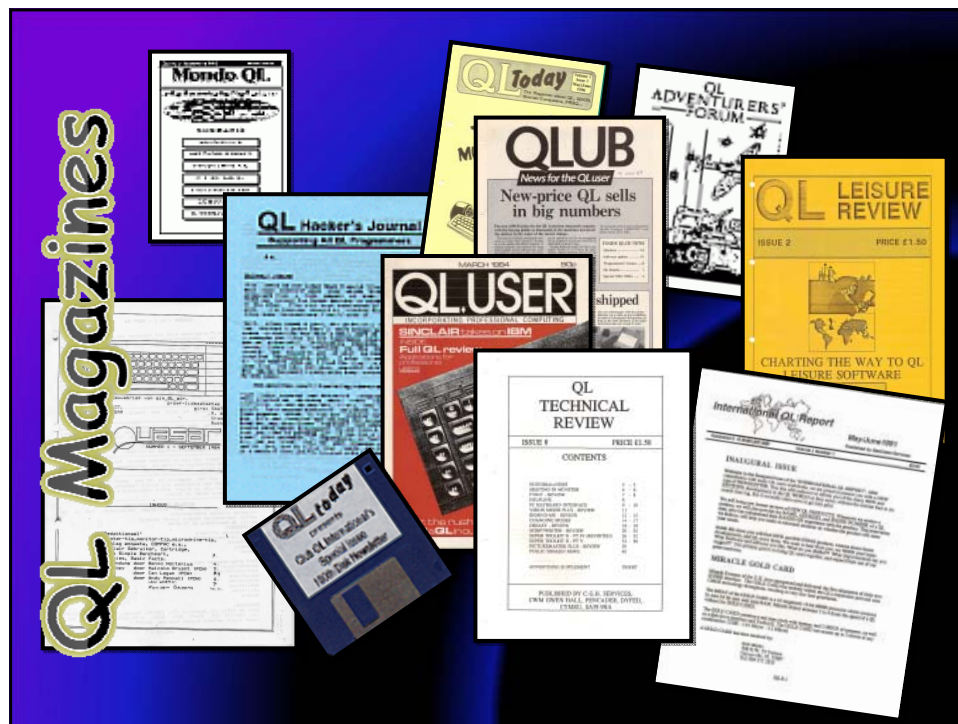
QL Software companies, how many of these do you remember?

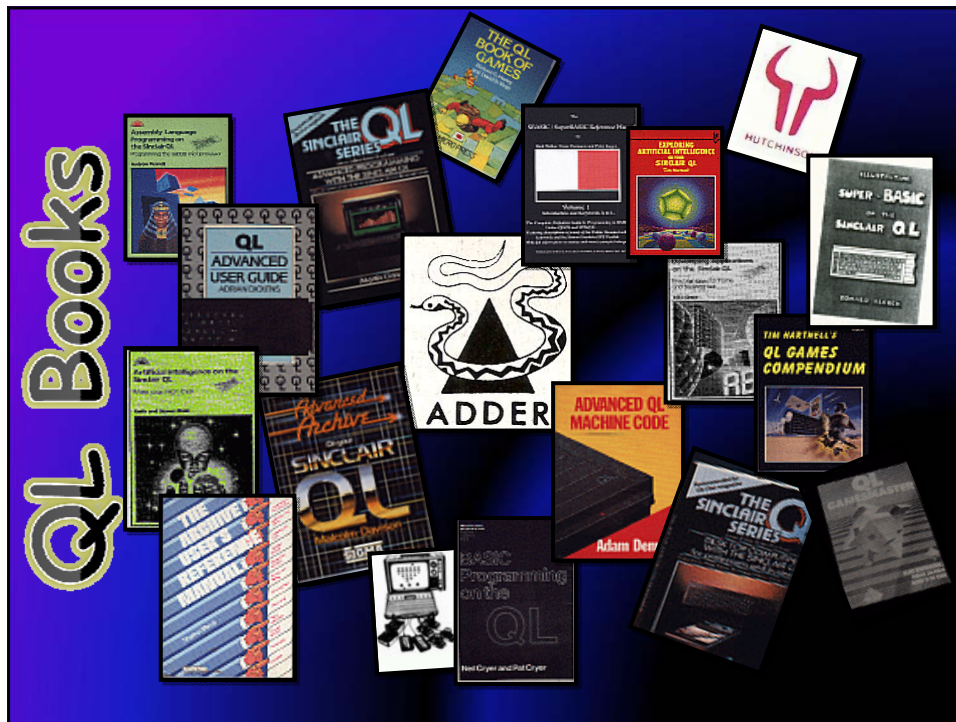


Games

Sinclair wanted to promote the QL as a machine for small business and the "serious" home user, so was not particularly keen for the QL to become a games machine, as the ZX Spectrum and earlier Sinclair computers had been seen. Luckily, third party software suppliers like Microdeal, Shadow Games, Digital Precision, Eidersoft and Medic didn't have such reservations, so we quickly got a good little collection of games of all types for the QL! Even Sinclair eventually sold a few games like Cavern and The Pawn, for example.







Thank you for watching the QL
History presentation. We very
much hope you enjoyed it!



Dilwyn & Iwan Jones