

Your Format - QL

QL columns from New Computer Express magazine in the 1980s. Written by Paul Connell, Eric Simmonds, Robert Myers and John Torofex.

At various times, these columns were called either "QL Corner" or just "Your Format >QL"

These columns are reproduced as one per page in date order.

If anyone has copies of further columns from this series, I'd be very pleased to scan them and add to this document.

YOUR FORMAT – QL 12/11/1988

The emulation game

With the Atari ST now running a creditable QL Emulator and the QL running a CP/M Emulator, news is of a PC emulator for the QL in the final stages of polishing.

It is the lack of volume of some forms of business and bespoke software which is the biggest frustration to QL users, and this emulator may be the best solution.

The writers have employed some ingenious tricks to speed up the resulting product on the QL. It appears DOS spends a lot of its time doing error checking and housekeeping which would be taken care of by the native QDOS built in to the QL anyway, so a large part of the normal DOS kernel is redundant.

The QL was offered with the Psion suite as an all-in package and as a result there was never any market in the formative years for alternative spreadsheet/database systems.

The major software item to influence QL development has been the Superbasic compilers. This emulator, when released, will equal their impact.

Discover DiscOVER

DiscOVER is a utility that is a lifesaver to those who need to transfer data from QL to PC and/or back. Transfer is a simple matter of putting a QL disk in one drive and the PC disk in another. The copy is as efficient and swift as the QL standard file-to-file copy. GONE are my days of soldering iron and RS232, parities and stop bits, trying to get two machines to converse!

The most effective method I've used involved used a Psion Organiser as an intermediary — a simple but drastic solution. As the ultimate test I have successfully moved a cross-compiled binary file from an Apricot to a Unix mini - passing it through the QL in the process, and having it run first time. Full details from PDQL on 021-200-2313.

QL's European future

Quanta, the QL, user group, held a very well-attended workshop in Northampton over the weekend of 14/15th October. Present were most of the major software houses and programmers well-known in the QL field. Tony Tebby of Qjump took part, effectively scotching rumours of his total withdrawal from the QL arena.

We may not see much in the way of new products from that direction, but support remains and the company is clearly still doing good business.

Also clear was the uncertainty, to say the least about the future of the Thor. This has made many a software house look carefully at its investment in the QL.

It may well be that the lead for QL development will come from Europe. The buy-out of Sir Clive resulted in a major offloading of overstocked QLs onto the European market. A couple of years on, those eggs have hatched with a core of enthusiastic European & Scandinavian users producing a lot of the new software and hardware offerings now becoming available.

Some QL Bulletin boards often resemble the Tower of Babel where two Dutch or German contacts maintain their messaging, both phoning in from overseas!

YOUR FORMAT – QL 19/11/1988

Quanta shake-up

Quanta, the QL User Group, has undergone major changes in recent months. Virtually all the old guard committee and officials have departed leaving a completely new team at the helm. The new committee walked slap into threats of writs and legal action over old articles in the user magazine and ended up apologising to a software house. Some members forced a Special General Meeting expressing a lack of confidence in the new committee and seeking to retract the apology, but got nowhere. The members endorsed the committee's action by a landslide, surprisingly supported by most of those who forced the meeting in the first place. When it was said there was 'new blood' in Quanta, no-one expected it to be on the carpet! The committee were playing down the lively meeting as 'frank and businesslike'.

Protected species

Copy protection has always been the subject of fierce controversy between software producers and users. Of late, though, the anti-protection lobby seems to have prevailed. The QL market is inexorably moving over to disk-expanded systems. The Thor abandoned microdrives completely, and software houses with protected cartridge programs have had to convert such programs to disk to retain the interest of those users. They have also taken the opportunity to drop the copy protection systems on the programs at the same time. Some companies have supplied unprotected software since the start. Tom Dolezal of Talent + said "We have converted about 8 programs in the last year and removed the protection in the process. The effort of inserting additional protection for those supplied on disk was not sensible, Some customer registrations included comments about the protection, but we don't see it as a major issue."

Archival quality

Archive users with version 2.3 onward may be unaware of undocumented box graphics which go some way to improving the look of screen form designs. After issuing the command "sedit" try typing F5 followed by any of the upper case letters A to K. The fun range of box graphics is present, including corners, tee's and intersects. These graphics are not only available from the built-in screen editor, but can be incorporated into your own archive procedures by printing the appropriate code. Codes range from 225 to 235 and are used in the form "print chr(226);" to obtain a top right corner or print chr(230);" for a left tee. Although box graphics are missing from version 2.0, other undocumented useful print codes exist, Try "print 'hello';chr(26);' hello ';" for instant reverse video.

Easier transfer

Hot on the heels of DISCOVER, the QL-PC transfer utility, comes a new, revamped version of Media Manager from Digital Precision. The original Super Media Manager always had the ability to read alien format diskettes (including MSDOS) but the revamp is claimed to do a two-way file transfer with a much easier user interface.

Paul Connell

YOUR FORMAT – QL 26/11/1988

Designer printing

Sector Software have just released a new printer driver for Page Designer 2 called Omnidump. This allows you to have multi-pass and multi-offset printing as well as grey scale and sideways printing.

ZXMicrofair

The next ZX Microfair is to be on the 10th December at the Horticultural Halls, Great Elverton St, London SW1. The QL is always represented well at this event, and it is one of the few places left to take a look at the product before you buy. The organisers operate a bring-and-buy stall that usually has some good second hand equipment.

Multi-tasking miracles

Its becoming more common for programmers to consider those who want to use the multitasking ability of the QL to its full potential.

So often the purchaser finds his new program requires such a complicated setup routine that nothing else can run before or after it, and the dreaded reset button must be hit yet again.

Customising your boot files has been made considerably easier ty the Hotkey System 2 utility which is a part of the Qjump Qram suite. This utility provides a set of functions and commands for single-key execution of programs from disk/cartridge or memory-resident. The commands may have added parameters which enable badly-behaved memory-stealing programs like Quill to be run in limited memory without having to treat the original programs.

Users who perform many different tasks through a day will certainly find that time they waste resetting and re-booting is greatly reduced. You find with many programs that the only reason you need reset the machine is to load the extensions to the operating system or Superbasic that are needed for the program. If you use many packages from the same publisher or created with the same compiler, then most often when you reset you are just removing the extensions, only to reinstall them again! Boot files which contain a sequence of commands similar to

“a=RESPR(32768):LBYTES mdv1_fname,a:CALL a”

followed by an EXEC or EXEC_W command are prime candidates to benefit, as is any Runtime module.

About the only software beyond help is that which needs to take total control of the screen — usually games or major graphics applications. Details from Qjump on 0954 50800

Bargain Bytes

Miracle Systems is working on a 20 or 30 megabyte hard disk for the QL. The disk will work with their Trump Card expansion interface and plugs into the ROM port on the back of the QL.

Miracle has been a consistent stayer in the market for many years and the appearance of this enhancement cam only be a matter of time. Check out the news pages in this issue for the full story.

Paul Connell

YOUR FORMAT 03/12/1988

Cometh the hour..

Tony Price of Qualsoft has finally succumbed to pressure from users and will — with any luck — be demonstrating a VT100 emulation addition to his communications software at the ZX Microfair next Saturday (December 10th).

This new feature will improve things for those who use services such as BT Gold and can also take advantage of the improved screen handling and box graphics.

Now whilst its quite clearly a logical extension to the package, in all honesty it's been a long time coming. These things take time, obviously enough. Tony has been badgered silly on every appearance at a show or event to indude this, and will probably thus be glad to see the back of it. Lets hope it's worth the wait.

Late year line-up

Just five days before Christmas, PDQL will be releasing a new batch of products for the QL (and the Thor! whilst were at it).

Weighing in at £59 is Basic C-Port, which enables yon to convert your SuperBASIC prcgaam to C. Thereafter, it can be compiled on the QL or banged over to a PC (or wherever).

At the bottom end comes Textidy, a useful package for a tenner which converts Quill files to ASCII text files ready for DiscOVERing or use in the Editor.

Last in the late year line-up is Hardback & Finder at £26. PDQL reckons that the first provides "a sensible indexing enquiry routine" which takes you through the directory/subdirectory structure. Finder seeks out those part-forgotten files buried in sub-sub-directory depths.

PDQL can be reached on 021 200 2313.

Chipping in price rises

D-Ram chip shortages have hit the whole industry throught the year, with the likes of Amstrad and Atari bewailing their fates.

But now, just as some of the bigger players are beginning to see some light at the end of the tunnel, so comes new of the effect on the QL market. And it's a question of needing to move very fast if you don't want to get caught out.

Essentially, the suppliers of QL expansion boards have been placed in a quandary with the continuing chip shortages. There are now rumours of some vicious price hikes in the offing. Few are as yet in a position to say how much prices will be increasing, but there is not that much doubt that rises will indeed have to occur.

Why this will be happening is easy to explain. The boards they are selling consist almost solely of chips. Considering that the suppliers are up against all-comers - many of them seriously large concerns - I suppose they have a point.

One effect is that it will make the secondhand market look very Interesting indeed, Those looking for a bargain will have to move very fast. You have been warned!

Paul Connell

YOUR FORMAT – QL 10/12/1988

Food for THORT

It is getting on for Christmas and the QL market is bursting with news. On the hardware front, after some management troubles CIT has surfaced in Denmark, and is contactable at Lundeskovsvej 5/1, 2900 Hellerup in Denmark. Production of the THOR XVI has apparently been resumed: For the benefit all readers unfamiliar with this machine, the THOR XVI uses a 16-bit 68000 processor unlike the 8-bit 68008 in the QL, is about three times the speed of a QL and comes with an excellent keyboard, a new operating system which is very largely QDOS-compatible, and looks professional to boot (no pun intended). QL users seeking an upgrade path should consider the THOR XVI very seriously indeed.

Most software houses have ensured that their major products are THOR-compatible, and THOR XVI-compatible too. Certainly most of the PDQL and the Digital Precision range of products (including the TURRO SuperBASIC compiler) are THOR XVI-compatible.

Young pretender

These is a rival product, of sorts, to the THOR XVI: a QL emulator available to run on the Atari ST. Amazingly, this emulator which is a plug-in circuit board — very accurately mimics QDOS, and provides a useful speed improvement of about 2 x over the expanded QL. As yet this product is little talked about — details are available from Strong Computer Systems (Bryn Cottage, Peniel, Camarthen, Dyfed SA32 7DJ, Tel: 0267 235246).

Multilingual QL

One of the QL's unique — well, OK, almost unique — features is the extensibility of the command language. This means that while on other computers you are stuck with the names (corresponding to procedures and functions in BASIC — but there are analogies with other high-level languages too) defined by the originators of the language, on the QL you can “add on” your own commands and functions to SuperBASIC.

This means that the language is not static but is ever growing. However clever the designers of a language and those who implement it within a computer may be, it is cleanly impossible to envisage all the uses that will be made of, and demands that will be placed upon, the end user, who is the most important part of the whole set-up.

So while users of most other micros have to be content with the computer they bought, with the QL you can extend the language and make it into just about anything you want it to be!

Outstanding toolkits are the Supertoolkit with about 150 commands (available from Care Electronics, 800 St Albans Rd, Garston, Wattord, Herts WD2 6NL. Tel: 0923 672102) and the 200- command TURBO Toolkit (available as part of TURBO from DP, 222 The Avenue, London E4 9SE. Tel: 01-527 5493). The two are not competitors — they rather complement each other, having only a small overlap. We will look at each in detail at a later date.

Eric Simmonds

• *As of this week, Express has a new QL expert. You can get in touch by writing to New Computer Express at the usual address.*

YOUR FORMAT – QL 17/12/1988

Growing pains

Programmers, (to tweak Parkinsons Law) expand their programs to fill the memory available. At the time of the launch of the QL, a multitasking system with 128K for £400 was quite something. PSION managed (just) to crush their programs into it and left a minute amount for data!

Not so today - never mind a measly 128K being insufficient, a publishing package in development currently is likely to be at home with its recommended text editor only on systems with 890K expansion cards.

Superbasic compilers are largely the reason. No longer does the programmer have to wrestle with 68000 assembler, or burn the midnight oil trying to cut an excess 100 bytes from his code to make it fit. Write it in Superbasic, compile it and Hey Presto! a machine code program. If it doesn't fit - call it an advanced version and sell it for expanded machines only.

This evolution in QL offerings is not without its benefits. It is only now, as pundits declare the QL death throes that many quality packages are reaching the market. Despite all the predictions the QL is holding its own. More than a few companies are making a healthy living from the QL market alone. The owners with a basic machine must be content with the cut-down offerings these days along the lines of the 1512 specials that appeared for the Amstrad PC. If that market is anything to go by, makers of memory expansions should be gearing up for the run on their products. Without a doubt, it looks as if the big QL program is here to stay.

Games at source

A small Finnish software house has launched a new platform- type game: Spaceman Sam - the source code! The game is on offer at £13 but for an extra £57 you get the full assembler source code plus the in-house screen and sprite designer systems.

After an hour battling to get the intrepid Sam to achieve his target I think I need the source code to find out how to progress to the next level!

Details from Aholasoft, Kirjurintie 3, SF-05400 Jokela, Finland.

Expansion news

With the Futura becoming a "might have been" and the outlook for the CST Thor XVI unclear, news of a DIY upgrade for the main QL board comes as a welcome surprise.

Quanta member Mike Lilley released details of the new board which cures many of the major niggles of the original design. Switched 128/512K main memory, parallel port, reliable battery backed clock, multiple switched ROM sockets, standard keyboard connectors and five expansion ports are standard features. In development are the hard disk interface, modem card and ports boards.

Prices and availability are not yet confirmed but are expected to be sub £100 for a board needing some populating. Details from Mike Lilley on Royston 61236.

Sector spurs comms growth

QL communications has gained a new lease of life following the launch of the Sector Bulletin Board running the Q-View software, Its success has made other commercial companies look closely, with the Super User Bureau on-line from mid- September and Digital Precision boss Freddy Vaccha confirming recently that DP is likely to have a board running soon.

Sector has melded its commercial interest and simple QL user support well, keeping any "hard sell" well away from the message pages. Apart from the public board, it provides programming hints, news and advice. No longer do QL-ers have to reside as a Special Interest Group (SIG) in the "naughty corner" of other peoples boards.

Other boards with a currently active QL SIG are Peacenet on 0895-448998 and Gnome at Home on 01-888-8894. Both are viewdata at 1200/75.

Sectors Board runs on 0772-454328 after 6pm and Weekends.

Paul R. Connell

YOUR FORMAT – QL 24/12/1988

QL for the 1990s

A question often asked is “How good can a computer that was first designed five years ago possibly be?” Well, there is no denying that the QL is now about four years old, and there is no denying that microcartridges are really painful (and should be banned!). It is also pointless denying that while the QL keyboard is quite usable, it could be better.

So is the QL on the decline? The answer is an almost definite “No’ Surveying the market today, no other machine except ones costing a couple of thousand pounds — offers the powerful combination of multitasking and extensibility of language that the QL does.

We all know that the DL doesn’t support multi-channel sound (the ABC Electronic QSOUND add-on board will provide this, though), but how many serious users want to be rocked by the sound of mega-blasts? I don’t think Sinclair aimed the QL at a particular market or a particular type of user. He designed a fast computer which used 32-bit 68000 technology (far in advance of the Z80 and 6502 CPUs that dominated the computers of the day) and left it to the machine to attract its own following.

The QL never received much by way of support from Sinclair — it is rumoured that SRL employees privately expressed their annoyance that Sir Clive hadn’t just produced a bigger, faster Spectrum! After a few TV ads showing a sprightly orange-haired gentleman jumping — sorry, quantum leaping — over some computers in Regents Park, Sinclair moved on to funny little three-wheelers that would have provided great entertainment for this country’s truck drivers on wet Thursday motorway afternoons...

Basic gets the analysis

More news on new products! PDQL (tel: 021 200 2313) have also released a new version of XREF, the SuperBASIC program analyser par excellence. This one has a trace which somehow works out the dynamic hierarchy of calls — sounds like a hit of white magic to me. This is an invaluable aid to program development — whether you intend to supercharge, liberate, turbocharge or even just plain interpret your program. At £15, PDQL is not selling it, it is giving it away!

Miraculous price hike

Some not so good news from Miracle. Due to a worldwide shortage of DRAMs, it has pumped the price of Trumpcard up from £175 to £299! That’s a hefty 72 per cent hike. C’mon Miracle, your products are good, but that price is not. If you don’t reduce it, somebody else will trump your card. Is there anyone listening out there?

OLs don’t have ears

Back to the question about how relevant the QL is (or isn’t) today. The QL’s specification was (by and large) right, and QDOS was way ahead of its time. So far ahead that the journalists of the day, who had also been expecting a Spectrum Mk II rather than a serious machine not particularly oriented towards games, raised an almost unanimous howl of protest.

They all said the same things (and you know that if more than one person says something, it is bound to be false: wonder how many people said that?!) and they said it very loudly. In a short time it didn’t matter whether what they were saying was true or not — the damage was done. That’s life. Fortunately, QLs don’t have ears, and oblivious to sundry journalistic yelpings, they continued to work, winning over many of their users for life

Pick of the bunch

1988 has been a bumper year for programs, with new products from PDQL, Sector and Digital. The best news is that the program quality is ever improving. Digital’s Professional Publisher (£89.95, just released, for example). The stated target was to produce a package superior to the best programs on

the Apple Macintosh, a £2,500+ machine) and PDOL's Basic to C converter should be top of the list. But if you've suffered the vagaries of Media Manager (DP candidly — or shamelessly — admit this is their least wonderful program) then the Special Edition would appear to be a wise upgrade. PDQL certainly seems convinced that The Editor is the best thing since sliced bread, as they have released an interesting utility called Text Tidy (£10 from 021 200 2313) which converts Quill documents into Editor format (i.e. plain ASCII). Do you remember the controversy Digital Precision (which produces Editor) stirred up when it advised people to "Chuck Quill out"?

Coming soon

This columnist — never one to be boring — will soon be comparing Quanta, the veteran QL user group, and SUB (all things to all men) for value for money. Watch out!

PC Emulation Part 7

Here is the promised next Instalment of the PC emulation saga. Emulation speed is the most important factor of all and it is in this area that Digital Precision appears to have made giant strides! While no software-based emulation can ever yield the sort of speeds required for interactive games, products like PC Ditto for the ST and the PC emulator for the Amiga have achieved wide acclaim already.

Digital Precision states that thanks to a breakthrough in software architecture, 80 x 86 instructions (the bits of machine-code which the PC understands) are not Interpreted one at a time but are semi-compiled (or do I mean pseudo-compiled?) collectively at run-time, suppressing unnecessary checking and flag operation.

This apparently makes The Solution - the name of the QL emulation package - significantly faster than rival packages for other 68000 micros. Turning the QL into a P with CGA graphics could change the whole QL scene. And Digital hints that full multitasking will be available, including QDOS+MSDOS and MSDOS+MSDOS. If so, your QL might go up in value as hordes of PC owners who want multitasking buy up every one in sight!

Still on the PC emulation front, it is understood that besides running on the QL, The Solution (to your problems) will run on the Atari QL emulator too. This is quite mind-blowing — an emulator on an emulator! Digital Precision, never one to hide its lights under a bushel, has cheerfully pointed out that, running its PC emulator (with Lightning) on the ST QL emulator, its code runs quicker than the Atari's own PC emulator...

Digital Precision can be contacted on 01 527-5493

Eric Simmonds

YOUR FORMAT – QL (date unknown)

PC emulator

The software scene for the QL has been set alight with Digital Precision's announcement that it has completed work on a full-scale, high specification PC Emulator. I am now at liberty to release some details.

For those of you for whom the significance of this product is not immediately apparent, it transmogrifies the QL into a PC-compatible machine (except for a few niggles in the way of hardware, add-on cards and games that make calls directly to hardware addresses, something which 'serious' programs don't do) at a tiny fraction of the cost of a PC (around £100 is expected – but Precision has been hinting that the product will come in two 'flavours' – we will have to wait and see what it means!)

Betatest copies of this product – which Precision calls THE SOLUTION – have been out for a while now, and reports are most encouraging. If it's finished, why doesn't Precision release it?

A January launch is expected, while Precision completes negotiations with Microsoft for a bundled version of DOS (*The Solution* will be available without a DOS as well) that is apparently more recent than v3.3... The saga continues next week.

Basic converter

PDQL is offering a SuperBASIC to C converter.

There are almost certainly restrictions relating to the quality of the SuperBASIC source (garbage in, garbage out), but then if you want to work with C (not the friendliest language for debugging) you are unlikely to have written crappy BASIC in the first place.

At just £49.95 this program must be an excellent buy. Its author, Chas Dillon, is one of the most brilliant programmers on the QL (his works include a host of Archive utilities, XREF, THE EDITOR – and he was a member of the team of four who produced TURBO), so we can expect super quality. PDQL are at Unit 1, Heaton House, Camden St, Birmingham B1 3BZ. Tel: 021 200 2313

Sector selection

Sector Software (32 Wray Crescent, Ulnes Walton, Leyland, Lancs, PR5 3NA. Tel: 0772 454328) is a reliable QL organisation with a good reputation for sensible, middle of the road, reasonably priced products.

Fairly recently it has come out with a program which gives Quill graphics (it's called Overdrive and costs £16) and some accessories for Page Designer 2, namely Image Processor and Omnidump against GrafiX from PDQL.

Sector's software seldom disappoints, and Flashback, its ultra-fast information storage and retrieval system (a database by any other name) really does work and – just as important – really does exist.

Do I hear whispers about Quickfax? A good deal of noise was made about it almost a year ago, but neither hide nor hair of it has been seen as yet. Somehow, I don't think Sector Software has to worry about slofax. Remember the Future?

Next Week

We ask "How good is the QL...?"

Eric Simmonds

YOUR FORMAT – QL 07/01/1989

Enigmatic pricing

I was interested to read about the QL-compatible Enigma being produced by ABC Electronics in Hanover. ABC has been on the QL scene for a couple of years now — its Geiga mouse front-end and add-on AT style keyboards have received much acclaim. But the Enigmas price tag of £599 seems steep when you consider you're getting 1 Meg of RAM, a PC keyboard, mouse and single disc-drive. Since you can now pick up a QL with a 768k Miracle Systems Trump Card and dual NEC disc drives for £325, I'd have thought ABC could have dropped another £100 and still covered its margins on the keyboard and mouse. We'll just have to wait and see how it sells.

Amiga overlap?

Over in the Amiga world they're awaiting the release of *HiSoft Basic* — and the new Amiga version is compatible with QL Superbasic.

You'll be able to port programs written on the QL over to an Amiga and then compile them to run as stand-alone routines. So Amiga owners into Basic programming would be able to develop software for the QL market and port it to the Amiga to recoup even more of their costs.

Future frills

Sector Software can now claim to be one of the main companies in the QL market. Its *Taskmaster* program transformed the QL's innate potential into a true multitasking environment that still knocks the socks off the guru meditations of the Amiga's operating system.

Sector has at least two programs planned for release this year. First off is an extension to the popular Flashback database — a report generator — but the biggie for all serious/business QL users is an Ideas Processor based on the Think Tank and Brain Storm packages for the IBM.

This is like a freeform word processor where words can be flagged to refer to other notes in the text. As such you generate nested areas of data — levels and sub-levels if you like — so you can work up an idea from scratch to conclusion and print out the process to any degree of complexity.

Sector's David Batty even goes as far as to claim the package can be used to facilitate structured programming.

He also told me '88 was the best year yet for his company and he expects interest and enthusiasm for our machine to continue on and beyond the emergence of Thor and Enigma. Here's to '89 fellow leapers!

More transfers

In February, Sector Software plans to release a two-disc QL-Amiga-QL file transfer utility with leads and documentation for £25. This will be closely followed by a QL-ST program. Both these complement the QL-Z88 transfer utility already on offer.

As far as the Z88 is concerned, Dilwyn Jones, author of Sector's Page Designer DTP package, is writing software to automatically convert QL Superbasic into Z88 Basic and back again. As there's a dearth of Z88 Basic programs and a fair number of Z88/QL owners this would seem to be a little beauty.

Robert Myers

YOUR FORMAT – QL 14/01/1989

Pipe dreams?

This week I thoughts I'd do a little day-dreaming. Specifically, about a dream computing machine. Read on...

A better Basic DOS!

Wouldn't it be wonderful if, unlike as with CP/M, MSDOS, AtariDOS, AmigaDOS etc, the Basic language itself constituted an integral part of the operating system? You could then use all the operating system commands within the language itself, including them in your programs as needed.

There would be no need to have two sets of commands differing in syntax and substance, one for use "at DOS level" and the other for use within the interpreted (or compiled) Basic environment. There would be no need to toggle between Basic and DOS with codrmands like BASICA or SYSTEM

Two at a time

It would he wonderful if you could run more than one program, or more than one copy of the same program, at the same time, By chopping up time into exceedingly brief slices, and allocating these slices on a semi-cyclic basis to these programs (alternatively called tasks), SSR (smooth simultaneous rurning) would be achieved.

In reality, the CPU chip is only runningne program at any one time, then suspending that program and starting another. But because the slices, or chunks, of time are so tiny, the illusion of simultaneity is created. Inmuch the same way that persistence of vision in the eye creates the illusion of motion when slightly differing images are 'rapidly' (i.e. faster than about 15 switches per second) presented to the retina, all the programs will appear to be running simultaneously as the CPU switches between them thousands or tens of thousands of times per second.

On our dream computer there would be the facility to alter the 'priority' or time-importance of the tasks by instructing — from Basic in the case of our Basic/DOS/BIOS concurrent machine — the CPU to spend relatively more or fewer slices of time on a particular task then its proportionate share. This would permit the concurrent operation of, say, several copies of a word-processor together with a desktop publisher and spelling checker, or of several compilers and a structure analyser, maybe.

Independence at last

Surely it would be wonderful if you could have device independence, so that the system, transparent to the user, took care of all operational differences between I/O devices (consoles, keyboards, screens, windows, printers, modems, files, floppy drives, RAM drives, hard drives etc) enabling the user to use the same (command) verbs irrespective of the (destination) noun...

Wouldn't it be wonderful?

More next time. Keep guessing as identity of the dream machine.

Eric Simmonds

YOUR FORMAT – QL 21/01/1989

Antics

A friend recently received a copy of the ANT PC Emulator for the QL. Though advertised as available in November, it wasn't delivered until mid-January, four weeks after the cheque was cashed.

A preliminary test revealed that the ANT product is definitely NOT to be recommended. It is disappointingly slow, and while we tried it on a variety of PC programs, it ran very few of them successfully. We tried different hardware, but it made no difference. If we said this emulator didn't work at all, we would be being a bit unfair — but only just.

Adding insult to injury, the ANT package had no manual (other than a 4-page disk file), and was accompanied by a sheet admitting that the emulator "still contained quite a few problems"! ANT went on to say that only "small" PC programs worked satisfactorily with it...

We tried to contact ANT for assistance, but to no avail — there is no phone number in its documentation or ads (or with the monthly they advertise in — we tried!) and BT have no record of ANT at all.

There is an alternative PC and MS-DOS Emulator from Digital Precision. The Solution costs £79.95 from them at 222 The Avenue, London E4 9SE (tel: 01-527 5493). If you don't have a recent copy of MS-DOS, add £50 and Digital Precision will ship MS-DOS v4.0 and GW-Basic too.

Alternative Lifestyles

Microfairs are already dominated by QLs — there's hardly a Spectrum in sight. The second Alternative Micro Show, scheduled for April 1st (no kidding) at the New Horticultural Hall near London's Victoria Station, may go the same way. The first AMS, held at Aston Villa, was attended by Miracle, Digital Precision, Firsham and PDQL, and there were loads of bargains. Worth attending.

Pipedreams Part 2

More on the dream computing system I've been thinking of. What if you could have a double coordinate system, serving both graphics and text characters, accessible both in pixels and in character units? Even better, if the graphics were in colour with switchable resolution, selectable scaling, variable origin and had optional turtle commands. It would be incredibly flexible if the two systems could be used side by side.

Imagine if the BASIC could be used to write perfectly structured programs while, unlike C, still providing interactive debugging and full error trapping, eliminating the need for dreadful GOTOs and GOSUBs and labyrinthine code by means of functions, procedures with local and global variables, REPEAT UNTIL, select ON structures and versatile FOR END FOR logical ranging (FOR x=2, 3, TO 17 STEP 2,-4,PI) and multiple NEXT exits. The only advantage C would have over this BASIC would be the library function. But if this wonderful BASIC could be made user-extensible, so toolkit commands could be added at will, even that plus point would evaporate.

Eric Simmonds

YOUR FORMAT – QL 28/01/1989

Quanta

Originally called the Independent QL User Group (IQLUG) to distinguish it from the long-defunct official Sinclair QLUB, the groups new name stands for QL — Users and Tinkerers Association. The secretary, Phil Borman, can be contacted at **15 Grosvenor Crescent, Grimsby DN32 0QJ** (tel 0472 49850). An annual subscription of £14 gets you a monthly newsletter (usually 32 A4 pages) filled with correspondence from members, loads of workshops/seminars/meetings all over the country, and on-line help.

QUANTA is run by a new committee, following a minor scandal when the previous editor included material defaming a leading QL company and the committee had to publish an apology. The new newsletter has been regular and more interesting, with less emphasis on obscure/non-QL issues. Also, the unsolicited letters-only format is to be replaced by regular reviews.

Not SUBstandard

SUB stands for Super User Bureau — a sort of QL club. It has been around for ten months, and is located in an obscure corner of the land: the non-Antipodean West Auckland! You can write to it at PO Box 3, Shildon DL4 2LW or phone on 0388 450160.

At the start SUB promised a monthly magazine for £15 a year: apparently, only two issues have been produced. This said, what did appear was fairly well-written and interesting. Certainly, no complaints from members have filtered in our direction. The group is enthusiastically run by Richard and Julie Turner.

Hardly worth emulating!

More time has been spent with the ANT PC Emulator. Where do I begin? The ANT product periodically hangs (well, the manual warns that “it is not difficult to crash the emulator” — we agree), refuses to even load with Trumpcard, doesn't seem to work at all with standard Basics and even MDA graphics do not seem to function (CLS causes crash; subscreen scrolling, windowing and inverse video are all unsupported; characters cannot be read back off the screen).

CGA support? Zilch. The (non-configurable) keyboard driver doesn't cater for many common key combinations! Text output appears to be only in teletype mode — traps to move cursor position are ignored or disobeyed. Date returns what appear to be random numbers. There's no way to move data between QDDS and MSDOS, either direction. Multitasking doesn't work — I think CTRL C is ramapped to CHR\$(256)!

Benchmarking is problematic, as virtually nothing works. I've managed to get one assembler working, but *Wordstar*, *Lotus*, *dBase*, *Wordperfect*, *Symphony*, *Framework*, *Supercalc*, *Turbo*-anything etc, all “decline”.

However, you can use it to format a floppy. Time — 7 minutes plus. Lastly, there is no way to exit the product — RJOB causes a hang! Apart from that, no problems...

Eric Simmonds

YOUR FORMAT – QL 04/02/1989

Chessnuts

Anyone else noticed the electricity board TV ad showing Psion Chess boot up in the far corner? Richard Lang's very first 68000 program was *QL Chess*: the pin was indeed mightier than the sword! Lang has since gone from strength to strength. *Psion Chess*, produced by IS, David Levy's "Intelligent Software" (long since vanished), won shared first place at the World Micro Championship at Glasgow in 1984. running on even laster hardware. Refined continuously, the program won outright at Amsterdam in '85, Dallas in '86. Rome in '87 and a few weeks ago in Almefla. Serious QL games freaks note that the first Computer Olympiad will be at Park Lane Hotel, August 9th - 15th. Loads of QL entries are expected. Phone 01-624 5551 for a list of the 20 game types to be contested.

Manualitis

Some authors assume a tot of technical knowledge on the reader's part. The documentation for a well-known program asks you to LOAD something, which gives rise to a "not found" message. The author obviously meant EXEC, which is the QL command to invoke 'tasks' (multitasking program units). Why not say so? The reason that LOAD gave an error is that LOAD assumes what it to be loaded in a SuperBasic program. On finding it isn't, instead of giving a sensible message such as "xyz isn't in Basic", the interpreter leads you to believe no such file exists.

Parakeet corner

Our Atari columnist recently expressed surprise that anyone would want to emulate a QL on an ST — he doesn't know what he's missing! Multitasking, a fully extensible language architecture with device independence, a fantastic Basic etc. If I wanted a multicoloured noisemaker, I'd buy an ST — or a parakeet! But I wanted a serious computer, so I got a QL.

Faster and better

There are many ways to accelerate the QL:

- First expand it - external expansion RAM works about twice as fast as the slow internal RAM, aged programs will automatically use external RAM in preference to low-address internal stuff.
- Add a floppy drive —you only really need one. A DSDD floppy has ten times the capacity, up to 100 times the speed and about 1,000 times the reliability of a - yuck - microcartridge.
- If you are writing in Basic, QLiberator, Supercharge and Turbo will give average speedups of about 7x, 20x and 30x respectively.
- Irrespective of what you do with your QL, you'll benefit from a proprietary accelerator: Speedscreen gives about 2x and lightning even more. The Thor XVI and Atari ST QL Emulator yield a further 2.5x through their use of 68000 12MHz technology. And there are rumours of a 68030 QL!

Eric Simmonds

YOUR FORMAT – QL 11/02/1989

In search of software?

If you're interested in adventure games you could do a lot worse than send £4 to **Richard Alexander, CGH, Cwm Gwen Hall, Pencader SA39 9HA.** (055934574). This buys you a year's membership of QLAF, and four issue of his journal. I got lost, but I dare say that rabid adventurers would find something to sharpen their swords on!

Even more "wouldn't its"

Wouldn't it be sensible if our hypothetical dream machine used Motorola 68000 technology, instead of cart-horse Intel 80x86s or ancient Zilog Z80s? The reason that IBM throws 80x86s (one of the nastiest processors to write code for) into PCs just might have something to do with the fact that the IBM corporation owns a massive chunk of Intel. The best Z80 machine is the Spectrum, and that really says it all!

Wouldn't it be wonderful if RAM not needed by any of the multitasking jobs running on our machine was put to good (and transparent) use, say by performing an automatic cache of as much of the contents of all operating drives- not just the device maps or directories – as will fit? File saving, slave blocks, the lot.

Wouldn't it be super if our BASIC automatically stored all procedure names together with the address of their defining line, so no runtime was wasted scanning?

Wouldn't it be lovely to have an open-count repeat facility with no time penalty as compared to FOR...END FOR? Repeat allows for conditional multiple branching and exiting, with far greater flexibility than FOR loops.

Tip of the week

We've just mentioned Repeats. Few realise that you can exit from an inner loop in a hierarchy of nested Repeats directly to any outside "level". There is no need to painstakingly move one hop at a time.

```
REP OUTER_LOOP: DO_SOMETHING: REP INNER_LOOP: DO_SOMETHING_ELSE: EXIT OUTER_LOOP:
END REP INNER_LOOP: END REP OUTER_LOOP  both works and is legal
```

The secret revealed

Regular devourers of this column will have met many "wouldn't it be wonderful" wish lists in the past few weeks. Well, there'll be more of them. But the time has come to reveal to you the identity of the dream machine.

Well, you already own it. It is the Sinclair QL! (What do you mean, you guessed already?) Every single facility mentioned is fully implemented on a standard QL (and on all its derivatives): if you haven't taken advantage of the features covered, that is your fault. So before you downgrade to one of those pestilential beasts which all seem to have names beginning with an 'A', remember you already have something 'A+' (groan).

Bettering your BASIC

Next time round, a head-on between all the BASIC programming aids (compilers excluded) – watch this space.

Eric Simmonds

YOUR FORMAT – QL 18/02/1989

QL forum

Recorders of car registration numbers and assorted train-spotters, here is something for you. A hotchpotch of QL news on cartridge or disk (to be supplied by you), spasmodically produced by **Ian Bruntlett, 25 The Broadway, High Barnes, Sunderland** at about 50p a go.

Hard miracles

February 6th saw the first public demo of Miracle's 30Mb hard disk. It connects via the ROM socket at the QL's rear, instead of via the left-hand expansion socket, The reason for this, I guess, is that Miracle's Trumpcard (with which the hard disk may be used) gobbles up 256K of I/O RAM: using the ROM port will slow things down a bit, but the hard disk will still be significantly faster – and more reliable – than floppy technology. The QL suffered for ages from the lack of a cheap hard disk. CST had an SCSI hard disk option for the Thor, but had pitched the price unrealistically high. The Miracle hard disk, at £399, is a very important new product, especially when used in conjunction with a PC emulator.

The hard disk driver was written by Tony Tebby, talented designer of QDOS, boss of QJUMP and author of the toolkit and floppy driver used in all the respectable disk interfaces (most of whose manufacturers remembered to pay him for the privilege!)

Always seeking to be a step ahead of the pack, PDQL has announced *Hardback and Finder* for £25. It will give hard disk users the facility for smart wildcard copying and saving, with various string search options.

Full details from Miracle Systems. NBC, Dean Rd, Yate, Bristol BS17 5NH (Tel 0454 317772), on PC emulation from DP, 222 The Avenue, London E4 9SE (Tel 01 527 5493) and on utilities from PDQL, Unit 1, Heaton House, Camden St. Birmingham B1 3BZ (Tel 021 200 2313).

Miracle obviously read this column! Following our hint in the December 24th *Express*, it has slashed the 768K Trumpcard to under £250. At that price, it can be recommended. Miracle has changed TC's price three times in a year...

This hard disk scoop has put back our BASIC utility roundup a week.

Reviews!

QL manufacturers which want their products reviewed should send them to me at QL Corner, New Computer Express, Future Publishing Ltd 4 Queen Street, Bath BA1 1EJ.

Multitasking front ends!

My favourite is Taskmaster, which is simple and functional. The alternatives are ICE (from the long-defunct Eidersoft, now flogged by Transform), which is dated and still bugged, and QRAM (from QJUMP, sold by CARE), which is sophisticated, possibly too complex for some users and allegedly less tolerant of the shortcomings of programs one tries to run under it. Taskmaster costs £25 from **Sector Software, 39 Wray Crescent, Ulnes Walton, Lancs PR5 3NA** (Tel 0772 454328).

Eric Simmonds

YOUR FORMAT – QL 25/02/1989

Good BASIC

Here's the promised roundup of SuperBASIC programming aids. *SuperBASIC Monitor* from PDQL is unambitious, but at seven quid is very cheap! It provides dynamic (i.e. runtime) monitoring of a program, with some of the facilities that machine-code monitors provide when checking assembler programs. *Basic-ALLY* (super name!) from Talent-Plus (same address as TK Computerware, at Stone St, North Standford, Kent TN25 6DF, Tel 0303 812801) at £19.95 is nearly three times as expensive but represents just as good value for money. Written by Eddy "Wimp Designer" Yeung it is a classy utility — again designed to be used dynamically — giving the user an excellent overview (breakpoints, trace) of a *SuperBASIC* program's operation.

Dynamic analysis, however competent the implementation, suffers from one drawback: it's impossible to test any non-trivial program under all possible I/O conditions.

Better BASIC

Better BASIC, from Digital Precision (222 The Avenue, London E4 9SE, Tel 01 527 5493), costs £24.95 and is a static analyser. It concentrates on "examining the source code of a program for structural and other faults, tidying up, correcting errors and annotating" — quite a specification! Programmers who've migrated to SuperBASIC from a lesser BASIC ("All BASICs are lesser BASICs than SuperBASIC ...!") often misuse — or avoid — the powerful FOR ... END FOR, SELECT ON ... END SELECT, REPEAT ... END REPEAT, IF ... ELSE ... END IF and other structures. They also believe that if a section of code appears to run under their version of the QL interpreter, all is OK. Nothing could be further from the truth! Almost an expert system, *Better BASIC* is instructional, useful and recommended.

The best BASIC

My favourite is *XREF* available for £20 from PDQL (Unit 1, Heaton House, Camden St, Birmingham B1 3BZ, Tel 021 200 2313). Though written by *Better BASIC*'s author, the prolific Charles Dillon, the aims of *XREF* are unique. *XREF* (200 is the latest Incarnation) provides an indexed list of all names (variables, functions, procedures) found in the listing, reporting by exception on names that are used but are not defined and vice versa, as well as static trace (almost a contradiction in terms — but *XREF*'s works!) that scans the code for all Proc calls (By whom? To whom? At what level?). An invaluable tool — buy it.

Stop press

The Solution has arrived!

Under the lens

Databases, emulators, toolkits, languages, compilers, disk interfaces, drives, graphics/DTP, accounts packages, accelerators, technical software, add on RAM, spelling checkers, word processors, mice, first aid, takeovers, QL personae - all are due to come under critical, unwatered down appraisal in the coming weeks.

Eric Simmonds

YOUR FORMAT – QL 04/03/1989

Quanta workshop

Quanta, the QL users' group, is holding a weekend workshop in Northampton on the 18th and 19th of March at the Kingsthorpe Community Centre. If you don't already belong to Quanta and you'd like to see what we get up to, come along — you'll be very welcome. Further details from Phil Borman on 0472 49850.

BASIC to C translator

Chas (The Editor) Dillon has written a program that translates SuperBASIC programs into Lattice C for compilation on the QL, or any other machine that has a compatible C compiler (the PC, Amiga and ST, amongst others).

The translator was written in SuperBASIC, and Turbo-ed. Chas is hoping to get it to translate itself shortly — the ultimate test for this type of program. It will be available from PDQL.

Another DOS emulator

Digital Precision is about to release its DOS Emulator. Judging by the adverts, it offers much more than the ANT emulator that Eric Simmonds has already cast a critical eye over.

A thought just struck me. One can get a public domain CP/M emulator that runs on PCs under DOS. How about running this on the QL running the DOS emulator - an emulator running an emulator?

DIY keyboard fix

Probably the commonest fault on the QL (especially if it is getting a bit long in the tooth) is a faulty keyboard membrane, resulting in several keys not working. It is quite easy to fix this yourself — you only need a membrane (£5 or less) and a screwdriver.

Once you get the QL apart (don't touch the screws between the Microdrives) it is fairly obvious how to replace the membrane. Do remember to make a note of the connections between the indicator LEDs and the main circuit board before you disconnect them.

With QL repairs costing around £25 no matter what's wrong, you haven't really got anything to lose. Even if you cock it up you can't do much damage.

QL hard disk

Stewart Honeyball of Miracle Systems tells me the company is getting on quite well with its hard disk for the QL. To keep the cost down, it is using a standard PC-type interface card, with some additional circuitry to connect it to the cartridge port, leaving the expansion connector free for expansion memory and a floppy disk interface.

Not to be outdone, Quanta member Dave Richards is using a home-brew hard disk system based on the Inmos M212 disk controller transputer, with a second hand hard disk that cost him £20. It should be on display at the Northampton meeting mentioned above.

John Torofex

YOUR FORMAT – QL 11/03/1989

The solution!

I've had some time to thoroughly test *The Solution* now, Digital Precision's IBM PC emulator. Readers will recall the verdict on ANT's emulator, which was snail-like, incompatible with virtually all PC software (nothing ran as intended, little booted up) and kept crashing. Results? *Solution*, pretentious name notwithstanding, works. It ran everything — with the exception of a public domain pinball game, but this may have been my fault — I slung at it. On two occasions I had to adjust one of its "working parameters" to get the target program to behave perfectly, but this was easy and fully documented (at 60 pages the manual might be too long). *Solution* comes with a configurator that sets up defaults (most of which can also be altered at run-time by opting for a setup mode with CTRL/SHIFT/ALT/CAPSLOCK. It allows remapping of each key, circumventing problems with PC software that uses keys inaccessible on the QL keyboard. You can even move files between QL devices and MS/DOS disks in the same way as with PDQL's excellent Discover.

The worlds cheapest PC

Does *Solution* make the QL into the world's cheapest PC? Yes, but not into the world's fastest PC. Inevitably, emulating a different processor 8086) is not an easy job. However, run-time speed is over twice that of ANT's, and on some things — like the format test published a few issues ago — it was more like three times quicker. Incidentally, BASIC benchmark comparisons are not possible because ANT couldn't handle any of my BASICS (GW BASIC, true BASIC and a PD one). *Solution* is available from Digital at 222 The Avenue, London E4 9SE (phone 01 527 5493) and is well worth £79.95. At 70K, it could fit on a microcartridge, but obtaining MS/DOS software for that medium is tough! Minimum requirement is 384K and one drive.

Tip of the week

On pre-JS QLs, CALL from a SuperBASIC (or compiled BASIC) program exceeding 32K in length may access incorrect addresses.

Acquisitions/departures

Eidersoft QL, which is really Transform (of cartridge storage box fame), which bought up Eidersoft's QL stocks when that company departed, has recently acquired all Compware's products, including Mega Toolbox and Shell.

Sandy (UK), SuperQBoard's maker, now trades as Power Computing; also Trumpstat. They "have" the rest of Eidersoft, including old boss Ken Browning. Sandy was most famous for what it publicised but failed to ever produce, including fictitious Futuras and Trumpcard-slaying, non-existent Megaboards that somehow got reviewed in another magazine last summer. Come to think of it, another bit of vapourware — Quickfax — managed to be previewed in the same magazine a year ago.

Gap, producer of a nasty DTP, has gone, leaving no Gap in the marketplace...

Eric Simmonds

YOUR FORMAT – QL 18/03/1989

Packet Radio

Several QL users who are also licensed radio amateurs are using their QLs for packet radio, in conjunction with a 2 metre transceiver, and a box of tricks called a Terminal Node Controller (TNC) that is fitted between the computer (via the RS-232 port) and the transceiver.

The TNC contains a modem chip and a powerful Z80-based microcomputer that takes data sent to it from the computer, converts the data into “packets”, with checksums and destination addresses, and sends the packets, via a network of other packet stations to the destination. The same process occurs in reverse when one receives data from another station.

World-wide communication is possible, using amateur satellites and microwave links, and it is all absolutely free, once you have the hardware and software. Most QL “packetees” use the excellent QuaLsoft terminal emulation program from TF Services

DIYQL

Quanta member Mike Lilley and his brother have designed a printed circuit board about the size of an A4 sheet of paper, that takes all the plug-in chips from a standard QL, plus quite a few other components. The result is a fully QL-compatible computer with 512K of RAM, disk interface and parallel printer interface, with provision for several EPROMs and special purpose interfaces (like the analogue-digital converter).

Six of these systems have been built so far, with relatively few problems in most cases.

New C Compiler

PDQL is advertising a new C compiler for the QL.

Unlike the Digital Precision product, the new compiler is a full implementation of the language, and is in fact identical to the latest release of the Lattice C compiler for the Atari ST range, with a new QL-specific library. In fact, the QL emulates the ST when it runs the compiler.

This does not mean that you can run ST software on the QL, by the way. This compiler is ideal for use with the SuperBASIC-C translator mentioned a couple of weeks ago.

Ancient History

The QL is about six years old this month. It's difficult to be precise about its exact age, as it had a rather troubled gestation period, and arrived prematurely.

The happy event was attended by hordes of hacks and hackettes who wetted the head of Uncle Clive's new baby with copious amounts of bubbly at a celebratory breakfast, and subsequently wrote glowing reviews of the new arrival in spite of the fact that no-one was allowed to actually play with it. Watch next week's Express Micro Biography for the full story of the QL...

John Torofex

YOU FORMAT – QL 25/03/1989

QJIJMP news

When I spoke to Tony Tebby (designer of the QL) recently about his plans for QJUMP, he said that although he had been thinking about pulling out of the QL market, there appeared to be a resurgence of interest in the QL, and that he had a couple of new products in the pipeline. These are a replacement for the popular QRAM WIMP environment, and a set of maintenance utilities.

ROM disassembly

Quanta member Wolfgang Goeller has spent many months disassembling the CL ROMs to produce a commented source code listing. He has made such a good job of it that the listing can be reassembled, generating code that is identical to the original ROM. Of course, he can also modify the source code to produce his own EPROMs, with modifications and enhancements.

Atari ST QL emulator

I recently saw the Atari ST QL emulator, marketed by Strong Systems, in action, and I was most impressed. The emulator consists of a small circuit board that has to be mounted inside the ST case, making the ST display QL compatible, and some software. The modified ST behaves as normal until the emulation software is loaded. It then behaves exactly like a QL except that it runs QL software about three times as fast as a standard QL. The modifications cost £199 on top of the price of the ST (£299) if you buy it from Strong — which makes it quite a good buy if you compare it to the price of a QL with memory expansion, disk interface and disk drive.

Have You Too Got A Dirty Head

It is a good idea to check the Microdrive heads occasionally; they are positioned just inside the slots. If they are dirty, give them a wipe with a Q-Tip moistened with cassette head cleaning fluid.

Text87

Readers who are fed up with the vagaries of Quill should look at Software87's text87 word processor, which has just been updated to version 2.00. I first saw this product over three years ago, when it was a programmer's text editor written in BCPL (the precursor of C) for author Fred Toussi's own use. Since BCPL is a very efficient language, text87 is very fast in use. Among its many features are multiple fonts (displayed on-screen), multiple-line headers and footers and up to four columns of text.

Software87 claims that text87 running on the Atari ST with the aforementioned QL emulator outperforms most multifont word processors running on the ST, Amiga or Macintosh Plus.

John Torofex

YOUR FORMAT – QL 01/04/1989

Quanta workshop

The Northampton Quanta workshop has just taken place, with about 150 people attending on the Saturday. Apart from the hardware, there were talks on various topics delivered by such luminaries as Tony Tebby (designer of the QL and now runs QJump), Freddy Vaccha (Digital Precision), Simon Goodwin (Supercharge and Turbo compilers) and John Silk (PDQL).

QL hard disk

Several hard disks for the QL were in evidence at the workshop: Dave Richards with his home-brew transputer-based system, Rebel Electronics Ltd with a couple of nice-looking interface cards (it had only just received the controller chips, so it couldn't demonstrate its system), and the Miracle Systems unit, the first few of which are about to be shipped.

Super User Bureau QL Club

The fifth magazine for the Super User Bureau QL Club will be published this month. The 17 month old club — a member of the BACC — can be contacted on 0388 450610. A previous issue of Express carried an incorrect number. Scribblers can write to the club at PO Box 3, Shildon, County Durham, DL4 2LW. The club also has a bulletin board on 0388 773737.

The Solution

Digital Precision's DOS emulator, The Solution, has now arrived. Several people at the workshop were using it, and it appears to do everything claimed for it, but is rather slow. The keyboard response is especially irritating: you type several characters, and it seems a long time before they appear on the screen. Actually, emulating a completely different architecture such as the 80x86 on the QL's MC68008 processor is quite difficult and the programmer who performed this feat is to be congratulated for achieving this level of performance.

The Solution allows QL users to use the vast amount of excellent public domain software available for the PC for far less than the price of even the cheapest pc clone, and is good value at £79.95. For another £50 you can get the latest version of MS-DOS (4.01), which most PC users don't have yet.

Deltasoft Flightdeck

Flightdeck is a flight simulator program (not a game). It was obviously written by a pilot, and appears to be quite realistic. You control a Boeing 737, with the various instruments displayed in the lower half of the screen, and the view from the cockpit displayed in the upper half. Navigation aids are provided, and the program comes with a database of navigation beacons and runway details. There are a few shortcomings — no collision checks, for instance. Deltasoft also produces a flight planning package for pilots. Flightdeck costs £22.95 from Deltasoft, 11 Dumaine Avenue, Stoke Gifford, Bristol BS12 6XH.

John Torefex

YOUR FORMAT – QL 08/04/1989

Yet another DOS emulator!

Schön, well known for its replacement keyboards for the QL, recently announced that it is also working on a DOS emulator That will make three of the things.

SuperBASIC programming tip

If you are fed up with constantly typing “DELETE mdv1_fred_bas” and “SAVE mdv1_fred_bas” when developing a SuperBASIC program, add the following line to the end of the program (all one line):

```
DEF PROC s: DELETE mdv1_fred_bas: SAVE mdv1_fred_bas
```

You merely type “s” at frequent intervals to save the program.

Quanta software library

One good reason for joining Quanta is its massive library of (mostly) free software. It currently stands at 22 disks, with programs ranging from utilities such as the Micro Emacs programmer’s text editor to games like The Worm, a text based adventure program. All programs submitted for inclusion in the library are vetted, so they should be reasonably bug-free. I’ll mention some of the more interesting programs from time to time. One that recently received a favourable mention in the group’s newsletter is Quill Driver. This modifies Quill so that it can use ten different versions of printer_dat – printer#0_dat, printer#1_dat etc.

QL comms

Now that several computerised bulletin boards of interest to QL users are on-line (list next week), details of relevant hardware and software might be of interest.

Miracle Systems’ modem (1200/75 baud only) is by far the cheapest way to increase BT’s profits: it costs a mere £45 with software. It is not BT approved, however

Also available from Miracle is a £39 device called the Modapter, which allows you to use the QL with a standard (non-intelligent) modem. The QL has funny handshaking, and losed characters on input if connected directly to an ordinary modem.

Virtually any intelligent modem (one with a built-in microprocessor) should work with the QL. I can reconunend the Astracom, which costs £175 (300, 1200/75 baud) or £273 (300, 1200/75, 1200/1200 baud). It is Hayes- compatible, so you can also use it with standard software on a PC.

QLto PC file transfer

li you need to transfer files between your QL and a PC; there are basically two ways to go about it. The obvious technique is to connect the serial ports together with an appropriate lead and transfer the fifes directly.

If you have disks on the QL. which are similar to those on the PC, files may be transferred using a piece of software suth as DP’s Media Manager or PDQL’s DiscOVER.

John Torofex

YOUR FORMAT – QL 15/04/1989

QL computerised bulletin board systems

Two *Quanta* members, Stuart McKnight and Laurence Reeves, have developed a bulletin board package for the QL called *Qview*. It is Presetel-compatible so can be accessed with the cheap and cheerful Miracle modem mentioned in the last issue. The package sells for £50, and you get £20 off the Astracom modem supplied by TF Services (01-724 9053) if you set up a CBBS using *Qview*. Stuart and Laurence have set up their own CBBSs – ATAVCHRON on 0480 412884 and LAU on 01-751 6096. They both use the ring-back system – dial the number, let it ring a couple of times, hang up and redial. The systems are on 24 hours a day.

Also using the *Qview* package is Sector Software on 0772 454328 after 6pm and all day at weekends, and QL S.U.B. on 0388 773737 (ring-back).

Using OPD Microdrives on the QL

J and N Bull of Brighton is selling twin Microdrive assemblies from the ICL One Per Desk for £5. Leighton Davies of *Quanta* recently wrote an article for the group's newsletter describing how to modify them for use as external Microdrives with the QL. ICL redesigned them for the OPD, and Leighton reckons he consistently gets far more good sectors formatted than with his original drives. By the way, the OPD was also sold by British Telecom as the Tonto. I doubt it sold very many in Spain – 'Tonto' means 'stupid' or 'silly' in Spanish...

Alternative Micro Show

There were many more QL-related stands at the Alternative Micro Show than for any other system. DP seemed to be attracting a lot of attention with The Solution, which was the only major new software product on show. Miracle Systems was demonstrating its new hard disk system. It is now running quite a bit faster than the last time I saw it (the driver software has been speeded up) and Miracle reckoned it is about 10 times faster than a floppy drive.

EEC Ltd was selling QLs at bargain prices, including working QL boards for £25 – several people bought them for spares.

QL Adventurers Forum

Richard Alexander recently sent me a copy of his latest QLAF newsletter. Contents included a beginner's guide to adventure and strategy games, reviews, notes, maps, etc. The group also has a library of public domain games. Highly recommended if you are interested in adventure-type games on the QL. Subscription is £5 for six issues, from CGH Services, Cwm Gwen Hall, Pencader, Dyfed, Cymru SA39 9HA. Cheques payable to Richard Alexander.

John Torofex

YOUR FORMAT – QL 22/04/1989

Northern Sinclair Show

As I write this, the Northern Sinclair Show has just taken place in Leyland, Lancs.

The ZX Microfairs have always been held in London, and there was obviously a need for something similar, but more accessible, for users at the other end of the country.

The show, organised by David Batty of Sector Software, was very successful, with an attendance of about 750. There will probably be another show in about three months time.

QL — PC tile transfer via serial port

If you can use a soldering iron, you don't need any special hardware or software to transfer files from a QL to PC, just a standard QL serial lead and a DB-25 socket for connection to the PC

Plug the lead into the SER2 socket on the back of the QL, and identify the underside of the plu.

Unplug the lead.

Viewing the plug from the underside with the lead downwards, the pins are numbered 1-6 from the left.

Referring to page 12 of the Concepts section in the User Guide, solder pin 1 (QL) to pin 7 (PC).

Connect pins 6, 8 and 20 together (PC). You will find that making a table with the wire colours listed against the pin numbers will help considerably.

What you have done is construct a lead which connects the data lines between the two machines, with handshaking ignored at the QL end and permanently enabled at the PC end.

To be continued.

Laser printing service

If you would like the output from *Quill* or a DTP package printed properly and you can't afford your own laser printer, Taylor Made Systems Ltd will take your document on Microdrive cartridge or disk and print it on its laser printer.

Prices range from 30p a page for *Quill* documents, to £4 a page for DTP output and screen dumps. Taylor Made is on 0932 228721.

Microdrive cartridges

New Microdrive cartridges are currently selling for nearly £2 each, which appears exorbitant when compared with the cost of disks. However, given that they cost £1.50 when the QL first came out over five years ago, the current price doesn't seem that excessive.

By the way, if you want to re-use write-protected cartridges, just put a small piece of sticky tape over the write-protect tab position. You can then write to them without any problems. A small amount of Araldite could also be used.

John Torofex

YOUR FORMAT – QL 29/04/1989

QL macro assembler

Sinclair commissioned quite a lot of software for the QL which is now being sold off quite cheaply by one or two suppliers.

If you are interested in programming the QL in assembly language, I can recommend the QL Macro Assembler. This was produced by GST (which wrote the word processor that used to be bundled with the Atari ST), and is in my opinion the best assembler for the QL. This assembler has extremely powerful macro facilities (you could use them to write your own cross-assembler for a different processor) and is supplied with the Metamco text editor, and the standard QL Linker, also written by GST.

QL Macro Assembler costs £19.95 and is available from EEC Ltd. 18-21 Misbourne House, Chiltern Hill, Chalfont St Peter, Bucks SL9 9UE.

Anyone for Fractals?

QL users, and anyone else, interested in fractals, the Mandelbrot set and similar ways of using vast amounts of computer time to generate pretty pictures, ought to subscribe to Fractal Report. John de Rivas, the editor, has a QL, and at least one of the articles in the inaugural issue was written by a QL user, so there should be plenty of QL-related articles in subsequent issues. The subscription is £10 for six issues, from Reeves Telecommunications Laboratories Ltd, West Towan House, Porthtowan, Cornwall TR4 8AX.

SuperBASIC tip

If you are new to the QL and are writing programs in *SuperBASIC*, you can make your programs much easier to follow if you use a single colon on a line to separate subprograms (procedures and functions) from one another.

QL Teletext adaptor

Micro Projects Ltd. which manufactures a Teletext adaptor with an RS232 interface, is thinking of developing a QL software package so that QL users can get the most out of it. If you are interested, give the company a ring on 0270 875178.

Networking

If you have tried to network two or more QLs together, you probably found that you couldn't get it to work properly due to bugs in the original software.

Tony Tebby's SuperToolkit II, available for £23 from Care Electronics, lets you network up to 64 (!) QLs together, reliably. You also get lots of other goodies into the bargain — full-screen editor, job control, key define etc.

Care is at 800 St Albans Road, Garston, Watford WD2 6NL.

By the way, if you want a cheap print buffer, buy a second QL, network it to your existing machine (you need the toolkit), and use it to drive the printer.

John Torofex

YOUR FORMAT – QL 06/05/1989

Quill Document size

One characteristic of Quill that isn't made clear in the documentation is that the maximum size of a document is limited mostly by the number of paragraphs.

Each time you press the enter key, you get a new paragraph, so a relatively small document consisting of lots of single lines could quickly cause Quill to run out of space.

QL-PC transfer via Serial Port (Part 2)

Assuming you have made up the lead as described in the previous issue of Express, you plug the QL end (telephone jack) into SER2, and the other end (DB-25 socket) into COM1 on your PC.

Switch both machines on (and boot the PC in the usual way with a DOS disk. Type the following statements into the QL:

```
BAUD 1200 : OPEN #3,SER2SIZ:COPY CON,SER2SIZ
```

And the following into the PC:

```
MODE COM1,1200,n,8  
COPY COM1 CON
```

If you now type a few characters on the QL keyboard, and then press control Z, you should see the characters displayed on the PC screen, thus demonstrating that the QL is 'talking' to the PC.

Now, press control C on the PC, and shift break on the QL (they are both stuck in a loop) and type the following on the PC:

```
COPY COM1 <file name>  
and  
COPY <file name>, SER2SIZ
```

on the QL.

When the Microdrive disk activity on the QL has stopped, the PC should respond to the end of file character by displaying '1 File(s) copied' followed by the DOS prompt. If the PC just hangs, press Shift Break on the QL, type COPY CON,SER2SIZ and press Control Z. This sends a Control Z (end of file) code to the PC, closing the file, and giving the DOS prompt.

Copy the file to the screen on the PC (use TYPE <file name>) to check that the file has been transferred. Using a 1200 baud transfer rate minimises the chances of losing parts of the file while the PC is writing to the disk.

Try using a faster transfer rate (it has to be the same for both machines, of course) with the destination file in RAM, on the PC.

MicroEMACS - A Totally Free Text Editor

The public domain programmer's text editor, MicroEMACS, has been ported to the QL by a QUANTA member and is now available free, gratis and for nothing from the QUANTA software library.

Although it is not particularly easy to use (some of the key combinations are rather counter-intuitive), it is extremely powerful, and is also available for all the popular micros (PC, Amiga, ST).

John Torofex

YOUR FORMAT – QL 13/05/1989

Thor International

After all the trials and tribulations last autumn, Thor International (formerly CIT) is alive and well in Copenhagen, Denmark, according to Helmuth Stuvén of Dansoft. Manufacture of the QL-compatible Thor 16 machine has been sub-contracted to Bruel and Kjaer (its main business is very high quality acoustic test equipment), and an initial batch of systems has been delivered.

The much-hyped project to sell Thors to the Soviet Union is still on the boil, with Steven visiting the USSR for discussions at the end of April.

The biggest QL network?

Leon Jaeggi, of Leon Jaeggi and Sons Ltd, suppliers of catering equipment, has installed what is probably the biggest network of QLs anywhere at its factory. A total of 15 networked QLs are used for order processing. Four of the QLs, fitted with CST hard drives, are used as file servers. Their two shops will shortly have five QLs each — three connected to tills, with two hard disk file servers. All software is written in QLiberated SuperBASIC, by Leon.

If any readers know of a bigger system, please let me know.

QL Service Manual

If you are reasonably knowledgeable about electronics, the QL Service Manual is a mine of information about the QL, mainly from a hardware point of view.

My copy is dated October 1985 and, interestingly, was written by Thorn (EMI) Datatech Ltd., which manufactured the QL, rather than Sinclair Research Ltd. A list of bugs is included, and I'll be publishing some of these from time to time. Here are just a couple:

- If you delete a procedure at the end of a program, and then call the procedure by typing in its name, and then type "CLEAR", the QL may crash. If you haven't saved the program you are working on and fall foul of this bug you could end up having to type the whole program in again. You do save your programs regularly, don't you?
- If you use "LIST" within a program (I don't know anyone who would want to), funny things can happen, such as the various "unfortunate states".

Video digitiser

A reader recently asked if anyone knew of a video digitiser for the QL.

S.P.E.M., Via Aosta, 10154 Torino, Italy, can supply a digitiser for approximately £125.

It is interfaced via the ROM cartridge port. Quanta has one of these which members can borrow, and it works quite well. It can take input from any video source, and has three slider controls allowing experimentation with different colour levels.

John Torofex

YOUR FORMAT – QL 20/05/1989

Prospero compilers

The highly regarded ProForTran and ProPascal compilers are still available from Prospero Software, at £99 each. The ForTran conforms to the ForTran 77 standard, and the Pascal is ISO validated. These professional- standard compilers are identical to the versions for the PC and Atari ST. Prospero has a good name for after-sales support, and does not mind admitting to bugs in its software — it eradicates them in a matter of days as a rule, unlike some software houses I could name. One Quanta member ported a large finite element analysis package originally developed on a big mainframe to the QL with virtually no problems. Prospero is on 01-741 8531.

Northern Sinclair Show and Quanta Workshop

Following the first successful show in April, a second Northern Sinclair Show has been organised for Sector Software for Saturday 24th June at Stokes Hall, Leyland, Lancs. A two-day Quanta workshop (Saturday and Sunday) has also been organised for the same weekend. Contact Phil Borman on 0472 49850 for details of the Quanta meeting.

Have you got a screw loose?

If your QL suddenly becomes unreliable, crashing or locking up at frequent intervals, check the tightness of the screws in the various plugs and sockets. Loose mains connections can cause some really weird problems.

This tip is especially important if you often take your system in the car with you — the vibration can result in screws undoing themselves.

Sometimes the screw securing the voltage regulator to its heat sink works loose, resulting in the regulator overheating and going into thermal shutdown. If your QL suffers from this affliction, you will find that it works fine when first switched on but dies on you after a few minutes. The regulator and heat sink are situated just behind the Microdrives, and are quite accessible with the top of the machine removed.

It would be a good idea to smear some heatsink compound on the heat sink to improve the thermal transfer, Sinclair forgot to do this on all the QLs I've come across.

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...?

John Torofex

YOUR FORMAT – QL 27/05/1989

International Cricket

This is a simulated cricket game which can be played between two persons, or with one person against the computer. A series of games can be played, with the team details and current scores stored, so the game can be left temporarily and resumed later.

When play commences the field around the wickets is displayed, with the batsmen and fielders.

When bowling, six types of ball may be selected, using various key combinations. The field may be set before each ball. Six strokes are available to the batsman, again selected by various key combinations. When the ball has been bowled, if the batsman manages to hit it, a bird's-eye view of the pitch is depicted, with the ball and the fielders represented by coloured markers. An appropriate fielder is selected by the computer, but this can be changed by the player. The flight of the ball is depicted by a marker, with the fielder changing colour if the ball can be reached. The height of the ball is shown by an indicator on the screen.

A colour monitor or TV is required for this game, and it is available on MDV cartridge, in 128K and 256K versions, for £4.99 inclusive, from Nigel Holder, 25 Beightons Walk, Healey Gardens, Rochdale, Lancs OL12 6EA. If you like this type of game, it is quite well done and well worth £4.99

Buffered expansion/backplane

Quanta member Richard Cooke has designed a card that plugs into the QL expansion port and enables up to four peripheral cards to be plugged into the QL at once, using a separate backplate. Previous attempts to design an expansion system like this haven't been too successful, possibly because designers have tried to get away with just buffering some of the signals, to reduce the cost. Richard is using no less than five buffer chips, and has therefore been able to buffer every signal, apart from the video lines, which should ensure reliable operation.

The board was designed using Talent's *PCB Designer 1* package, and he reports having had lots of problems with it. I tried to use this package some time ago and gave it up, being less of a glutton for punishment than Richard. He had to retype the connection list 50 times (there is no way of editing it) before the board could be routed automatically in a single pass. Routing, by the way, is the placement of tracks on the printed circuit board, connecting the various components together.

More bugs

Statements of the form "CUROSR #n, a, b, c, d" are not accepted and give a "bad parameter" error message.

An expression starting with a parenthesis in a data statement results in the rest of the line being ignored.

If GOSUB is used in a short FOR loop, it acts as an END FOR, and the rest of the line is ignored.

John Torofex

YOUR FORMAT – QL 03/06/1989

MacSporran's Lament

MacSporran's Lament is a text and graphics adventure written using Digital Precision's Adventure Creation Tool. The object of the game is to rescue the Fair Maid of Inversnoddie from the Castle MacSporran, where lurks the laird Mad Roy MacSporran. Other denizens are a sea-lizard, the Cantraip, and an evil Bogie. The Scottish flavour of the game is maintained by the objects which are lying around (including a sporran and a haggis) and the bagpipe-like music.

Great fun, and good value at £8 on disk or cartridge, plus 80p postage and packing.

Available from CGH Services, Cwm Gwen Hall, Pencader, Dyfed, Cymru SA39 9HA

OL LISP

Readers feeling LISPlless (sorry about that), and who would like to experiment with what is probably the most popular language for AI applications, haven't got much choice, as Metacomco's LISP is the only version currently available. This is basically the same package as is available for the Beeb from Acorn.

Like the Beeb implementation, this is an interpreter, so it is satisfactory for learning the rudiments of the language, but not for serious work. Another drawback is that it is not compatible with Common LISP, which is the de facto standard. However, LISP is an extensible language, so you could create your own version of Common LISP, if you wished.

The documentation is reasonable, but it would be essential to get a copy of the Acornsoft book on the Beeb version. This is available on its own from bookshops.

The Metamco QL LISP Development System costs £59.99 from SUB. Tel: (0388) 450610.

Rebel Electronics Ltd. hard disk

The Rebel hard disk system for the QL is now operational from a hardware point of view, although it is taking longer to get all the software working than was anticipated. The backplane (enabling a floppy disk/expansion RAM to be plugged into the QL at the same time as the hard disk interface) works fine with a Sandy SuperQboard, but there is a compatibility problem with the Miracle Trump Card, Rebel expects to start shipping units at the beginning of June.

John Torofex

YOUR FORMAT – QL 10/06/1989

Overheating

With summer on its way, many QL users, especially those who have expanded their systems with something like the Miracle Trnnpcard, will experience problems caused by overheating. One common cause of overheating is the voltage delivered by the power supply being too high: the excess volts are dissipated in the QL voltage regulator as heat. The addition of an expansion unit means even more heat is generated, aggravating the problem.

One solution is to replace the power supply by one with a lower output, such as Care Electronics Q-Power, which costs £23. Care is on (0923) 672102.

Another, lower-cost, solution, is to replace the regulator in the QL by one which can handle more current, TK Computerware sells a suitable device for £4.75.

TK is on (0303 81) 2801. This does involve opening up the case, of course, but no soldering is required.

PDQC

PDQL's new *Lattice C* implementation for the QL and Thor should be ready by the time this issue is published.

Whilst the original Lattice C supplied by Metamco was reasonably usable, it had several very annoying bugs. For instance, register variables didn't work. The versions of Small C available from GST and Digital Precision, whilst adequate for learning the language, are unsuitable for serious software development, so the availability of PDQC is to be welcomed. The price will be around £60. PDQL is on 021-200 2313.

A portable QL?

A long time ago I recall seeing a portable QL, cobbled together by a Quanta member, who had to do a lot of travelling in connection with his job.

He had the QL mounted in an executive-style case, with several Nicad rechargeable cells and a Sinclair pocket TV for display. You needed good eyesight to read anything off the TV screen, but it was still quite usable, and gave something like one hour's worth of computing before the cells ran out of juice.

Something similar might be possible using one of the new LCD pocket TVs for display. Has anyone tried this?

More bugs

- The command 'DIR mdv8' prevents "DIR mdv2_" from working properly.
- If a program "bombs out" in the middle of a procedure, typing "EDIT" will give a "not implemented" error message, and you will find yourself editing a line number that is not in your program.
- This has to be the weirdest bug of all. Very occasionally, all your variable names get overwritten by the word 'PRINT'. This has happened to me on a few occasions, and it is quite infuriating.

John Torofex

YOUR FORMAT – QL 17/06/1989

A 10 MIPS QL?

Perhaps the ultimate add-on for the QL is a transputer system.

About six QL users have a Concurrent Techniques transputer module connected to their QLs, via an interface designed by Quanta member Neville Smith.

State-of-the-art devices like the transputer and 1 Mbit DRAMs don't come cheap, and prices start at around £725 for a 1 Mbyte transputer system. An occam compiler will cost you another £275.

It might seem a bit daft spending £1,000 on an add-on for a QL that might only have cost you £80, but you end up with a system that will generate and display the full Mandelbrot set in about 100 seconds — probably faster than a Sun workstation costing 20 times as much.

Concurrent Techniques is on (0424) 721768. I should own up to a personal interest in this project, as I am related to Leon Heller, co-founder of Quanta, and concurrent proprietor. This hasn't influenced me in any way, of course

More Bugs

Repeated string slicing can use up memory that cannot be reclaimed by the SuperBASIC garbage collector

CLEAR, LOAD or NEW will get the missing memory back. Putting CLEAR and/or RESTORE at the beginning of your program will avoid any problems.

If you have a JS ROM (type PRINT VER\$ to see which you have) and you SELECT ON one of the formal parameters of a procedure, you will get a "bad name" error message, with all parameters but the last one.

SELECT ON doesn't work with character strings, by the way. It does work with numeric strings, because of the coercion feature.

Archive Limitations

Not mentioned in the Archive documentation is the fact that Archive files are limited not by the capacity of the storage medium (100K or so on Microdrive, or 720K on 3 1/2" disk), but by the size of the index maintained by Archive.

In some circumstances, you won't get more than three hundred or so records into an Archive database, before the maximum index size is exceeded.

You can get round this problem to some extent by splitting up your database into several smaller files, but this is a bit messy. Moreover, Archive tends to become extremely slow with large database files.

The version of Archive supplied with the Xchange package for the PC is not subject to this restriction, as it uses B Tree file management.

Next week I'll show you how you can use advanced B Tree techniques on the QL, which allows you almost instantaneous access to databases containing thousands of records.

John Torofex

YOUR FORMAT – QL 24/06/1989

B-Tree Management

Most file management systems use at least two files — a main file in which all the records are stored, and one or more index files, which contain keys, usually in the form of an ordered list. B-tree indexing uses keys which are stored in a b-tree, somewhat similar to a binary tree, but giving much more efficient retrieval and storage.

For programmers who want a set of b-tree routines that they can use with a conventional programming language, such as C, b-tree packages consisting of a set of sub-routines are available for the PC, and some of these packages are even available in source code form, so can easily be ported to any machine with a C compiler

When Leon Heller (former Quanta chairman) and I wanted a b-tree file management system for the QL, we looked around for a suitable low-cost package, and eventually chose the *SoftFocus BTree* package available from Grey Matter for £80.

When we had transferred the package to the QL (it comes on a PC disk), we put all the source code through the Lattice C compiler, and encountered several problems due to the many bugs in that product. It took us two days to get it working.

How does it perform? We tested it with 3,000 records on a floppy disk, and any record could be retrieved in under two seconds. With

7,000 records on a QL equipped with the GST Winchester, retrieval times were something like one second.

The theoretical limits of the package are as follows: index files with up to 16.7 million entries, and data files with up to 16.7 million records. Key and record sizes are virtually unlimited.

Leon Heller has supplied several Quanta members who have purchased the package from Grey Matter with a library file of the compiled BTree routines, ready to link into their programs. Grey Matter is on (0364) 53499.

Lightning Special Edition

Digital Precision's popular Lightning accelerator program has been enhanced. It is now available on ROM, giving something like 25% — 30% more speed, as well as cartridge and disk.

You can now have different fonts in different windows, and pixel scrolling — that is, scrolling a pixel at a time, rather than a character at a time.

The price is £39.95, and £5 has been knocked off the standard version. DP is on 01-527 5493.

More Bugs

If you open the SER2 port (either explicitly, with the OPEN command, or, implicitly, with LOAD, COPY, etc.), the channel cannot be properly closed.

John Torofex

YOUR FORMAT – QL 01/07/1989

XLISP

Richard Alexander of CGH Services has sent me a copy of a QL version of David Betz's excellent public domain XLISP interpreter. XLISP is written in C, and I already had versions for the PC, Amiga and transputer, so it was interesting to see how the QL implementation compared.

Raif Biedemann, of Langwedel, W. Germany, ported the package to the QL, using the Metacomco Lattice C compiler, and he reports that he had quite a few problems getting the program compiled. I was pleased to see that it was version 1.7, which is the same as that for the other machines, and it seems to work quite well, apart from a problem with the cursor keys - backspace didn't!

XLISP is an excellent implementation of the language, and is quite close to Common LISP, so most of the programs in the books on LISP should work.

XLISP is available on 3.5" and 5.25" double-sided disk only (it comes with all the source code), for £2.20, from CGH Services, Cwm Gwen Hall, Pencader, Dyfed, Cymru, SA39 9HA. You have to provide a formatted disk. The executable files and documentation should just fit on a cartridge, and I have suggested to Richard that he also provides it in this form.

Ambition

Ambition is a multiplayer business-orientated strategy board game for the QL (and PC), developed by Alex Waye and his brother Chris. If you are on your own, you can play against the computer, however.

The board is displayed on the screen, and is a representation of an imaginary town, with various construction sites. The object of the game is to develop these sites.

Ambition was written in the BCPL language (the precursor of C), and took something like two man-years to develop. If you like playing chess and bridge, Ambition should appeal to you. You need a 512K expansion.

Ambition costs £19.95, and is available from Waye Ahead, Curly Cottage, W Hendred, Wantage, Oxon, OX12 8RR.

Clone Wolf

Clone Program

If you need to make a backup of a cartridge, and you don't have a toolkit, the following little program will make the job much easier. It assumes that the source cartridge is in drive 1 and a formatted destination cartridge is in drive 2.

```
100 OPEN NEW #3, mdv2_dir
110 DIR #3, mdv1_
120 OPEN_IN #3, mdv2_dir
130 FOR 1 = 1 TO 2: INPUT #3, fname$
140 REPEAT loop
150 IF EOF (#3) THEN EXIT loop
160 INPUT #3, fname$
170 PRINT fname$
180 COPY"mdv1_"&fname$ TO "mdv2_"&fname$
290 END REPEAT loop
300 CLOSE #3
310 DELETE mdv2_dir
```

John Torofex

YOUR FORMAT – QL 08/07/1989

QUANTA Sub-groups

Quanta, the QL Users and Tinkerers Association, supports a number of subgroups around the country. If you live near one of these groups, and you would like some social interaction with like-minded individuals, why not go to one of their meetings. You don't have to belong to *Quanta*.

SUB-GROUP	CONTACT
Essex	Trevor Watson. 9 Lucy Gardens, Dagenham, Essex (01-592 5928)
Solent	Graham Evans (042 121 3350)
Mid-Anglia	Peter Rowell, 347 St Neots Rd, Hardwick, Cambs
Leicester	Peter Ash, 53 Woodland Rd. Leicester (0533 766587)
Birmingham	Mike Bedford-White, 16 Westfield, Acocks Green (021- 707 3100)
Mid-Cheshire	Alex Robertson, 12 Dude Close, Crewe, Cheshire (0270 500565)
Belfast	Stephen Roper, 34 Pretoria St, Belfast (0232 669586)
Merseyside	Don James, 3 Barnard Rd, Oxton, Bhrkenhead (051 652 7366)
Newcastle	Dennis Crow (091-266 5175)
Northampton	Terry Harman, 304 Obelisk Rise, Northampton (0604 842875)
Isle of White	Richard Howe, Cove Farmhouse, Ventnor (0983 79496)

Cheap QLs

If you want a spare machine, the cheapest source of QLs at present appears to be EEC Ltd — tested (JM ROM) machines without power-supplies for £65. This is just the basic machine, no manual or software, and ideal as a backup machine, or for networking.

EEC Ltd is at 18-21 Misbourne House, Chiltern Hill, Chalfont St Peter, Bucks. (0753 888866)

Speedy Solution?

Quanta Secretary Phil Borman recently spent a lot of time benchmarking Digital Precision's DOS Emulator, The Solution, comparing it with the real thing, an Amstrad PPC, and a couple of other DOS emulators: an Atari running PC Ditto, and an Amiga running Transformer.

The Solution running on a QL was the slowest emulator by a considerable margin, but looked much more respectable when running on an Atari fitted with Strong Computing's QL emulator; it was almost as fast as PC Ditto on the Atari, and faster than the Amiga/ Transformer combination.

A comparison, between the Amstrad PPC and The Solution running on a standard QL showed that The Solution ranged between 2.8 times slower than the PPC when formatting a disk and 92 times slower running the PCW Trilogic benchmark. The, median factor was 19.6.

John Torofex

YOUR FORMAT – QL 15/07/1989

Lightning strike

When Sinclair developed the QL, it had a lot of trouble shoe-horning QDOS and SuperBASIC into the ROMs, and went for compact code, rather than code optimised for speed. Lightning, written by Steve Sutton (he subsequently wrote DP's DOS emulator, The Solution) is a utility that replaces many of the slow, built-in routines for screen-handling, graphics and maths, by routines optimised for speed.

After making a back-up, Lightning has to be installed on a new disk, or an existing one. This process is quite straightforward, and the new Lightning routines can then be loaded automatically, when booting the system.

12 extra commands are added to SuperBASIC. For instance, _IngON enables the screen text enhancements (this is the default when the system boots), _IngOFF disables them, _IngGRAF controls the graphics enhancements, and _IngPREC controls the maths precision and speed. Several new character fonts are also available. Since I have an internal RAM expansion, which is somewhat slower than external RAM, I couldn't get the maximum benefit from Lightning. However, the claimed speeding-up of text display, graphics and mathematical calculations was achieved.

Summing up, Lightning produces a substantial increase in performance, and is good value at £29.95. Digital Precision are on 01-527-5493.

Brainsmasher

i When I rang the mentioned hereunder I Tony Tebby, I heard a strange noise in the background, which turned out to be the sounds emitted by Brainsmasher, a new game for the QL. Like all the best games, it is based on a very simple idea — finding an optimum route between various locations - with a complex strategy, and is extremely addictive, I was told. More next week.

Quanta Doings

Quanta is holding a weekend workshop in Cambridge on August 5/6. (QL guru Tony Tebby of Qjump will be present, and will no doubt conduct one of his popular question and answer sessions. Tony tells me he might have a major new piece of software to demonstrate — I can't release any details at this stage, but it sounds very exciting. Further details from Phil Borman on (0472) 49850.

The Preston workshop held a couple of weeks ago was very successful, according to organiser Dennis Briggs. Dennis has lots of low-cost QL spares, by the way, including things like ULAs which are like gold-dust. Give him a ring on (09522) 55895 if you need a new keyboard membrane, or any other bits and pieces.

The group has purchased a quantity of Tandata modems, for sale to members at the knock-down price of £25.

John Torofex

YOUR FORMAT – QL 22/07/1989

Revisor by Digitrix

Revisor is one of those rarities for the QL — an educational package.

As the name implies, it is a revision aid, and information may be stored so that it can be reviewed as: multiple choice questions, question and answer, or in the form of pages of text, using a 'memorise' facility. 'Memorise' allows sections of the screen to be blanked and restored repeatedly, to assist in the rote learning of facts. After each session the student is informed of his or her score.

Revisor is supplied on disk or cartridge, with a comprehensive 14-page manual.

The program comes with five files — French, French2, Chem, Phys and Quiz. However, the teacher may create his or her own files, for any subject, using a built-in edit facility.

Having passed A-level Chemistry a long time ago, I tried the Chem file for myself, and was quite impressed

A great deal of attention has obviously been paid to the user interface, and both the teacher creating the material, and the student using the resultant files, should find the program very easy to use.

The program should be of use to a wide range of students — from quite young children up to university level. Parents as well as teachers should find Revisor of interest, especially if they are able to compose their own files.

Revisor is available for £14.95 (disk/cartridge) from Digitrix, Wishingtons, Porkellis, Helston, Cornwall TR13 OLB. A demo version of the package, including the manual, is £2.00, refundable on purchase of the full version.

Philips CM8833 colour monitor

Since I use a Philips CM8833 monitor with my Amiga (sorry about that), I thought I'd try it with the QL. The display was excellent. If you are in the market for a colour monitor, I can recommend the CM8833, although they are a bit pricey at £270 or so. A SCART lead is advisable, and these are available from Care Electronics for £11.50. Care is on (0923) 672102.

Wobbly ROMs

Former users of the ZX81 will recall the problems with "wobbly" RAM expansions. Some QL users with software in ROM plugged into the cartridge slot at the back of the machine have experienced similar problems, with the machine crashing' or locking up'.

This is generally due to oxidation of the contacts on the cartridge — they are not gold-plated. If you experience this problem, try cleaning the contacts by rubbing them with a tissue moistened with switch cleaner (available from shops repairing radios and TVs).

John Torofex

YOUR FORMAT – QL 29/07/1989

QEP III EPROM Programmer

Ojump's QEP III EPROM programmer was originally designed by Tony Tebby of QJump for his own use - his popular Toolkit is mainly supplied in plug-in EPROM cartridge form.

The QEP III looks like a conventional QL expansion unit, plugging into the expansion port on the left of the machine, except that a Zero-Insertion Force (ZIF) socket is mounted on the top of the cover, into which is inserted the EPROM to be programmed.

A wide range of devices can be programmed, ranging from the 2716 2Kb EPROM, up to the 27512 chip, which holds 64Kb.

The QEP III is very easy to use. The software is menu-driven, and the whole package has been used successfully by various Quanta members with little knowledge of microprocessor hardware.

With the QEP III plugged into the QL, you obviously cannot use disk drives at the same time. One solution would be to use a 2-way expander, but most users simply buy a second QL, and network it to their disk-based system.

Using the RS-232 port on the QL, the QEP III could be used to program EPROMs from software developed on another machine, such as a PC.

The QEP III is good value at £121.90, from Care Electronics. Even if you add to this the cost of a second QL machine, the combination is still very much cheaper than a dedicated EPROM programmer with comparable features.

Care can be found at 800 St Albans Road, Garston, Watford, Herts, WD2 6NL. Tel: (0923) 672102.

QL repairs

If your QL has died, TF Services provides an efficient repair service, at a reasonable price. Excluding Microdrives, there is a standard charge of £25, including return postage.

TF has acquired one of the Thorn EMI test rigs, so machines, once repaired, should conform to the original Sinclair specification.

A typical turn round time is one working day. TF is on 01-724-9053.

Biorhythms

I see from the ads at the back of QL World that someone is selling a biorhythm program for the QL. Whilst this is probably a perfectly good piece of software, I would have thought that most QL users are too intelligent to waste their money on something that can best be described as superstitious nonsense.

The whole basis of biorhythms (and astrology, for that matter) is the date of one's birth. Surely the date of conception would make more sense?

Also, the choice of a sinusoidal function seems rather arbitrary, and I suspect that it was chosen because it is easy to calculate.

John Torofex

YOUR FORMAT – QL 05/08/1989

Minerva

Stuart McKnight (of Atavachron fame), with some other people, is developing a new version of QDOS, rejoicing in the name of Minerva, to be supplied as a couple of EPROMs on a small circuit board.

Minerva will have as many of the existing bugs removed as possible, and full access to the second screen — useful for animation. The various graphics and mathematical routines will be enhanced, and it is hoped that it will be possible to run multiple copies of SuperBASIC — allowing multitasking of BASIC programs. I seem to remember Sinclair promising this when the QL was launched.

If, as appears to be the case, Minerva is based upon a disassembly of the existing firmware, it could be jumped on very heavily by Amstrad, as it might be considered to infringe the company's copyright. However, as all prospective customers will already have purchased a copy of QDOS with their QLs, I don't think that Amstrad will be all that concerned about it.

If you have a modem, and you would like to keep up with the latest news about Minerva, keep an eye on Tony Firshman's QBox CBBs, on 01-706 2379 (1200/75 baud — V21, 300/300 baud — V23). QBox has quite a lot of things "QLish" on it — well worth a look.

Astracom Modem

There should soon be a 2400/2400 baud upgrade for the Astracom modem, popular with many QL users- Keith Webb, Astracom designer, has located a suitable CMOS V22,V22bis modem chip. The modem firmware will also be modified to cater for the upgrade, and to eradicate one or two minor bugs.

Listing to the printer

New users who would like a print-out of their SuperBASIC programs sometimes get puzzled when they find that LLIST doesn't work, and the manual isn't much help. The correct incantation is:

OPEN #3, ser1

LIST #3, fred_bas

CLOSE #3

— assuming that you have the printer connected to ser1. These statements should be entered in direct mode, of course. You might have to set the baud rate first.

Wafer-scale integration

In a recent issue of another mag was an ad for a couple of jobs with Anamartic — the avuncular and formerly eponymous Sir Clive Sinclair's company — working on one of his pet projects, wafer-scale integration.

This rather way-out project has a connection with the QL! I recall seeing a photograph of Sir Clive holding a wafer attached to a QL expansion connector, This was presumably intended to be a Sinclair 512K memory expansion unit, or perhaps a solid-state disk.

John Tororex

YOUR FORMAT – QL 12/08/1989

Solent group

A few issues ago (Express 36) I listed the various QUANTA regional sub-groups and thought you might like an account of the activities of one such group.

The Solent group is quite typical, in that it has a total of about 30 members, with around 12 turning up at the meetings, usually held on the first Saturday of every month at the College of Maritime Studies, which is about half-way between Portsmouth and Southampton.

Most meetings are informal with members setting up their systems and showing one another their latest hardware or software acquisitions. There's plenty of discussion and advice swapped about the various QL packages.

Having been involved with the running of this type of group in the past, I suspect that many members go to meetings not just because they can meet other QL users but also because it gives them a few hours to play with their computers without frequent interruptions from 'She Who Must Be Obeyed'!

Occasionally a guest speaker is invited, or one of the members give a talk. Members are available at meetings, or any other time, to help other members who have problems.

If you live in the Southampton or Portsmouth area, why not go to one of their meetings? Details from Graham Evans on (042 121) 3350.

Packet racket

Leon Heller, G1HSM, was operating a packet radio station using a QL at the recent Sussex Amateur Radio and Computer Fair, held at Brighton Racecourse.

Leon has just set up a packet mailbox/BBS in Hastings. The call sign is BG7HAS, if any of you with amateur radio licenses and packet facilities would like to send him a message. The BBS has to run on a PC, unfortunately, as suitable software isn't available for the QL.

The Hastings and Rother RAYNET (that's the nationwide amateur radio emergency network) organiser also uses a QL for packet radio at his base station, with a Z88 for portable operation.

Crash your QL!

It is not generally known that pressing the Control, Alt and '7' keys simultaneously causes the QL to 'crash'. Strange as it may seem, this is not a bug but a perfectly intentional debugging aid.

This unlikely combination generates a Non Maskable Interrupt that was intended to transfer control to debugger software in EPROM on a board plugged into the expansion port, and connected to a 68000 development system.

If you know what you are doing, you can make this interrupt do something useless - I've seen it used to frmt 'EEK!' at the top of the screen, You can use it to do something just as interesting!

John Torofex

YOUR FORMAT – QL 19/08/1989

QUANTA doings

The Tandata modem offer mentioned a few weeks ago was extremely successful and all the three-unit modems on offer have now been sold. Quite a few of the two-unit modems remain (these don't have the auto-dial unit) and these are available to members for £20 plus £2.50 packing and postage. Jan Jones' excellent book on QL SuperBASIC has been out of print for some time now. QUANTA has obtained the rights to the book and a new batch has been printed. The Definitive Guide to SuperBASIC is available to members at £8 plus £2 P&P. Jan actually wrote the SuperBASIC interpreter for Sinclair, so she should know what she is talking about.

Software librarian Leighton Davies has reorganised the library and a new guide has been produced. The library now comprises 39 3.5-inch disks. The library guide (an Archive _dbf file) is 170K in size and has over 430 entries. Most of the programs are free!

Don't take your feet off

The overheating problem on some QLs is aggravated by using them without those silly plastic feet which keep dropping off. With the feet in position air flow through the machine is much improved. I also find my typing performance, such as it is, is improved with the feet in position.

Core Wars

Core Wars is a game in which two programmers write a program to run on the same computer, 'Core' is the old fashioned name for RAM. The object of the game is to zap your opponents program. Programs are written in the assembly language of a virtual machine, and executed by an interpreter, versions of which have been developed for most of the popular machines.

QUANTA member Paolo Montrasio of Milan has written such an interpreter for the QL, and he now reports that it is being re-written in BCPL, to speed it up. He's also adding an integrated editor and debugger. If anyone is interested in playing Core Wars on their QL, drop a line to Paulo a line at: Via XXIV Maggio 49, 20099 Sesto San Giovanni, Milan, Italy.

I've got a screw loose

A long time ago I mentioned the problems that could arise from loose screws. Well I've just wasted several hours trying to find out why my QL kept crashing after a few minutes operation. The cause of the problem? Loose screws in the power supply mains plug. I'm still kicking myself.

What's new?

Got any good tips or hints for other QL users? Know some hot news about the Sinclair scene? Write to me at QL Corner, New Computer Express, Future Publishing, 4 Queen Street, Bath BA1 1EJ.

John Torofex

YOUR FORMAT – QL 26/08/1989

Cambridge workshop

QUANTA, the QL users group, has just held a successful two-day weekend workshop at Papworth, just outside Cambridge. Over 100 members turned up on the Saturday.

Rebel Electronics showed off its hard disk system, which is now being shipped in quantity after a delay caused by software development problems. It appears to be faster than the Miracle product, loading Quill in 0.7 seconds.

One member using a second-hand drive with a Rebel interlace ended up with a hard drive for a mere £200.

Tony Tebby demonstrated his new QL compatible operating system for the Atrai ST. This could be of interest to ST users who want multi-tasking, which is sadly lacking when running GEM. Another way to multi-task on the ST is to use the Mirage OS, but this has never been particularly popular, and relatively little software is available to run under it.

Amongst other items on sale was the Minerva QDOS replacement I mentioned recently was on sale at £25 to QUANTA members, £30 to the ordinary punter. It does speed things up somewhat, and many of the bugs in various versions of ODOS have been fixed.

Some work remains to be done before the OS works 100% as intended and buyers of the early version will get upgrades when it is finished.

Self assembly

If you have mastered SuperBASIC and are thinking of learning another language why not forget about C, Pascal and the other high level languages and have a go at assembly language?

While assembly language on the PC is a pain because of those dreadful Intel processors, the Motorola 68XXX family, which of course includes the 68008 used in the QL, is a real delight to program. With the GST Macro Assembler and a good monitor/debugger you have some extremely powerful tools, as good as if not better than those on any other machine.

The only way to learn any programming language, including assembler, is to sit down and write programs. Beginners often can't think of a suitable program, and my advice is to start with a simple routine to open a window and display characters typed into it by the keyboard. Once you have the basic program working you can expand it into a simple text editor or a comms program.

Jez San, of Starglider fame, learnt to program 68000 on the QL. You might not aspire to such heights but who knows what you could achieve with a little luck and application?

Disk erasure

It's a good idea to keep your disks away from the QL's power supply — the field emitted by the transformer could partially erase them. Similarly it's not too clever to stack disks on the monitor or TV as they contain a large magnet in the tube.

Disks are sensitive to any magnetic field, and any alternating current mains device will be surrounded by a strongly fluctuating one so keep your disks well dear.

John Torofox

YOUR FORMAT – QL 02/09/1989

Book worms

If you are programming in assembly language on the QL, technical information about QDOS and the QL hardware is necessary. I have found the following publications very useful, if not essential. The QL Technical Guide is the official source of information about QDOS. It contains almost everything you need to know, but is not particularly readable and is woefully short on examples. Adrian Dickens' QL Advanced User Guide (Adder Publishing) covers much the same ground as the Technical Guide, but is much more readable, and has several interesting examples. It also contains information about the QL hardware and even tells you how to build your own parallel port. Andy Pennell's The Sinclair QDOS Companion (Sunshine Books) is a bit short on examples, but has quite a lot of information on writing device drivers, not covered in any detail in the other two books. My advice is to get hold of all three publications, if you can. Each one has sins of omission and commission, and you will find that they complement each other. One major problem is that they are probably out of print, but you might get lucky and come across a QL user who is selling up and has one or more of them. You may be able to get hold of copies of them through your local library also.

"She who must be obeyed"

One reader has taken me to task over my slightly, tongue in cheek reference to computer widows in Issue 40.

This wasn't intended as a sexist remark, but it is a fact that many wives resent their husbands spending a lot of time at the keyboard, I know of two marriages that have broken up with computing as a contributory factor!

QUANTA library

I've just received the latest QUANTA software library list. From time to time, I'll be reviewing some of the more interesting programs which are included in this extensive and useful library. One stand-out item is Nigel Taylor's disassembler program which should prove useful to assembly language programmers. It converts machine code, like the QL ROMs, into assembly language source code files that can be reassembled.

More bugs

Dilwyn Jones, author of Sector Software's popular Page Designer 2 program, has sent me seven pages of QL bugs. While I have already mentioned some of them, many of them are new to me and I will therefore be listing them in the next few issues, My thanks to Dilwyn.

Here are a couple to be going on with. With JM machines you can't INPUT more than 128 characters to a string in SuperBASIC and CALLing routines longer than 32k results in a crash.

John Torofex

YOUR FORMAT – QL 09/09/1989

Buying a printer

If you are thinking of getting a printer for your QL, I might be able to save you some money! One of the shortcomings of the QL is the lack of a Centronic or parallel printer port. Printers with parallel interfaces are somewhat cheaper than serial printers. Moreover, they also tend to be much easier to get working, as the Centronics interface is more of a universal standard than that using the RS-232 system.

One of Miracle Systems' Centronics adaptors is the answer. This little unit has two leads, one is plugged into the QL SER1 or SER2 port, and the other plugs into the printer. Using a parallel printer with your QL means that if you subsequently downgrade to a PC, Amiga or ST you can still use your parallel printer on the new machine, leaving the serial port free for a modem.

Stewart Honeyball of Miracle tells me he has sold something like 15,000 of these adaptors, which probably makes it the best-selling QL add-on. A similar adaptor is also available for the Psion Organiser.

The adaptor costs £29. Miracle is on (0904) 423986.

String functions

String functions in SuperBASIC, that is, functions that return a string, MUST have the function name terminated by a '\$'. This isn't mentioned in the documentation, and caused me a great deal of head-scratching when I first started using the QL.

Italian QL meeting

A QL meeting has been organised by a group of Italian QL users, on Saturday 23 October. The venue is the Villa Alba, by the Garda lake, in Brescia. According to organiser Eros Forenzi, there are around 20,000 QL users in Italy, so they should get a good turn-out. Foreign visitors will be very welcome, and Eros suggests taking the family, and combining the meeting with a short holiday.

Further details from Eros Forenzi, Via Valeriana 44, 23010 Berbenno (SO), Italy. Tel: (0342) 492323.

More bugs

- With JS ROM machines, typing PRINT VER\$ (to see if your machine has got a JS ROM!) can cause a crash if file access is performed when the system is very short of memory,
 - Very large COS parameters can give silly, results between $16384 * \pi$ radians and $65535 * \pi$ radians.
- According to Dilwyn Jones's bug list the QL has a total of 69 bugs. This might seem a lot, but I've just read in Computing that more than 300 bugs have been found in an office automation package!

John Torofex

YOUR FORMAT – QL 16/09/18

QL adventurerers forum

I've just received issue 7 of Richard Alexander's OLAF newsletter. Its 36 A4 pages contain an interesting mix of articles.

I especially liked Jean-Yves Rouffiac's account of how he developed an adventure game called Dreamlands. QLAF also contains several reviews, pages of hints, and news of forthcoming games from CGH Services, publishers of QLAF.

Richard also maintains a library of PD software for the QL. Several new programs developed in Germany, and translated into English, have been added recently.

These include a set of maths routines, a calendar program, a QDOS 'shell', and a window utility. A four issue subscription to QLAF costs £5 from COIL Services, Cwm Gwen Hall, Pencader, Dyfed, Cymru, SA39 9HA.

A lack of precision?

If you need more precision than is available from the built-in SuperBASIC maths routines (about nine digits, with seven displayed), with fast program execution, I would advise the use of Prospero Software's excellent Profortran compiler, which offers up to 16 digit accuracy.

Prospero is on 01-741 8531.

On the other hand, if you don't speak Fortran, and execution time is not particularly important, why not use the Archive programming language, which came free with your QL? The Archive language is very easy to use, and although Archive programs are not particularly fast, you get 14 digits of precision. which is probably plenty for most applications. Archive lacks arrays, but you might be able to manage without them.

PDQC and C-Port

The PDQL implementation of Lattice C for the QL is progressing quite well, they tell me. It has been on beta test for about a month, and the various bugs that have come to light are being eradicated. Because the standard QL linker is very slow, a new, faster one is being developed.

The price of £79 is considerably more than the provisional price of about £60 I quoted back in June, but is still good value, with Lattice C for the ST (a much bigger market) costing nearly £100.

C-Port, PDQL's SuperBASIC to C translator program, has been considerably enhanced, and now produces code that is ANSI and Lattice compatible. C-Port also costs £79.

PDQL is on 021-200 2313

What's in a name?"

Have you ever wondered why Sinclair used AH JM, JS, etc, to identify the different versions of the QL ROM. It used to be thought that they were the initials of the machine's designers, but they are in fact the initials of sundry Sinclair tea ladies, the chauffeur, and others of that ilk.

John Torofex

YOUR FORMAT – QL 23/09/1989

Fractal report

I've just received Issues 3 and 4 of John de Rivaz's Fractal Report news letter. Issue 3 has an article by QL user John Topham. He has substituted Henon's 'strange attractor' equations into the Julia set formula (a general form of the Mandelbrot set) and used his QL to generate some interesting and novel fractal patterns. John is working on a program to generate images from the solution of fifth degree complex polynomials with complex coefficients, I'm not trying to blind you with science, but attempting to show that it is possible to do original work with fractals, without spending thousands of pounds on exotic hardware.

Fractal Report is published by Reeves Telecommunication Laboratories Ltd., West Towan House, Porthtowan, Cornwall. TR4 8AX, and costs £10 for six-issues.

The one per desk?

I was rather amused to read about the 'amazing new machines' like the Canon Navi SP in Issue 43. These machines are remarkably similar to ICL One per Desk' (OPD), which was based on the QL, and came out about five years ago. Granted, the OPD didn't have a built-in printer or fax, but it did have a telephone, comms capability, speech synthesiser, database, spreadsheet, business graphics and word processor. If ICL had supplied it with disks, rather than Microdrives, and marketed it properly, it might have been a best seller.

Where are they now?

Some of the companies associated with the QL in the early days had a rather chequered history, and an update on them might be of interest.

The most notorious was Medic Systems., run by one Kris Skoglund, a Swedish national. Medic had what was basically a good product: a floppy disk/expansion RAM unit, that was quite competitively priced. They spent a fortune on advertising and got plenty of orders. Those few punters who actually managed to get some kit were quite pleased with it, and many Medic systems are still in daily use. When things got too hot for him, Skoglund decamped to Eire, and tried to set up a similar scam over there, with government money. He was eventually extradited and got five years in clink. With remission, he should be coming out in a few months, He'll have a shock - with beer now £1.20 a pint! His troubles won't be over, however, as the judge ruled that he be deported to Sweden, when he finished his sentence, where he faces fraud charges in connection with a business he ran there before.

John Torofex

YOUR FORMAT – QL 30/09/1989

QUANTA workshop

QUANTA, the QL users group, has organised a two day workshop for this weekend (Saturday 30 September and Sunday 1 October). The venue is the Kingsthorpe Community Centre, Kingsthorpe, Northampton, and the fun starts at about 10.00 each day.

The workshop will consist of the usual mix of talks and demos. Both of the QL hard disk systems will be on show, and copies of the reprinted Jan Jones SuperBASIC book will be available, as well as the new Minerva operating system.

Even if you don't belong to QUANTA, you'll be made very welcome. Further details from Phil Borman on (0742) 49850, who can also provide information on hotels in the area, if you feel in need of a lengthy computing 'fix', in company with other addicts.

More bugs

With both JS and JM RQMS, using silly parameters can make INPUT and READ do funny things.

Each time you type RUN after a SuperBASiC error, or after pressing Control Shift to break out of a program, the system loses 16 bytes of memory. This is only recovered when you type NEW.

RESPR doesn't work while a task is running, and RESPR'd space can only be released by resetting the machine.

Minerva

I've just received the latest information on Qview's Minerva, "an improved operating system", for the QL which I mentioned a few issues ago.

I don't know if all the bugs I've been mentioning have been fixed, but substantial speed increases are claimed, and many of the standard features considerably enhanced. For instance, SELECT ON now works with strings, and the second screen can now be accessed from SuperBASIC.

Minerva comes on a couple of EPROMs, and costs £30, unless you're a member of QUANTA or QL SUB, in which case you get it for £25. Contact Qview on (0480) 412884 for more information if you want to give your QL a brain transplant!

PSST! Wanna cheap drive?

ECD Magnetics is selling brand new Panasonic JU364 3.5-inch disk drives for £35 each. You have to build a suitable power supply, and find a case to put them in, but this isn't too difficult if you are handy with a soldering iron, or you know a man who is, QUANTA member Terry Griffiths bought a pair and reports that they worked fine.

Terry also suggests saving money by using Telex rolls instead of fanfold paper for listings and fax rolls if you have a thermal printer.

ECD Magnetics is on (0342) 833150.

John Torofex

YOUR FORMAT – QL 07/10/1989

QL technical review

I've just received the inaugural issue of QL Technical Review, a quarterly publication produced by CGH Services. Its 32 A4 pages include reviews of Qjump's QRAM and DP's IDIS disassembler, a machine code tutorial, and hints and tips, as well as an article about using the Quest QL expansion system. Like CGH's QL Adventurers Forum, QL Technical Review is a good read, and should prove well worth the subscription of £5.00 for four issues. It even boasts a colour supplement - a four page insert printed on yellow paper.

Order from CGH Services, Cwm Gwen Hall, Pencader, Dyfed, Cymru, SA39 9HA.

A froggy do

My mention above of the Quest QL expansion system reminds me of the occasion on which it was launched, a few months after the QL became available. QUANTA co-founder Leon Heller attended the event, which was held one afternoon in a docklands wine bar. Liberal quantities of Bucks Fizz were poured into the assembled multitude, which consisted mainly of assorted hacks end hackettes. For some season, everyone had a small green self-adhesive plastic froglet attached to their lapel. In addition to the expansion system, which was a massive black console, Quest also unveiled their disk system, memory expansions, accounts software, and CP/M 68k for the QL.

Interestingly, CP/M 68k subsequently became the basis for TOS, the ST operating system. Like the expansion console, the memory expansion units were notable for their enormous size, due to the use of 64k DRAMs, when everyone else was using 256k devices.

Unfortunately, the Quest add-ons never proved popular and very few punters want CP/M 68k (on their QL, at any rate). Quest eventually abandoned the project and concentrated on the PC market. Some of the RAM expansion units recently came on the market at knock-down prices

The froglets? As the long afternoon wore on, they lost their ability to cling to their owners' lapels, and littered the floor in sad little heaps.

Bargain structures

Digital Precision has announced version 2.04 of its TURBO SuperBASIC compiler. It now sports a front panel switch between structured (fastest execution) and poorly written source code. A brand new 280 page manual is also supplied, Until October 15th, TURBO is on special offer at £69.95 (normally £99.95). Mention NCE and DP will through in a free copy of BETTER BASIC (to help you write structured code). Talking about structures; DP's latest version of DIGITAL C SPECIAL EDITION now supports them.

DP is at 222 The Avenue, Chingford, Essex. Tel: 01- 527 5493.

John Torofex

YOUR FORMAT – QL 14/10/1989

Faster than Lightning

Digital Precision has announced that the latest version of Lightning, its accelerator program reviewed a few issues ago, is now available in the form of a ROM cartridge. Software in ROM runs considerably faster than RAM based software, loaded from Microdrive cartridge, because it doesn't have to share time with the video routines. DP claims a typical 30% improvement over the earlier version.

ROM Lightning special edition costs £49.95 and is available from Digital Precision Ltd, 222 The Avenue, London E4 9SE, 01 527 5493. Customers have a choice of ROM + disk or ROM + Microdrive cartridge. Existing users can upgrade.

DP has also announced a new, faster, PC emulator, rejoicing in the name of The Conqueror. More on this next week. The Solution is still available at the reduced price of £39.95.

More bugs

When a REPEAT or FOR statement is encountered, the value of the corresponding variable is set to zero, e.g. x=3: FOR x=TO 4

DIV doesn't check for all cases of binary overflow, giving spurious results. Try PRINT -32768 DIV -1. This is probably better described as a feature rather than a true bug: you can't BREAK into a single line recursive procedure.

Do you get a buzz from your QL?

Many users get annoyed by constant buzzing noise from their power supplies. I recall a QUANTA member curing this problem by hitting his power supply with a hammer! It might be worth trying this if you are thinking of buying a replacement. It's much cheaper and probably better for your blood pressure.

Archival material

I recently suggested the use of the Archive programming language if greater arithmetic precision than that provided by SuperBASIC was required. John Mason has pointed out that although I stated that Archive has no array facilities, an Archive database can be regarded as a single dimensional array consisting of, say, 30 cells (fields) by up to 65530 cells (records).

If you have tried writing your own screen-handling routines in the Archive language, you might be interested to know that printing CHR (27) + "A" clears a line from the cursor, and printing CHR(27) + "B" clears the screen from the cursor This information doesn't appear in the Archive documentation, although it is included, apparently, with the documentation provided with Run Time Archive (mainly used by software developers). I have a feeling that the above tip will only work with version 2.3 which is probably why it isn't mentioned in the manual.

John Torofex

YOUR FORMAT – QL 21/10/1989

Conquering hero

Although Digital Precision's PC emulator for the QL, The Solution, works very well, in terms of compatibility, programs do run rather slowly. As mentioned last week, DP has announced the release of PC Conqueror, a new PC emulator, that is claimed to be almost twice as fast as The Solution. This would give it something like one fifth the speed of a bog-standard 4.77MHz PC/XT, at worst. Disk formatting is 50% faster than with the earlier emulator, and the system can boot-up in 30 seconds. The jerkiness experienced while typing with Solution has been eliminated.

Moreover, Conqueror is more compatible than Solution, even handling programs that 'grab' the keyboard (like some versions of the P-systems, Flight Simulator etc),

Conqueror is available for £89.95 from Digital Precision Ltd., 222 The Avenue, London, E4 9SE, Tel, 01-527 5493 - substantially less if upgrading from Solution. For an additional £50 you can get MS-DOS v4.01.

By the way, the cheapest sources of public domain PC software are the various genuine user groups, such as the CP/M User Group and the PC Independent User Group. You shouldn't pay more than £3 per disk.

More bugs

If you try to READ or INPUT a string into an undimensioned string, using string slicing, the string won't be stored, and Superbasic may stop without an error message, For example:

```
10 A$="Old Computer Express": READ A$(1 TO  
20 DATA "NEW"
```

won't change "Old" to "New", To get it to work you should either dimension the string, or use a temporary variable.

This isn't really a bug. Contrary to Sinclair's claim when the QL was launched, Superbasic programs do slow down when they get bigger This doesn't apply to compiled programs, of course.

Also Cot (0) returns 1, instead of "Overflow error".

Cartridge Storage

QL users have developed several ingenious ways of storing their Microdrive cartridges

The cheapest form of storage is simply to stick the cartridge cases together, with glue, in little blocks, a bit like a chest of drawers. I first saw this technique used by Tony (QDOS) Tebby. Unfortunately, the case tops and bottoms aren't quite parallel so the resultant blocks look a bit funny, unless you reverse every other case- You then have to access the cartridges from both sides of the 'block'.

Some photographic slide boxes appear to be made especially for cartridges. I still use one someone gave me a long time ago, made by Gepe, which holds 30 cartridges, You might be able to scrounge suitable boxes from someone who takes a lot of slides, or your local photographic shop.

John Torofex

YOUR FORMAT – QL 28/10/1989

Crashing QL

My QL recently started playing up; crashing a few minutes after being switched on. Following my own advice in this column, some months ago, I checked the obvious things like the mains plug, and the voltage regulator, but couldn't find anything wrong. I then pressed all the rocketed chips firmly into their sockets and tried the machine out. As expected, this cured the problem.

This is well worth trying if your QL suddenly becomes unreliable; it only takes a few minutes, and could save you an unnecessary repair bill of £25 or more.

Sinclair used "cheap and nasty" sockets in the QL, to save a few pence, and chips sometimes work loose, because of thermal cycling. IC pins also get oxidised, resulting in intermittent contact problems.

Another Hard Disk Interface

The latest issue of the Quanta newsletter mentions yet another hard disk system for the QL, produced by West German firm ABC-Elektronik. This plugs into the OL expansion port, and has a buffered through connector for another peripheral card. Like the Miracle Systems interface, the ABC product is designed to take a low-cost PC/XT controller card. The cost of the interface, with controller card, will probably be around £130.00.

This makes a total of four hard-disk systems for the QL (three commercial offerings and one DIY design). Not bad for a "technical oddity, not worth buying", as the QL was recently described in this magazine!

Bristol Quanta Workshop

Quanta, the QL user group, is holding a one-day workshop in Portishead, near Bristol, on Sunday 12 November. As always, everyone is welcome. Contact Phil Borman on (0472) 49850 for details. There will be a 'bring and buy' stand at the meeting, organised by the Bristol sub-group, and it is hoped that Tony (QDQS) Tebby, and Chas (The Editor) Dillon will be available, for question and answer sessions.

Disk Firmware Upgrades

If you bought a disk interface for your QL a long time ago, or you have recently fitted a second-hand interface, it might be worth checking with QJump that you have the latest version of the firmware, in the EPROM on the interface. QJump can either re-program your old EPROM, or supply a new one. If you use one of the Micro Peripherals interfaces, with its non-standard firmware, QJump can provide an upgrade that makes the interface compatible with everyone else's. Apart from Micro Peripherals, all other interface manufacturers used QJump firmware.

QJump is at 24 King Street, Rampton, Cambridge, CB4 4QD. Tel: (0954) 50800.

John Torofex

YOUR FORMAT – QL 04/11/1989

QUANTA doings

QUANTA member Jim Gilmour has successfully ported the Inmos Transputer Development System ITDS0 to the QL.

Although the TDS actually runs on a transputer system, such as one of the Concurrent Techniques transputer modules which Neville Smith has interfaced to the QL, a “server” program has to be written for the host machine.

Jim translated the C source code for the IDS server into QL SuperBASIC, and then compiled it with the Digital Precision Turbo compiler.

I wouldn't get too excited about this, unless you have deep pockets, as the TDS will cost you £1,500 plus VAT!

The group's reprint of Jan Jones's excellent SuperSASIC book was a great success; the entire print run was sold in a few weeks.

A math is a Catholic thervithe

A sophisticated maths package for the QL has been developed by Chalmers University in the States. QUANTA has acquired the distribution rights for this package, which will be available for £14 to UK members and £15 to overseas members.

The package includes routines for the solution of equations, curve-fitting, definite and indefinite integration, Fast Fourier Transforms, and lots of other goodies.

John Attwood has replaced the 68008 in his QL by its grown-up older brother, the full 16-bit 68000. as used in the ST and Amiga. The heath transplant proved quite tricky, requiring 27 additional chips! He's also converted the ROM and keyboard interfaces to 16-bits, which required another nine chips. John reports that SuperBASIC programs run about 25% faster, but machine code is a bit slower than normal, because the RAM is still 8-bit.

He will shortly be converting the RAM for 16-bit operation. I thought that hardware hackers like John were an extinct species - it's nice to hear that some of them are still alive and kicking!

Contact Phil Borman on (0472) 49850 if you are interested in joining QUANTA.

QL repairs

I recently had a word with Tony Fieshman of TF Services, about the various faults found on QLs sent in for repair.

The most common fault (about 60%) is found on QLs sent in for repair. Next comes the 8301 ULA chip. TF has large stocks of spares, including the ULAs.

It even supplies these to British Telecom, for repairing the Tonto, the BT “badge-engineered” ICL One-Per-Desk.

In a very small number of cases, faults have proved to be so incredibly obscure, that TF simply replaced the entire QL printed circuit board.

However, stocks of working PCBs are drying up, which might cause problems in the future. Contact TF on 01-724-9063, if your QL needs attention.

John Torofex

YOUR FORMAT – QL 11/11/1989

At the European microfair

A contingent of QUANTA members attended the European Microfair (no connection with the UK Microfairs) held in Brussels on 21 October. A great success, the fair hosted displays from all the neighbouring countries.

ABC Elektronik of West Germany showed its new hard disk system for the QL that I mentioned a few issues ago. A couple of what appeared to be prototype systems were working, with a few minor problems (like heat-sink shorting out the power supply), but, generally, the systems exhibited speed at par with a Rebel Electronics system, which was also on show. All in all, the ABC interface looked a bit untidy, but this will presumably be sorted out when the unit goes on sale.

The Dutch public domain QL emulator for the Amiga mentioned by Jason Holborn in a recent Amiga Blit column was also on demonstration. Pixels are a different shape from those on the QL, so graphics look a bit strange, and some pixels are lost from the side of the display. The emulator takes the machine over completely, so you can't multi-task Amiga programs and QL programs. The emulation appeared to be about the same speed as that for the Atari ST. Also, the telephone number Jason gave was wrong, the correct number is 010 31 3404 52987.

Notes

The QL was originally intended to use an operating system developed by GST, a highly-regarded Cambridge software house. For several reasons, such as a requirement to provide a "built-in" BASIC interpreter a decision was made to drop the GST operating system, and adopt an operating system developed by QL designer Tony Tebby - QDOS, as it came to be known. By the way, it was originally called DomesDOS, as it killed 99% of all known bugs!

The original operating system was subsequently marketed by GST called 68K/OS. 68K/OS came on a couple of EPROMs, mounted on a small PCB that plugged into the QL expansion port. One also got a couple of Microdrive cartridges with an assembler. Unfortunately no-one was interested in developing software to run under 68K/OS, and the product was dropped.

John Torofex

YOUR FORMAT – QL 18/11/1989

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.

Getting your back up

If you are still using Microdrives, it would be a good idea to adopt the backup procedure used by many DP professionals. This involves the use of three cartridges, in rotation - Suppose you have an important Archive file, which is constantly being updated. Label - the cartridges A, B and C, say. Now, decide a suitable backup frequency - every three days, maybe. You then backup your data every three days, onto each cartridge in turn. It would be advisable to keep a log, so that you don't lose track of which cartridge is to be used next. It might also be a good idea to make a fourth backup, every month, and keep it in a different place, in case the house burns down. Apart from minimising the amount of data that has to be re-entered, if one of the backups is unreadable, this technique evens out the wear on the backup cartridges. Adopting a formal technique like this should also make it more likely that the data gets backed up. Most people don't bother backing up as it is, though, so the road ahead on this one, even if it is a good idea for the long run, seems strewn with obstacles.

Quick screen clear

Rather than typing "CLS #0:CLS #1:CLS #2" every time you need to clear the entire screen (assuming you want to clear all three Mode 4 windows), the same effect can be achieved by typing "MODE 4" (or "MODE 8" if using a TV).

MIRACLES

Miracle Systems is now supplying its popular hard disk system with a 40MB drive. The price has gone up to £449, £50 more than the earlier 30Mb system.

Miracle also has a new £100 floppy disk interface - basically the Trump Card without the RAM - for users with an internal RAM expansion, or an external RAM expansion with a "through" connector.

The full Qjump Toolkit II is included. Up to four drives can be connected, unlike most other interfaces, which can only handle one or two drives. Miracle is at 25 Broughton Way, Osbaldwick, York, YO1 3BG. Tel: (0904) 423986.

John Torofex

YOUR FORMAT – QL 25/11/1989

IT'S IN THE PUBLIC DOMAIN

I've just received from the PD library distributing the public domain Amiga QL emulator mentioned recently by Jason Holborn in his Amiga Blit column.

The emulator was written by Rainer Kowallik of West Berlin and comes on three disks: one AmigaDOS disk containing the emulator, and two QDOS disks. Rainer's motivation for performing this feat is interesting — he likes the QL and considered building himself a high—performance QL clone using a full 16-bit 68000. After realising this would be something of a difficulty, Rainier decided to take the easy way out (!), and produce a software clone of the QL, based on the Amiga.

Rainer first disassembled the QL ROMs, and then reassembled the source code, using the Sinclair/GST Macro Assembler, modifying the I/O for the different Amiga hardware. He also modified the disk software, Screen-handling uses the Amiga blitter, for speed. All QL devices are supported (apart from Microdrives and Network, of course).

The emulator uses Qjump's disk driver software, which is a bit naughty. I've spoken to Tony Tebby of QJump about this, and he didn't seem too concerned, probably because everyone using the emulator would already have the Qjump software incorporated in their QL disk interface.

Similarly, I don't suppose Amstrad will be jumping up and down about the modified QL firmware, as any users will already have a QL. While actually having a copy of the emulator for your own use is probably legal, if you already have a QL with disks), distributing it might infringe someone's copyright.

GROWLING GRIZZLY

This is a new BBSfor QL users, recently set up by Colin Adams, The number is 0772 28975 and you can talk to it with V21 (300/300), V22 (1200/1200), V23 1200/75) and V22bis (2400/2400) modems. The BBS is part of FIDONET, so you can communicate with other FIDONET users worldwide, if you wish. There is a message area, International QL Echo, that is accessed by BBSs in Holland, Sweden and Belgium, Why "Growling Grizzly"? This I couldn't tell you, because, honestly I haven't a duel

MINIX

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.

JOHN TOROFEX

YOUR FORMAT – QL 02/12/1989

QL EMULATOR FOR AMIGA

After trying out the QL Emulator on a few simple SuperBASIC programs, I thought I'd give it something meaty, so I loaded Quill. Whilst it appeared to take longer to load the program than on a genuine QL, Quill also appeared to be very much taster in operation. This new found speed was most noticeable when doing things like block moves of text within a large document.

I mentioned the emulator to Freddy Vachha of Digital Precision, and he was very interested in seeing how it behaved with the DP DOS emulator, CONQUEROR. Phil Borman of QUANTA will be comparing it with the Atari emulator. I'll let you know their conclusions.

GROWLING GRIZZLY

I've had a word with Colin Adams, the Growling Grizzly BBS SysOp. The BBS uses the QBOX software package (developed by Jan Bredenbeek, in Holland), running on an Atari Mega ST with the QL emulator.

Because the hard disk drivers for the emulator are not yet available, the files are held on a large RAM disk. The modem used is the Astracom AC 1000T

I asked Colin about the strange name he uses for his system. Apparently, his nickname at school was 'Grizzly Adams', who we all recognize as the barrel — chested hero from the tv series.

MINIX

I'm very sorry about this, but it appears that the grapevine on which I heard about MINIX being available for the QL was suffering from blight, and my sources were incorrect. MINIX is in fact available for the Atari ST which can also emulate the QL, but that is the only connection between MINIX and the QL. Porting MINIX to the QL would probably be quite difficult, because of the limited amount of memory.

QLAF 8

I've just received Issue 8 of Richard Alexander's QL Adventurers' Forum. As usual, it is a good read, with reviews of The Fugitive, 30-Wanderer, 3D-Slime and Startrek.

I recall seeing Wanderer with its true 3D graphics - you wear spectacles with red and green lenses - ages ago (it's now available on the ST) but 3D Slime is quite new. Unlike Wanderer, 3D Slime doesn't have real 3D, however. An interesting feature of Slime, though, is a mock spreadsheet which is displayed when you press F5.

Back to the magazine: there are also several pages of hints, tips and maps for various adventures, a comms column, and PD News, wherein it is mentioned that CGH Services, who publish QLAF, has just received 10 disks of PD software from France.

You may contact CGH at Cwm Gwen Hall, Pencader, Dyfed, Cymru, SA39 9HA.

John Torofex

YOUR FORMAT – QL 09/12/1989

TANDATA MODEM PROBLEM

If you've got one of the Tandata modems, and have tried transferring files to another Tandata user via the telephone, you've probably found that you can't do it. QUANTA hopes to have a fix for this shortly.

PACKET RADIO UPDATE

Some time ago I mentioned that several radio amateurs with QLs are using them for packet radio. Urban Smith, a Welsh amateur, is developing software on his QL to perform most of the functions of a TNC, the dedicated microprocessor system that goes between the radio transceiver and the computer system of the user.

The QL is quite a good choice for this particular type of application, as it generates little of the type of interference that can wipe out the signal you are trying to receive.

Smith's software will include a terminal emulator, and, with the addition of a low—cost modem, will provide a very inexpensive route to a packet radio station. Similar packages have been available for some time for the Spectrum, C64 and Dragon.

PROFESSIONAL PUBLISHER

Professional Publisher, the latest desktop publishing package from Digital Precision, takes Desktop Publisher, Digital Precision's first DTP program, a step further. Written by Andrew Astrand, and compiled primarily in SuperBASIC with some assembly language, Professional Publisher is a large package and it takes up most of a 3.5 inch disk, It is only really suitable for disk systems with a 512K RAM expansion,

Some of the more important features of the package include: cameo overview (scale model of the page), direct text entry, import of QUILL files and EYE—Q screens, large selection of fonts, font editing, wrap—around graphics, snap—to guides, and layout templates.

Speaking generally, the package is organised in two parts: a tutorial section that gets you started and a cross—referenced alphabetic section. Indeed, Desktop publisher comes with comprehensive documentation, and if there is no index, the manual is well organised. I didn't have any major problems in finding my way around.

Professional Publisher is quite easy to use (being mainly menu—driven, with good help facilities), and reasonably fast in operation. Since one is generally working with a small part of the page, the cameo overview feature is very useful, showing the whole page with the text 'greeked', depicted as unreadable, inchoate splodges.

Comprehensive printer drivers are provided, and PDQL's GRAFIX driver can be used, if additional features such as anti—aliasing are required.

PP is available for £89.95 from Digital Precision, located at: 222 The Avenue, London E4 95E.

John Torofex

YOUR FORMAT – QL 16/12/1989

BIBLICAL QL

PDQL has just announced the availability of the King James version of the Old and New Testaments of The Bible on seven QDOS disks. The text is in ASCII form, and can therefore be read from the screen by loading it into a text editor or word processor. Quill would probably be too slow — PDQL recommends The Editor or Text87. A comprehensive index is provided, with Adultery as the first entry!

The price is £45, from PDQL, 1 Heaton House, Camden Street, Birmingham. B1 3B7. Tel: 021-200 2313.

Of course, King James's copyright expired several hundred years ago, so the text of The Bible is in the public domain. Customers will be paying for the media and the index, which must have taken a lot of work, even with the assistance of a computer.

QUILL TIP

My thanks to John Silk of PDQL for the following tip.

You are working on a large document, and need to move a sizeable block of text elsewhere, you have probably found that it takes a lot of time using the standard method. Instead, set the page length to zero, and put a page break at the beginning and end of the block of text to be moved. Then print the page containing the text to be moved to a file, and import it at the new position.

QUANTA LIBRARY

The November issue of the Quanta newsletter included a listing of the additions to the software library. Here are a few of the goodies now available:

A dictionary of 50,483 words, This is the dictionary used with the Sector Software Spellbound spelling checker.

A file transfer program that sends files between the QL and the £88 (in both directions), via the serial ports. A similar program is available for file transfer between the QL and PC.

A new version of the powerful Micro EMACS text editor.

Contact Phil Borman on 0472 349850 if you are interested in joining Quanta.

HOW TO KNACKER YOUR QL!

Tony Firshman of TF Services recently told me a horror story about a QL that had been sent to him for repair. The owner had attempted to fit a replacement keyboard. Finding that the two halves of the case wouldn't fit together properly, he had obviously 'persuaded' them with a large hammer! Some gigantic holes had been drilled in the case over the power supply heat sink, to improve the cooling. Bits of plastic littering the interior of the machine indicated that the owner hadn't even removed the top of the case to perform this piece of surgery!

John Torofex

YOUR FORMAT – QL 23/12/1989

THE QLUB THAT WAS

Those of you who have acquired your QLs within the last two years or so probably haven't heard of the QL Users Bureau (QLUB, rhyming with club). This organization was Sinclair's own user group for the QL, but it had nothing to do with IQLUG (now QUANTA) which was formed at the same time by Leon Heller and Brian Pain.

QLUB membership used to cost £35 per annum, and it was generally agreed to be rather poor value for money. Benefits included a rather crummy and very occasional newsletter, discounts on hardware and software, and assistance with problems.

Difficulties with the Psion packages were dealt with by Psion representatives, and other hardware/software problems were handled by Sinclair's distribution company, based in Camberley. The Psion set-up was interesting. A large database was created on a VAX with a quandary of problems and solutions. All queries from users had to be submitted in writing, and one got back a computer printout by return post with a list of potential solutions to the problem. As have said, problems with the QL itself were dealt with by a team of people in Camberley, either via the telephone, or in writing. And if memory serves, you didn't have to be 'in the QLUB' to use this service. It worked fairly well — at least in principle.

A SHRINKING MAGAZINE

Focus Magazine's QL World seems to be getting smaller and smaller. A year ago it had 60 pages, and it now has 52 slightly smaller pages. Somewhat interestingly, the amount of advertising has stayed the same — at about 22 pages.

On the other hand, this column is still the same size as when it started, just over 10 months ago!

ARCHIVE FOR BEGINNERS

Some time ago I mentioned the use of simple one line SuperBASIC procedures to give single key saving of programs, clearing the screen etc. Much the same approach can be adopted when using ARCHIVE. For instance, the following procedure selects the next record and displays it, when the 'n' key is pressed:

```
proc n
next
display
endproc
```

and

```
proc e
edit
endproc
```

drops you into the editor when 'e' is pressed.

Merry Christmas to all.

John Torofex

YOUR FORMAT – QL 06/01/1990

QL KERMIT

Richard Alexander of CGH Services has just sent me a copy of Kermit the popular error-checking file transfer program which is available for virtually all micros, minis and mainframes. It originated with the French QL group (very appropriate).

Richard has added it to his PD library, and it is available for £3 (plus disk or three cartridges) from CGH Services, Cwm Gwen Hall, Pencoder, Dyfed, Wales, SA39 9HA.

A PROGRAMMING LANGUAGE

A Programming Language (APL) is one of the more esoteric languages to be developed for the QL. As the brainchild of Dr Kenneth Iverson of IBM, APL makes use of a very concise mathematical notation that functions as an extremely powerful language — one line of APL can often replace 20 lines of a conventional language like BASIC or C! APL is generally implemented as an interpreter— and it uses dynamic arrays, making a compiler for the language very difficult — if not impossible to write. Indeed, one of the more interesting features of APL is the way it handles arrays.

With APL arrays, even multi-dimensional ones, can be manipulated as a single entity. For instance, you can multiply two arrays with a single statement. This means that, long before Visicalc (the first spreadsheet program) became available, people were using APL to perform calculations that are now commonly handled by spreadsheets.

HISTORY CONTINUED

MicroAPL Ltd ported the 68000 APL to the QL in 1986. It came in two versions — a so-called ‘Squiggle’ version using the APL character set, and a ‘Keyword’ version, using the standard ASCII character set. An excellent implementation with very good documentation, it was also ported to the Amiga and ST.

I’ve just checked with MicroAPL, and much to my surprise, it is still in stock, at £99.95. MicroAPL Ltd is to be found at the South Bank Techno Park, 90 London Road, London, SE1 6LN.

HARDWARE ENTHUSIASTS

If you want a single-bit input port (for decoding Morse or radio teletype), the following tip mentioned by Francois Lemay in the August 1986 issue of Quanta might be of interest.

Network input is to bit 0 of port PC.IPCRD, located at \$18020, or 98336 in decimal. Use the tip of the jack (in either socket) for input, the body is grounded. Plug a dummy jack in the other socket, to disconnect the internal resistive network, if you are feeding in ITL level signals.

John Torofex

YOUR FORMAT- QL 13/01/1990

MISSING KEYS

If some of the keys stop working, the most likely cause is a faulty keyboard membrane. Quite often, the break in the membrane is where it plugs into one of the connectors on the main printed circuit board. It is worth checking for this, and, if a break is found in this position (usually where the membrane tail' has been creased), cutting off the last 5mm or so. This will often cure the problem, saving the cost of a new membrane (£5) if you fit it yourself, or a repair bill of £25 or more.

LANGUAGE TRAIN

BCPL, which stands for Basic Combined Programming Language, is in fact the precursor of C — BCPL begat B, which was transmogrified into C, via NB, for Not B! It bears no relation to BASIC, by the way. BCPL was largely the work of one person — Prof. Martin Richards of the Computing Laboratory, Cambridge University. MetaComCo of Bristol then implemented BCPL on a number of systems and was able to port it to the QL quite quickly. In fact, it was the first high-level language to appear on the QL, apart from Super- BASIC, of course.

MetaComCo is better known for AmigaDOS, which was based on TRIPOS. TRIPOS was written in BCPL, and also emanated from Cambridge.

Like C, BCPL is a compiled language, and was intended for systems programming; writing operating systems, utilities and compilers. BCPL is a very simple, elegant language with only one data type, the word and only one structure, the vector, which is like a single-dimensional array.

It is quite feasible to develop sizeable BCPL programs on an unexpanded QL, which is not the case with most other high-level languages. It is also a very 'portable' language, with implementations for the Beeb, PC and Archimedes.

Unfortunately, MetaComCo doesn't appear to be around any more, so you'll have to get a copy of BCPL secondhand, if you are interested.

CONSCIENCE MONEY

I have recently spoken with Tony Tebby of QJump about software piracy, He mentioned that an individual who had pirated copies of QJump software wrote in saying that he had become a 'born again Christian', and the anonymous gentleman enclosed a sum of money to salve his conscience. Incidentally, I've just heard a rumour that Amstrad is taking an interest in the QL emulator for the Amiga, I find this just a bit strange, as a similar emulator for the Atari ST has been around for over a year now.

John Torofex

YOUR FORMAT – QL 20/01/1990

QJUMP FOR JOY

Very little information about the QDOS floppy disk format has been published. To fill this unseemly gap, I have lifted notes from a Qjump document dated November 1984.

The QDOS disk employs 512-byte sectors, and there are nine sectors per track, giving 360K bytes on the 40-track, double-sided disk.

Indeed, the format is quite similar to that used on the PC, and I've found that if you put a 360K QDOS disk in a PC and type DIR the directory will be listed.

The QDOS floppy disk driver software is also quite clever, in that it automatically optimises the stepping rate for each drive. This is the reason for the buzzing you get from the disk drive when the machine is booted.

As with Microdrive cartridges, a random number is recorded during the formatting operation. In conjunction with the disk name and an update count, this random figure is used by QDOS to detect if a disk has been changed.

CODEWORKS COMPATIBILITY

Speedscreen users who have encountered difficulties when utilizing it in conjunction with Qjump's QRAM will be interested in some information issued by Creative Codeworks.

From release 1.21 onwards, version 'P' of Speedscreen is totally compatible with current copies of QRAM. And free upgrades are available to users with earlier QRAM versions.

Additionally, a modified version of Speedscreen (1.29) is on offer for use with programs developed with MetaComco's C compiler, such as PDQL's DiskOver, Multi-DiskOver, and Digital Precision's Xover. For this modification to the compiler library, registered users can return their master disk/cartridge with £6.50 to Creative Codeworks, PO Box 1095, Harborne, Birmingham B17 0EJ.

A FEW POKES

POKE_W 163976,255 turns caps lock on, and POKE_W 163976, 0 back off.

To change the delay before a key repeats use POKE_W 163980,n. The default value of n is 30.

Use POKE_W 163962,n to change the key repeat rate. The default value of n is 2.

QL TECHNICAL REVIEW

Issue 2 of CGH Services' QL Technical Review is full of interesting material, such as a Mandelbrot set program and a review of Text Tidy. Cost is £5 for four issues from: CGH Services, Cwm Gwen Hall, Pencader, Dyfed SA39 9HA.

John Torofex

YOUR FORMAT – QL 27/01/1990

Happy Birthday

It is now six years since the QL was launched, although customers didn't get their machines for a couple of months after ordering – if they were lucky. Anyway, a rousing hip-hip-hooray to the QL! Quanta, the independent QL users group, was formed at the same time (it was called IQLUG then), and it is still going strong with around 2,000 enthusiastic members.

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...

Continuing Information About QDOS Disk Format

As with the PC, tracks are numbered from zero, and sectors from one. All types of disk have the same directory structure with track zero containing the sector map. The first block of the map is sector 1, side 0, track 0. The first 96 bytes of the sector map contain the format information:-

relative byte	size	notes
00	long	format ID (QL5A)
04-0D	12 bytes	medium name (space filled)
0E	word	random number set during format
10	long	update count
14	word	free sectors
16	word	good sectors
18	word	total sectors (sectors * tracks)
1A	word	sectors per track (<= 9)
1E	word	number of tracks (<= 80)
20	word	alloc size (sectors per alloc group)
22	word	block number of directory EOF
24	word	byte number of directory EOF
26	word	sector offset/track
28	18 bytes	logical to physical sector translate
3A	18 bytes	physical to logical sector translate
4C	20 bytes	spare

YOUR FORMAT – QL 03/02/1990

MEGA RAM

One of the more interesting add-ons available for the QL is ABC-Electronik's Mega RAM, which provides a full additional megabyte of RAM. The board contains a new version of the QL's MC68008 processor that can address a total of 4Mb, while the standard MC68008 can only handle up to 1Mb. It is advisable to put the QL in a larger case if you add the Mega RAM, as it mounts on top of the QL circuit board. This would also minimise overheating problems. I have heard that the modification is tricky, and should be attempted by people with hardware expertise.

Mega RAM costs £195 with RAM, and £99 without RAM, and ABC-Elektronik is at Hugelstr, 10-12, 4000 Bielefeld 1, W. Germany, Tel 0521-890381.

QUANTA DOINGS

QUANTA has organised a workshop for Saturday, February 3. The venue is Papworth Village Hall, near Cambridge. Everyone is welcome. Further details from Phil Borman on 0472 349850.

QDOS DISK FORMAT (PART 3)

A map of sector allocations follows the header (described last week). This always fills the first three — logical — sectors of the drive, padded with dummy sectors if necessary so as to fill the $((512 * 3) - 96)/3 = 480$ bytes allowed. A 720K disk has a sector allocation size of three, that is, three groups per side.

The medium name, random number and update count allow QDOS to detect when a disk is changed. The update count also indicates if a disk has been put in another drive (or another machine), written to; and then put back in the same drive. Clever!

Sectors are allocated to files in multiples of the allocation size, which seems a bit wasteful — a one byte file will take up three sectors.

The logical sector is derived from the sector map by the following formula:

$(\text{sector in map} * \text{alloc size} + \text{sector in alloc group}) \text{ MOD sectors/cylinder}$.

Additionally, in the logical to physical translation table published last week, the MSB of the translate byte indicates the side number. The remaining seven bytes give the sector number (0 - 8).

John Torofex

YOUR FORMAT – QL 10/02/1990

QDOS DISK FORMAT (PART 4)

The first nine bytes in the physical to logical translate table correspond to sectors 0 to 8 on side 0, and the next nine bytes to the same numbered sectors side 1. There is an additional offset for each track to allow for steps between adjacent tracks, so the final sector is calculated by: (translated sector + track * sector offset) MOD sectors/track.

The EOF of a file is the position of the next byte after the end of the file. It is, therefore, 0/40 for an empty file. The block number starts at 0, the byte number is between 0 and 1FF inclusive.

The allocation map is a table giving the usage of each group of sectors. There are three bytes for each group, 12 bits for the file number and 12 bits for the number of blocks in the group, divided by the allocation size. For file number 2, therefore, the first allocation of sectors is identified as 002000 in the map, the next as 002001, etc.

The file number is an index into the master directory, with the numbers allocated as follows:-

000 - Master directory

001 + Normal files

F8x - Sector map

FDx - Vacant sector group

FEx - Bad sector group

FFx - Non-existent sector group.

The master directory is a table of file headers in standard format, but the first 64 bytes of any file hold no information.

This brings us to the end of our investigation of the QDOS floppy disk format.

With Toolkit 2 sector read/write functions, you now have all the information you need to read PC disks on your QL, or to recover deleted files and lots of other interesting things. Have fun.

NEW WP FROM DP

Digital Precision has commissioned a new, all-singing, all-dancing word processor for the QL. Written in assembly language, it will apparently be user-configurable, so that it can be made to look like Quill, or any other word processor.

A surprising number of firms are still supporting the QL. With about 120,000 QLs manufactured, as many as 50,000 could still be in use world-wide — I estimate — so there is still a healthy market for hardware and software.

MEDUSA

QView, the outfit which developed the Minerva replacement ROMs, is working on a QL clone which will bear the name Medusa. The machine will use a full 68000 processor, with more RAM and optional plug-in interfaces for floppy disks, SCSI devices (such as hard disks) and printers.

I hope Medusa does better than a similar Futura project, which got as far as a working prototype and then folded.

John Torofex

YOUR FORMAT – QL 17/02/1990

BERTRUM'S BASIC GRIPE

In Issue 65, Bertrum Carrot complains about the Arc's requirement for BASIC keywords to be in upper case. Perhaps he ought to ditch his Arc and get a QL.

The QL was the first home micro to have a multi-tasking window version of OS. This makes it, in common with the Arc, 'one of the most complex micros around', according to Bertrum.

Actually, QDOS, the QL's multi-tasking operating system, is quite straightforward, and takes up a relatively small amount of RAM. Some users have six or more programs loaded into their machines as a matter of course.

RAM DISK

If you are thinking of expanding your basic 128K QL buy as big a memory expansion as you can afford, and use it in conjunction with RAM disk software.

With more RAM, Microdrive operations will be speeded up, and RAM disk file access will become very much faster indeed.

You'll need to periodically save the RAM disk contents to Microdrive — but you will find operation of your system will be transformed as compensation.

Miracle can supply its Expand RAM without RAM chips, so you can shop around for the best deal when populating it - DRAMS have halved in price over the last few months: look for bargains.

NO MICROWAVE CARTRIDGES

Ablex, the only source of Microdrive cartridges, has ceased manufacturing. The reason for this appears to be the unavailability of the tape that is required.

Tony Tebby of QJump told me that it won't cause him any problems, as Qjump only supplied software on cartridge to about 10 users last year.

A 20 MIPS QL?

I see that Motorola is sampling its new 32-bit super chip, the 68040, rated at 20 MIPS. Like its predecessors, this will have dynamic bus sizing, so it could be used to replace the 68008 in the QL. A better bet, however, would be to use it in a 32-bit QL clone — the performance would be staggering. The 68040 currently costs \$759.

LONDON STD CODES

The London area STD codes change in May. If you have a database of phone numbers you could save yourself a lot of work with TF Services' conversion program — £10 inclusive, from TF Services, 12 Bouverie Place, London W2 1RB. Tel: 01-724 9053.

John Torofex

YOUR FORMAT - QL 24/02/1990

ANNOUNCING QPAC2

Tony Tebby's QJUMP has just announced QPAC2, a new package of QL pointer accessories. QPAC2 is a development of Qjump's popular QRAM, and it provides a set of desktop accessories that are similar to those available on the Mac.

QPAC2 consists of a set of programs intended to assist the user with the niggly jobs that need to be carried out if you want to use your QL efficiently.

Mainly QPAC2 carries out file, job and channel management, hotkey allocation and Things. All functions are menu-driven, with short-cut menus for functions that are used frequently,

Things is a brand new concept: from the Things menu, you can list all the Things in the system, with the type of Thing identified where possible (executable, language extension or general purpose), together with the jobs that are using the things,

Things that can be done with Things include executing them (like executing them from disk/Microdrive, but faster, as they are already in memory) and waking them. Further, a Button menu can be used to create on screen Buttons which can execute or wake executable Things, Buttons are small menus belonging to sleeping jobs, which allow you to execute or wake programs using a single 'do' operation on the button. If you are using a mouse this then makes it as powerful as the keyboard hotkey facility.

QPAC2 is an exciting development for the QL, as it allows for an operating environment streaks ahead of anything on the PC, Amiga and ST, while even approaching that of the venerable Macintosh at a fraction of the cost,

QPAC2 is available now for the cost of £49.90, plus £1.50 p&p. Write to QJUMP, Youngs Garage, King Street, Rampton, Cambs CB4 4QD.

By the way, if you already have QRAM, it can be returned in part-exchange for QPAC2, saving you £20. QPAC2 is, I should mention, only suitable for those of you with disk-based systems with memory expansions.

PACKET RACKET

I have seen several messages recently from QL users, asking for information on how to use QLs for the fast expanding branch of ham radio.

Is there a new-found need for updating my recent piece on the subject? What do you all think?

Write in to the QL column, Express, Beauford Court, 30 Monmouth Street, Bath BA1 2AP

FRACTAL REPORT

I've just received issues six and seven of John de Rivaz' Fractal Report. John seems to have abandoned his QL for a PC—a shame.

Issue Six, however, contains an article by John Topham describing how he used his QL to investigate a chaotic dynamical system called Attraction Basins. His article contained several interesting screen grabs. Worth a look.

John Torofex

YOUR FORMAT – QL 03/03/1990

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.

PIRACY

QJump's latest newsletter has an interesting section about the various QL emulators that are now available, running on the Atari ST and the Amiga. The point is made that they are all illegal and some are more illegal than others, depending on the amount of pirated QJump software they incorporate. The Amiga emulator, for instance, contains Qjump's floppy disk drivers.

These emulators could also be considered to infringe Amstrad's copyright, as Amstrad owns the rights to QDOS. However, it appears that Amstrad isn't interested in jumping on individuals who transfer QDOS from the QL to another machine for their own use. This confirms what I said about the Amiga emulator a few issues ago.

To get round any legal problems, QJump is working on a completely legitimate QDOS-compatible operating system called SMS2, for the Atari emulator and for the Medusa project mentioned above. An interim version of the SMS2 device drivers is now available for the Atari emulator, bundled with a new version of Toolkit 2. Contact QJump on 0954 50800 for more details,

QUANTA AT BRISTOL

QUANTA, the QL user group, is holding a workshop this Sunday (March 4) at Somerset Hall, Portishead, Bristol. A 'bring and buy' sale will take place along with a new activity — 'Software Seminars'. These seminars will enable traders to demonstrate products to large numbers of punters in comfort. Two large monitors will be in use and there will be several rows of easy chairs.

Even if you don't belong to - QUANTA (highly recommended by the way) you'll be made very welcome. Further details from one of the directors, Chris Gregory, on 0272 513653.

John Torofex

YOUR FORMAT – QL 10/03/1990

ITALIAN QL USERS

There was an Italian QL users meeting that took place last September, but details have just now made it into the QUANTA newsletter.

SPEM Proprietor, Guido Masoero, announced a new hard disk system, similar to the Miracle unit. Its about seven times faster than a floppy disk.

Guiseppe Zanetti has developed a DTP program, claimed to be powerful and suitable for unexpanded machines.

Romaldo Parodi showed his expansion card, giving an additional 192K of EPROM/RAM, with battery back-up for the RAM. It can be used in conjunction with a 512K RAM expansion. Programs can be stored in the RAM, avoiding the need for an EPROM programmer.

Roberto Innocenti has discovered a way to get more colours (up to 32), without stipples, in Mode 4!

Augusto Delsante demonstrated his QL film animation program. Using the SPEM video digihser to capture images stored on a VCR, he is able to animate them at 25 frames per second — TV speed.

The program requires a 640K QL and about 10 sequences are available, lasting up to 3.5 seconds.

QL PROLOG

Following the launch of the QL, Sinclair was very interested in putting PROLOG on it. PROLOG (PROgramming in LOGic) is the language often used for so-called artificial intelligence applications like 'Expert Systems'.

The project never went ahead, but Hans Lub, of Utrecht in Holland, has developed his own version of a PROLOG interpreter for the QL, based on the standard implementation.

He wrote most of the interpreter in C, with the critical portion matching questions against rules and facts, and coded in assembly language to create the maximum speed.

QUANTA SUBGROUPS

QUANTA, the QL user group, has spawned a number of local subgroups, information about which I've published from time to time. Here is the latest listing that includes several new ones. You don't have to belong to QUANTA to join one of these groups.

Berks, Alex Waye,
Birmingham, Bedford White,
Bristol, Chris Gregory,
Bucks, Alex Waye,
Devon, Roy Johnson,
East Anglia George Katsoulis
Essex, Trevor Watson,
Leicester, Peter Ash,
Merseyside, Don James,
Mid-Mglia, Peter Rowell,
Mid-Cheshire, Alex Robertson,
Northampton, Terry Harman,
Oxon, Alex Waye,
Sclent, Graham Evans,
Wilts, Alex Waye,

(telephone numbers deleted)

John Torofex

YOUR FORMAT – QL 17/03/1990

FORTH

One language I haven't mentioned in this column is Forth. Forth was invented by one Charles Moore as an efficient way to control a telescope — moving it around, switching filters in and out and so on. Moore developed the languages in the good old days when most minis and micros had 16K of RAM, maximum. Forth is a very compact language, and Forth programs are extremely compact, owing to the use of 'threaded code' — the program is transformed into a set of sub-routine calls.

One writes programs in Forth by defining 'words'. Once a Forth word has been defined, it effectively becomes part of the language — Forth is 'extensible'.

Owing to the use of threaded code, Forth programs run quite quickly and, if programs need to be speeded up even further, in-line assembly language can be used, as with BASIC on the BBC.

For several reasons, Forth has never been particularly popular. Perhaps its biggest drawback, as far as most programmers are concerned, is its use of a stack in conjunction with Reverse Polish arithmetic notation.

Thus, to add two numbers you have to push them onto the stack, followed by the addition operator. The sum of the numbers is now on top of the stack and may be printed, or used in another calculation. To give you some idea of what Forth looks like, the following statement creates a new Forth word called 'add1', which adds 1 to a number and prints it:

```
: add1 1 + . ; [Enter]
```

The new word is used as follows:

```
5 add1 [Enter]
```

printing '6'.

Forth is one of those languages that you either love or loathe. Forth aficionados claim that they can write an application in Forth in a fraction of the time it would take using one of the more conventional languages.

A good implementation of Forth is available for the QL from Digital Precision. SuperForth was written by Gerry Jackson (who also developed DP's Small C compiler) and costs £39.95.

The good people at DP can be reached on 01-527 5493.

68008 CONTROLLER

Leon Heller has designed a simple 68008 system which can be connected to the QL via a serial port. Using about 10 devices and, with its own EPROM programmer, it is ideal for earning about 68000 hardware. Software can be developed on the QL, and downloaded to the controller, for testing and debugging.

The prototype system was built using wire-wrap techniques on a single Eurocard (160mm x 100mm) and cost less than £40.

Details will be published in the QUANTA newsletter.

John Torofex

YOUR FORMAT – QL 24/03/1990

BY VALUE OR BY REFERENCE

It you are translating SuperBASIC programs into another language, or translating a program in another language into SuperBASIC, you need to know about the distinction between 'call by value' and 'call by reference'.

This topic is touched upon in the Concepts section of the QL User Guide, but isn't made very clear, and there are no examples provided.

SuperBASIC, in common with other BASICs and FORTRAN, handles function and procedure parameters using 'call by reference'. That is, the parameter can be altered by the function or procedure, and the altered value is available to the rest of the program,

A simple example should make this clear. Suppose we wish to swap the values of two variables (as part of a sorting routine, Perhaps). The following SuperBASIC procedure will do the trick:

```
DEFine PROCEDURE swap (x, y)
  temp = x: x = y: y = temp
END DEFine
```

If you call the above procedure, using the following code:

```
x = 1: y = 4
swap x, y
print x, y
```

you will see 4 1 printed: the variables have been swapped. If you replace 'swap x, y' with 'swap (x), (y)', converting the variables into expressions, you will find that the swap procedure no longer works. This feature is useful if you don't want a procedure to affect the value of variables with the same name as its parameters elsewhere,

In a language like C, that employs 'call by value', this technique won't work: the values of the variables in the calling program won't be swapped, and will remain unchanged. This problem can be overcome by passing pointers to the values to be changed, to the called procedure.

QUANTA WORKSHOP

The QUANTA workshop which took place in Portishead, near Bristol, on Sunday, March 4, was a great success, with an attendance of about 370.

A seminar area for presentations by traders, with comfortable seating, was in use for much of the day. Outfits attending for the first time included DiRen, with its Fleet Tactical Command simulation, and Jochen Merz, from West Germany, well-known for his addictive Brain Smasher game and his QPAC/QRAM-compatible utilities.

BUILD YOUR OWN BRAIN

I've translated a neural networks program I came across recently into C and got it working on the QL. I'll be placing it in the QUANTA library for those of you who might want a copy.

John Torofex

YOUR FORMAT – QL 31/03/1990

ARCHIVE TIP

If you need to order on more than one Archive field, you should order them simultaneously:

```
ORDER field1;a,field2;a
```

If the fields are ordered using two statements:

```
ORDER field1;a
```

```
ORDER field2;a
```

the second statement cocks up the order produced by the first.

THE QL - WORTH HAVING

Although the QL is in its sixth year, I have yet to see a machine with an operating system more user-friendly than QDOS. The QDOS command language is SuperBASIC, which makes it very easy to understand, even for a complete beginner.

SuperBASIC is a comprehensive form of BASIC, ideally suited to structured programming, with lots of nice features in common with Microsoft's Quick BASIC for the PC. Using one of the SuperBASIC compilers, even a novice can write multitasking BASIC programs which run as fast as programs written in C on many other machines.

Reader, Jeremy Benson, recently disagreed with me for: "making out that the Sinclair machine is on a par with Acorn's Archimedes". Although it is not as fast as the Archimedes, the QL has a better BASIC, a better operating system, and has more serious software available for it. It is also, at about £90, very much more affordable. By the way, if the ARM chip used in the Archimedes is so good, why doesn't anyone apart from Acorn use it?

SINCLAIR QL WORLD

It was recently reported that Focus Magazines Ltd., the publishers of Sinclair QL World, had gone into receivership. QL World, although it had a circulation of only 12,400, was probably quite profitable; it would be a pity if the magazine disappears.

I've heard that production of the April and May issues is well advanced, so there is a good chance that they, at least, will appear; lets hope that QL World can hang in there.

SCOTTISH GROUP

A group has been formed for Scottish users. Meetings are held near Edinburgh, and a monthly newsletter is circulated to members, For further details contact Alan Pemberton, 65 Lingerwood Road, Newtongrange, Midlothian, Scotland EH22 4QQ. Enclose an SAE.

A MICRODRIVE HINT

It is a good idea to format new microdrive cartridges (if you can get them) several times, The easiest way to do this is with a little one-liner:

```
FOR i = 1 TO 5: FORMAT mdv1_
```

You will probably see the number of usable sectors increasing the first two or three times.

John Torofex

YOUR FORMAT – QL 07/04/1990

MORE QUANTA

Quanta, the QL users group has published the chairman's report and accounts for the past year. The group's bank account is healthy thanks to two commercial ventures.

Jan Jones' excellent book on Super- BASIC was twice re-printed and the remaining stock of Tandata QL modems was sold at knock-down prices, Membership broke previous records, peaking at 2,200, which isn't bad for a supposedly- dead machine.

The group's huge software library has been re-organised from chronological to subject order, making it easier to locate programs.

Membership secretary Phil Borman is organising a minibus for the German Alternative Micro Show in Seeheim on April 28. Contact him on 0933 410277 if you want to join Quanta, visit the show or both. Similar trips to Frankfurt and Brussels were enjoyed by all.

COMPUTER-FREE WEEKEND?

An acquaintance who works in computing told me that his wife — fed up with being a computer widow — demanded a weekend break.

They booked into a hotel in the west country and duly arrived at reception to find that the hotel was full of ICPUG (Independent Commodore Products User Group) and their systems. One less than pleased wife.

QLIBERATOR

Liberation Software's popular QLiberator SuperBASIC compiler has been upgraded. It is now fully compatible with the Minerva ROM upgrade and has extra features.

The original Q-Liberator was developed at about the same time as Digital Precision's first compiler, Supercharge.

Supercharge was generally acknowledged to have the edge on speed but Q-Liberator was easier to use, especially as Supercharge used a rather awkward anti-piracy device called Lenslok.

The two compilers differed in one major respect. Supercharge compiled to 68000 machine code, whereas Q-Liberator generated code for a

hypothetical stack machine that was interpreted at run-time (like the UCSD Pascal system that was popular some years ago).

SPEED UP YOUR STORAGE

If you use a Microdrive cartridge or disk for a long time, it is a good idea to copy all the files to a freshly formatted medium. When the files are deleted and modified, they become fragmented with bits and pieces of the files stored all over the medium.

This slows things down so copying on to a new medium ensures that each file is contiguous.

John Torofex

YOUR FORMAT – QL 14/04/1990

AMIGA QL EMULATOR

I've been told that some improvements have been made to Rainer Kowallik's QL emulator for the Amiga. The most welcome change is to the disk read and write routines — they are now much faster. More information when I get it.

QLAF

I've just received issue 9 of CGH Services QL Adventurers' Forum. This is the last issue of QLAF, but fear not, QLAF has been transmogrified into QL Leisure Review.

Subscribers seem less interested in the classic type of adventure, and the new publication will cover a wider range of arcade-type games and other computerised leisure activities.

As with previous issues, it contains an interesting mix of articles. Among the many topics covered are reviews of DiRen's Fleet Tactical Command, Jochen Merz's Brian Smasher/Teaser (it seems to have two names, depending on where it was advertised) and the Watsons' new adventure, Uncle Loonies Legacy.

Fleet Tactical Command is probably unique, in that it can be played as a multi-user game via the QL networking system. It can also be played on a single machine.

CGH's public domain software library includes several programs from French users group QL Contact France (they've been translated into English): Dominos, Darts, Othello and Solitaire.

Subscriptions to QL Leisure Review (four issues) cost £6. CGH Services is at Cwm Gwen Hall, Pencader, Dyfed, Cymru SA39 9HA. Tel: Pencader 574.

MICRODRIVE TIPS

It's a good idea to use Microdrive cartridges in the drive in which they were formatted. Microdrives are comparatively crude devices, and it is quite likely that the characteristics of the two drives in a given machine differ considerably — try formatting the same cartridge in each drive and compare the number of usable sectors. If you use a cartridge in a different drive, re-format it first.

If you have problems reading a cartridge copied on another machine, try pressing down on one of the two accessible corners of the cartridge.

This dodge used to work with tape cassettes — it corrects for differences in the read/write head azimuth setting — and I've heard that it sometimes works with Microdrive cartridges.

QUANTA WORKSHOP

As I write this, QUANTA has just held a successful weekend workshop at the Kingsthorpe Community Centre, Northampton. The place was bursting at the seams, as usual, with hordes of enthusiastic QL users.

The group's AGM took place on the Sunday, resulting in a few changes to the committee. David Johnson is the new membership secretary. Phone him on 0789 8425423.

John Torofex

YOUR FORMAT – QL 21/04/1990

LIBERATION!

Liberation Software recently sent me the latest version (3.3) of its Q Liberator SuperBASIC compiler. The software comes on a 3.5-inch disk with comprehensive documentation, including a good index. The disk was not copy-protected, and the clone program provided made the generation of a working copy a doddle. A boot program loads the compiler and some SuperBASIC extensions when the machine is reset or powered up.

The compiler operates in two phases. The first phase performs some preliminary check and creates a 'work file' on the disk.

The second phase carries out detailed checks for errors and generates an 'object' program, which may be executed. The two phases, if there is enough memory, may be executed automatically — I used this method, as I have a 640K system.

The compiler is remarkably easy to use. Assuming a working SuperBASIC program called fred' is in memory, begin by typing:

liberate flp1_fred,

which will first create a work file called 'fred_wkg', and then generate an executable program called fred_obj'. In turn, this may be executed as a QDOS job by typing the following:

exec flp1_fred_obj

in the usual way.

Programs I compiled with Q Liberator were speeded up by a factor of five to 10. They also loaded much faster.

Programs created by Q Liberator require support from a run time system. This run time system can either be held in memory while the program is executed, or linked to the program, using a compiler option.

As with the previous version, compiled procedures and functions (termed 'externals') may be called from ordinary SuperBASIC programs or compiled programs. Programs too large to fit into available memory may use 'overlays' — externals that may be loaded and unloaded as required.

I was very impressed by Q Liberator 3.3; it proved very easy to use and generated programs which, although they weren't as fast as those produced by, say, DP's Turbo compiler, should run fast enough for most users.

Good value at £55, QLberator is available from Liberation Software, 43 Clifton Road, Kingston upon Thames, Surrey KT2 6PJ.

FRACTAL REPORT

John de Rivaz's Fractal Report newsletter contains some material of interest.

A SuperBASIC program by JC Topham generates a new type of fractal image. Like all fractal programs, it runs extremely slowly, so I compiled it with Q Liberator, without any problems.

Fractal Report is available from Reeves Telecommunications Laboratories Ltd, West Towan House, Porthtowan, Cornwall TR4 8AX.

John Torofex

YOUR FORMAT - QL 28/04/1990

MAXWELL MAKES MOVE

Mega-tycoon Robert Maxwell has bought all the computer-related titles, including Sinclair QL World, from Focus Investments, which went into receivership a few weeks ago.

Maxwell nearly got involved with the QL once before, when it was announced that he was purchasing Sinclair Research. The deal fell through and Sinclair was eventually taken over by those people at Amstrad.

I hope that Sinclair QL World will continue to be published. Anything that helps to keep up interest in the QL has to be a good thing.

NEW FROM DILWYN JONES

Dilwyn Jones, author of the popular Page Designer program sold by Sector Software, has branched out on his own with three new titles: BASIC Reporter, Wordschnck and Vision Mixer. I'll be reviewing them in this column, commencing with Wordscheck.

Wordscheck counts the number of words in a text file (a Quill document file or an ASCII file), Small files are loaded into memory for speed, and large files are dealt with on disk, which obviously slows things down considerably.

When the file has been processed, the results can be displayed on the screen, output to a file, or sent to a printer. Output can be sorted, if required, in word order. Output options can be selected, so that only words longer than six characters are included, or words occurring more than a total of five times.

Wordscheck was written in SuperBASIC, compiled with Turbo, was very easy to use, and had good error trapping. Documentation is in the form of a Quill file, I found the program somewhat slow with largish files, even though they were processed in memory.

Once the list of words has been generated, and sent to a file, it can be used to produce indices, vocabularies and the like. Simple BASIC programs could be used for further analyses.

Wordscheck is a rather specialised utility, but many people could find a use for it, and it is excellent value at £6. Available from Dilwyn Jones Computing, 41 Bro Emrys, Tal-y-Bont, Bangor, Gwynedd LL57 3YT,

Jones is looking for authors with programs of their own, or who might also be interested in developing some of his ideas.

NEW BULLETIN BOARDS

Ron Dunnett of Braintree, Essex, has set up QUBBE (QL Users Bulleting Board in Essex), This is a 24-hour viewdatatype (1200/15) BBS on 0376 47852 and uses the ring-back system.

In Bristol, Dave Fullerton has set up QBUG, a 24-hour BBS running on a QL with a 40Mb Miracle hard disk. The number is 0272 666187,

Special interest sections include areas for Quanta, adventures, and the Bristol users group.

John Torofex

YOUR FORMAT – QL 05/05/1990

QL GAMES

Most QL users don't seem all that interested in playing games, but for those of you who like that sort of thing, there are quite a few around. They cover the usual range from shoot-em-ups to chess. The supplier with the best selection appears to be TK Computerware with around 40 titles. TK is at Stone Street, North Stanford, Ashford, Kent TN25 61W. Or as an alternative, you can phone 0303 812801.

Judging by the adverts in Express, there appears to be quite a demand for programmers with 68000 experience. In my opinion the QL, with its bit-mapped display is the ideal machine on which to learn such skills.

Indeed, if you find you have an aptitude for this type of programming you shouldn't have too many problems with the ST and Amiga.

A good starting point would be to write your own graphics routines in assembly language, and use them to develop a simple game. If you write directly to the screen memory, your program should transfer quite easily to the other machines.

MERZ BUYS ABC

I heard recently that hardware supplier ABC Electronic has been acquired by Jochen Merz Software. Both are based in West Germany.

ABC has developed several interesting products (such as a hard disk interface), but has always been dogged by production problems.

Merz's main hardware product is the QL emulator for the Atari ST and he is now selling Mega STs with the emulator fitted.

A modified UK Mega1 ST costs a total of £749, including insured carriage. You'll have to pay duty and VAT on top of this, of course, which makes it rather expensive, when compared with the UK price of about £450 for the basic Mega1. The emulator kit sells for £170.

Jochen Merz Software is at Im Stillen Winkel 12, 4100 Duisberg 11, West Germany.

TEBBY TO LEAVE QL SCENE

Tony Tebby, of Qjump, recently told me that he is winding down his QL activities, and will be devoting his time to non-QL hardware and software consultancy, based in France.

Tony, formerly with Sinclair Research, was largely responsible for the design of the QL, and wrote QDOS, the QL's multi-tasking operating system.

Tony's commitment to THE QL has been a major factor in the machine's survival. He is well known for being incredibly helpful to users with difficulties. In many cases he has sorted out problems that have been nothing to do with Qjump's own products.

Do not despair, however, Care Electronics hopes to be able to continue to supply QJump's products, including the new QPacll package.

John Torofex

YOUR FORMAT - QL 12/05/1990

IN FOCUS

A couple of issues ago I mentioned that QL World, along with the other Focus titles, had been purchased by Maxwell.

Indeed, QL World, together with the other magazines, has now left the Focus HQ and is sharing premises with Panini Publishing, another part of Maxwell's empire in Goswell Road, London. It, therefore, looks as though the future of the magazine is assured, which will please those readers who have taken out a subscription. The phone number is 071-253 5142, by the way.

BASIC REPORTER

Dilwyn Jones's BASIC Reporter is a utility that gives you lots of useful information about a SuperBASIC program: a list of the variable names used in the program, numbers of lines containing a given keyword, which procedure calls which function and where, etc. Programs can also be traced — the line numbers of statements being executed are displayed while the program is running, which is very useful for debugging.

Written in compiled (Turbo) Super-BASIC, the program multi-tasks and can, therefore, be kept in memory and entered when required, by pressing Control C. It is menu-driven and very easy to use. Reports may be listed to the screen, to the printer or to a disk file.

A sizeable SuperBASIC program, INDENT_BAS, on which the utility can be tested, was supplied. This is a form of 'pretty-printer' for tidying up listings and could be quite useful in its own right.

Good value at £10, BASIC Reporter is available from Dilwyn Jones Computing, 41 Bro Emrys, Tal-y-Bont, Bangor, Gwynedd, LL57 3yt. Phone 0248 354023 for more details.

QUANTA SUBGROUPS

The Essex group has moved to a more accessible location — Rayne Village Hall, Gore Road, Rayne, Essex, Rayne is on the A120 between Great Dunmow and Braintree. Meetings will be held on the second Sunday of each month at 2.30pm. Contact John Mason on 0277 651593 if you have queries.

A new group has been formed for users in central Lancashire, meeting on the first Monday of the month at the Lisieux Hall Social Club, Dawson Lane, Whittle le Woods, Chorley. More information from Steve Hutton, 44 St Mary's Rd, Bamber Bridge, Preston, PR5 6TE.

Andrew Knights would like to hear from users interested in forming a group in the Worthing, Horsham area. Contact him on 0903 812820 after 6pm.

Even if you don't belong to QUANTA, you'll be made very welcome at a sub-group meeting. They are especially useful if you have problems — you will nearly always find someone who can help, A meeting usually includes a formal session (a hardware or software demonstration, for example) followed by an informal get-together.

John Torofex

YOUR FORMAT – QL 19/05/1990

MULTIBASIC

The latest version (1.1) of Minerva, the popular QDOS replacement developed by the QView International Megacorporation, includes a multi-tasking Super- BASIC interpreter — probably the first time this has been done, anywhere.

Multi-tasking BASIC was part of the original QL specification, but Sinclair never got round to implementing it. Stuart Mcknight of QView told me that one of the development team has had 119 programs running on a system with expanded memory!

Of course, the programs executing are not actual QDOS jobs, so one can't switch between them with Control-C, as one can with compiled programs.

Knowing that Sinclair used a VAX super-mini to develop QDOS and SuperBASIC, I was intrigued to hear that Minerva was developed on a QL, albeit with a 30Mb Miracle hard disk. The GST macro assembler was used. Minerva comprises some 300 source code modules — quite a lot of code.

Over 500 copies of Minerva have been sold, while the total advertising spend has been a mere £40 for a page in Quanta!

TECHIES ONLY

One can build a library of object modules — Sinclair re-locatable binary format — merely by concatenating the different files. I've only seen this mentioned in one publication: the linker section of the GST macro assembler documentation.

All compilers and assemblers that use the GST linker generate suitable files. You can write a simple SuperBASIC program to perform the concatenation (this was how I tested the idea), and a suitable program written in C appears as an example in the MetaComCo QL C documentation.

Incidentally, there are several 'features' in MetaComCo's QL C. MetaComCo circulated a list of them, but they were never fixed.

For instance, register variables don't work, and the compiler generates a warning if 'return' doesn't have an argument. If you are compiling a large program and you get an 'out of memory' error, even in a 640K machine, try allocating more memory with a "%workspace" (I generally use %100000) command line specifier. This works with both passes of the compiler, but isn't mentioned in the manual. An alternative, of course, is to split a large program into modules, with one or two functions in each module.

MORE GROUPS

Several QL users belonging to the Chorley Computer Club are interested in forming a QL section. The contact is Keith Reading, 50 Howkshead Avenue, Euxton, Chorley, Lancashire: You may phone 02572 77482.

And anyone interested in joining a Surrey group, contact Tony Gordon on 0372 58180 or leave a message on the Qualsoft BBS (071-706 2379).

John Torofex

YOUR FORMAT – QL 26/05/1990

MORE DRIVES

Miracle recently upgraded its popular Trump Card memory expansion/disk interface to take 1 megabit DRAMs. They also took this opportunity to modify the disk controller circuitry so that up to four disk drives may be connected — the earlier unit could only handle a maximum of two drives. Customers with the earlier Trump Card who wish to connect more drives needn't feel left out. For £15 Miracle can supply an adapter a small circuit board that can be installed by the user) and replacement EPROM, that allow the additional drives to be connected.

Further details from Miracle Systems Ltd, 25 Broughton Way, Osbaldwick, York YO1 38G. Telephone (0904) 423986.

IN PRAISE OF MACROS

Some time ago I extolled the virtues of the GST Macro Assembler, and in particular its powerful macro facility. I've recently been doing some work with it and made a lot of use of the macro library, MACRO_LIB, that comes with the product. A macro, by the way, is a sequence of source code statements that is given a name. Wherever that name appears in the rest of the program it is replaced by the sequence of statements. Macros may have parameters that are substituted at appropriate positions in the macro expansion.

MACRO_LIB gives the programmer a full range of structured programming constructs, such as IF— THEN—ELSE— ELSEIF, FOR—WHILE and REPEAT— UNTIL loops. For instance, the following code fragment executes the statements inside the loop 100 times:

```
FOR.W D3 - #1 TO #100 DO.S  
statements inside loop  
ENDFOR
```

Judicious use of these macros gives the assembly language programmer many of the benefits of a structured high-level language. It's quite feasible to take a program written in C or Pascal and translate it almost literally into assembly language, using macros.

VISION MIXER

Vision Mixer, by Dilwn Jones, takes a series of screen images and displays them with special effects, such as mixes and wipes. Of course, the effects are nowhere near as good those achieved on the Wi for instance, but the QL is very much cheaper than the systems used by the professionals.

Applications include advertising and lectures.

The images can be generated from SuperBASIC programs, or drawing packages like GraphiQL or Eye-Q. A disk system is recommended and a minimum of 256K of RAM is required.

I found the program very easy to use and, considering the limitations of the QL, very effective.

Vision Mixer costs £10 from Dilwyn Jones Computing, 41 Bro Emrys, Tal-y-bont, Bangor, Gwynedd LL57 3YT. Telephone: 0248 354023.

John Torofex

YOUR FORMAT – QL 02/06/1990

MORE APL

A few issues ago I mentioned MicroAPL's implementation of APL for the QL.

If you've seen the light or you are already a devotee, you will find membership of the British APL Association very useful — it publishes Vector, a very informative quarterly journal, for an annual membership fee of £10. For more information contact the secretary, Graham Parkhouse, Department of Mechanical Engineering, University of Surrey, Guildford, Surrey.

PD APL

A public domain version of APL for the QL was being produced under the aegis of I-APL Ltd. Unfortunately it was never completed. I have a beta test copy and it works quite well, apart from there being no file I/O.

If anyone is interested in continuing with this project please contact Anthony Camacho of I-APL Ltd at 2 Blenheim Road, St Albans, Herts, AL1 4NR. I-APL Ltd also supplies PD versions for the PC, Beeb and Archimedes at £4.50 a throw, if any users of these machines read this column.

MICRODRIVE CARTRIDGES

I reported some time ago that Ablex had no intention of resuming production of Microdrive cartridges.

There appear to be very few new cartridges around and some software suppliers are asking customers to provide their own media, if they require software to be supplied on cartridge. Although Sinclair's decision to use Microdrive storage on the QL has been ridiculed in some quarters, Microdrive technology had quite a lot going for it at the time. Similar systems had been fairly successful on other machines, such as the Aculab Floppy Tape on the Tandy TRS-80 Model I and Microdrives fitted in quite nicely between ordinary cassette storage and floppy disks.

Used carefully, the cartridges are quite reliable and access times acceptable, especially for users with no experience of floppy disks. About 100K is available on each cartridge and they can be carried around in one's pocket, without any problems.

In fact at one time the QL was embargoed for export to communist countries under the COCOM regulations, not because of its performance but because the Microdrive data storage density was too high for the regulations!

QL SPEED

I recently compared the speed of my QL with the Opus XT clone, running the same C programs, compiled with Lattice C on the QL and Zortech C on the Opus. With the Opus running at the standard XT speed of 4.77MHz I was pleasantly surprised to see that the QL was a bit faster than the Opus. Of course, with the Opus running at its normal speed of 10MHz it was about twice as fast as the QL.

John Torofex

YOUR FORMAT – QL 09/06/1990

ALL FORMAT FAIR

The third All Formats Computer Fair takes place this weekend, Saturday/Sunday, at the New Horticultural Hall, Westminster. Quanta, the QL users group, will be attending as usual, and there should be lots of other stands flogging QL hardware and software.

The second International QL Meeting will be held in Schloss Bedburg (West Germany) on June 23.

The meeting last year proved very popular, and quite a strong British contingent attended.

Unfortunately, this year a meeting clashes with a Quanta workshop, so there won't be so many people from the UK participating. Overnight accommodation is available, as well as a campsite, if you would like more information, contact Franz Herrman, Talstrasse 21, D-5460 Ockenfels, West Germany. Tel: 0049/02644/1855.

SUPER DUPE

If, when writing a SuperBASIC program, you need to duplicate a line, you can save a bit of typing by using the following technique.

Simply Edit the line to be duplicated, backspace to the line number, and change it to the line number where you want the duplicate to be located, if anything in the statement needs changing, do it now. When you press Enter to terminate the Edit process, you will find that the original line will still be there., and the duplicated line, with changes, will have appeared in the desired position.

CLONING

Quanta co-founder Leon Heller has come across a couple of chips that would considerably simplify the design of a QL clone.

The Philips PCB68070 has been available for a couple of years, and is a highly-integrated variation on the 68000. Philips has just announced a companion to the 68070 — the SCC66470 video and system controller (VSC). The VSC replaces some 30 devices that are needed to build a 68000-based computer with high-resolution colour graphics, and can handle up to 1.5Mb of RAM and 512K of ROM, directly.

With these two chips, plus disk controller and keyboard controller chips, a handful of DRAMs, and a few other bits and pieces, a QL clone could be built with an eight or 256 colour 768 x 560 resolution display.

The VSC includes a blitter, and with the 68070 running at 10 MHz, a very high-performance system could be cheaply constructed, 25 per cent faster than the Amiga A500 or the Atari ST, with better graphics). The Minerva QDOS replacement could be ported to the proposed system without too many problems.

The Proposal has been written up for inclusion in the Quanta newsletter It will be interesting to see what sort of response ensues.

John Torofex

YOUR FORMAT – QL 16/06/1990

ASCII FILES FROM QUILL

If you need to generate a standard ASCII text file, and you don't have a suitable text editor, you can use Quill. Run CONFIG.BAS and set up printer dat so that the number of lines per page is 0 (zero), with no preamble. You then print the document to a file.

Of course, to read an ASCII file into Quill for editing, it must be imported, rather than read in as a normal document. Since superBASIC programs are stored as ASCII text, you can modify them using this technique.

SPECTRUM EMULATOR

The recent spate of emulators reminded me of a Spectrum emulator for the QL that was announced shortly after the QL first became available.

While the project was certainly quite feasible, a working emulator never materialised, for one reason or another — which remains a mystery.

STRATHCLYDE QL PROJECT

In a letter in Express 81, reader Bryan Morton wondered about the outcome of the project at the University of Strathclyde to give every student a QL by 1990. I recently had a word with Dr Richard Kingslake of Strathclyde, who was involved with this project.

Sinclair Research donated 500 machines to the university, and a further 200 or so were purchased, together with monitors and disk drives. The policy of giving each student his or her own QL wasn't too successful — some students were required to take their computers to laboratory sessions, and weren't very keen on lugging them around, and some were stolen. However, those students who mainly used their QLs at home were quite happy with the scheme.

The university's policy now is to have a large number of PC clones, and Hewlett Packard and Sun workstations scattered around the campus.

However, one lab in the computer science department is still full of QLs, used mainly for teaching 68000 assembly language programming, in conjunction with the Talent Programmers Workbench assembler/debugger.

FRACTAL REPORT

I've just received Issue 9 of John de Rivaz's Fractal Report newsletter. As usual, it contains a QL-related item — John Topham has been using his QL to investigate the critical - region where the classic 'bifurcation diagram' produced by the function $x = r*x*(1-x)$ becomes chaotic. This is when r reaches about 3.57, if anyone else would like to crank up an experiment.

A listing of SuperBAS1C program John developed during his investigation is provided, as well as some screen dumps.

For a sample copy of Fractal Report, send an A4 SAE to: John de Rivaz, West Towan House, Porthcowan, Truro, Cornwall TR4 8AX.

John Torofex

YOUR FORMAT – QL 23/06/1990

DIY MEMORY EXPANSION

At an early stage in the QL's history, DIY memory expansion was quite popular, because of the high prices of commercial upgrades.

There were basically two methods: 'piggy-backing' 256K DRAMs onto the existing 64K devices (giving a total of 640K), and winking out the old RAMs and replacing them with 256K chips (giving a total of 512K).

Both methods were fraught with danger — the former method often resulted in problems with poor solder joints, and the latter technique sometimes left the user with a knackered printed circuit board. Nevertheless, quite a lot of machines were successfully upgraded by their owners.

By the way, it isn't just a question of adding the new RAM chips, if you feel like doing your own upgrade. Some additional logic has to be added. Both techniques were documented in the QUANTA newsletter.

QUANTA DOINGS

QUANTA, the QL Users and Tinkerer's Association, is holding a workshop at the Anchor Hotel, Bridge Street, Thetford, Norfolk, this weekend, hosted by the East Anglia sub-group. Give Geraint Jones a ring on 0482 762406.

In the June issue of QUANTA, the group's newsletter, Melvyn Pearce reports that he has obtained the latest version (3.03B) of Rainer Kowallik's QL emulator for the Amiga. English keyboards are now catered for, and a bug in the utility which converts machine code programs to run on the emulator has been corrected.

Phil Gaskell has produced a 100 per cent solution to the real-time clock reliability problem, using an external clock chip with its own re-chargeable cell, mounted on a printed circuit board interfaced to the QL via the EPROM cartridge socket. Additionally an EPROM socket is provided.

Phil has decided to manufacture a small batch of these units, selling at £29.50 each. Contact him on 0342 312649 for more information.

CARTRIDGES AVAILABLE

EEC has large stocks of Microdrive cartridges, in wallets of four, or boxes of 20. EEC Ltd is based at 18-21 Misbouroe House, Chiltern Hill, Chalfont St Peter, Bucks SL0 0QE: or phone on: 0753 888866.

ANOTHER FANZINE

Many QL users seem interested in fractals and chaotic systems. If so, you will find Andy Lunness's Chaos and Complex Cartography newsletter of interest. Details from Andy at 36 Linton Avenue, Bury, Lancashire BL9 6NL. Andy uses an Archimedes, to which he might add a transputer!

John Torofex

YOUR FORMAT – QL 30/06/1990

OL ON THE BOX!

Watching the finals of the recent BBC2 design competition, I was intrigued to see what appeared to be a QL on the desk of one of the designers of a nifty pocket microscope.

The outfit responsible is called Science of Cambridge, which was the name of Sir Clive Sinclair's original computer company, which itself developed an odd little system called the MK14 over 10 years ago.

Chris Curry, one of the founders of Acorn, used to run the original Science of Cambridge outfit for the avuncular knight, and he is now a partner in the new venture.

The QL in question had an unfamiliar expansion unit with a circular top plugged into it. According to Tony Tebby of Qjump, this is a mockup of a proposed 0.5Mb waferscale memory expansion for the QL.

This product has subsequently been developed into the Anamartic wafer-scale 'silicon disk'.

SPEAK TO ME!

Some time ago, QUANTA co-founder Leon Heller had a phone call from a lady who was looking for QL speech synthesiser.

Her husband is blind, and such a device would enable him to use his QL more effectively.

If she is reading this column, could she contact Leon on 0424 714790 - he has a possible solution to the problem.'

Leon would like to hear from anyone else who is interested in such a device as he has a working prototype, using a Z80 processor and the ubiquitous SPO-256 speech chip.

A speech synthesiser for the QL was advertised by a New Zealand outfit a couple of years ago.

Unfortunately, that company no longer appears to be trading, and I don't know of anyone with one of the units.

RFI

RFI is the trade name for Radio Frequency Interference. If you find your QL interferes with radio reception, you could try winding the power supply cable, and the printer cable, through ferrite toroids. This is a technique often used by radio amateurs for reducing RFI from computers. Suitable toroids (about 4cm across) are available from Tandy stores. Six turns or so should suffice.

This tip works with other computers, of course!

Radio amateur Peter Dean (call sign G3FNT) has written a log program using Archive. If anyone is interested, send a cartridge, with return postage and packing, to him at 17 Pineheath Road, High Kelling, Holt, Norfolk NR25 6QF.

Peter would also like to hear from anyone who has information on how to use radio fax with the QL. He has a suitable modem.

John Torofex

YOUR FORMAT – QL 07/07/1990

SUGAR TO SELL QDOS?

I've just heard from a reliable source that an approach has been made to Amstrad about the purchase of the rights to QDOS.

Amstrad has previously given the Impression that it doesn't want to sell QDOS, but is now proving more amenable, it appears. This could mean that someone is serious about producing a QL clone. It cannot be the Qview International Megacorporation, as it already has its own Minerva QDOS work-alike, if it goes ahead with its Medusa project. Watch this space!

MICRODRIVE CARTRIDGES

I've just been speaking with Bill Richardson, MD of EEC Ltd, about the Micro- drive 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.

When the supply from Ablex dried up, large numbers were purchased from ICL (they were used on the QL-based One-per-Desk), although EEC had to pay through the nose for them, resulting in a selling price of £4. EEC has also been selling once-used cartridges, with the write tabs removed, for £1.30 to £2, depending on quantity. They are quite useable with the addition of a small piece of sticky tape, to replace the broken-off tab.

Incidentally, these cartridges are suitable for use with Spectrum Micro- drives. A couple of weeks ago I mentioned that EEC had large stocks of QL bits and pieces. These include circuit boards, power supplies, keyboard membranes, cases, and chips. EEC is on 0753 888855.

APOLOGIES

Apparently I was given some duff information when I said, some time ago, that the MINIX operating system couldn't be ported to the QL. Not knowing that it couldn't be done, one Felix Cites a denizen of Holland, has now got MINIX working on his QL.

A message to this effect recently appeared on USENET, the e-mail system used by the UNIX community, according to reader Jim Gilmore.

Minix, best described as a poor man's UNIX', is mainly used on Atari STs, by people who like that sort of thing. Although I have Croes's USENET address I don't have access to a suitable UNIX system. I've asked a friend of mine who works for SUN to find out his address.

John Torofex

YOUR FORMAT – QL 14/07/1990

ANGLIAN WORKSHOP

The recent workshop in Thetford organised by the East Anglia Quanta subgroup was highly successful by all accounts, with attendance well into three figures.

Star of the show has to be a 68020 32-bit processor shoe-horned into a standard QL. The perpetrator of this feat was inviting all and sundry to run software on this beast — to check its compatibility with a standard QL.

The workshop was also notable for the appearance of Quanta T-shirts and sweatshirts. The Quanta logo is tastefully depicted in black, together with a representation of our beloved QL. You'll have to join Quanta if you want one — phone David Johnson on 0789 842543 for more information.

Quanta is now in its seventh year, by the way, making it one of the longest established groups around.

PD PACKET PROGRAM

Amateur packet radio enthusiasts using a QL might be interested in a PDcomms program for the QL available from Siskin Electronics Ltd, 2 South Street, Hythe, Southampton, 504 6DB. Tel: 0703 207155. A local amateur using this program speaks very highly of it.

The program is only suitable for the PacCom TNC (the box that goes between the computer and the transceiver). Siskin doesn't have a QL (shame!), so program cartridges are available on loan. For QL users with a Kantronics or AEA TNC, a program (non- PD) written by Paul Hounslow, G4YFE, is also available from Siskin.

DAMAGED FILES

If you find that a Quill document won't load (most likely if you are still using Microdrives), the file has probably been corrupted in some way. If you don't have a back-up copy try importing the document file. You will find that the document flow contains lots of extraneous garbage (Quill attaches a header to the text) but this can be edited out, leaving you with the original document.

If you are working on a large document, you might find that Quill creates a temporary file called def_tmp.

This file is often quite large, reducing the available space. It's quite safe to delete this file, even if you intend to do more work on the document.

STATISTICS ON THE QL

Readers wishing to perform statistical analysis on their QLs will have been disappointed at the lack of suitable software — despite the glut on other machines like the PC. Several statistical programs have now been donated to the Quanta software library, however. Both non-parametric (distribution-free) and parametric tests are available.

John Torofex

YOUR FORMAT – QL 21/07/1990

REBEL FROM RENEWAL

Rebel Electronics has upgraded the firmware in its hard disk interface for the QL. The upgrade is free, and is primarily to fix a few bugs that have materialised now that the unit has been in production for some months.

Rebel has in fact been a spare time activity, and the individuals behind it are looking for someone to take over the business. The QL user group Quanta has been mentioned as a possible buyer, but a formal approach hasn't been made, according to Quanta chairman Syd Humphries.

Rebel Electronics Ltd is at 12 York Place, Leeds LS1 2DS. You may phone 0757 86630 or 0904 708073.

SD MICROSYSTEMS

SD Microsystems has sent me details of its range of business software for the QL. Packages available include General Ledger at £19.95 and Stock Accounting System (SAS) at £39.95

I was interested to see that SAS can make use of the QL's networking feature, enabling a low-cost multi-user office system to be developed. Contact SD Microsystems at PO Box 24, Hitchin, Herts; phone 0462 675106.

FLARE AVP

Another new chip that could prove very useful in a QL clone is the Flare Technology Ltd AVP. The AVP is a large ASIC (Application Specific Integrated Circuit) containing graphics and sound processors, a video generator, colour palette, audio DACs, memory controller and floppy disk controller.

Although designed to use an 8086 as the host processor, the AVP could be interfaced to a 68000 family device quite easily.

A QL clone using the AVP could have the following specification: 1Mb of RAM, a high performance graphics processor delivering 4,096 colours and up to 512x256 pixels, a 12MIPS RISC sound processor giving Compact Disc quality, and a floppy disk drive. The manufacturing cost could be lower than £200!

Interestingly, one of the designers of the AVP is John Mathieson, who had a hand in the design of the QL.

ULSTER GROUP

The Northern Ireland Quanta sub-group has written to me with the news that Quanta is alive and well in Northern Ireland, in spite of rumours to the contrary. Nothing to do with me--I didn't even know of the group's existence before they wrote to me!

Meetings are held on the last Saturday of each month at 1430, except when it clashes with a Bank Holiday weekend. The venues vary, so phone for details. The contact is Billy Turkington at "Fairyhill", Rostrevor, Newry, Co Down BT34 3BB. You may phone 06937 38567.

John Torofox

YOUR FORMAT – QL 28/07/90

VIRTUAL REALITY - SORT OF

it's interesting to see the excitement about 'virtual reality' among the software houses. This is the technique used by outfits like NASA, with separate display screens for each eye. With appropriate software, amazingly realistic 3D simulations are possible.

Oddly enough, this technique was pioneered on the QL, with a game emanating from France called The Wanderer. Using red and green wire-frame images, offset from each other with software, and spectacles with a red filter in front of one eye and a green filter in front of the other, a reasonable 3D effect resulted, similar to that achieved with the old 3D movies like House of Wax. The game itself was a bit crappy, but the system obviously had possibilities.

ADMAN SERVICES

Dennis Briggs of Adman Services has got a well-deserved reputation as a fount of knowledge regarding all things QLish, especially hardware problems. He has a good stock of spare parts, which are available at very reasonable prices,

Dennis has designed one or two useful hardware goodies himself, such as a simple adapter for the QL expansion port, enabling up to three peripheral devices to be attached. They are "folded over", so that they are beneath the main circuit board- Using this gadget, someone has even built a 3.5 inch disk drive into his QL case, replacing the Microdrives, together with the controller board.

Dennis also has an EPROM cartridge, capable of taking a 512K EPROM. The cost of The cartridge is around £10.

Adman Services is at 53 Gilpin Road, Admaston, Teltord, Shropshire TF5 0BJ, Telephone: (0952) 255895. Dennis is always prepared to help with problems, if they are sent to him in writing accompanied by a stamped, addressed envelope.

TEBBY IN FRANCE

As you read this, Tony (Qjump) Tebbly will be on his way to pastures new on the other side of the Channel.

This really will be the end of an era, as Tony is unlikely to be doing any more work on the QL, and will be concentrating on much more lucrative consultancy assignments in the future.

Tony was largely responsible for the QL hardware, and also developed QDOS - the QL's unique operating system. It is still streets ahead of every other personal computer operating system that I have come across, in allowing modifications and enhancements, Try doing that with AmigaDOS, TOS/GEM or MessyDOS!

Most of the Q)ump products will continue to be available from Care Electronics. Care is at 800 St. Albans Road, Barston, Watford, Herts WD2 6NL, Tel: (0923) 672102,

John Torofex

YOUR FORMAT – QL 04/08/1990

BRIGHTON RADIO RALLY

TF Services had a stand at the recent Brighton Radio Rally and Computer Show. QUANTA co-founder Leon Heller was on the stand, with Tony Firshman of TF, and had his packet radio system hooked up to a QL, so that Tony could demonstrate the packet version of his Qualsoft comms program. Several users had requested a split-screen facility, and this has now been incorporated in the current version. These rallies are worth attending, as items of interest to QL users (and owners of other machines) are often available at knock-down prices, since the stall holders sometimes don't know what they are selling!

Tony came across a large box full of brand-new QL power supplies, which are becoming rather scarce, and got QL-related items, and there were lots of Spectrum bits and pieces going extremely cheaply.

Siskin Electronics had a copy of its PD packet program for the QL, and Leon got a copy. I'll let you know what he thinks of it in the next issue.

SECOND PROCESSOR

You might not be aware of the fact that the QL contains two microprocessors — the Motorola 68008 which does most of the work, and an Intel 8049 single chip device (the Intelligent Peripheral Controller or IPC) looking after the keyboard and sound generation. The 8049 is termed a single chip device, because it contains a central processing unit, RAM, ROM, and I/O, all combined together on the same chip.

Single-chip devices like the 8049 are often used in mass-market products like washing machines, because of their very low cost (perhaps a few pence each), in large quantities.

You will probably only wish to communicate with the IPC if you are writing assembly language programs, and need to get direct input from the keyboard for fast response in a game, for instance, or to generate sound.

The technique is reasonably straightforward, and is explained quite well in Adrian Dickens' QL Advanced User Guide, if you have access to a copy.

SWITCHING ON

Users are often unsure about the correct sequence to adopt when powering up their system.

This is especially confusing when you have a printer and disk drives, in addition to the QL itself and a monitor or TV.

I have found that the best solution is to power everything from a four-way mains adapter, plugged into a standard 13-amp socket, and switch everything on at once — much less strain on the brain cells, and it doesn't seem to cause any problems,

Jon Torofex

YOUR FORMAT – QL 11/08/1990

NEW WP FROM DP?

Some time ago Digital Precision (DP) announced that it had developed the largest word list anyone had ever put on the QL, but was a little tight-lipped about what it was going to be used for. By asking around, and putting two and two together (and probably making five), I have decided to stick my neck out and concluded that DP is working on the word processor to end all word processors — as far as the QL market is concerned at any rate.

Word processors (as opposed to the text editors used by programmers) that are already available for the QL include: Quill, part of the Psion package supplied with every QL; DP's The Editor, written by the redoubtable Chas Dillon; and Fred Toussi's Text87.

Quill is very user-friendly and fine for short letters and the like, but I have found it quickly runs out of steam when you are working on documents of any real size.

The Editor is nice and fast, flexible, and can certainly handle large documents, but it doesn't give the user a true WYSIWYG (What You See Is What You Get) display.

Text87 is fast, extremely comprehensive and does have a WYSIWYG display. I believe that German, French and Italian versions are now available.

DP's new word processor will therefore have to combine the best features of all three of the existing products if it is to succeed in this by no means wide open market — difficult but not impossible with that word list to build on.

HULL GROUP

QUANTA co-founder Leon Heller has just moved up to Hull. The natives are friendly, he tells me, and a small but enthusiastic QL group has been meeting there for some time. The next meeting is at organiser Tom Mould's abode, 141 Spring Bank, Hull, on 23 August at 19:30. Telephone Tom on Hull (0482) 212184 for more information.

Incidentally, Leon was pleasantly surprised to find that a colleague at his new place of employment, at an adjacent desk in fact, also had a QL — quite a coincidence!

TERM

Many QL users with amateur radio licences use their systems for packet radio — high-speed two-way data transfer, usually on the 144MHz VHF band. While a program of the type used for communication with an ordinary modem is reasonably satisfactory, a dedicated packet radio program makes life a lot easier, especially if it is free!

Such a program is TERM, a comms program specifically for packet radio written in Lattice C by Paul Hounslow, G4YFE. Paul has generously placed the program in the public domain. One amateur packet radio fan I know speaks very highly of it. TERM is available from Siskin Electronics on Microdrive or 3.5 inch disk. Siskin is on (0703) 207155.

John Torofex

YOUR FORMAT – QL 18/08/1990

ESSEX LADS

The Essex QUANTA sub-group is holding a workshop on Saturday September 1.

The venue is Rayne Village Hall, Gore Road, Rayne, Essex. Rayne is on the A120 between Great Dunmow and Braintree, Contact Ron Dunnett on (0376) 42052 for further details.

Being virtually on Digital Precision's doorstep, I would expect Freddy Vaohna, Mr DP, to be in attendance, with a plentiful supply of software. TF Services and Adman Services usually turn up at these events also.

QUANTA members are a very friendly bunch of people, so a good time is virtually guaranteed, even if you don't belong to the group.

MINERVA UPGRADE

I've just heard that version of 1 .82 of the Minerva QDOS replacement ROM has been released by the Qview International Megacorporation. Qview hangs out at 29 Carnaby Close, Godmanchester, Cambs. PE18 SEE. Tel: (0480) 412884, I'll see if can get some information on the new features in next week's issue.

OVERHEATING

At this time of year, many users find their QL starts misbehaving because of the heat, especially if they had added disks and expansion memory. The QL, being a very compact machine, is rather prone to heat related problems at the best of times. The symptoms are crashes and lock-ups, and a reduced Microdrive reliability.

If you do find the heat affecting your machine, ensure that the feet are fitted, as this improves the air circulation through the machine.

Open the machine up and check that the screw securing the voltage regulator to its heat sink is nice and tight and put some heat sink compound on the regulator — Sinclair didn't bother to do this.

Substituting a 1 amp regulator for the titchy 0.5 amp device also often helps.

MODEL RAILWAY CONTROL

A friend recently asked about the best way to use a QL for model railway control. After a bit of head scratching, I decided that the simplest way and cheapest way was to connect a chip called a Universal Asynchronous Receiver/transmitter or UART, to one of the QL's serial ports.

A suitable device is the 6402 which costs about £5. Also needed is a crystal for the baud-rate clock, a couple of RS-232 level converter chips, and a few transistors and resistors to buffer the outputs — say £20 in total, including a suitable prototyping board.

The UART chip gives eight input lines and eight output lines — more than enough I/O for a simple model railway layout. The circuit is quite simple to build, and we should have it working properly in a week or so. I'll let you know how we get on.

John Torofex

YOUR FORMAT – QL 25/08/1990

ALL FORMATS SHOW

I've just been speaking to Bruce Everiss, organiser of the All Formats show that took place recently at the New Horticultural Hall, Westminster.

Although I used to go to Mike Johnston's Microfairs, held at the same venue, I've never attended one of Bruce's shows. I've heard the Microfairs described as a car boot sale without the cars, and the All Formats Show appears to be very similar.

A feature of the recent shows has been a 'QL village', with many of the suppliers of QL hardware and software attending, together with QUANTA, the QL Users Group.

Incidentally, QUANTA broke its previous record for the number of punters who signed up which must mean something.

I've had a word with one or two people about the show, and the response was quite favourable, apart from a view, that the entry charge was too high — about twice as much as the old Microfairs used to.

NEWS FROM MIRACLE

Being in York recently, and having an hour or so to spare, I paid Miracle Systems, well known for its Trump Card memory expansion/disk interface and hard disk system, a visit.

A couple of years ago, Miracle designed a MDI (Musical Instrument Digital Interface) unit for the QL. It is an intelligent interface, with its own Z80 microprocessor, enabling the QL user to control similarly equipped keyboard instruments, synthesisers, and the like. For one reason or another, Miracle never put much effort into marketing the interface, and I don't believe very many were sold. Miracle has now decided that there is a market for the device, and will be pushing it much more actively.

I was hoping to see Miracle's 68020 32-bit upgrade. However, the prototype board (it hasn't been put into production yet), was on loan to Qview, so that it could sort out some compatibility problems that have arisen, when running Qview's Minerva QDOS replacement on the 68020-equipped QL. One of the problems is associated with networking, the 68020 is a lot faster than the standard 68008, and the networking routines don't work properly with the much higher speed rated processor.

Are you wondering how one can replace the 8-bit 68008 by the 32-bit 68020, without completely redesigning the whole machine?

The 68020 has 'dynamic bus sizing', which means that the memory/peripheral interface can be switched between 8-, 16-, and 32-bits.

The 68020 add-on can therefore use an 8-bit interface when it 'talks to' the standard QL hardware, switching to a 32-bit interface when it needs to communicate with its own 32-bit memory — up to 4 gigabytes, in theory!

John Torofex

YOUR FORMAT – QL 01/09/90

PDQL

Quanta, the QL users group, has received several complaints over the past few months about PDQL, the Birmingham-based QL software and hardware supplier. The main grumble has been about non-delivery of goods ordered, although credit card accounts have been debited and cheques cashed. and extreme difficulty in getting refunds. While this has been happening I understand that the Birmingham Trading Standards people have become involved, over PDQL's C compiler, which has been advertised for over a year, but has not been shipped to a single customer, as far as I know. PDQL has also been in trouble with some of its suppliers, notably Miracle Systems and EEC, over delays in payment for goods supplied,

By the way, the safest way to order items from a mail-order supplier is with a credit card, provided the value is over £100.

If the supplier doesn't 'come up with the goods', you can claim off the credit card company saving a lot of messing about. Where smaller sums of money are involved it might be a good idea to ask for the goods to be sent COD if you aren't too sure about the supplier.

A GOOD DESIGN

In my opinion the QL, although it is over six years old, is still one of the best looking computers around. This is hardly surprising, as a top designer was responsible for putting together the external design — the case and keyboard.

This emphasis on good design is quite unique in my experience for what is, essentially, a low cost machine intended for mass production.

Moreover, the case of the QL is constructed from ABS — a high-quality and fairly expensive plastic,

ANYONE FOR TENNIS

Psion, well known for the Organiser and a couple of classy new laptops, probably won't thank me for mentioning this; it started off developing games for the Spectrum.

Even after it moved up-market and sold Sinclair the suite of programs that was bundled with the QL, they maintained an interest in the games market, and released a couple of games for the QL — Chess and Tennis,

Psion Chess was the first chess game to offer the option of a three dimensional representation of the board and pieces and plays quite a good, aggressive game.

Even if you aren't particularly interested in chess it's worth getting hold of the game just to impress your friends with the capability of your system.

The Psion Tennis game is an equally neat piece of programming, and well worth buying, if you can find it on sale.

John Torofex

YOUR FORMAT – QL 08/09/1990

PCB CAD

Although a couple of CAD programs for generating printed circuit board (PCB) artwork for the QL have been around for some time, they weren't particularly capable. Now, Lear Data Systems has produced a package that, on paper at least, looks nearly as good as the very popular Easy PC for PC users, which I've been using for some time,

Features include a 32-inch by 32-inch drawing area, resolution down to .001 inch, up to 16 layers, a virtually unlimited number of components, surface mount capability etc.

Output can be to a dotmatrix printer, a pen plotter, or a laser printer. Unfortunately, output of Gerber-compatible photo-plotter files isn't available —this is essential for high quality multi-layer boards.

At a price of £79.95 the package is excellent value for money, if it does everything it claims. Lear Data Systems is at: 6 South View Green, Bentley, Ipswich, Suffolk IP9 2DR. Tel: (0473) 310804.

QUANTA DOINGS

The Bristol sub-group will be holding a workshop in Portishead on September 30. Contact Chris Gregory on 0272 513653 for further details.

Jeremy Davis is trying to start a London sub-group. Some 168 members live in the London area, so a group should be quite viable. Contact Jeremy on: 081-863 1631 after 6pm if you are interested.

The newly formed Lancashire sub-group has held two meetings. The first attracted 11 members, and 16 turned up for the second. They meet on the first Monday of each month at the Lisieu Social Club, near Leyland, at 7pm.

The contact is Steve Sutton, 44 St. Mary's Road, Bamber Bridge, Preston PR5 6TE.

DIODE TIP

Those of you who are handy with a soldering iron might be interested in a tip from John Butterworth, mentioned in the latest issue of the group's newsletter.

He found that putting a silicon diode in series with the nominal 9V output from the power supply (reducing the voltage by around half a volt) cured a lock-up problem that was affecting his machine. Something like a 1N0004 should be suitable.

THE LAST QL COLUMN

Sadly, the powers that be have decided to discontinue the columns for the less popular machines, such as the QL, after this issue.

However, the news sections of Express will be publishing items of interest to QL owners. Matters of interest to QLers will also appear every few weeks in a feature about the less common machines, so you should still be hearing from me occasionally.

John Torofex