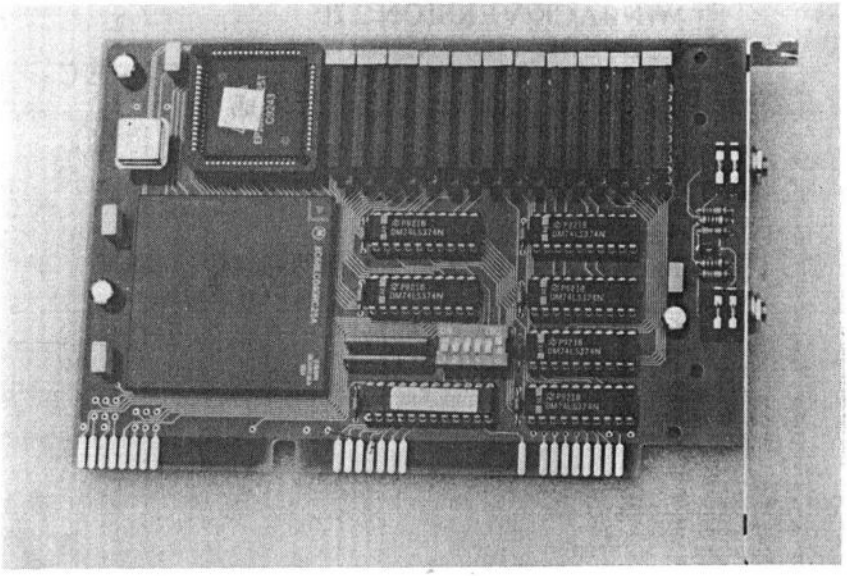
INTERNATIONAL QL REPORT

The Definitive Information Source

Published by SeaCoast Services

QXL



Miracle's New PC Card

March/April
1993

Vol. 2 No. 6 **$5.00**

15 Kilburn Court, Newport, Rhode Island, USA 02840

CONTENTS

ADVERTISERS

EDITORIAL

NEWPORT, RHODE ISLAND, USA - THE EDITORIAL STAFF

Another year has come and gone, (time flies when your having fun) this issue marks the completion of Volume 2 of IQLR (time to RENEW your SUBSCRIPTION, we only mention it three times). Volume 3 of IQLR promises to be a great year for QDOS and the QL, starting with Miracle System's new hardware, continuing with hardware developments from many different sources (including we are told, an IDE interface), and climaxing with the release of a deluge of high quality software (some of which are announced in this issue).

Frank Davis of Mechanical Affinity has reported that he received a FAX from the UK supplier of keyboard membrains, stating that they were no longer available. Frank is in the process of locating an alternate supplier, if you have any information where they might be obtained, please contact him at: 317-473-8031.

Last issue, we said that we would be producing IQLR using a QL, TEXT87 PLUS4, and an HP DESKJET 500 printer, starting with Issue 1 of Volume 3. As everything came together early, we decided not to wait, the issue you are reading is the result.

We've always prided ourselves in the fact, that we pay attention to your comments and suggestions, IQLR's evolution is a testament to your input. Along these lines, we're making a number of changes, the way we produce IQLR was the first, the second is the inclusion of a table of contents for articles and advertisers, and the third is a return to individual page numbers per issue (starting with Volume 3) instead of continuing page numbering.

This publication is dependent on you, our readers, for all the material in our pages. Our writers cover the widest range of QL and QDOS enthusiast; from the novice to the expert, from a teenager to a 75 year old. Whatever your doing with your computer, there is someone who shares your interest. Why not write about it ?? Remember, sharing is a BIG part of being a QL/QDOS enthusiast.

IQLR has entered into discussions with L.I.S.T. (Long Island Sinclair Timex Group) and Mechanical Affinity on the possibility of hosting a QL/QDOS get-together in either late May or June of this year (in the New York area). Stuart Honeyball of Miracle Systems is willing to cross the big pond and demonstrate his new products. If your interested in attending, helping, or want to demonstate/sell software, hardware, or just swap tall stories, please let us know. At this stage we're planning an informal (jeans and sweatshirts) event.

We'd like to welcome the members of QLCF (QL Contact FRANCE) and QLIPPER (SPAIN), to our growing list of subscribers. Both groups are well known, and are long-time contributors to the QL/QDOS scene. If we're lucky, maybe we can coax them into writing an article or two for IQLR.

In an effort to increase User Group participation in IQLR we are now offering generous discounts to groups placing four or more subscriptions for their members. We're also embarking on an extensive advertising campaign, with the hope of reaching the majority of QL/QDOS users worldwide, these are surely exciting times. We need your help, if we're going to see IQLR next to every QL/QDOS computer, tell your friends about us.

SOFTWARE NEWS !!! SOFTWARE NEWS !!!

THE PROGS - BELGIUM

Two major packages have just been released by the PROGS (note their adverts in this issue). The first is the long-awaited "Version 3 of DATADESIGN" (fully relational database) now offered in two configurations. The first section is the DATABASE and the second is DATADESIGN API (application Programming Interface) that allows the user to program DATADESIGN in SuperBASIC, C, or Assembler.

The second package is titled "LINEDESIGN" and is a real vector drwaing package. It is supplied on 10 disks with loads of fonts and clipart. Output to HP DESKJET, LASER JET, and EPSON compatible dot-matrix printers is supported (see their adverts elsewhere in this issue).

JOCHEN MERZ SOFTWARE - GERMANY

From JOCHEN MERZ SOFTWARE comes news of the release of "QD Version 5" (the only editor using the Pointer Environment) with many new features including improved print menu, and better search/replace functions.

A second release is "HYPERHELP BASIC", this product gives you instant help in SuperBASIC procedures, functions, and keywords, plus additional help on operators, identifiers, etc., etc. (See JMS advert elsewhere in this issue).

DILWYN JONES COMPUTING - GREAT BRITAIN

From one of the more prolific software house, comes news of two new software packages. The first is " DJ TOOLKIT" written by Norman Dunbar, while mainly intended for QLiberator uses, it can also be used with SuperBasic. DJ TOOLKIT adds over 30 useful extensions to BASIC, and occupies a mere 3 kilobytes of precious memory.

The second package titled "SCREEN DAZZLER" written by Bruce Nicholls is a screen saver program with a novel twist. While most screen savers just blank out the screen, SCREEN DAZZLER can activate various graphics displays (see DJC adverts elsewhere in this issue).

ALBIN HESSLER SOFTWARE - GERMANY

From Germany comes "EASYPRT III" by Albin Hessler. A must have package, for those of you programming with the Pointer Environment. EASYPTR III is now avaible as a complete package or in 3 individual parts.

PART 1 is for use with SuperBASIC programs using menus and pointers, PART 2 adds a toolkit and appendix manager, and PART 3 adds C library routines and a source code generator.

(Editor's Note: We expect to review ALL of the software highlighted here in future issues of IQLR.)

MIRACLE'S NEW "QXL
NEWPORT, RHODE ISLAND, USA - BOB DYL

At the 4th Italian QL Meeting held January 24th of this year, Miracle Systems unvailed their NEW PC card officially dubbed the "QXL".

Stuart Honeyball of Miracle Systems informed IQLR that it will operate on a PC XT or above (including clones). The operating system is SMSQ (a derivative of Tony Tebby's SMS-2) and is fully QDOS compatible, (at least, programs that run with the Gold Card will run on the QXL). A disk supplied with the QXL contains an application program running under MS-DOS, that when activated puts you in SMSQ (QL) mode. SBASIC is also supplied on disk. An EGA monitor or better is required to display Mode 4 and Mode 8. Stuart also stated, that available PC hardware (floppy drives, hard drives, etc.) should run in SMSQ mode as the BIOS and operating system are transparent.

Now To the good stuff; the processor is a 68EC040 (EC designates an EMBEDDED CONTROLLER) and is pin compatible with the Motorola 68040. The 68EC040 doesn't support floating point or memory management which are not required by SMSQ. It operates at 20 MHz, and comes with 8 MEGS of high speed memory (you can't use the PC's resident memory).

The first production run is expected some time in March of this year, and Miracle Systems will include the QXL in their program of FREE UPGRADES (when and if they become necessary). The selling price has not yet been determined.

(Editor's Note: IQLR will be sponsoring a GROUP BUY for the QXL as soon as final arrangements can be made. If you'd like notification prior to publication, send a stamped self addressed envelope to IQLR.)

CREATING QUAD DENSITY 5 1/4" DISK DRIVES
TROY, MICHIGAN, USA - DON WALTERMAN

With all the interest in ED disks these days, it may seem odd to discuss 5 1/4" drives. Well, I use both 3 1/2" and 5 1/4" drives on my systems. I like to be able to cope with any format that comes along.

Advertisements for quad density 5 1/4" (just called quad from now on) drives are getting rare these days. At the same time, the price of 1.2 MByte floppies has really dropped. Wouldn't it be nice to use these newer drives on the QL? With a couple minor changes you can (if only as a quad 1440 sector drive).

Lets start with some background information about these two drive types.

	Old QL standard	IBM 1.2 MByte standard
heads	2	2
tracks per side	80	80
sectors per track	9	15
data bits each sector	512	512
data transfer rate	250k	500k

The drives are similar. The difference is the number of sectors per track and the speed that the drive can transfer data to/from the computer. Add to the table the fact that the 1.2 MByte drive can read/write a 360k disk which uses 9 sectors and the 250k transfer rate (but only 40 tracks) and it begins to look like its possible to make it write our QL format as well. While MS-DOS never accepted the quad density drive as a valid format, other vendors did. These were mostly CP/M machines which explains why there were a lot of surplus quad drives a few years ago.

I happen to have access to some scrap drives removed from customer equipment as defective. Since I had nothing to lose, I played around with them until I found out how to convince them they were quad drives. It comes down to resolving the two items from the table that don't match. An MS-DOS machine uses pin 2 of the drives data cable to signal what the data transfer rate will be. Ground pin 2 and the drive works at the 250k rate. I don't know how MS-DOS tells the drive how many sectors to use. I've found that there usually is a jumper to force the drive to only use the 9 sector format. On my drives that jumper is labelled either BX/CX or just BX. Putting the jumper in the BX position makes the drive use 9 sector format always.

Step by step conversion process:

Step 1.
Find a jumper labelled BX/CX. Move it FROM CX TO BX. If the drive has an empty jumper position labelled BX, add a jumper across those pins. If you don't have this jumper do not try to convert it to quad density.

Step 2.
Ground pin 2 on the drives edge card connector. Pin 2 is the left most line when looking at the drive from the back. Usually the number 2 will be silk screened on the circuit board next to it. Find a suitable ground to tie it to. You can use the ground from the power connector, any of the odd numbered pins on the bottom of the edge connector or the ground test point on the board. Always verify your ground really is ground with a meter or continuity tester first.

Step 3.
As a safety measure, I cut the trace from pin 2 going back to the disk interface for the QL (just in case the interface is trying to pull the line high). I cut the trace right at the point where it narrows down at the edge of the board.

Here are some details on the drives I've had available to test.

Panasonic JU475-1EAF
This drive has a circuit board the size of the drive. Set the BX/CX jumper to BX. Ground pin 2. This is the oldest drive in this family.

Panasonic JU475-2EAF
This drive has a half size circuit board. Set the BX/CX jumper to BX. Ground pin 2.

Panasonic JU475-3EAF
This drive has a quarter size circuit board. Add a jumper across the two pins labelled BX. Ground pin 2.

QUAD DRIVES - (CONT'D)

Panasonic JU475-4EAF
This drive has a quarter size circuit board. Add a jumper across the two pins labelled BX. Ground pin 2. This is the newest drive in the family.

I have found these direct-drive half-height models to be quiet and reliable. I have successfully modified more than a dozen of these units so far. They have been completely compatible with disks made on other QLs. While I can't guarantee you luck with drive types I haven't seen, there should be vendors other than Panasonic that set up their drives this way.

Please be aware that this project assumes some electronics experience. A mistake could possibly ruin your disk, disk interface and/or QL so do not attempt this modification if you are at all uncertain about it.

SOFTWARE PRODUCERS - TAKE NOTE

In response to the column "OUR READERS SPEAK" in the last issue, we received a number of calls and letters. A large number of them dealt with what seems to be an increasing problem.

With the increased sophistication of QL software, more and more packages require some type of configuration before the program can be utilized. Many people are finding this very difficult if not impossible (not all are novices).

Their cry is, "why can't Software Producers offer configured versions according to the end users specifications". ALL those who asked this question, stated their readiness to pay an additional amount of money over and above the cost of the software. *(Editor's Note: Could the custom configuation of Software packages turn into a profitable sideline for an enterprising QL'er.)*

FOR SALE !! FOR SALE !!

GOLD CARD (version 2.31 ROM)	$275.00
Serial to Parallel interfase	$ 25.00
Golden Image mouse for use with QIMI interface	$ 40.00

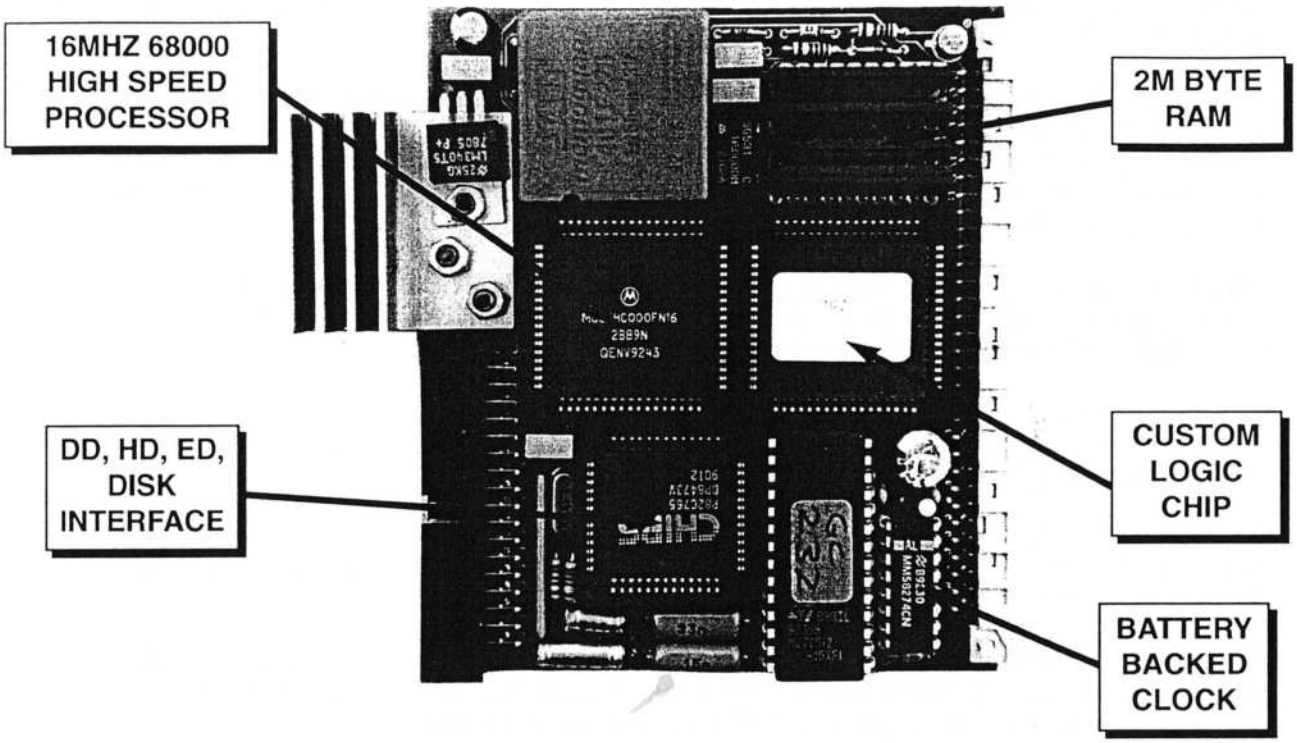
Above prices include shipping. Contact: Will Horton - 234 Mauran Avenue - East Providence, RI 02914 (401-438-0929) *(Editor's Note: Small WANTED or FOR SALE adverts are placed FREE for all IQLR subscribers.)*

WARNING !!

HADDAM, CONNECTICUT, USA - ROY ARSENAULT

Don't use a Halogen lamp on the same voltage line as your computer. The transformer used in the Halogen lamp CAN/WILL cause various intermittent electrical operating problems.

MIRACLE



QL GOLD CARD

£225 inc. (£200 outside EC)

This is the expansion that has been revolutionising the QL. It is very easy to fit - it simply plugs into the expansion port at the left hand of the QL - and once fitted it will instantly increase the execution speed of the QL by about 4 times due to the presence of a 16MHz 68000 on board. There is 2M of fast 16 bit RAM of which QDOS sees a contiguous 1920K. The remainder is used for shadowing the QL's ROM and display memory and for the GOLD CARD's own code.

There is a disk interface which can access 3 mechanisms (4 with the DISK ADAPTER) of 3 different densities, DD (double density, 720K), HD (high density, 1.44M) and ED (extra high density, 3.2M) in any mix. The disk interface connector is the same type that was fitted to the TRUMP CARD so most QL compatible disk drives can be used. Please note that DD drives still give a capacity of 720K per diskette. Our DUAL ED DISK DRIVE allows the GOLD CARD to access DD, HD and ED diskettes.

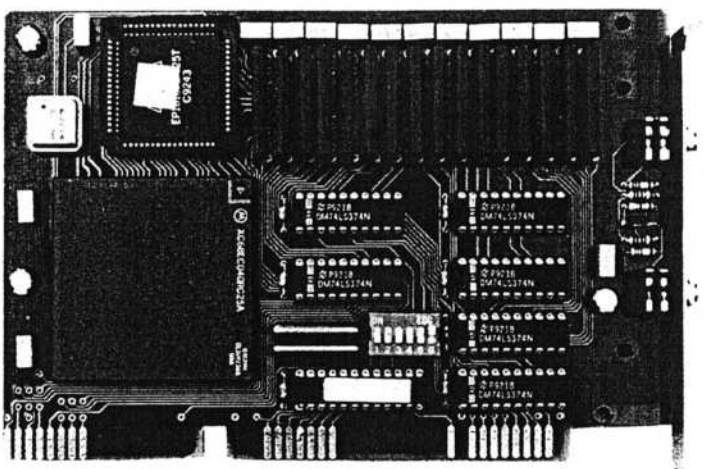
Another feature is the battery backed clock. When the QL is switched on the contents of the clock are copied into the QL's clock so that the time and date are correct. The firmware in the ROM gives the GOLD CARD all the functionality of the TRUMP CARD like TOOLKIT II and there is a sub-directory system for floppy and RAM disks.

Physically the GOLD CARD is about half the size of the TRUMP CARD and so fits almost all within the QL. Its current consumption is well under the allowable maximum so no special power supply is required. The GOLD CARD comes with a 14 day money back guarantee and a 2 year warranty.

SYSTEMS

Coming soon...

THE QXL



A half card that turns the PC into a QL compatible

- 68ECO40 20MHz
- 8M bytes of RAM
- QL compatible network port
- QDOS compatible operating system
- Uses PC as I/O system

Product philosophy

To maximise the performance of new and existing QL programs on readily available low cost hardware.

Intended user

Everyone who has access to a PC or anyone who requires the ultimate QL replacement.

Minimum PC configuration

XT or compatible, 512K, EGA, 1 spare slot.

VISA MASTERCARD

Tel: (0904) 423986

To place an order by phone please have your credit card ready. For overseas customers we charge the prices shown in brackets.

To order by post, please fill in the form opposite or write to us quoting your credit card number and expiry date, or enclosing a cheque payable to MIRACLE SYSTEMS Ltd.

To: MIRACLE SYSTEMS Ltd, 25 Broughton Way, Osbaldwick, York, YO1 3BG, U.K. Tel: (0904) 423986

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Expires ☐☐ / ☐☐

Name _____ Signature _____

Address _____

CQV1 Real Time Digitizer - A REVIEW

Massapequa, New York, USA - Bob Gilder

The CQV1 video digitizer package consists of the CQV1 hardware, a 3.5" disk and an 8 page manual. The CQV1 electronics are installed in a black plastic case, measuring 7"(18cm)x4-1/4"(11cm)x2"(5.5cm). A male edge connector extends out of the front of the case to mate with the ROM Port at the rear of the QL. On the opposite side of the case is a black control shaft for black-level adjustment and next to the control is a phono jack for video input. There are four plastic feet secured to the bottom of the case which levels the digitizer at the approximate height to mate with a QL resting flat on a desk. I found this arrangement awkward for my purposes as my QL is installed in a PC XT case and it was difficult to perform black-level adjustments when necessary. This situation was remedied by making a 22 inch long extension cable. The CQV1 now rests upside down on top of the XT case, providing ready access to the black-level control. I installed a small knob to the shaft of the black-level control, providing precise adjustment.

What is black-level? Black-level sets the blackness of the video image currently displayed on the screen. If your video image is too light you can darken it or if it is too dark, you can lighten it. Do not confuse contrast and brightness adjustments for your monitor with black-level adjustment. Black-level darkens/lightens pixels on the screen which will affect your screen dumps to a printer. Contrast and brightness will only affect what is on the video screen, not printer output!

Hook up to a video source is simple. A cable with a phono plug for connection to the CQV1 jack and an appropriate connector to your video source is all that is necessary. I used a TV video cable with phono plugs on either end (a ZX81 or Spectrum Video cable).

What does a Video Digitizer do? A Real Time Video Digitizer converts video images into a digital format regardless of the video source -either from a video recorder or video camera. The images on the monitor screen are outstanding. The software accompaning the CQV1 operates in mode 8 which I found a little distracting since the QL has only 8 primary colors. Facial image coloring doesn't look life-like. I resolved the problem by using the monochrome facility of my monitor, which provides optimum adjustment of the black level control while in the video SCAN mode (what you see is what you get).

The software provided (3.5" disk) is excellent - It multi-tasks with other programs. Booting the software loads several runtime extensions into memory. The main program loads with 'EXEC flp1_IMAGED'. A menu appears on the screen within seconds of execution.

COMMANDS		STATUS
F1-MENU	D-SCR TYPE	SCR : FULL
F2-SAVE	S-KY/CONT	XMODE: KEYED
F3-LOAD	N-NEGATIVE	
F4-SAMPLE	I-INVERT	
F5-CLS	P-PRINT	

RTD - (CONT'D)

S. F2-STORE
S. F3-RECALL
C. F3-MERGE (OR)

I recommend that the user read the manual to get the feel of the commands, even though the commands are self-explanatory.

F1 will always return you to the main menu when in the SCAN/KEYED mode.

F2 will immediately request a devicename and file name for SAVEing the image currently on the screen.

F3 will request a devicename and filename to LOAD this screen file.

F4 Toggles between CONTINUOUS and KEYED. This is the main digitizing routine. Pressing 'S' toggles between both modes.

KEYED mode - pressing the spacebar initiates single display update.
CONTINUOUS mode - the screen will display continuous moving video pictures.
Note: All command keys are active except F2, F3 and P.

F5 clears the screen.

S.F2 stores whatever image is on the screen into temporary memory.

S.F3 recalls the screen which was stored previously in memory.

Note: S.F2 and S.F3 'S.' indicates use SHIFT with either function key.

C.F3 Memory merge 1 - Recall screen previously stored into memory, 'OR'ing with existing screen contents.

CS.F3 Memory merge 2 - Same as MM 1, however memory store is 'XOR' with existing screen contents.

Note: C.F3, 'C' indicates use CTRL with F3.
CS.F3, 'CS' indicates use CTRL/SHIFT with F3.

D Selects between the three available screen types.
Quarter Screen - One-quarter size screen image displayed in a 128x128 pixel area which can be moved around the screen using the cursor keys

4X quarter screen - Digitized images can be displayed at each quarter of the screen in this sequence - top left, top right, bottom left and bottom right.

Full screen - The whole screen displays the digitized immage with 256x256 pixel resolution.

S Selects Sampling mode (toggles between KEYED and CONTINUOUS modes).

N Displays the negative of the current digitized video image. Press 'N' again to toggle into normal video mode.

I Invert display; press I again for normal display.

P Print dump to a 9 pin Epson or compatible printer. Requests device name (SER1 or SER2). The print dump provides 8 levels of dot densities from black, white and 6 shades of grey, producing a beautiful printed grey scale image on paper. To exit from this routine, press F1.

RTD - (CONT'D)

STATUS AREA indicates:

SCR TYPE:	Either FULL, QUARTER or 4X QUARTER
MODE:	KEYED or CONTINUOUS
NEG:	Negative image
INV:	Inverted image

Using the CQV1 digitizer (It is assumed that the user has already made a backup of the supplied software. If not use the backup program supplied on the software).

First - make sure that the QL is not powered, then insert the edge connector of the Digitizer into the ROM port. Be sure that the CQV1 is level with the QL. Connect a video cable to the CQV1 phone jack and the other end of the cable to a video source, such as a VCR. If you intend to dump images to a printer, insure that the printer is connected.

Next - Power up the VCR, Printer Monitor and disk drives before powering the QL. Apply power to the QL and insert the software disk into drive 1. The Boot program will load the necessary runtime file into memory. The QL will now be in Mode 8. Enter 'EXEC flp1_IMAGED' if you are using disk drives, otherwise exchange flp for mdv. Within several seconds, the Menu will be displayed.

Press 'S' for Continuous sampling and then press F4. The screen will display a plaid pattern. Now press the 'PLAY' key on the VCR. Within a few seconds images will begin to appear. Adjust the black-level control for best image. When you see an image you wish to 'SAVE' or 'PRINT', press 'S' and the image will be captured into memory and you will go back into the menu mode. You can SAVE the image to disk and/or PRINT the image (dump to your printer). It's a good idea to print the screen - it will allow you to critique the image and and make necessary black level adjustments, if necessary.

Several BASIC application programs are provided on the media. DEMO_BAS - a program which displays several screen files in sequence. All screen files on the media have a '_pic' extension.

EXAMPLE_BAS - A program which will allow 'Slow frame recording', up to 21 full screens saved automatically to a 720K disk at pre-set intervals. The SAVE-time intervals can be changed for your own purposes.

What can a Digitizer be used for? If an individual is into Desk Top Publishing, you can now have 3-D images imported into your DTP program.

Slow-frame recording - recording sun rise or sun sets, recording an eclipse of the moon, recording growth of a plant.

Computer User Groups could benefit from a digitizer, allowing members to bring in their home video tapes at a meeting, saving screens of their family to disk and /or dumping files to a printer. This could bring in many members who normally do not attend meetings.

RTD - (CONT'D)

How about a family group project, editing and printing screens of your children, grand-children and other loved ones. No more will you be accussed of spending all your time in front of your computer!

If you are an enterprising individual, perhaps charging a fee for editing, printing out screens and framing them for others.....and so on.

I've been using my CL Systems CQV1 Real Time Video Digitizer for approximately 3 months and it has been a very exciting time ever since it entered my life.

The manufacturer and distributor of the RTD is: CL Systems 403 Chapter Road, Dollis Hill, London NW2 5NG U.K. (081 459 1351) The price is only £99.

The following is a sample of the output of the RTD to a 9 pin dot matrix printer.

DILWYN JONES COMPUTING

41 BRO EMRYS, TAL-Y-BONT, BANGOR, GWYNEDD, UK, LL57 3YT
TELEPHONE: (0248) 354023

NEW QL SOFTWARE FOR 1993

LINEDESIGN
By Nathan van der Auwera

A real vector drawing package for the QL, which allows you to draw, print, scale or rotate graphics or text without losing crispness or sharpness. Everything is done with lines and smooth Bezier curves with lots of special effects. Scalable outline fonts are used for high quality text output in any size, freely changeable. Supplied on 10 (yes, ten) disks, with several disks of just fonts and clipart! Prints to Epson compatible dot matrix printers, to HPDeskjet printers and to Laserjet 2 printers. Sample printouts available, send SAE (UK) or an International Reply Coupon. Available March 1993.
PRICE: £100.00

DATA DESIGN 3
By Joachim van der Auwera

Version 3 of Data Design introduces disk based files so that you no longer need to be restricted by the free memory on your computer. New version has many improvements over the old Data Design 2 (still available). Convert Archive files to Data Design, and now convert Flashback files too. Data Design 3 is fully multi-user, several jobs can safely manipulate the same file. Can hold text, numbers, screens (raw data) etc. if you want! The Applications Programming Interface (which allows it to be programmed from C, BASIC or assembler) is available separately.

DATA DESIGN price £60.00

DATA DESIGN APPLICATIONS PROGRAMMING INTERFACE £20.00

UPGRADES-See price list opposite.

DJTOOLKIT
by Norman Dunbar

An extremely easy to use, short toolkit mainly intended for QLiberator users, but can also be used in standard SuperBASIC. Over 30 really useful extensions to BASIC. No waste, only about 3 kilobytes of commands and functions you can really use! Can be used free in compiled commercial or public domain programs! Simple to link to QLiberator compiled BASIC programs. Set of demonstration routines to help you to learn to use the new commands.
PRICE only £10.00

SCREEN DAZZLER
by Bruce Nicholls

A type of screen saver (used to help to protect a screen from burn-in when a computer is not used for a time while switched on). Most QL screen savers just blank off the picture, but this one can activate various graphics displays to use instead. Write your own displays too, by following the guidelines in the manual.
PRICE: £15.00

EASYPTR III
by Albin Hessler

New version 3 of the pointer environment programming aid. BASIC programs using menus and pointers can be written and compiled with the QLiberator compiler. Easyptr is now available in three parts. Part 1 (base version) is for use with BASIC and consists of on-screen menu generator, sprite generator and simple commands to set up and use the menus in your own BASIC or compiled programs. Part 2 adds a BASIC toolkit and Appendix Manager. Part 3 adds C library routines and a source code generator called Easysource.

PART 1 (budget version)	£41.50
PART 1 and PART 2	£60.50
PART 3	£20.00

DILWYN JONES COMPUTING

41 BRO EMRYS, TAL-Y-BONT, BANGOR, GWYNEDD, UK, LL57 3YT
TELEPHONE: (0248) 354023

QL SOFTWARE

NB PLEASE NOTE THE MEANING OF CODES IN SQUARE BRACKETS BELOW:
[R] RAMDISK REQUIRED
[F] AVAILABLE ON FLOPPY DISK
[M] AVAILABLE ON MICRODRIVE
[128K/512K] MINIMUM MEMORY REQUIRED
[PC] FOR IBM PC AND COMPATIBLES.
[TK2] TOOLKIT 2 REQUIRED.

CATALOGUE

THE CATALOGUE CONTAINS MORE DETAILS OF THE PROGRAMS. CALL FOR A COPY, OR ASK FOR A COPY WITH YOUR ORDER.

SOFTWARE UPDATES

In response to cutomer requests, we have produced a sheet showing current version numbers and details of recent changes to most of our software and details of how to upgrade. This is available free on request with orders, or send a stamped, addressed envelope (UK) or International Reply Coupon (other countries) for a copy. It is updated about once a month.

DEMONSTRATION VERSIONS

Demo versions are available for some of our programs. They cost £2.00 each and this cost is refundable against the full price of the full version, if you later decide to buy it. Demos available of Discover, Textidy, Banter, Image Processor, S_Edit, The Gopher, Winback, Text 'N' Graphix, Qractal screen pictures, Screen Compression, Address Book and Label Printer.

QL SOFTWARE PRICE LIST

PLEASE NOTE: There have been some price changes in 1993. The price of Fleet Tactical Command have been reduced, while the prices of the new versions of Easyptr and Data Design have increased in price.

FILE TRANSFER

DISCOVER [F256k]	£20.00
MULTI DISCOVER [F 256k]	£30.00
TEXTIDY [F M 256k]	£15.00
OPD INTERCHANGE [F M 256k]	£15.00
QL-PC FILESERVER *[F 128k]*	£24.50

LEISURE

SOLITAIRE [F M 128k]	£15.00
CRICKET SECRETARY *[F M 128k]*	£12.00
QUESTION MASTER *[F M 128k]*	£10.00
QUIZ SETS each	£5.00
FLEET TACTICAL COMMAND II QL *[F 512k]*	£39.95
FLEET TACTICAL COMMAND II PC *[PC]*	£49.95
COMBINED QL & PC VERSIONS	£69.95
FTC2 DATA PRINT UTILITY *[F 128k]*	£9.95
THE FUGITIVE [F512k]	£9.95
COCKTAILS WAITER	[F384k]£10.00
COCKTAILS WAITER [PC]	£15.00

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ROB ROY BARGAIN PACK [FM128k]	£10.00

NB For 9 pin dot matrix printers only.

PAGE DESIGNER 2 PLUS

We apologise for the embarrassingly long delays with this project - it has now been handed over to another author to complete, with an expected completion date of the end of March 1993 or early April. The program will be pointer driven and the price and specification otherwise similar to that previously advertised. If you are having problems with an old version of Page Designer 2 (e.g. endless In Use errors when used on a Gold Card or ST-QL emulator) we can supply a free temporary upgrade to V2.20 of Page Designer 2 to cure these problems pending the final release of PD2 Plus, simply send your master PD2 disk as proof of purchase.

THE SMALL PRINT! POSTAGE AND PACKING CHARGES: Software is sent post-free to UK addresses. To other countries, please add £1.00 per program for postage and packing (sent by airmail where possible). PRICES: All prices are shown in UK Pounds Sterling. PAYMENT: We can accept payment by cheque (in UK Pounds Sterling currency only, please) drawn on UK branch of a bank or building society, by Eurocheque with card number written on the back, Postal Order, or by these credit cards: VISA, ACCESS, MASTERCARD, EUROCARD or by CONNECT card. Please state the card type, number, expiry date, your address, and sign orders sent by post. We can also accept orders paid by credit card over the telephone. There is an answering machine for when I am unable to answer in person so that I can call you back later. Goods remain the property of DJC until paid for in full. PLEASE STATE IF YOU REQUIRE SOFTWARE ON 3.5 OR 5.25 INCH DISKS OR MICRODRIVE CARTRIDGE.

TRANSLATION OF SUPERBASIC INTO FORTRAN 77

THETFORD, NORFOLK, GREAT BRITAIN - W. GERAINT JONES

In the last issue we looked at implementing some of the SuperBASIC maths functions and the majority of the memory manipulation routines, that are missing from FORTRAN 77 ie the PEEK and POKE functions and procedures. I also gave some insight as to what would be tackled next, namely the loop primitives, functions and procedures.

Loop Primitives

SuperBASIC has two of these structures, the FOR - NEXT - END FOR and the REPeat - END REPeat loop. The FORTRAN equivalent of the FOR loop is the DO loop they have almost identical structure as indicated below:-

```
FOR ind = var1 TO var2 STEP var3
  .....
  .....
  .....
END FOR ind
```

and

```
    DO label ind = var1, var2, var3
      .....
      .....
      .....
label CONTINUE
```

where var1 to var3 are the loop index initial, final and increment values - these may be integer or real, variables or constants. The loop index, ind, is a variable of the same type as var1 to var3. The label in the DO loop is an integer number and the CONTINUE statement is a NO OPERATION or NOP statement. The loops increment/step size is optional and if not included is assumed to be 1. The following are a few examples of loops:-

```
FOR i% = 1 TO 5 STEP 2                    DO 10 i = 1, 5 , 2
  .. loop contents                              .. loop contents
END FOR i%                        10      CONTINUE
```

Note the loop is integer - remember in FORTRAN integer variables start with the letters I, J, K, L, M or N, unless they have been declared to be real, or other letters declared to be integer.

```
FOR a = 1 TO 5 STEP 0.5                   DO 10 a = 1.0, 5.0, 0.5
  .. loop contents                              .. loop contents
END FOR a                         10      CONTINUE

FOR j% = 4 TO 1 STEP -1                   DO 10 j = 4, 1 , -1
  .. loop contents                              .. loop contents
END FOR j%                        10      CONTINUE
FOR a = 1 TO 20                           DO 10 k = 1, 20
```

```
 .. loop contents                                    .. loop contents
END FOR a                        10                 CONTINUE
```

The REPeat - END REPeat structure does not exist in FORTRAN but is easily emulated. The complete structure of the REPeat loop is as follows: -

```
REPeat loop
 IF condition is true THEN EXIT loop
 ....
 ....
END REPeat loop
```

That is only leave the loop when the required test condition is satisfied. Well lets code the same thing in FORTRAN

```
* FORTRAN equivalent to SuperBASIC REPeat loop
*
10   IF (condition is true) GOTO 20
     .....
     .....
     GOTO 10
20   .....
```

The test could be at the start, middle or end of a loop, but the loop would still take the same format - vis a label marking the start of the loop, a GOTO statement marking the end and a conditional test in the loop causing a jump to a label outside the loop.

One down two to go, having dealt with looping primitives, let us now move onto functions an procedures. Functions in FORTRAN have two types, integer or real, while SuperBASIC has in addition the string or character type function. There are very few differences between SuperBASIC and FORTRAN as far as functions are concerned. The easiest way to see this is by example vis:-

```
DEFine FuNction SQUARE(x)          FUNCTION SQUARE(x)
 LOCal squ                         SQUARE = x * x
 squ = x * x                       RETURN
 RETurn squ                        END
END DEFine SQUARE
```

In general the FORTRAN function requires all its parameters to be passed to it via its parameter list, the value to be returned is then calculated and assigned to the functions name before returning to the calling program. As in SuperBASIC the calling sequence is of the form:-

```
a = SQUARE(b)
```

So much for functions, what about procedures ?, well SuperBASIC procedures become FORTRAN subroutines, again this is best shown by example.

FORTRAN 77 - (CONT'D)

```
DEFine PROCedure QUAD(a,b,c,r1,r2)
 LOCal equ
 equ = SQRT(b * b - 4 * a * c)
 r1 = (-b + equ)/(2 * a)
 r2 = (-b - equ)/(2 * a)
 RETurn
END DEFine QUAD
    SUBROUTINE QUAD(a,b,c,r1,r2)
    equ = SQRT(b * b - 4 * a * c)
    r1 = (-b + equ)/(2 * a)
    r2 = (-b - equ)/(2 * a)
    RETURN
    END
```

Notice all parameters, including those being returned, are passed via the parameter list in both languages.

The calling sequence in FORTRAN is similar to SuperBASIC in that they have the following form:-

```
QUAD a,b,c,r1,r2                    SuperBASIC

CALL QUAD(a,b,c,r1,r2)              FORTRAN
```

There are two very important points to note about SuperBASIC and FORTRAN, these being so called global and local variables. The following rules apply:-

1) In SuperBASIC all variables are global unless declared to be local within a function or procedure, by a LOCal declaration.

2) In FORTRAN all variables are local unless declared to be global within a COMMON statement.

Well that is about it on functions an procedures, the next thing to look at is decision making.

IF - THEN - ELSE - END IF and logical comparisons
The infamous IF THEN ELSE structure is common to both languages and almost identical from a syntactical view point, again this is best demonstrated by example:-

```
IF condition THEN                   IF (condition) THEN
 ......                                ......
 ......                                ......
ELSE                                  ELSE
 ......                                ......
 ......                                ......
END IF                                END IF
```

The same nesting rules apply and similarly the same comparison types, these are however, syntactically different as shown in the following table.

Relational	
=	equal
.EQ.	
<>	not equal
.NE.	
>	greater than
.GT.	
<	less than
.LT.	
>=	greater than or equal
.GE.	
<=	less than or equal
.LE.	

Logical	
AND	logical and
.AND.	
OR	logical or
.OR.	
NOT	logical not
.NOT.	

There is no equivalent comparison in FORTRAN for the SuperBASIC == almost equal to, this would have to be programmed as a test of difference for example:-

IF a == b THEN IF (ABS(a-b) .LE. 0.000001) THEN

are equivalent. FORTRAN also contains a few other variations on the theme of IF statements, which SuperBASIC does not have. However, as per usual its a case of roundabouts and swings as FORTRAN does not support the SELect structure of SuperBASIC. So what about these other if statements, there are two of them, the arithmetic IF and the ELSE IF construction.

The Arithmetic IF

This form of the IF construct evaluates the conditional expression and depending on the outcome - negative, zero or positive - takes one of three actions as shown below:-

```
                    jump to here if result is negative
                   jump to here if result is zero
                  jump to here if result is positive
    IF (a-b) 10,20,30
10  .....
    .....
    GOTO 40          skip to end of selective code
20  .....
    .....
    GOTO 40          skip to end of selective code
30  .....
    .....
40  .....           carry on from here
```

The ELSE IF construction
This is a special form of the IF - THEN - ELSE - END IF structure that makes creating cascaded if statements easier for example:-

```
IF (C1) THEN
    G1
ELSE
  IF (C2) THEN
   G2
  ELSE
   IF (C3) THEN
    G3
   ELSE
    G4
   END IF
  END IF
END IF
```

```
IF (C1) THEN
 G1
ELSE IF (C2) THEN
 G2
ELSE IF (C3) THEN
 G3
ELSE
 G4
END IF
```

Notice the difference - no not the four lines of code more in the one on the left, but that only one (yes one) END IF is required on the right but three on the left. The use of the ELSE IF statement makes the programmers life much easier because he/she does not have to remember, to what depth the IF's have been nested and thus, how many END IF's have to be coded in order to complete each conditional test.

The Computed GOTO
In FORTRAN this is a sort of SuperBASIC SELect statement, I say sort of because while it allows for multiple selection it lacks both the flexibility and elegance of the SELect statement. The computed GOTO does not allow selection over a range and all its selectable jumps must be linear, starting with the lowest in increments of 1. Let us look at a couple of simple examples:-

```
SELect ON x
 =1
 ....
 =2
 ....
 =3
 ....
 =REMAINDER
 ....
END SELect
```

```
1
2
3
4
5
```

```
GOTO (1,2,3), x
GOTO 4
.....
GOTO 5
.....
GOTO 5
.....
GOTO 5
.....
.....
```

Not very elegant is it? It does exactly the same ie if x = 1, 2 or 3 it goes to the appropriate label, if x is less than 1 or greater than 3 it completely skips the computed goto and goes to label 4 (remainder). The goto label 5 statements are needed to make sure it goes to the end of the complete structure.

```
SELect on x
 = -3 TO -1
```

FORTRAN 77 - (CONT'D)

```
  .....
 = -1 TO 1
  .....
 = 1 TO 3
  .....
END SELect
```

This cannot be coded as a single computed goto, neither can the following:-

```
SELect on x
 = 1
  .....
 = 3
  .....
 = 5 TO 25
  .....
 = 30
  .....
END SELect
```

Well that is all for now, next time I shall be looking at I/O (input and output), and a little bit of assembler.

WINBACK VERSION 2.20
(HARDDISK/ED DRIVE BACKUP SOFTWARE)
PERU, INDIANA, USA - FRANK DAVIS

If you happen to own a Miracle hard drive or the new ED (3.2 meg) drives you're going to eventually be looking at making backups of the files you've configured and use. As anyone who has used a computer knows....there always comes a time when something goes wrong. This may be as simple as a corrupted disk, or a hard drive that needs to be re-formatted. and once again this corruption or fragmentation will cause you to start over from scratch and rebuild and reconfigure your programs not to mention the possible loss of your data files. This is true whether it's an IBM, MAC, Amiga, or a QL. Up until now, for the QL, this usually meant having to get out, if you recall them, all the programs you had on your hard drive or ED disk, then go about reconstructing all of your BOOT programs, files, utilities, not to mention any work in progress. If you're lucky, after many hours or days you will find yourself back to where you originally were. Not fun!

For years there have been backup programs available for all but the QL. This has eased the burden on the users of other computers, while leaving QL users to toil away with the laborious process of backing up the possible hundreds of programs on their ED or hard drives *(Ed. Note: Archive files are notorious for being left open or corrupted).* Now from the U.K. and the software artistry of Norman Dunbar comes help for the QL user.

WINBACK - (CONT'D)

Until recently this program was available only from Dilwyn Jones Computing, 41 Bro Emrys, Tal-Y-Bont, Bangor, Gwynedd, Great Britain, LL57 3YT. I liked the program so much that it is now available in North America from Mechanical Affinity, at either 513 East Main St., Peru, IN 46970 U.S.A, or at 5231 Wilton Wood Court, Indianapolis, IN 46254. Is it wrong to plug a program you truly feel can be of use to others??? (UK cost is £25 - US cost is $47.)

The first thing you need to do with this program, as with all your software, is make at least one backup, for your own personal use. In fact make two, one of which you should play with till you become familiar with the program. Once you've purchase this program, don't wait until you need it. The time to learn how to use a backup or recovery program is definitely not when you need it in an emergency (I know this from personal experience). Take your manual and read it through thoroughly; make sure you understand the concepts and instructions, using a good dictionary if you find a word you don't understand. If you are nor familiar with the words in an instruction, then it will not make sense. Many of us fail to get familiar with computerese and tend to get by on only partial definitions of these words. Perhaps to become truly computer literate you need a 50% knowledge of hardware/software and a 50% knowledge of the lingo.

What can I say about the program? It will greatly simplify the process of backing up your ED disks or your hard drive, (only tested on a Miracle Hard drive) and give you many more options for doing so. It will not however totally eliminate all of the toil and drudgery out of the process. You will still have to format your backup disks by hand, (the program doesn't have a facility to format disks). You can however, if you have EXEC'd the program, use 'Control C' to back out of the program and format the number of disks you need, then 'Control C' back into the program. Remember, make sure that you've formatted enough disks before you start the process of backing up. *(Editor's Note: A nice addition for the next release would be for the program to scan the selected files and provide an estimate of the number of disks required for the backup.)*

The only other part that I found to be to my dislike is that it still takes time to do a proper backing up of even a 3.2 meg disk on an ED drive, and a few hours to do so on a hard drive. You'l have to stay close by your QL during the process, and make decisions on whether to split files, omit files, and to insert new disks when requested to do so. On the plus side I can say that it will take twice as long to do a backup if you don't use Winback, and Winback uses less disks to do the job. Without the use of Winback, you won't be able to split files, or easily maintain the same format you had on the harddrive. The program can be used to backup HD or other disks should you desire to do so.

There are several useful utilities included with the program. One of these is 'Joinfile' it helps you rebuild split files, (that you split during the backing up process). This makes it easier to put them back together should you have the need of your backup disks. In this instance Winback comes through with an A.

Another utility which I found of use was one that allows you to decide in advance which files you don't want to be included in a dump of the hard drive. I found this to be really useful, as I had many files leftover from activities that I no longer needed. I decided that I wanted to completely redo the drive contents, delete those which I no longer needed, reformat the fragmented drive, replace those files which I still required, and clear up some space. What would have taken 5 to 7 hours to do properly

the old way, (by hand) was now cut to a third of the time, and I had to put less thinking into it!

One item worth mentioning, before you run out and buy this program is that in order to run this program on floppies, you need the 'level 2 drivers'. This means you need either a Gold Card; or a Trump or Sandy Board that has been outfitted with an FLP/RAM LEVEL 2 eprom, which contains these drivers, along with many other goodies. These may be obtained from Jochen Merz in Germany, or from Mechanical Affinity in North America.

In closing, I feel I must mention for those who may have looked at earlier versions of this program...you no longer have to contend with the large white window that the program used to open with. This caused problems for anyone using the Pointer Interface, and has now been corrected. The program is fully useable either by keyboard or by mouse in the pointer environment.

SUBSCRIPTION RENEWAL

With the receipt of this issue, Volume 2 of IQLR is complete. ALL SUBSCRIPTIONS are now due (except for those who took advantage of early renewal) The Subscription rates for Volume 3 of IQLR are as follows:

$ 18.00 per year in the USA
$ 21.00 per year in Canada
$ 38.00 per year in Australia/New Zealand
$ 32.00 per year in the rest of the world

Rates quoted are in US FUNDS, we will however accept Pounds Sterling (£) or DM, equivalent to the US $ amount. RENEW TODAY and avoid the disappointment of not finding IQLR in your mailbox.

MATHEMATICAL OPERATIONS & THE C-PROGRAMMING LANGUAGE

EAST PROVIDENCE, RHODE ISLAND, USA - WILL HORTON

This article will introduce the C Programmer to the mathematical tools provided in the C math library (C68). The methods of working with floating point numbers in C is somewhat different than other programming languages. Most languages provide commands to perform such functions as: square root, logarithm, trigonometric functions, etcetera. However in C there is a maths library that needs to be utilized in order to perform mathematical functions.

Below is a partial listing of the functions contained in the maths library. All of these functions require a double precision floating point number for their arguments, and they will return a double precision floating point number:

Trigonometric Functions
sin(x), cos(x), tan(x)
Hyperbolic Functions
sinh(x), cosh(x), tanh(x)
Logarithmic
log10(x), log(x), exp(x), sqrt(x)
Exponential and square root
exp(x), sqrt(x)
Power
Pow(x,y) - defined as x to the y power

What follows is a short program that will convert a temperature in degrees Fahrenheit to degrees Celsius. The main body of the program prompts the user for a temperature in degrees Fahrenheit. This temperature is then passed as the argument in the function "Temp_Celsius(T_f)" where it will return the equivalent Celsius temperature. The first thing to look at is the inclusion of the maths header file with the command "#include <math.h>". This is required whenever you are using floating point numbers. The next item to observe is that the variable "T_f" that will represent the Fahrenheit temperature, is declared as a double precision floating point variable. Looking now at the function "Temp_Celsius", this function will return a double precision floating point number. Also when constants are being used in a floating point operation they must contain a decimal point, even if they are an integer value.

```
#include <stdio.h>
#include <math.h>
main()
{

double T_f;

printf("Enter Temperature in degrees Fahrenheit\n");
scanf("%f",&T_f);
printf("T Fahrenheit= %3.2f  T Celsius=  %3.2f\n",T_f,Temp_Celsius(T_f));

}
double Temp_Celsius(T)
double T;
{
double Tc;
```

"C" MATH - (CONT'D)

```
Tc = 5./9.*(T - 32.);
return(Tc);

}
```

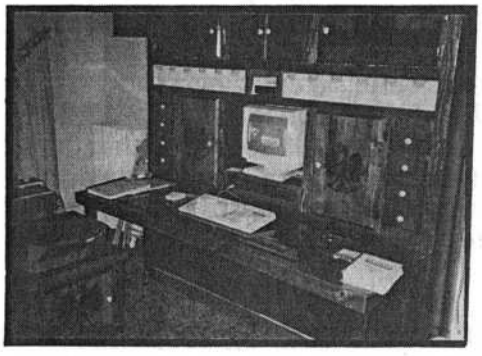
When you are ready to compile this program, say we call it "temp_conv_c", the command to compile would be: ex cc; temp_conv_c -lm -o . The command "-lm" is used to link in the maths library. An executable file called "temp_conv" now exists which can perform the temperature conversion.

It is important to keep in mind that these maths functions require a double precision floating number in order to work properly. If you follow the steps outlined above you should have no problem using mathematical operations in the C Programming Language.

IQLR NERVE CENTER
NEWPORT, RHODE ISLAND, USA - BOB DYL

Many years ago when I decided my computer needed a home, I looked at the many different varieties of computer work stations available commerically. None were exactly what I wanted, so I built my own using Canadian Birch plywood and Eastern White Pine. The eagle you see everywhere is part of my family's heritage, and were painstakingly burnt into the panels.

What you see in the photos is actually my fourth and final design. But, my friends don't believe it (Dick Taylor is already preparing an area for it in his home). What happened to the preceeding three ??? My eldest son has the first unit, Dick Taylor the second, and Roy Arsenault the third (both Dick and Roy are familar to IQLR readers). I won't tell them that I've had ideas for a fifth (and final) unit.



The dimensions are six feet tall, six feet wide, by 18 inches deep, the work area is a stand-alone table measuring six feet wide, 20 inches deep, and 29 inches high. The idea was, that the table could be moved easily if the need arose leaving a presentable looking wall unit, (its much easier to move in two pieces).

The computer center is loaded with storage capabilities. The bottom half, (somewhat concealed by the table) is divided into two sections with sliding doors, concealing most of my backup equipment, 20 volumes of software documentation, and 2 volumes of hardware documentation.

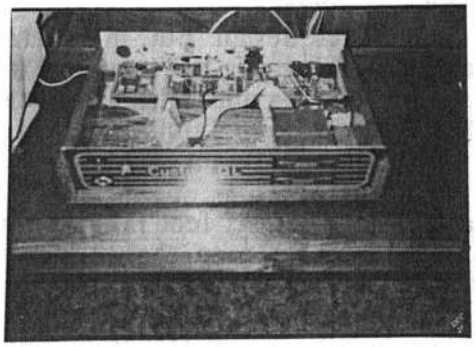
NERVE CENTER - (CONT'D)

Due to aging eyes I've enlarged all the documentation to the American equivalent of A4 paper and spiral bound them by catagory. In addition, this storage area houses my collection of magazines.

Above the work table are eight drawers (4 on each side) containing tools, spare parts (chips), and various other handy items. The two large doors on either side contain computer books, current documentation on items I'm working on, a telephone, and modem. The light colored plastic cases are EXPONENT 3.5" disk storage units (made in Italy), that contains approx. 700 disks of QL commercial and public domain software. The area above this is divided into three sections, one contains my backup QL system, the center area contains all my original disks and documentation, and the third contains all 9 volumes of QUANTA and the current year's QL WORLD. I keep my QL SURVIVOR'S SOURCE BOOK and a bound volume of IQLR right on the work surface for handy reference.

As you can see from the closeup photo, my QL doesn't look like a stock machine, and it isn't. Being an engineer, I'm somewhat of a fanatic about order. I dislike cables running all over the place, and seperate power supplies for the disk drives, and the computer, so I decided to put everything in a case. Again I couldn't find what I wanted so, I built my own.

The case is made from laminated Oak, with the exception of the front and back panels which are aluminum. Rather than drill out all the seperate holes for the back panel, I decided to keep the motherboard in the bottom half of the QL case. I then only had to cut a single long slot to accommodate the back of the QL. A screw though the back panel holds the Monitor connector in place and strips of velcro on the bottom of the QL holds the computer in place, (I used velcro so that it would be easy to remove the computer if it became necessary).



The computer is an American QL. The 128K standard internal QL memory has been removed, sockets installed and the chips replaced with higher quality ones. A Minerva Mark II mounted on a QLEA ROM SWITCH along with JS ROM's, a QIMI Mouse interface, a Keyboard 90 keyboard interface with the Hermes upgrade chip, (replacing the standard 8049), a GOLD CARD, and two 3.2 MEG disk drives, are all housed within the box. My keyboard is a Chicony KB-5181 with 101 keys. The monitor is a Magnavox RGB 80 (Phillips in Europe). I presently use an Atari two button mouse, an Avertex 1200 modem (limited use), which I hope to upgrade to a FAX modem as soon as someone writes a driver.

The power supply is a customized ADAM linear power supply, (it has to be tweeked for use with the QL). It sits 6 feet away from the computer and is completely out of sight. The QL has been re-wired to come out near the Rom port. Power is then supplied through a 9 pin D connector installed in the back panel. The standard

QL power supply is not used, but can be pressed into emergency use if required. The power supply, drives the entire system including a back panel mounted 12V DC fan. With the power supply outside the case, and a screened intake hole on the back panel, the fan operates in an exhaust mode, needless to say, I have NO overheating problems.

On the front panel is mounted a "power on LED", the ROM SWITCH LED, the ROM SWITCH toggle, and a female keyboard connector. Again, to achive maximum ventilation the disk drives are not mounted directly on top of one another, but are seperated by a half inch, allowing air to pass on all sides. The design on the front panel was done by our local ONE HOUR SIGN company, (vinyl lettering).

The printer stand and credenza (in the background) are portable, both being mounted on casters (wheels), so I can position them wherever I might need them. The printer stand is selfcontained and holds all it's supplies. The credenza is used to store all the supplies necessary to produce and publish IQLR.

This completes the grand tour of my QL system, I hope you found it interesting. *(editor's note: We'd like to showcase your QL system..... send a couple of pictures and a description and we'll share it with our readers).*

PRINTMASTER - A REVIEW

TROY, MICHIGAN, USA - DON WALTERMAN

Every so often, a program comes along that is so useful you wonder how you ever managed without it. Printermaster is one of those rare programs.

Printermaster is designed with one goal in mind, to get you on friendly terms with your printer. It meets that goal without any flashy tricks. This program allows you to access any of the features of your printer by simply selecting that feature from a menu (for example: Near Letter Quality Mode On). The package includes drivers for a number of printers including: Star, Epson, Brother and the Serial 8056. The Epson FX80 driver worked just fine with my Hewlett-Packard DeskJet Plus with Epson FX80 emulation cartridge. Printermaster happily multitasks and is compatible with Miracle Gold and Trump Cards.

The user guide is well written with a friendly conversational tone, rather than the lecture mode some vendors have adopted. It notes Minerva users will require version 1.82 or later (my version 1.81 worked just fine).

Since the HP DeskJet Plus has many more features available than the Epson FX80, I created a driver to speak to the DeskJet in its native mode. An empty printer driver template is included (P_Empty) as a starting point. Adding functions was straight-forward. You are first asked for a Name (label such as Form Feed), then the number of codes your printer needs and then you are prompted for each code. This procedure forces you to sit down and understand your printer manual. I had long put off writing a routine to address envelopes. This gave me the opportunity to learn the steps needed. Now I just use Printermaster when I want to print an envelope. Appendix 3 notes

Printermaster uses Codes. This is important, unlike Quills printer configuration that accepts decimal, hex, ASCII or symbols. This is simpler but you must remember to always use the code value. Many printer escape code tables show numbers when they really mean the code for that ASCII character. For example, the DeskJet command to set the left margin is 27,38,97,n1,n2,76 as input to Printermaster. The n1,n2 stands for the number of columns to leave as a left margin. The DeskJet expects a number between 00 and 99. Suppose, you want the left margin to start at column 10. You would enter 49 and 48 as the values for n1 and n2. 49 and 48 are the codes for the ASCII characters 1 and 0. This is probably the most difficult concept to understand in setting up your own driver (You won't even need to do this if you use one of the printer drivers included in the package). This concept is mentioned in the appendix but I think it should be emphasized. If you set up your own printer driver, consider what facilities you will use the most. You must enter the functions in the order you want them to appear on the screen as there is no sort/edit function to move them around after the fact.

One of the main menu functions is Hardcopy. Hardcopy allows you to print out a listing of all the code combinations your printer uses. The Hardcopy option also allows you to print to a disk file. Just enter the complete path name at the prompt for the printer. This feature works for me because now I have a listing of all the codes I use in a format that I don't have to work out next time I want to use them in some other program.

Printermaster solved some problems I had using my DeskJet Plus. The end-of-line mode that best made the QL and DeskJet happy had to be set by sending codes to the printer (none of the hardwire switch options were just right for me). This was simple to add to the boot file. However, I also use Conqueror and print out some large Lotus spreadsheets from work. MS-DOS uses a different end-of-line mode. Before Printermaster it was always a hassle switching back and forth. Now its easy. I have one menu function for QDOS end-of-line mode and one for MS-DOS end-of-line mode. Now I can toggle back and forth as much as I want. No more wasted paper either! Its also easy to change left margins to switch from letters to envelopes to 3 or 4 hole punched paper for manuals.

Here are some other notes about Printermaster: Changing typestyle when printing from Quill - you can't add multiple typestyles inside of a document but you can change a typestyle by toggling a menu function and reprint the document. No need to keep learning all those escape codes. One thing to bear in mind about the PSION programs - If you put any codes to reset the printer or force specific printer features in the Printer Configuration part of the Quill package, they will override anything you do with Printermaster. I'd recommend deleting things out of the Quill Printer initialization string and get used to using Printermaster. It is much simpler and lets you handle all your printing jobs in a consistent manner.

Printermaster does not hog your printer port. Printermaster only opens a channel to the printer when it needs one, then closes the channel as soon as its done. On occasions when it has not worked, I found the printer port had been grabbed by a program less willing to share resources. Since nothing is ever perfect, here are some trivial complaints: When scrolling through the printer functions (they are shown in a menu of

3 columns), a bar near the bottom of the screen shows whether more functions are still to be displayed. If there is only 1 function left to display and your cursor is not over that column you can't scroll down to display that function. You must first move to column 1 then scroll down. A more consistent use of the escape key would be welcome. If you accidently indicate a function will require 20 codes (when you meant the first code would be 20) you can't escape or quit until you enter 20 numbers. I did this a few times trying to read from the printer manual while typing. When the available printer drivers are presented, why not be able to select the driver name in the same way you select printer features (using the cursor keys)? This would be more consistent and require less typing.

This program is so useful I'm already looking forward to the next version of it. My wish list for the evolution of the program would include some form of sorter/editor to let you group functions on screen after you have entered them. I kept leaving a function out, then adding it in later nowhere near related items. I would love to see a similar way to enter graphics printer commands in order to use Easel and do screen dumps. The manual clearly states Printermaster is not intended for graphics dumps but it is part of my wish list. The ability to create a gprint_prt file using your printers graphics commands would be very useful. It would also be a complex bit of programming.

I created 3 driver files for my printers. They are included with this review for anyone that wants them. The driver files are for the Hewlett-Packard DeskJet Plus, the C.Itoh 8510B and the MPI 99G. If the owners of Printermaster agree, I'd like to suggest posting the printer drivers on bulletin boards so we aren't all reinventing the wheel.

Printermaster is so useful that it stays right next to my boot disk. Not only has it put me on speaking terms with my printer but its almost like buying a printer upgrade. There are so many features just a menu choice away.

(Editor's Note: PRINTMASTER is available from Dilwyn Jones Computing for the bargin price of £20, and is also availble in North America from Mechanical Affinity, please note both companies adverts elsewhere in this issue.)

TEXT'N'GRAPHICS - A REVIEW

Massapequa, New York, USA - Bob Gilder Cost £20.00

T'N'G is a program that fills a void between a word processor/text editor and desk top publishing software. It contains something for every QL user even though each of us use our QL differently. If you require single or multiple page fliers with a graphic illustration or perhaps an illustrated cover for a document or manual, T'N'G is the program for you. Graphic illustrations can be imported directly into a Quill file and then printed from within T'N'G.

If you have wished for more printer translates (printer control codes) for Quill, T'N'G is for you. T'N'G allows you, the user to embed up to 106 different printer control characters into a Quill file. Have you ever thought about programing your printer to print out bit image graphics? If you don't understand what bit image graphics are, think back to the days when you programmed a Spectrum for user defined graphic characters. It's basically the same thing.

T 'N' G - (CONT'D)

TEXT'N'GRAPHIX provides you with the tools to get the most out of your Epson (or compatible) printer using the QL. T'N'G is a powerhouse program, if you take the time to work with it and it will multi-task with your other programs.

T'N'G comes on a 3.5" disk accompanied with a 32 page, well documented manual. The disk has a number of supporting files as well as the usual BOOT and main program (T'N'G). There are 12 _scr files for use while learning how to prepare the graphics for importing into Quill; SPIRAL_task - a program for designing and producing Turtle graphics for use in T'N'G; PDC_task which enables the user to use other printer dump routines with T'N'G and if required, can convert 9 pin routines to 24 pin output without distorting printer output. Two text files are also included - TEXTFILE_doc and TEXTFILE_lis for experimentation - adding printer control characters to the text, importing a graphic into the text file and - demonstrate bit image graphics when directing the completed file to your printer.

The T'N'G manual is well written and easily understood, even for a novice user. Read through the manual before attempting to use TEXT'N'GRAPHIX. The manual is set up in a logical format and I recommend that you follow the manual as the author provides you with step-by-step instructions on how to use this powerful utility.

Using TEXT'N'GRAPHIX -

Make certain before booting T'N'G that you make a backup copy of the media and use the backup copy only. Be sure that your printer is turned 'ON' if you intend to do any printing before booting up the program!

The program boots up very quickly. An introductory screen will appear requesting input - SPACE to continue or 'Q' to leave T'N'G. If you have pressed SPACE you will be prompted for the printer device name such as SER1. Next prompt asks if you wish to load a character set. Entering "Y" will request a file name and the file will be downloaded to your printer. Entering 'N' will move on to the next prompt. You will be requested if your printer is 24 pin. Answer with 'Y/N' and another prompt will appear requesting if you want sound. My advice is answer 'Y', as there will be times when printing text and graphics your QL appears to have stalled, which it hasn't!

The sounds will reassure you that the QL is processing your file. The main menu will appear next:

MAIN MENU

Press: -

1	- to process a graphics display
2	- to process a graphics file
3	- to process a text file
ESC	- to abort

NOTE: - If you have corrupted this menu by using another program multi-tasking with this one, you can restore this display by pressing <ENTER> after returning with CTRL C.

Pressing any number will route you to another screen explaining what this function will do, then press ENTER which will bring you to yet another menu.

If you follow the instructions within the manual, select 1. Read the screen and press ENTER. This brings you to the 'Process a graphics display' menu:

Press: -
1 - Process a graphics display
2 - Process a graphics file
1 - for a dump to printer as soon as your display is ready
2 - for a contracted screen dump file
3 - for a contracted screen dump file AND, a file to insert the screen dump
4 - for all three
Any other key will Abort Selection

Again, follow the author's instructions and you won't run into trouble by choosing option 1 from the MAIN MENU, "Process a graphics display". Read the information screen and then press ENTER. At the next menu, press 4.

This is where I ran into trouble because I didn't go along with the manual! You will be requested for a device and name for a compressed screen file to be saved. Type in any suitable name with an extension. Recommended is 'flp1_TEST_con'. Then you will be asked for a name for the insert file which will be imported into Quill. Type in 'flp1_TEST_ins'.

Next a prompt asks if you want to load a saved screen - answer 'Y'. Load any one of the screen files on your T'N'G disk. My recommendation is to load either SP2_scr or SP4_scr as both files are small and are single line graphics which will print out quickly. The T'N'G screen dump routine produces high resolution output to your printer. Each pass of the printer head produces a very fine line of output, requiring many passes of the printer head to produce a high-res display with grey scale.

After your choice of a graphic file has loaded, you will notice a small block of reversed color display. This block indicates the area of the graphic to be processed and the block can be expanded and moved about the screen using the cursor keys with a combination of either CTRL or ALT.

When you have set the block at the section of the screen you want to have saved, the program will save a compressed file as 'TEST_con', save an insert file as 'TEST_ins' and process the graphic screen for a screen dump to your printer.

What you must do now is to enter CTRL/C, load Quill and when the Quill screen comes up, load 'TEXTFILE_doc'. Read the file and enter the control codes as explained, move down to the area of the text file where space is allocated for insertion of a graphic file. Enter F3, F3, I and 'device name TEST_ins', ENTER,

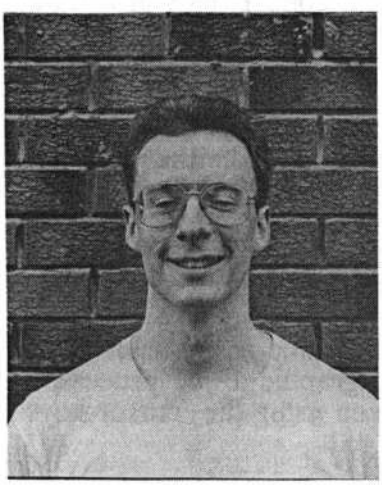
ENTER and wait until the graphic file has imported into Quill. Remove your disk with the file, 'printer_dat on it and save the completed file with F3, P, ENTER, ENTER, 'device name TEST'. The completed file will have a '_lis' extension appended to it. CTRL/C into T'N'G and enter 3 from the MAIN MENU to process a text file, directing the file to the printer for output.

I have just lightly touched on TEXT'n"GRAPHIX - there is much, much more. I hope that I've been able to whet your appetite about T'N'G. TEXT'N'GRAPHIX is a steal for £20.00 and is sold by Dilwyn Jones Computing.

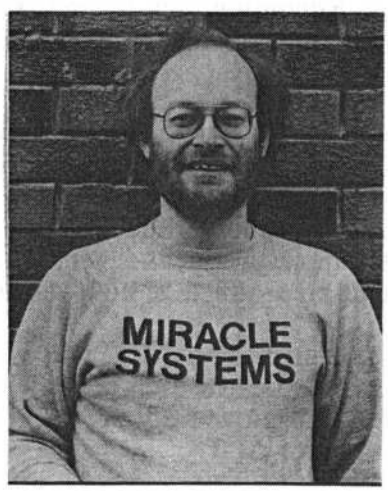
(Reviewers note: It is quite obvious that the author, Alan Bridewell is well versed in the way of printers - digging deeply into the bowels of his printer and printer manual, extracting every ounce of use from his Epson RX 80; which takes hour after hour, day after day of exausting experimentation, until each and every printer function behaves as it should when programmed. I know, because I went through the same process some ten years ago. Mr. Bridwell is to be commended for his abilities to use his expertise developing T'N'G, combining both text and graphics within a text file.)

MEET MIRACLE SYSTEM'S TEAM

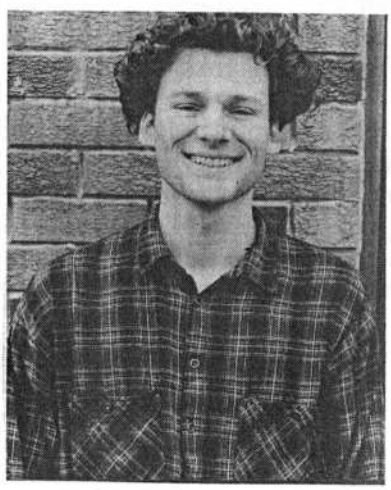
With the soon to be released QXL (see cover photo) PC card, and work continuing on the long awaited GRAPHICS CARD and SCSI interfaces, we thought you'd like to meet the brilliant team leading us into the 21st centry.



MIKE TOMLINSON



STUART HONEYBALL



NOUD SNELDER

Over the years, Stuart and his crew have been responsible for major inovations. Starting with the MODAPTER and SERIAL to PARALLEL interfaces, and continuing with the EXPANDERAM and TRUMP CARD, and most recently the GOLD CARD. We expect the next generation of products to have an even larger impact on our community.

(EDITOR'S NOTE: We don't know if the smiles were generated by a job well done, or news that the FIRING SQUAD had gone on strike .)

THE LONELY JOKER (NAPOLEON)

HADDAM, CONNECTICUT, USA - MEGAN ARSENAULT

A number of months ago my father purchased the game "LONELY JOKER", and I've been playing the three different games ever since. The most difficult of the three is "NAPOLEON", the documentation really doesn't go far enough in explaining how to play. So, here is a simplified explanation of the way I play the game.

SET UP - When the game first comes up there are five rows of cards. The first four rows have eleven cards and the fifth row has eight. You will notice that in the middle of the last row there is a blank space, this will be explained later. In the middle of the first four rows the cards going down are the same, these are your bases. The object of this game is to get all the cards on the four bases in numerical order.

RULES - You are only allowed to move the end cards in each row, but when the game starts, you must decide if you want to build up or down. You can also build on the end cards, but if you do, you can only use the top card to build on your bases. The space in the last row that is empty is for you to move any card you want into that space. The cards that are in the last row can only be moved into one of the first four rows. As the rows get smaller you'll notice that the last space in each row is outlined in red. You can now put any card you want from any row into the red outlined space.

What you've just read are just the basic's of the game , I hope they will be of help. Remember, this game can be difficult, but with a little practice it'll become easier, and a whole lot of FUN. *(Editors Note: "THE LONELY JOKER" is a product of Jochen Merz Software, please see their advert elsewhere in this issue.)*

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This page was produced using LINEdesign by PROGS on a Sinclair QL with HP Deskjet

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plus4 QL Wordprocessing at its Best

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New printers using twenty-four pin, bubblejet, inkjet or laser technologies offer very fast output of the highest quality. They feature multiple proportionally spaced founts in different sizes. They allow precision adjustment of spacing between words and between lines.

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plus4 and its printer drivers put all these features at you fingertips. Select the appropriate driver once and forget about control codes, translation of accented characters,'counting the lines to fit the page, calculating the number of characters that fit within the margins--all the tedium that is part and parcel of wordprocessing with other programs.

IMPROVING YOUR PRINTING: Option 2

You may already own a 9 pin dot-matrix or daisywheel printer. Upgrade it with **plus4**! We have written forty dedicated printer drivers for those old favourites. Although not in the same league as far as output quality and speed are concerned, they share some of the features of modern printers. **plus4** brings out the best those printers are capable of.

IMPROVING YOUR PRINTING: Option 3

plus4 drivers mentioned so far are text-mode drivers which print at the fastest possible speed: up to several pages per minute with fast printers. We were not talking about graphic mode printing which is not of the same quality and is hampered by the serial port bottleneck (it can take several minutes per page even with the Gold Card). Nonetheless, we also offer plus4 users a graphic mode driver for dot-matrix printers: **fountext88**. Up to 32 bit-mapped founts can be loaded with **fountext88** and used freely in your texts. It typically takes less than 4 minutes to print a full page which is very fast by QL standards. **founted89** allows you to modify the founts or design your own.

plus4 requires disk drive and 256 K memory. Leaflet with list of supported printers available on request.

text87plus4	£79
2488 (drivers required for 24-pin and bubblejets)	£19
typeset90-deskjet (drivers required for all HP Deskjets)	£19
typeset90-Epson (drivers required for Epson Lasers)	£39
fountext88 + founted89 (optional dot-matrix graphic driver)	£39

Software87, 33 Savernake Road, London NW3 2JU

COMMUNICATIONS

TIVERTON, RHODE ISLAND , USA - DICK TAYLOR

I recently received a disk from Don Walterman with the latest versions of Q.E.M. (v2.30), release 2 of Unzip (file decompression) and the Zmodem transfer protocol (rz and sz).

This package represents a major advance in QL communications and makes it possible to easily take advantage of the many bulletin boards, (estimated to exceed 25,000) around the world.

One of the problems in the U.S. is the scarcity of QL Bulletin Boards. Several user groups run local Timex/Sinclair BBS's, but these are limited in information available and necessitate long distance phone rates unless you live in the vicinity.

On the other hand, almost everyone is within the local calling radius of a dozen or so MSDOS BBS's (I belong to eight or nine, four of which I access almost daily). Many of these boards are nodes of larger networks that support the exchange of messages, (Internet, FIDO, RelayNet, RIME, etc.) across the country or world.

Although these boards may have little or nothing exclusively for the QL, they do have many ASCII text files as well as conferences on dozens of subjects, chat nodes and message exchange. The major drawback to downloading files from these boards including message packets, was the lack of a compatible archiever. In the U.S. almost all online files are compressed to save storage space and reduce transfer times. The most popular archiever is PKZIP. With the availability of Release 2 of Unzip, Ql owners can now download and extract these files (if you currently have a copy of Release 1 of Unzip, you will not be able to extract files that were compressed with the latest version of PKZIP 2.0 and above

In addition to the ability to extract compressed files, we have long needed the Zmodem protocol for faster, easier and more error free transfers. System Operators (SysOps) responding to a survey reported that 80% of their members use Zmodem as their protocol of choice. Zmodem not only supports single file transfers, but also batch transfer of multiple files, (following this article we will briefly discuss the differences between X,Y and Z protocols.

Now on to Q.E.M. This communications program is a joy to setup and use. It is written and maintained by Jonathan Hudson living in the Sultanate of Oman and is available from many public domain sources.

Upon execution of QEM, you are presented with a black screen with a title bar across the bottom that indicates the version number, author's name and the current time. After the first keypress this changes to a status bar which displays version, baudrate, transfer protocol, capture mode, ASCII send mode, serial port and time. With the exception of version number, the selections can be easily changed. In addition an up-arrow will be displayed following the program name when QPTR extensions are used. QEM supports the full QL character set. It will display, send and receive all characters that your ROM is capable of.

Operation of the program is incredibly simple. Drop down menus are displayed by

pressing the <CTRL> key with a function key 1 through 4. <CTRL> + F1 displays the file transfer menu which offers the following items: ASCII Capture, ASCII/HEX Capture, ASCII Send, Upload, Download, Options and Protocol.

As with all the menus, selection of an item can be by moving a highlighted bar with the arrow keys then pressing <ENTER>, Pressing a single indicated letter or with the mouse (if QPTR installed). The Options selection displays an additional menu for use in selecting upload and download directories and additional protocol options. As your file transfer options will probably not change very often, once you set them, you will seldom need this menu.

QEM will support the standard Unix, MSDOS and VMS wildcards, ie '*' matches any string of characters, '%' or '?' matches a single character. Multiple files (filenames) are separated by a comma, space or Tab.

<CTRL> + F2 displays a menu for selection of: Dial, Disconnect, Answer, Auto Answer, Reset Line and Version. These items are fairly self explanatory except that pressing dial allows you to type in a phone number directly without it being entered in your Phone_Book.

<CTRL> + F3 displays a menu to allow you to configure your system such as terminal type ie VT-52, VT-100, etc., Baud Rate, reset serial port back to 9600 upon exiting and so forth. There are defaults already set for these items and you may not need to change them. Again this is a menu that once you are satisfied with, won't require much access.

<CTRL> + F4 displays the Phone_Book. This is a window that displays the names and numbers in your phone book. Across the bottom of the window is a selection bar for Dial, Edit, PgUp, PgDn, Add, List and Zap. If Dial is highlighted in the status bar, you can move a highlighted bar through the list of numbers until you reach the one you want. Pressing the <ENTER> key will cause that number to be dialed. Selecting ADD will pop-up another menu for you to fill-in information associated with that phone number such as log-on identification, password, comments, terminal type, speed and etc. These can be unique to this number and can be different from your default settings.

After you have tried the number once you don't need to access the Phone Book menu to call again. <SHIFT> F4 will redial the last number called.

<SHIFT><ENTER> will exit the program saving any changes you have made to your phone book.

QEM default settings are configured to use Ramdisk to download files. This reduces on-line transfer time, but you have to remember to copy the file to disk before shutting down. The program is also configured to expect the Phone_Book to be in FLP2_. As this required an additional disk, I changed it to FLP1_, and kept it on the same disk as the rest of the files. The down side to this is that I can't write protect my working disk and still be able to edit or add to the phone book.

QEM comes with a configuration program to change defaults permentantly. Temporary changes can be made while the program is running.

To test QEM, Zmodem and Unzip I contacted a local BBS that supports MSDOS as well as the Macintosh community. I used the default settings, a 1200 Baud external modem, a QL with MINERVA and Goldcard. I immediately connected, logged on and then got into trouble.

The screen degenerated into garbage with only the occassional recognizible word. At this point I couldn't navigate through the board and couldn't log-off. I ended up resetting the QL and risking the wrath of the Sysop. I finally realized that my selections on that board called for graphic displays (I normally contact it with an IBM clone). I solved the problem by calling the board with the IBM and changing my user settings to display text only.

After apoligizing to the Sysop and logging off. I called again with QEM. This time was with great success. I navigated through all the facilities of the BBS with ease. By this time I was ready to try a download to test not only Zmodem but also the ability to unzip a file. I located a small text file (4K), that was a list of Government BBS's that had a ZIP extension.

The download procedure was very simple. I pressed <CTRL> F1 to get the File Transfer Menu and selected Download. This presented me with a small box that displayed "RAM2_" and a flashing cursor. If I was going to use X-modem I would have to enter the filename of the file I was going to download. For Y or Zmodem you only have to enter the device/directory where you want the file downloaded to. I my case the default RAM2_ was fine so I just pressed <ENTER>.

You are then instructed to press F5 to start the transfer and <SHIFT> F5 to abort the transfer. I pressed F5 and a progress window popped up with the following fields:

File:	Name of the file
Size:	Size of the file
Chars:	Characters sent/received so far
Block:	Size of the last block received
Time:	Elapsed time for this transfer
Rate:	Transfer rate (characters per second)
ETA:	Time left/Total time for transfer
:	Memory available
####:	A graphical progress indicator. The box fills as the transfer progresses.

The transfer was a success, I unzipped the file and loaded it into QD IV to look at it. It was identical to the copy I downloaded with the IBM. Without a doubt this is a great package and I highly recommend it to all our readers.

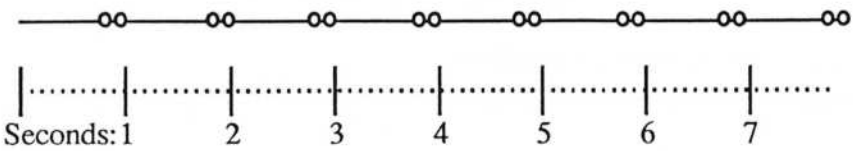
ZMODEM - A TUTORIAL

In the beginning there was Xmodem, and file transfer was without form and void. Xmodem was one of the first of the common file transfer protocols. Xmodem transfers the file in small packets of 128 bytes each. After each packet, Xmodem performs a check to ensure that the packet was transferred correctly. You can tell when Xmodem is performing this check if you have an external modem because the lights indicating RD or SD (depending on if you are sending or receiving) stop flashing for an instant. That instant (actually a substantial part of a second) represents dead time as far as the transfer is concerned because no data is being transferred while Xmodem is performing the packet check.

XMODEM TIME LINE

—— = Data transfer in progress

oooo = Packet check in progress. (no data being transferred)



If we take those 8 seconds illustrated above and add all the time data is being transferred and all the time no data is transferred because the individual packets are being checked, we come up with the following:

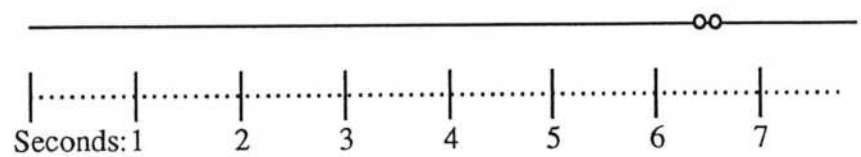
Xmodem spends nearly 1 part in every 7 simply checking data, with NO data transfer in progress. Think about that next time you're transferring a file looooooonnnnngg diiiistance ($$$). What's a mother to do?...

Well you could consider taking a night job to help cover the additional phone bill... or you could speed up your file transfer. If only you could send MORE data in each one of those packets before having to wait for that dead space. Enter Ymodem. Ymodem performs much the same as Xmodem does, only instead of transferring 128 bytes in a packet, Ymodem sends a hefty 1024 bytes. What does this do to our timeline?... just look...

YMODEM TIME LINE

—— = Data transfer in progress

oooo = Packet check in progress. (no data being transferred)



Not bad eh? As you can see, Ymodem spends more time transferring data than it does lazying around your system checking packets and getting back to the transfer when it can like Xmodem.

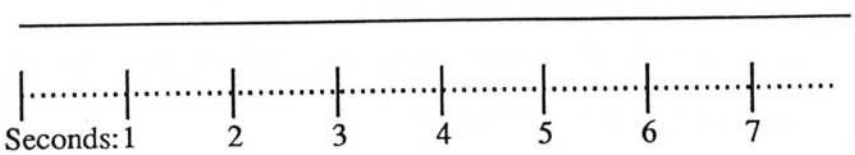
Ole MA Bell is starting to worry now, but we've got something in store for her that will make her wish people would stick to Ymodem. How would you feel about a transfer protocol that transfers data continuously!?

Zmodem has the remarkable ability to check the status of its transfer without the need to stop and start as Ymodem and Xmodem do. This of course means the best file transfer performance for you and layoffs for Ma Bell! (joke). Let's take a quick look...

ZMODEM TIME LINE

—— = Data transfer in progress

oooo = Packet check in progress. (no data being transferred)

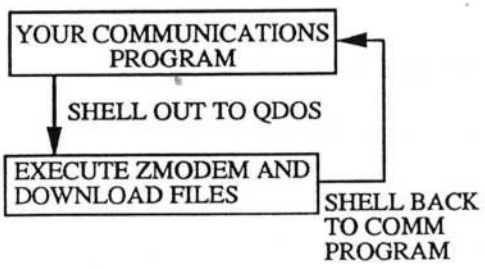


Now you start to get the picture! What are you going to do with all your extra time now that you can call a BBS, download your files with Zmodem and still have 25 minutes left? (you could upload some files..)

—————————————————— = 8.0 Seconds

= N/A Seconds

Ok, so you're sold on Zmodem (this does look like a Zmodem advertisement doesn't it?) and you're all set to try it but your comm package doesn't have Zmodem as one of the protocols built into it. Why?



Although some communications programs are just beginning to break the trend, most currently have just the standard protocols built into them, such as Xmodem, Ymodem and most likely a few others. With the emergence of various new protocols, the communication program authors needed to provide a way of executing these new protocols without incorporating them into the code, which would increase it's size unacceptably. To do this, the authors provide a means to exit to QDOS (while remaining resident).

At any rate, you should have a better understanding of Xmodem, Ymodem, Zmodem, AardvaarkModem, etc... There are many other sophisticated protocols out there and new ones joining the flock every day, but few match the power and features of Zmodem. *(Ed Note: Thanks to Mark Findlay and his help in explaining Protocols).*

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SUBMISSION DEADLINE FOR THE NEXT ISSUE IS: 15 APRIL 1993.

ADVERISING DEADLINE FOR THE NEXT ISSUE IS: 20 APRIL 1993.

IQLR is produced using TEXT87 PLUS4 and TYPESET 90-DeskJet printer drivers, on a QL computer equipped with, a Gold Card, Minerva ROM, Hermes, QLEA Rom-Switch, and the Keyboard 90 interface. Output is via an HP DeskJet 500 printer.

ADDITIONAL COMMENTS ON THE QXL CARD

BERBENNO, ITALY - DR. EROS FORENZI

The processor used on the QXL card is similar to the 80486SX Intel processor, because they have in common the lack of FPU (numeric coprocessor). The Motorola processor is more efficient than the Intel, and so the 20 Mhz 68EC040 processor of the QXL card has roughly the same power of a 25 Mhz 80486SX. If you use Windows 3.1 or OS/2 on the PC the processing power of the 486 will be severely tested, and due to the higher efficience of QL software, the QXL card will run QL software like a PC runs Windows or OS/2 software on 33Mhz 486SX processors.

THE SPEED OF THE QXL

In theory the QXL speed should be up to 10 times faster than the Gold Card and 60 times faster than a standard 128K QL. In practice it will be slower, because the major goal is compatibility with existing QL software, not speed. Compatibility usually means that if you want it, you must part with something else (i.e. speed). Anyway, the card should be faster than the faster QL system to date: the 68030 accelerator card for the Atari ST QL emulator from Jochen Merz (that card is about 5 times faster than the Gold Card and costs 500 and 600 pounds - 25Mhz and 32Mhz versions). Note: the 68040 on its own is at least twice as fast as a same clocked 68030.

COMING SOON !!

In upcoming issues of IQLR we expect reviews on some of the latest BLOCKBUSTER software releases, the following is but a sample:

TEXT87 PLUS4	(version 3.10)
QSPREAD	(P.E. Spreedsheet)
QMATHS I	
QL to PC FILE SERVER	
DATADESIGN	(DataBase Version 3)
LINEDESIGN	(vector drawing package)
EASYPTR III	
QD 5	(P.E. EDITOR)
Zm/hT	(Spectrum Emulator
SCREEN DAZZLER	
DJTOOLKIT	

Most of the software reviewed in IQLR is supplied by the individual software producers, if you'd like your software reviewed in IQLR, send as a review copy.

Editor's Note: *As is generally the case, when you think you've got everything the way you want it, you usually don't. With the article on COMMUNICATIONS running a page longer than expected, and new information on the 68EC040 processor arriving at press time, our table of contents got knocked out of line. The advert for Mechanical Affinity is now on page 251 and Jochen Merz Software's advert is on page 252. Sorry about that.*

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With two locations to better serve you and provide the needed sostware and accessories for your SINCLAIR, TIMEX-SINCLAIR, or CAMBRIDGE computers. To obtain our latest catalog for the QL, Z88, TS2068, or other Sinclair machines; just send a legal size self-addressed, stamped envelope to either of our two locations listed below. Due to increased demand we have added Memory, Cables, and some Software for the Z88. We've brought back some old favorites for the TS2068, and have added quite a bit to our QL inventory.

For the QL, we carry the full lines of software from: JOCHEN MERZ SOFTWARE, DILWYN JONES COMPUTING, and DIGITAL PRECISION LTD. We also carry the full line of hardware offerings from MIRACLE SYSTEMS, and have recently added QVIEW'S Hermes replacement chip (replacing the 8049) and the Minerva ROM upgrade.

GOLD CARDS on sale for $360 includes S &H. This is a great time to upgrade your QL to 2 megs of memory, 16 MH speed and a battery backed internal clock, the latest version of Toolkit II, and be able to operate 3 disk drives (720 DD, 1.44 HD and 3.2 ED drives in any combination).

INTERNAL QL ROM BOARD KITS, complete with printed circuit board, parts and instructions for only $12. Either you, or we can put your QL ROM on eprom and install it on this board to allow you to use your favorite ROM version, reduce heat internally by up to 50 degrees, and reduce power consumption by as much as 20% (the kit does require solering and the opening of the QL for installation).

INTERNAL BATTERY BACKED CLOCK BOARDS, complete with all parts, printed circuit board, battery, and instructions. A buy at only $12. If you don't have a GOLD CARD or a QIMI mouse interface, then this is the best way to give your QL a stable battery backed internal clock.

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On to the many news: HyperHELP for BASIC, QD Version 5 and Menu Version 4!

QD Version 5 - The first (and only) Editor using the PE. Dynamic memory allocation, no limit on numbers of lines, comfortable block-handling and many, many new features, e.g. improved print menu, better search/replace, GOTO Procedure and Function, even Machine code label.
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QDOS Reference Manual - This book is a must for all m-code programmers. It explains how to use QDOS, all traps and vectors, the Thing System, the HOTKEY System II and much more. It points out which features work on a QL, an Emulator and how to write compatible for future operating systems. DIN A5, over 170 pages. **DM 89,90**

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QSpread is completely mouse- and/or keyboard-controllable and uses, of course, the Menu Extension. Windows may be enlarged up to the maximum screen area (think of QVME), the application window may be split in up to three different horizontal and vertical sections, giving 9 independent controllable areas. Every cell may be formatted independently, with many options (justification, decimal point etc.) and with preview. The monetary symbol may be longer than one character, e.g. DM. Sum- and other often-used macro-functions. The size of the sheet is only limited by memory (16000 cells need about 400kBytes). Block handling and block entry is very easy and useful, especially if you have a numerical pad: you select the block and enter the values one after the other. They are automatically place in the right order. No cursor-key-action necessary! New: cellname-enquiry, echo-function, different rounding methods. Many additional functions, which belong to today's standard-equipment: Help, Button-function, use of the Scrap, all standard file operations, calculation order row or columns etc. [V1.11] **QSpread with comprehensive manual DM 169,-**

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