

## The Quite Qonfusing QL - thinking of getting into the Sinclair QL in 2020?

I was about 8 when my uncle gave me his 'obsolete' Sinclair QL, complete with the original Psion software. I found the microdrives fast and novel (and reliable, despite what many say). The QL was probably the first time I had ever loaded software from removable media, as up to that point I had used a ZX81 and didn't even have a tape recorder to save/load stuff with! As a child though, all I had was the Psion suite of word processor, database, spreadsheet and business graphics and they didn't hold my attention for all that long. I had no idea where to obtain further software for it and the huge, very adult user guide went mostly over my head (much of it still does)!



A Sinclair QL

Now that some of my generation are re-discovering retro computers for reasons of nostalgia, or simply to try out the computers that your mates had that you couldn't possibly have expected your parents to buy or could have ever afforded from your paper round money (if you were lucky enough to have one computer, that would have been expensive enough). There is increased interest in original 1980s hardware in general and therefore also in the Sinclair QL. Over about the last year or so, I have collected quite an assortment of original QL related hard- and software and have even learnt how to use some of it. The Sinclair QL was designed and sold in the 80s - things were much simpler in the 80s, weren't they, so how hard can it be? I have personally found that re-discovering or attempting to properly get into the Sinclair QL for the first time can be a daunting affair, at least it has been for me.

### History

The original QL (i.e. the original black long Sinclair computer) was an advanced machine for the time and it was very much aimed at the more advanced potential computer user. It was originally favoured by some business users, programmers, teachers and generally very clever-stick type people that understood the ins and outs of a data bus and the whys and where's of a file header. It was not aimed or designed for general home use by plebs like me and my mates at school.

In its original form it was essentially flawed on a few levels, due to it being rushed and perhaps a lack of foresight in some respects. Unfortunately it also had a very short lifespan and was cast aside after about two years of mediocre sales in 1985/6, by Sinclair's new owner Amstrad, in favour of the technically inferior but commercially massively successful ZX Spectrum range of computers (used primarily by the mere mortals, mainly kids, for shooting aliens and stuff). The ZX Spectrum lived on for another 6 years after the demise of the original QL.

*(n.b. In case you were unaware: Apart from the general similarity of appearance for some models, the Sinclair QL is absolutely nothing like the ZX Spectrum. The software is not compatible, the operating system is totally different, and you can't load or save anything using cassettes/sound input! I think some seem to think that just because they had a ZX Spectrum in the day, that they will be able to take a QL, plug it in and do Spectrummy stuff with it. You can't.)*

But despite the demise of the actual QL computer, the QL story was far from over - Companies and individuals continued making and selling hardware and software for the original Sinclair QL computer. Even without the support of large corporations or massive financial resources, some plucky chaps improved upon the essence of the QL, fixed many of the bugs and shortfalls and added a host of modern features. Amazing hardware add-ons were produced, which turned the QL into a computer that was more than capable of keeping up with other types of mainstream

computers throughout the 1980s and 1990s. That massively improved hardware could make better use of more powerful software and that was also provided, in the form of new QL flavoured operating systems. The add-on hardware for the original black box was ultimately followed by entirely new QL based stand-alone computer systems and then emulators which were (and still are) capable of turning almost all other types of computers into a QL compatible system.

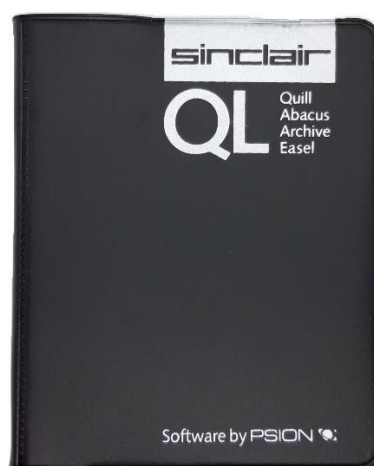
### And now

Fast forward to 2020 - The original QL and its successors are perfect for those like me, who seem to feel the need to fill their living space with retro-computer nostalgia. Some QL related items are also quite collectable and there are collectors for everything, but the point at which they stopped being useful every-day computers (albeit, even from the offset for a fairly small number of niche users) was probably about the early 2000s, at about the time that the internet, or more specifically the world wide web, became mainstream and something that people had grown to expect from home computer systems - which is nevertheless quite remarkable for a system that was introduced in 1984 in a rush and had no official support by its manufacturer after 1986! Over the last decade or so the chatter and development around the QL has subsided and looking around online there are quite a few dead links to various websites and companies that no longer appear to be trading. There are however, still a few very good sources of QL information online, places to buy related hard-/software and there are a handful of die-hard hobbyists still tinkering away in their spare time, invariably for very little financial reward.

### QL Pros and Cons:

Pros...

- The QL is a great for programmers and other technical people, to experiment with or as a learning aid.
- It had advanced features for the day.
- It's SuperBASIC is powerful and gives a real feel of getting a computer to do stuff manually from a command line.
- You can get some previously commercial software titles for free.
- They came with a comprehensive user guide in a large black binder.
- They also came with a suite of Psion software, which was very capable at the time. Bundling software with a computer was a new concept.
- There is software that sets up and runs within a windows-like environment and you can even use a mouse.
- There is a dedicated bunch of very knowledgeable people that are happy to help with technical queries.
- Hardware availability of spare parts is pretty good and most of the things that tend to fail (e.g. keyboard membranes) are obtainable.
- Some hardware improvement add-ons are currently being re-manufactured.



*The wallet containing the free Psion software*

Cons...

- Steep learning curve to get into (for many).
- No easy access to the internet directly from any form of QL based system.
- Difficult to find and setup a compatible mouse.
- Not suitable for people that aren't clued up on computers in general (remember how hard it used to be to get stuff to work on any computer, before everything just plugged-in/installed and functioned straight away!? It's rather like that. Things were not as intuitive back then).
- There wasn't a huge amount of software produced for it (compared to other systems) and there are some things that are not freely available (still under copyright, and either the copyright owners haven't given permission, are not responsive to queries or the current copyright ownership is not clear)
- The original Sinclair QL is rather limited - to improve it can work out expensive and will result in something only marginally more useful, but certainly more fun!
- Getting software from a modern computer onto a QL is tricky to say the least, especially for the original QL which just has twin microdrives as storage devices. QL's with 3.5" floppy drive(s) were slightly easier to move data to, but who has a PC with a standard floppy drive attached these days? (and it must be an original one, USB floppy drives don't cut it). The only way to get stuff onto an original QL without buying extra hardware, is via a custom serial cable terminating at the QL end, in a non-standard BT type plug (German and USA models had different sockets). That is in itself a tricky undertaking and modern PC's don't have serial ports anymore either, so a USB to serial port adapter is also required.



*The top of a Sinclair Microdrive Cartridge*

### **And then....**

You take what was originally a fairly complex computer system with new features that was designed for serious/business users, add a whopping dollop of hard- and software evolution over 20+ years and you end up with a load of incomprehensible acronyms and terminology that can be confusing in the beginning. Here are some important QL related terms that you are likely to encounter:

#### ***Stuff mainly relevant to the original black box QL (often referred to as the BBQL):***

**QDOS** - is the original OS found inside the QL. It is one of two things that are found on the QL's internal ROM chips (the other being SuperBASIC). QDOS is what allows the QL to interact with the drives, processes, memory and device drivers.

**SuperBASIC** - is an advanced variant of the BASIC programming language, which included some nifty extras, including structured programming features. SuperBASIC also works with QDOS, as it's command line interpreter. Both SuperBASIC and QDOS are 'hard coded' into every QL (in the ROM chips).

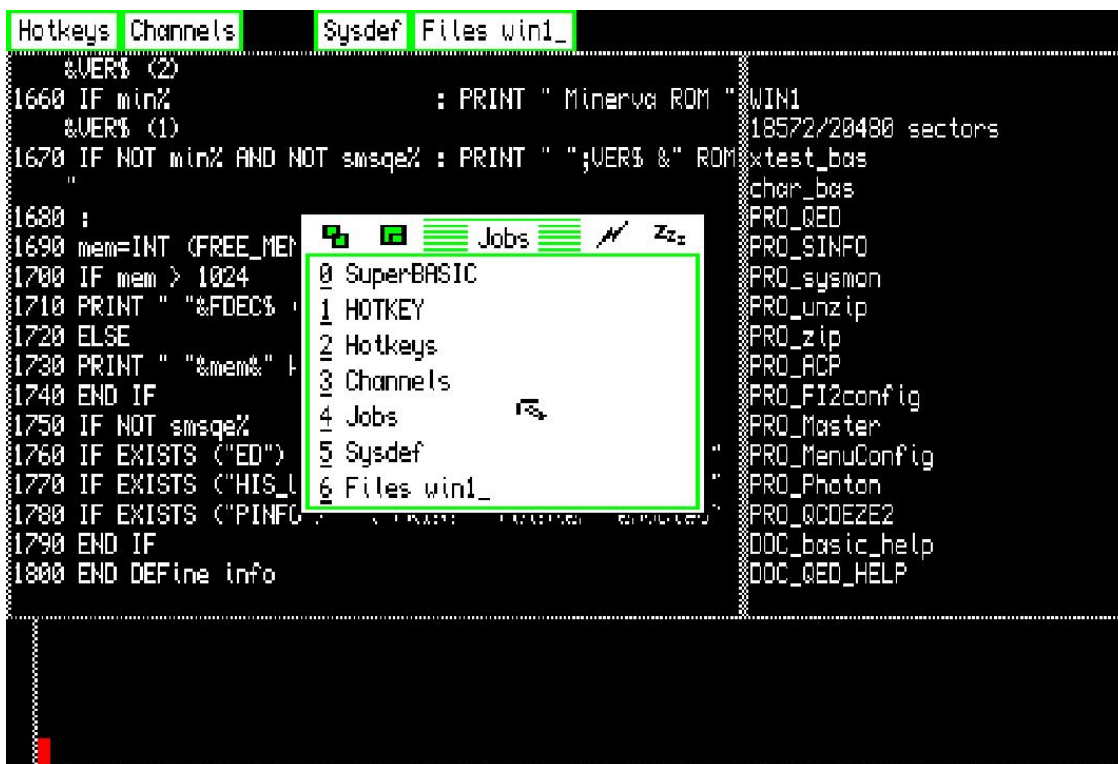
**Minerva** - is an improved version of QDOS with some SuperBASIC enhancements. Originally it was a physical replacement ROM chip that you had to plug in to your QL. It was a very popular upgrade at the time.

**Hermes** - refers to the Hermes chip, which was a clever replacement for the original 8049 co-processor chip in the BBQL. With a Hermes chip plugged-in to substitute the 8049 there are marked improvements to the QL. The most significant are probably the reduction of keyboard 'bounce' and the newly gained independence of the 2 serial ports, which are no longer both tied down to the same baud rate (useful for using e.g. both a mouse and printer at the same time).

**Toolkit II** - was originally sold by Sinclair in 1985 as "QL Toolkit". It is generally accepted as a must-have addition to the original QL. It extends SuperBasic in a few useful ways, including adding support for wildcards and generally making a lot of tasks much easier to undertake. It was also included "built-in" to several hardware add-ons. It is now available for free.

**Pointer Environment (or PE)** – Consists of 3 files and provides a pointer which can be controlled by cursor keys or a suitable mouse, a window manager and hot key (shortcut) system. Pointer Environment can be obtained free of charge.

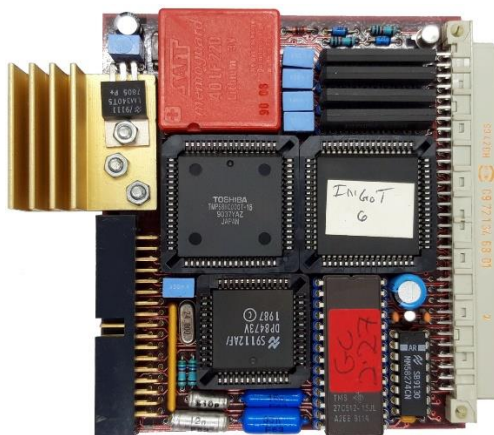
**QPAC(II)** - stands for "QL Pointer Accessories" and is a set of utilities that run under the Pointer Environment, basically resulting in a windows-like graphical user interface with menus for the QL and QL based systems. QPAC is also available for free.



*A QL Screen running Pointer Environment and QPACII*

**Further QL related developments:**

**Trump/Gold Card/Super Gold Card** - are hardware add-ons that plug into the QL's left hand expansion port. They modernised the original system helping to keep it fresh throughout the 1980s and well into the 1990s by providing a floppy drive connector, more RAM and means to attach a mass storage device (in the case of the Trump card). The Gold and Super Gold card added considerably more RAM and a faster processor which rendered the internal QL processor redundant. There were also other expansion cards that just added RAM or a floppy drive connection.



*An original Gold Card from 1990*

**SMSQ(/E)** - is an operating system developed by the same man that was responsible for QDOS while working for Sinclair. It stands for "Single-user Multitasking System" with the "Q" representing QL and the "/E" denoting that it is "Extended" (There was an older version that was just called SMSQ). It cannot be used on an original unexpanded Sinclair QL, as it requires more than the 128k RAM and a faster processor (i.e. minimum Gold or Super Gold card).

**GD2** – stands for “Graphic Device Interface 2” and introduced (in version 2.94 of SMSQ/E) support for 16-bit realistic colour display (65536 colours) for the first time.

**QXL/QXL2** - was an ISA expansion card introduced in the mid 1990s. Once inserted into a spare ISA slot in a host IBM compatible PC, it took over the PC and turned it into a QL compatible system! The QXL/QXL2 had access to the PC's devices and connections, like the floppy drive(s), serial ports and it was able to create and have exclusive use of a special portion of the PC's hard drive. They used SMSQ/E (or its predecessor) and had up to 8mb RAM on board.



*A QXL 2(B) card from the late 1990s*

**Aurora** – was a replacement QL motherboard that could fit inside an original black QL housing but was also used within custom PC type cases. It had various improvements and was designed to be used with a Gold or Super Gold card (as it lacked its own processor chip).

**Q40/Q60/Q68** - are all complete motherboard systems with faster processors and much improved graphics and sound capabilities compared to previous QL compatibles. Much like buying a PC motherboard in the 1990s, the Q40/60 were originally designed to be built into a standard AT case and had useful standard (of the time) HDD, FDD, keyboard, serial ports etc. The successor and the only one still available to buy new is the Q68, launched in 2017. It's very compact (a bit like a Raspberry Pi in appearance) and is supplied with the SMSQ/E Operating system and SD card sockets for mass storage. It is strictly a hobbyist product, is special order only and there is sometimes a short waiting list as they are not produced in high numbers. Internet access is possible, I think, but only just (and seems very complicated to setup and not very practical for those used to all computer devices having easy internet connection capabilities – although I haven't personally tried it).

**QPC** - is a QL emulator for IBM compatible PC's (and Mac OS X). The first version QPC1, was developed for and only runs within an MS-DOS environment. QPC2 is a native win32 program and can run on Windows, including Windows 10. It's available for free, runs SMSQ/E and is the easiest and quickest way to try out SMSQ/E!

Other very good QL emulators are available.