OPERATING ROOM

One of the QL's problems was that Sinclair couldn't get the OS and Basic into the ROM Ralph Bancroft looks at the GST's new OS.

When Sinclair was planning the QL, it followed a sound industry practice of not relying on one team for the design of its operating system.

A not particularly well known Cambridge software house, called GST Computer Systems, was commissioned to write an operating system (OS) to an exacting specification. Its solution was a powerful multi-tasking OS that had many of the features of Unix yet, was capable of being put on ROM.

Unfortunately, it took up more than 32K of ROM space — the amount that the QL designers had put aside for the OS *and* the Basic language. Sinclair went to a fall-back option of an OS designed by an in-house team to overcome the space problem.

The rest, as they say, is history. Even by cutting corners and leaving out a few facilities, Sinclair's own staff couldn't squeeze the OS and Basic into 32K of ROM. As a result, the first QLs that came out had an extra 16K ROM cartridge hanging off the back.

GST has now released its OS under the name 68K/OS for both end-users and companies using the QL board in their own products.

Features

GST's 68K/OS is a powerful multi-tasking operating system that owes its origins to Unix and other minicomputer operating systems.

The multi-tasking capability allows you to run several programs at once. How many depends on the size of the program and available memory.

It also has a 'pipe' facility to transfer data from one program to another. Pipes can be used with 'filter' programs that reprocess data.

An example of their use is in text processing. The output from a text editor can be written to a named pipe that transfers the data to a text formatter which in turn sends the final output to a printer.

The microdrive filing system uses a series of neat tricks to speed access times. With regards to the QL, 68K/OS supports screen windows and bit-mapped colour graphics.

Installation

The operating system provided was easy to install on a 'dongled' QL. The dongle was removed and the two 68K/OS ROMs subsituted for Sinclair's ROMs. For later versions of the QL, GST will be providing a circuit board that plugs into the internal expansion port.

Documentation

This is at times complex and confusing. It comes in the form of a fat ring binder and includes a substantial programmer's reference guide.

The detailed reference guide would certainly be an essential aid to anyone wanting to get to grips with the workings of the OS. But I would have welcomed a better presented introductory guide with illustrations and screen shots for those who merely want to use the OS to run programs.

In use

The difference between 68K/OS and QL SuperBasic becomes apparent as soon as you power up. Instead of the usual TV or monitor choice of the QL, 68K/OS gives a choice of five screen formats: four colour/85 columns for use with monitors; four colour/80 columns for use with monitors that tend to clip the edges of the display output; four colour/60 columns for use on TVs; eight colour/42 columns for RGB monitors; and eight colour/40 columns for use on TVs.

A little experimentation is advisable to find the best option for your particular set-up.

Selecting the screen format runs a program called Adam, which is a menu driven command program that splits the screen into several multi-coloured windows.

These windows display a command line, default program menu (programs on ROM or selected microdrive tape), default data menu and the log.

This last screen seemed an unnecessary luxury. It lists all the programs that have been run since you powered up the machine and whether the program runs have been suspended or killed.

At the bottom of the screen is a status line used to indicate the options that can be selected using the function keys.

To use a microdrive tape it first has to be 'mounted'. This is done by specifying the 'md:' followed by the drive number and then the directory name. Once mounted its directory appears in one of the screen windows.

A program can be run by either writing it on the command line or moving the cursor down the program menu and hitting return. As befits its origins 68K/OS files are referred to by a comprehensive path name that includes device, directory, name and type. So a full path name could be something like md:GST/date.prog.

Fortunately, some of these components are optional and others are automatically provided by the selection of default values. And despite the complexity of 68K/OS I soon found it easy to use and certainly more friendly than say CP/M or MSDOS.

Having loaded up more than one program it is a simple matter of switching between tasks. For each program a single line window appears at the top of the screen. At times I found this annoying, like when you wanted to use the full screen for text editing or using GST's Draw program. However, it did help in keeping track of which programs were still running.

Verdict

GST's 68K/OS is the first affordable operating system for personal computers that combines professionalism with functionality. It is also the operating system that Sinclair should have made its first choice for the QL.

Being in ROM it is instantly available — no booting of disks required. The limitation is that not all the features have been squeezed into ROM. Copy, Date, Format, Print and Rename are all commands that are annoyingly on tape and not in ROM.

I would have thought that with GST having to produce a plug-in card to implement the OS on the QL, it should have gone to the extra expense of adding one or two extra ROM chips to make these commands readily accessible.

Of course, the biggest drawback of 68K/OS is the complete lack of applications software. GST has released an assembler and is planning a word processing program. It is also bundling with the OS a text editor and terminal program.

However, the real test is whether independent software companies release versions of their QL software to run under 68K/OS. In the longer term the operating system's success depends on whether other manufacturers take up the system.

In the meantime, keen machine code programmers who want to turn their QL into a proper multi-tasking micro will find that 68K/OS is well worth the investment.

REPORT CARD: 1 TO 5

Features	●●●●●
Documentation	●●●
Performance	●●●●●
Overall value	●●●●

Name 68K/OS **Application** Operating system **Machine** Sinclair QL **Publisher** GST Computer Systems Ltd, 91 High Street, Longstanton, Cambridge 0954-81991 **Price** £99.95, Assembler £39.95 **Outlets** Mail order.