

Beyond Basic.



The first C compiler for the Sinclair QL®

However good SuperBASIC® is as a language, professional programmers have long recognised that there is a better alternative.

It's called C. It's the world standard systems programming language. It's extremely fast and it's available now on the Sinclair QL.

GST's QC C compiler runs on a standard QL from microdrives. No extra RAM is necessary. It will also run with disk if required. QC comes complete with full QDOS® runtime libraries, assembler, linker, a comprehensive user manual and tutorial book. It costs £59.95.

Remember, GST are officially recognised by Sinclair as leading developers of software and hardware for the QL. QC is one such product.

Beyond BASIC and into the future.

GST
That little bit extra

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91 High Street, Longstanton, Cambridge CB4 5BS.
Telephone: Crafts Hill 0954-81991. Telex: 817057.

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SOFTWARE

QC Data Sheet

The C language

The C programming language was developed in the mid '70s at Bell Laboratories by Kernighan and Ritchie and is now confirmed as the standard systems programming language for the majority of software houses, universities and computer manufacturers.

C combines all the advantages of program structure provided by a high-level language with the ability to manipulate the machine hardware directly by using data types that correspond to the memory architecture, making the use of assembler largely unnecessary.

The power and flexibility of C ensures its continuing growth in popularity. It is the essential skill for the professional programmer in the '80s.

The QC compiler

QC is the first C compiler available for the QL that runs under QDOS. QC provides both the professional programmer and the first-time user with a complete set of C development tools:

- C compiler to compile C source to 68000 assembler code
- 68000 assembler to translate 68000 assembler code to relocatable binary
- QDOS run-time libraries providing access to QDOS functions from C
- Linker to link the library routines with the relocatable binary
- Screen editor for the creation and editing of C source code
- Menu-driven 'shell' to automate the compile/assemble/link process
- Window manager to change the size and position of program windows
- Backup program for automatic microdrive or floppy disk backups

The compiler, assembler and linker produce comprehensive listing output. This includes a formatted printout of the generated assembler code with the C statements inserted as comments, which is ideal for program debugging.

The QC compiler also allows the programmer to code assembler statements directly in the C source code by using the

#asm and #endasm directives. This enables the C programmer to use assembler for optimisation of critical areas of the program without recourse to separate assembler modules.

QC language features

QC is an extensive subset of the C language with extensions provided for assembler code inserts and QDOS library functions. The major differences between QC and the C language defined by Kernighan and Ritchie are:

Additional QC features
Comprehensive run-time libraries
Assembler code inserts
Listing control directives

Not implemented in QC
Structures (struct, typedef, etc.)
Floating point
Multi-dimensional arrays

The balance between the language subset and the new features of QC provides a powerful systems programming environment that can be used on a standard QL with no extra hardware.

QC libraries

QC is supplied with two sets of library subroutines. The first contains the standard C run-time routines which will be familiar to experienced C programmers. The second is a special QDOS library providing easy access to all of the QDOS system functions without the need to drop into assembler code. The complete list of library routines supplied is:

abort	curdown	fgets
abs	curleft	fill
adate	curright	flash
arc	cursen	fopen
at	cursor	fount
atoi	curup	fprintf
atoib	date	fputc
avail	delay	fputs
beep	delete	fread
block	dtoi	free
border	ellipse	freopen
calloc	exec	fscanf
ccargc	exit	fwrite
cfree	fclose	gcursor
circle	feof	getarg
clearerr	ferror	getc
cls	fflush	getchar
csize	fgetc	getpos

getwindow	lseek	strcat
ink	malloc	strchr
isalnum	nextline	strcmp
isalpha	otoi	strcpy
isascii	over	strip
isatty	pan	strlen
iscntrl	paper	strncat
iscons	point	strncpy
isdigit	poll	strrchr
isgraph	printf	tab
islower	putc	toascii
isprint	putchar	toupper
ispunct	puts	tolower
isspace	qdosdate	trap1
isupper	random	trap2
isxdigit	read	trap3
itoa	readdir	under
itoab	recol	ungetc
itod	reverse	unlink
itoo	rewind	utoi
itou	rnd	warble
itox	scale	window
keyrow	scanf	write
left	scroll	xtoi
lexcmp	sdate	
lexorder	selwindow	
line	sign	

Hardware required

The QC compiler, assembler and linker, together with the QC utility programs will operate on a standard QL from microdrive cartridges. QC will also operate with all QL peripherals (such as floppy disks) that use standard QDOS input/output functions and with add-on RAM packs.

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91 High, Street, Longstanton,
Cambridge CB4 5BS.

QC ORDER FORM

Please send me.....copies of your C compiler at £59.95 each.
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