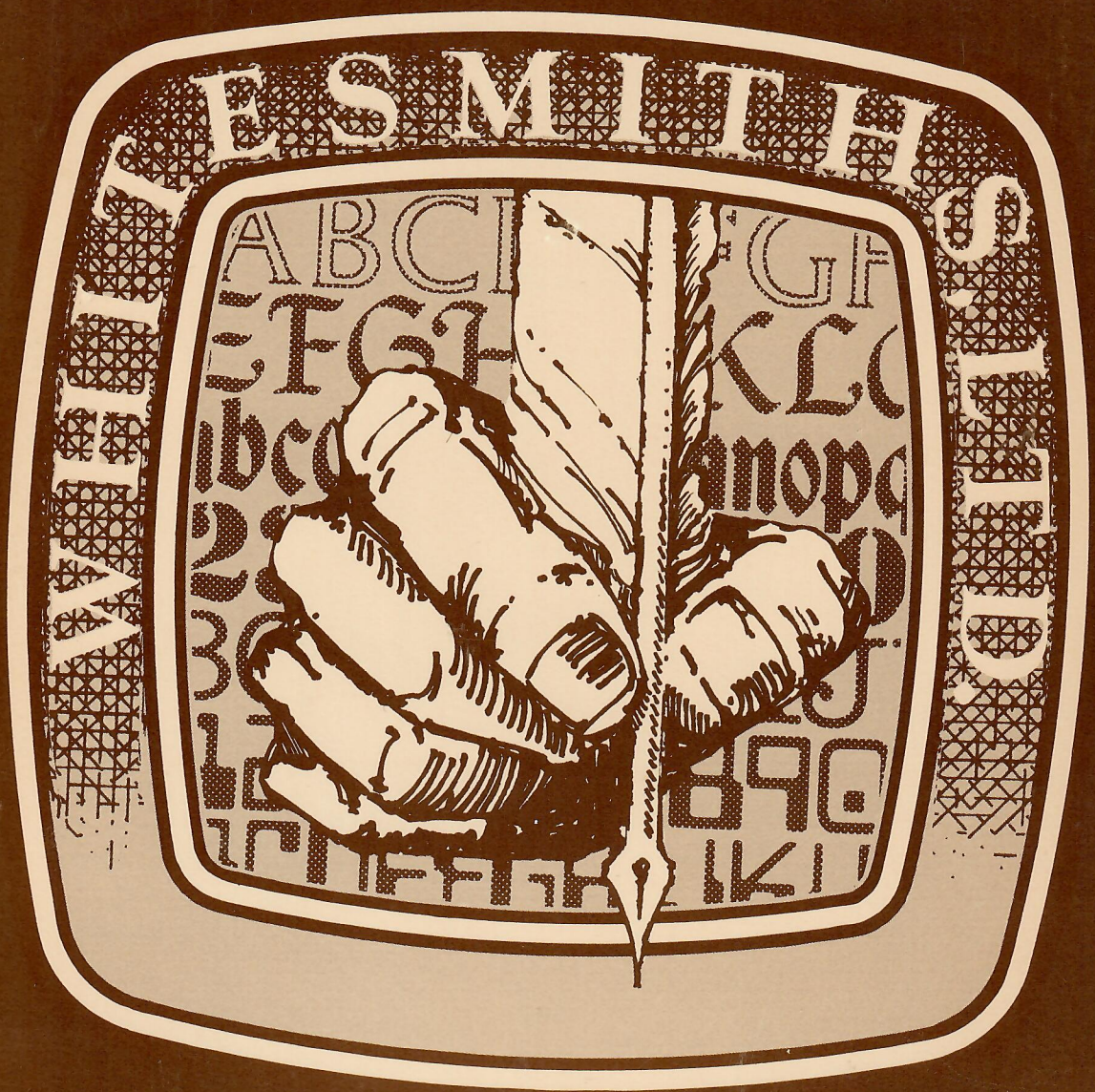
Whitesmiths, Ltd.
C Interface Manual
for 8080

Edition 2.2
March 1983



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The C language was developed at Bell Laboratories by Dennis Ritchie; Whitesmiths, Ltd. has endeavored to remain as faithful as possible to his language specification. The external specifications of the Idris operating system, and of most of its utilities, are based heavily on those of UNIX, which was also developed at Bell Laboratories by Dennis Ritchie and Ken Thompson. Whitesmiths, Ltd. gratefully acknowledges the parentage of many of the concepts we have commercialized, and we thank Western Electric Co. for waiving patent licensing fees for use of the UNIX protection mechanism.

The successful implementation of Whitesmiths' compilers, operating systems, and utilities, however, is entirely the work of our programming staff and allied consultants.

For the record, UNIX is a trademark of Bell Laboratories; IAS, RSTS/E, VAX, VMS, P/OS, PDP-11, RT-11, RSX-11M, and nearly every other term with an 11 in it all are trademarks of Digital Equipment Corporation; CP/M is a trademark of Digital Research Co.; MC68000 and VERSAdos are trademarks of Motorola Inc.; ISIS and iRMX are trademarks of Intel Corporation; A-Natural and Idris are trademarks of Whitesmiths, Ltd. C is not.

C INTERFACE MANUAL FOR 8080

SECTIONS

SCOPE

This manual describes the 8080/Z80 dependent aspects of the C programming environment provided by Whitesmiths, Ltd. In addition, it documents all of the utilities necessary for building new programs. Section I introduces the conventions and describes the format used by the Idris assembler. Section II succinctly describes the programming utilities of Idris, which also serve as cross support utilities for other host machines. Each subsection of Section III describes the library functions that interface the portable C library to Idris, CP/M (CDOS), or ISIS-II, and Section IV describes the runtime routines called upon by code produced by the 8080/Z80 C compiler.

Information on the C language and the portable library may be found in the C Programmers' Manual, while information peculiar to other machines supported by Whitesmiths, Ltd. is given in other C Interface Manuals.

THIS MANUAL IS PROVIDED WITH SEVERAL SOFTWARE PACKAGES, SOME OF WHICH USE ONLY A SUBSET OF THE FACILITIES DOCUMENTED. THE PRESENCE OF A MANUAL PAGE HERE DOES NOT IMPLY THAT THE CORRESPONDING SOFTWARE IS ALSO SUPPLIED.

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II. Programming Utilities

III.a. Idris System Interface Library

III.b. CP/M System Interface Library

III.c. ISIS-II System Interface Library

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IV - 29	**c.land**	and long into long
IV - 30	**c.lclt**	compare long to long, set NC
IV - 31	**c.lcmp**	compare long to long, set Z
IV - 32	**c.lcom**	complement long
IV - 33	**c.lcpy**	copy long to long
IV - 34	**c.ldiv**	divide long by long
IV - 35	**c.llsh**	long left shift
IV - 36	**c.lmod**	remainder of long divided by long
IV - 37	**c.lmul**	multiply long by long
IV - 38	**c.lneg**	negate long
IV - 39	**c.lor**	or long into long
IV - 40	**c.lret**	return from runtime function
IV - 41	**c.lrsh**	long right shift
IV - 42	**c.lsub**	subtract long from long
IV - 43	**c.ltd**	convert long to double
IV - 44	**c.lxor**	exclusive or long into long
IV - 45	**c.r0**	the double accumulator and other pseudo registers
IV - 46	**c.repk**	repack a double number
IV - 47	**c.ret**	return from a C function
IV - 48	**c.rets**	return from a C function
IV - 49	**c.switch**	perform C switch statement
IV - 50	**c.udiv**	divide unsigned by unsigned
IV - 51	**c.uldiv**	unsigned divide long by long
IV - 52	**c.ulmod**	remainder of unsigned long divided by long
IV - 53	**c.ulrsh**	unsigned long right shift
IV - 54	**c.ultd**	convert unsigned long to double
IV - 55	**c.umod**	remainder of unsigned divided by unsigned
IV - 56	**c.unpk**	unpack a double number
IV - 57	**c.ursh**	unsigned right shift
IV - 58	**c.utd**	convert unsigned to double
IV - 59	**c.utob**	pack unsigned into bits
IV - 60	**c.zret**	return from runtime compare function
IV - 61	**in**	input from port
IV - 62	**out**	output to port