



CP/M™ LOW-COST MICROCOMPUTER SOFTWARE

CP/M™ - Microcomputer Control Program

CP/M™ is a time-tested diskette operating system for Intel 8080 or Zilog Z-80 microcomputers which use up to four IBM-compatible diskette drives. The CP/M disk operating system, along with its system utilities is a proprietary software package which has operated in thousands of computer systems including OEM products, industrial applications, as well as microcomputer development and personal computing systems. CP/M supports named dynamic files with a powerful context editor for program creation and modification and includes a fast 8080 assembler, dynamic debugger with a self-contained assembler/disassembler, along with various file utilities. Optional software includes a macro assembler, symbolic debugger, and various high level languages. The resident portion of CP/M operates in less than 4K bytes, with a minimum usable memory of 16K bytes. Hardware-dependent portions of CP/M are easily adapted to nearly any 8080 or Z-80 computer system using our "CP/M Alteration Guide" which gives the step-by-step procedure for tailoring CP/M to your specific equipment.

MAC™ - CP/M™ Macro Assembler

MAC, the CP/M macro assembler, is upward compatible from our standard assembler as well as the latest Intel macro assembler. In addition to full expression analysis, MAC allows **IF**, **ENDIF**, and **ELSE** groups for conditional assembly, **MACRO** definitions for macro grouping, **IRPC**, **IRP**, and **REPT** to repeat source statements during assembly with optional **LOCAL** symbols, and **MACLIB** for macro library access. Macro libraries are included with MAC for assembling Z-80 instructions and for performing sequential disk input/output. A symbol table can be selectively written to a diskette file for program debugging using SID. The "Macro Assembler Language Manual and Applications Guide" shows you how to effectively use macros to define macro-based languages, implement high level control structures, and perform operating system calls using predefined input/output macros. The MAC macro assembler occupies a 12K region of memory and requires concurrent operation with CP/M, resulting in a minimum usable memory of about 24K.

SID™ - CP/M™ Symbolic Instruction Debugger

SID is a powerful symbolic debugger for programs generated in the CP/M environment. Upward compatible from our standard debugger, SID uses symbol information produced by MAC for high level reference to memory and instructions in the program under test. SID expands upon the assembler/disassembler, breakpoint, and trace features of our standard debugger to include symbolic expressions, decoded memory locations by symbol reference during trace and display, 8-bit and 16-bit display and set functions, along with "pass counts" and permanent breakpoints. SID utility functions allow you to monitor program "hot spots" as well as collect traceback information from a breakpoint. In particular, the SID histogram utility shows the relative frequency of execution in various parts of a program under test so that you can "fine tune" for most effective execution. SID operates in a 6K region, and requires symbol information from MAC to use the SID symbolic features.

Additional Software: A variety of additional CP/M-compatible software packages are on the market: three different disk BASIC systems are available from Digital Research and independent suppliers, which support both scientific and business applications. Preprogrammed business packages can be purchased from independent suppliers for general ledger, sorting, mailing list, and text processing functions. Further, an ANSI Standard FORTRAN compiler is again available through Microsoft, with more high level languages coming. Finally, a healthy CP/M user's group has been active for over a year, where you can obtain quality software available at a very low cost and add your own programs to a community of enthusiastic users. Write us for particulars!

Please send me the following:

- CP/M™ System Diskette and Documentation (Set of 6 manuals) for \$100.
- CP/M™ Documentation (Set of 6 manuals) only for \$25.
- MAC™ Diskette and Manual (CP/M™ Serial No. _____) for \$90.
- MAC™ Manual only for \$15.
- SID™ Diskette and Documentation (CP/M™ Serial No. _____) for \$75.
- Send more information on CP/M high level languages and optional packages.

NOTE: Due to the proprietary nature of CP/M™ software, please enclose your CP/M Serial No. when ordering MAC or SID without the CP/M diskette.

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