PROFESSIONAL CP/M® SOFTWARE

For ADAM™

from WESTICO
THE SOFTWARE EXPRESS SERVICE

WESTICO DELIVERS!

- **Professional Software Products**

Westico has a full line of business and professional programs for the Adam computer.

- **Immediate Delivery**

Westico delivers most products directly from stock. We have built our reputation on quick delivery. In most cases, your order is shipped within 24 hours.

Please note: The computer programs listed can be used only if you have purchased CP/M 2.2 for your ADAM. CP/M 2.2 for ADAM is available at your local retailer or by phoning Coleco Customer Service toll free 1 (800) 842-1225.

Order Westico Products 3 ways:

1 Write Westico, Inc.
25 Van Zant Street
Norwalk, CT 06855

2 Call (203) 853-6880

3 Telex Telex 64-3788 Answer-back: WESTICO NLK.

See additional ordering information and terms of sale on last page. Information contained herein is subject to change without notice.

Westico is working hard to be your software company.

WESTICO
The Software Express Service

25 Van Zant Street ● Norwalk, Connecticut 06855
(203) 853-6880 ● Telex 64-3788

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Specifications Subject to Change Without Notice.

Explanation of Catalog Listings

● Westico Product Code

● The title of the program.

● Suggested retail price for the documentation when purchased separately. If no price is shown, the documentation is not available separately.

● Suggested retail price for software and documentation.

TYPEQUICK
(M014) $85/-

TYPEQUICK by AID Systems can improve individual productivity by teaching touch typing on a personal computer. It is a keyboard tutor which uses artificial intelligence to speed up the learning process.

REQUIRES: None.

● Computer system hardware and software required to use the product.

● The product description.

All products listed in this catalog require CP/M 2.2 software to be installed in your Adam.

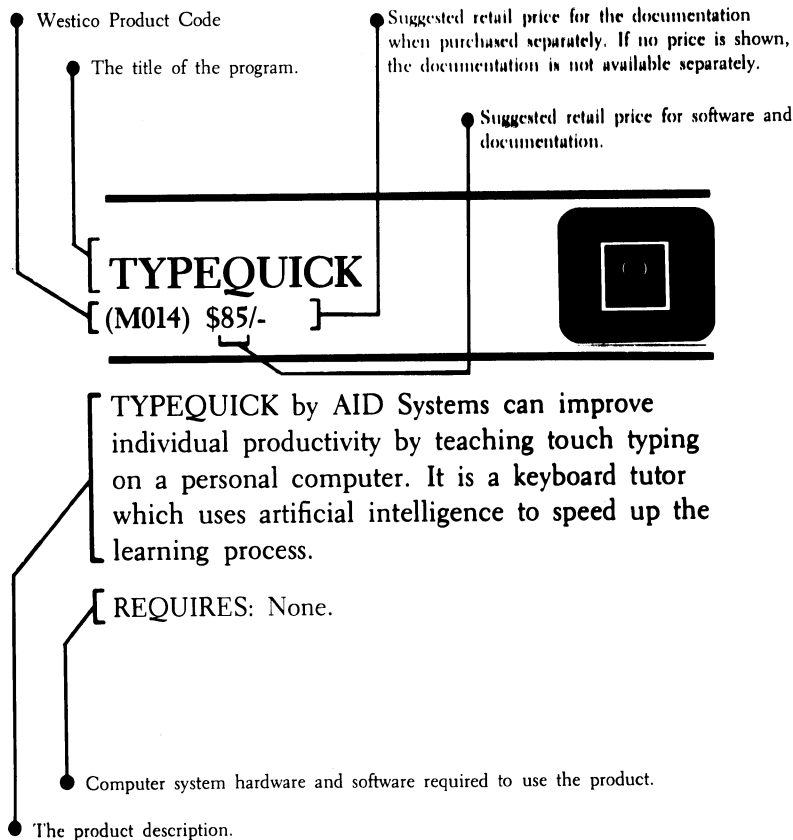Some software requires these additional options:

RAM Drive — 64K Memory Expander which is used as a high speed disk drive.
Dual Tapes — Second Digital Data Drive.
Disk Drive — A floppy disk drive.
Dual Disk — Two floppy disk drives.

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GETTING STARTED

(Or, what to do with your new program)

Programs sold by Westico for the Coleco Adam are not copy protected. This means that you can make a copy of them. We urge that you do so immediately after their arrival. If you need help, read on.

The Media — Tapes and Disks

Your CP/M 2.2 software for Coleco Adam works with the tape drives that are standard with Adam. When working with CP/M your tape drives are treated as disk drives. Another option is floppy disk drives. They are more than 10 times as fast as tapes when loading programs and data.

Your CP/M 2.2 software for Adam comes with documentation which describes how to use the utility functions like FORMAT which prepares a tape or disk for use with your computer. Get some fresh tapes or diskettes and learn how to do it.

The tapes and disks that we ship to you have labels on them that clearly state the contents. All tapes and disks look alike if they don't have labels. Label your tapes and disks. One caution: Rubbing a sharp pointed object like a ball point pen on a diskette will damage it. Use a felt tip pen or write on the label before you put it on the diskette.

Disk Files

Data on tapes or disks for the Adam is stored in files. You might give names such as RALPH, SALLY and GEORGE to files that are letters to Ralph, Sally and George prepared with a word processing program. Other file names such as STAT or FORMAT have a real computer flavor to them. Names for files are supposed to be reminders as to the function or information content of the file.

Also, file names have a first and last part separated by a period (referred to as a "dot"). The first part can be up to eight characters long (characters are A,B,C,...1,2,3, etc.); the second part (after the "dot") can be up to three characters long. Therefore, DORIS.DAY is a valid file name while

ARNOLD.SCHWARZNEGGER is not. Maybe you could refer to Arnold as MUSCLE.MAN.

Either the first or last part of the file name can be blank though, of course, not both.

File Directories

If the Adam has started-up (reset) with a tape or disk in the A drive and the last two things the computer typed onto the screen is the letter A and the greater-than-sign, , (this is called the A prompt), you will get a directory of the files on the A drive by typing "DIR", and pressing the RETURN key. Similarly, typing "DIR B:", and pressing the RETURN key, will instruct the computer to display a directory of files on the "B" drive if there is a tape or disk with files in it.

Copying Files

You should learn how to copy files from one drive to another. Computers that use the CP/M operating system have the Peripheral Interchange Program (PIP) and COPY for that function. Learn how to use them.

Operating System

The operating system must be copied from one drive to another or installed on a tape or disk. For reasons that are fairly technical, the operating system is not stored on the tape or disk as a file. The part of the operating system that is not stored as a file is stored on the System Tracks.

Use the SYSGEN program to copy or transfer the operating system to another tape or diskette.

Working Disks (Tapes)

A Working Disk is one that has an operating system and the utility programs like PIP, STAT, FORMAT, etc. that allow you to prepare disks for use, copy the operating system and disk files. The easiest way to make one is to format a fresh disk, copy the operating system to it and then use PIP to copy the necessary program files.

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Data Disks (Tapes)

Most computer programs will let you keep data on a separate disk — the Data Disk. Usually all you have to do is prepare the disk for use on your computer, i.e., FORMAT it. Sometimes the installation procedure for a program will have you copy files to a Data Disk.

Backup Disks (Tapes)

You should always maintain backup copies of your working disks and data disks. These are essential in the event that your working or data disks are made unusable despite all of your efforts to safeguard them. Acts of God and power failures are beyond your control. Usually loss of valuable data is less dramatic but no less catastrophic — the wrong file is erased, the wrong disk is formatted, the disk is stepped on, coffee or cigarette ashes get on the disk. It doesn't take much but the data is gone forever. Make a backup copy every working day, or anytime you've done work you don't want to do again.

New Software Installation

The critical question is: "How do I get my new software package to run on my computer?" The answer, of course, is to follow instructions that come with your computer and in the program user manual. The problem is that the instructions are not always easy to find.

This is an example of installing a software package that comes on only one distribution disk (ASCOM and Typequick usually come on only one disk). We will also assume that your computer has two disk (tape) drives: A and B.

1. Make a Working Disk (see above).
2. Put the Working Disk in drive A and type Control C (Hold down the CONTROL key and press the C key).
3. Put the distribution disk that we sent to you in the B disk drive.
4. Type "PIP A:=B:*.*[O]", and press the RETURN key. This will copy all of the files from disk drive B to disk drive A.
5. When the copying is finished, take the distribution disk out of drive B and put it in a safe place (a safety deposit box). You should never need it again except as proof of ownership.
6. Put a fresh disk in the B drive and use the FORMAT program and PIP to make a copy of the Working Disk.
7. Take the disk out of the B drive and label it as a backup of the Working Disk.

Finally

This is not a complete tutorial about using programs on your Coleco Adam with CP/M. It's not meant to be. It is a general guide to precautions and procedures that will become second nature to you after using your computer a very short time. For a complete tutorial and reference, read the documentation accompanying the Adam CP/M 2.2 software.

BUSINESS MANAGEMENT

Datebook II™
(B003) $295/-

Datebook II by Organic Software manages time like an office appointment book, but with the speed and accuracy of a computer. It eliminates the scribbles, erasures, and searching for a specific opening. Automatically searches for openings according to time of day, day of week, and week of year.

Ideal for doctors, dentists, lawyers and salesmen, etc. where time management is critical to office efficiency. Its menu display and one-key options make it very easy to learn and use.

It displays all scheduled appointments for a specified person, lists day's schedule (screen or printed) and can be customized to accommodate any workday and hours schedule.

Datebook can automatically schedule conference times when all attendees are available.

Datebook can schedule or keep appointments for:

- Dentists, doctors, attorneys, and other professionals
- Operating and examining rooms
- Hotel conference rooms
- Equipment

Capacities:

- Maintains appointments for 27 doctors, lawyers, attorneys, etc.
- Basic time interval for appointments is 10, 15, 20, 30 minutes or multiples thereof
- Up to forty appointments per day

REQUIRES: Dual disk.

Priorities™
(B044) $149/$25

Priorities by Wilkinson is a system for time management and task scheduling. It enables you to set up a daily calendar of events including prioritized tasks, scheduled tasks and recurring tasks. A daily agenda with information such as names and phone numbers can be printed to act as a reminder and work sheet. Priorities rolls over tasks from one day to the next, so that tasks not completed one day will appear on the agenda for the next day.

Priorities is easy to use and is well documented. Entering and updating task information is easy. There are help messages displayed with all prompts, so it is usually not necessary to refer to the manual after the initial system set up.

REQUIRES: RAM drive.

Market Pro™
(B004) $595/$25

Market Pro by Applied Information Management is designed for use by a salesperson, sales team, or an entire sales organization to manage the following functions:

- Prospect tracking
- Contact follow-up
- Call write-up
- Direct mail
- Salesperson reporting

Market Pro is used to manage sales efforts involving products which require the salesperson to contact prospects several times prior to closing a sale. It is compatible with most word processing programs to allow you to do targeted customized direct mail.

Reports include:

- Open follow-up
- Contact call list
- Prospect information
- Prospect contact history

The number of prospects and contacts tracked by the system is limited by available disk space. Normally, 300K of disk space allows between 250 and 300 prospects. Also, prospects can be kept on multiple data disks.

REQUIRES: Dual disk.

TELECOMMUNICATIONS

ASCOM
(C001) $195/$45

ASCOM by DMA is a versatile, multi-purpose communication program that extends the power of a personal computer. ASCOM can be used to communicate with any computer system capable of asynchronous communications: timesharing systems, mainframes, minicomputers, and other microcomputers.

Features:
- Directly connect two computers in the same room
- Use with modem for remote communications
- Menu mode for novice users of ASCOM
- Command mode for expert users
- Transfers text and program files between computers without data loss by using protocols to synchronize large file transfers
- Includes MODEM7 protocol
- Common protocols included: XON/XOFF, CR/LF
- Special protocol for ASCOM to ASCOM file transfers
- Conversation mode can be used to control remote computers, save data, and transmit data to remote computers
- Character translation tables to replace or ignore received or transmitted characters
- Batch processing establishes a command file which can control such repetitious tasks as sign-on and security procedures for a timesharing system
- Conditional processing in batch mode permits programming command sequences
- System commands for displaying directories and files on the host computer
- Comprehensive help and status commands ease the use of ASCOM and assure positive control
- Commands for controlling remote computers running ASCOM
- Autodial — autoanswer capability

Anyone familiar with timesharing will understand the utility of ASCOM.

REQUIRES: Modem.

Mailcom
(C008) $195/$25

Mailcom by Digisoft is a menu-driven, interactive software package which provides access to the U.S. Postal Service's E-COM System, enabling a user to send U.S. Mail from a personal computer.

Mailcom's primary function is to translate the text of a letter and a file of addresses into a file of data which can be processed by the Postal Service's computers and transformed into E-COM letters.

E-COM receives mail via modem; the Postal Service then prints, stuffs, seals, and delivers the letters in less than 48 hours — GUARANTEED.

The cost of this service is only 26 cents per one page letter. There are no additional charges for postage, paper, envelopes or mail shop services. The letters are delivered in distinctive blue and white E-COM envelopes that will not be ignored.

Features:
- Text insertion message format provides a means of personalizing the letter mailed to each recipient
- Common text message format is for sending the same text exactly to all recipients
- Single address message format is for sending a separate letter to each recipient
- Name and address manager for small mailing lists
- Easily interacts with popular data management software.
- Easy-to-use text editor included, or use popular wordprocessing software.
- United States Postal Service certification form enclosed with each package — fill it out and send it in.
- Annual registration fee of only $25
- Mail can be sent to Mexico or Canada
- E-COM mail can be sent from a foreign country to the U.S.A.
- Minimum of 200 letters for each transmission.

REQUIRES: Dual disk, ASCOM (C001) communication software.

DATA MANAGEMENT

CONDOR 20-1
(D022) $295/$45

CONDOR SERIES 20 by Condor Computer is a powerful set of software modules which have been used in these applications:
- General Ledger
- Accounts Receivable
- Accounts Payable
- Inventory Control
- Contract Management
- Real Estate Systems
- Mailing Lists
- Time Sheets
- Football Recruiting Control
- Police Contact List and more

CONDOR series 20 software is a relational database system which features interactive data definition and entry. Automatic processing for transaction posting to a master database file can include conditional processing, user defined messages, restart capability and audit trail. It is a self contained data language — no host language compiler is required.

Features include:
- Alphabetic, Alphanumeric, Date, Dollar and Numeric data types
- Editing limits and defaults for data entry
- Update from one database to another with computation
- Mass data changes
- Select data meeting logical conditions
- Sort up to 32 fields
- Detail or summary reports with multi-level breaks
- Calculate statistics
- Help screens
- Parameter values entered by the operator

Specifications:
- Number of Records 32,767
- Record Size ....2 to 1024 bytes
- Fields per record.........1 to 127
- Alphanumeric Data ......1 to 127 bytes
- Numeric Data ... ...1 to 10 digits
- CRT Screen ....24 lines by 80 columns

CONDOR 20-1 is designed for single file and transaction file processing capabilities. Three programmed applications are included for easy start-up: Mailing Labels, Client Tracking, and Project Control.

CONDOR 20-1 command summary:

DEFINE	COMPUTE	POST
DESTROY	LIST	UPDATE
FORMAT	PRINT	COMPARE
REORG	SELECT	HELP
APPEND	SORT	RESTART
EMPTY	TABULATE	RUN
ENTER	TITLE	READ
WRITE	STAX	

REQUIRES: Dual disk.

dBASE II™
(D018) $495/-

dBASE II by Ashton-Tate is a database management tool that allows easy manipulation of small and medium sized databases using English-like sentences. The user can create complete database systems, set up screen formats for simple "fill the blanks" data entry, change or display data, and generate reports using automatic calculation features, while still keeping the program and data independent.

It is interactive so that data entry is easy, and can be programmed so that even untrained personnel can run the most complicated applications. Full printing control allows data to be printed on existing forms.

dBASE II command summary:

- CREATE
- COPY
- REPORT
- SAVE
- INDEX
- APPEND
- INSERT
- EDIT
- REPLACE
- CHANGE
- DELETE
- RECALL
- PACK
- DISPLAY
- READ
- SUM
- TOTAL
- DO
- SELECT
- SORT
- ACCEPT
- INPUT
- WAIT
- GET
- FIND
- LOCATE
- SKIP
- DO
WHILE
- IF ... ELSE

Specifications:

Records ....65,535 per file
Characters ....1000 per record
Fields...................32 per record
Characters ....254 per field
Numeric accuracy ....10 digits
String length.............254 characters
Command line length .....254 characters
Report header length......254 characters
Index key length ....100 characters
Expressions in SUM ......5 per command

REQUIRES: Dual Tapes, RAM drive.

Postmaster
(D036) $150/$25

Postmaster by Teratek builds and maintains name address files on computer mass storage devices (floppy disks and hard disks). An optional reference field allows flexible data management for a wide variety of custom requirements. Sophisticated extraction options allow existing data to be processed or grouped according to individual needs.

Postmaster's versatility does not end there. It can also produce computer generated letters which appear to have been manually typed. Some costly equipment does nothing more than prepare and type form letters. With Postmaster, a microcomputer duplicates the capabilities of these dedicated machines.

Name and address entry is simplified with constants and 'Last Record Field Copy'. Other features include field suppression, a record editor, optional runtime insertion of text fields or salutations in a letter, automatic generation of 'ID' fields, a limited sorting program and more.

REQUIRES: Dual disk, CBASIC-80 (L001).

SCIENCE AND ENGINEERING

Electronic Circuit Analysis
(E002) $150/$25

Electronic Circuit Analysis by Tatum Labs is a program for microcomputers which is intended to provide an alternative to breadboarding and extensive measurements. The circuit being analyzed can be "tweeked" on the computer without actually building it. A very high degree of accuracy is available. When a circuit is optimized on the computer, compensation for component tolerances is not involved.

ECA has many advanced features including a full worst case analysis, for finding variations in performance with component tolerance, and a dynamic modification facility, which allows component values to be varied by the computer. A table of results can be printed automatically. By using control files, a series of operations can be done without operator attention.

This program can analyze circuits of up to 64 nodes and 127 branches. Execution time will vary from less than one second per frequency to about one minute per frequency depending on the circuit size and complexity. Larger circuits, if they can be broken into stages that fit this requirement, can also be analyzed using results of one analysis as the input for the next.

ECA will also perform a worst case analysis, for finding the production extremes of performance. Worst case information is generated for phase as well as amplitude. This is useful for finding shifts of filter center frequencies and similar information. The worst case flags are stored for later use, so a sweep can be done. It will also allow dynamic modification of the circuit, and automatic repeat analysis.

ECA contains a chaining facility so multiple runs can be done without operator intervention. It contains full editing and error trapping routines, so the user will not have to re-enter the whole circuit because of any errors.

All circuits are built from passive components (resistors, capacitors, inductors) and active components (voltage and current sources, controlled and fixed). Models of other devices such as transistors, op-amps, and vacuum tubes can be built using the components available in this program. ECA analyzes filters, audio amplifiers, equalizers, antenna couplers, and many other analog circuits. The computer can, in a matter of seconds, analyze circuits that were impractical to do by hand, to a much greater degree of accuracy.

REQUIRES: RAM Drive.

LANGUAGE PROCESSORS
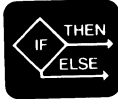
Microsoft™ BASIC
(L006) $350/-
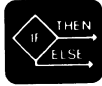
Microsoft BASIC is the most extensive implementation of the BASIC language available for personal computers. In addition to meeting the ANSI subset standard, Microsoft BASIC supports many unique features including a compatible language BASIC Compiler (L007).

There are four variable types:
- Integer (+ or — 32,767)
- String (up to 254 characters)
- Single Precision Floating Point (7 digits)
- Double Precision Floating Point (16 digits)

Full PRINT USING for formatted output (includes asterisk fill, floating dollar sign, scientific notation, trailing sign, and comma insertion).

Supports random and sequential disk files with a complete set of file manipulation commands. Variable names can have up to 40 significant characters. Trace facilities with the TRON and TROFF statements. Error trapping using the ON ERROR GOTO statement. Extensive program editing facilities, automatic line generation and renumbering. Up to ten assembly language subroutines can be called.

Programs can be saved as ASCII text, in a tokenized form ready for execution or in a protected tokenized form which can be executed but not displayed or altered.

Note: Microsoft BASIC version 4.51, which is an older version of the interpreter, is included for application software requiring it.

REQUIRES: None.

Microsoft BASIC Compiler
(L007) $395/-
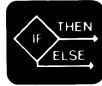
Microsoft BASIC Compiler is a one-pass compiler which produces extremely efficient, optimized machine code that is in standard Microsoft relocatable binary format.
Compiled BASIC programs can be link loaded with Microsoft FORTRAN (L028), COBOL (L029), and assembly language programs.

Language compatible with BASIC (L006) with the exception of direct mode commands. Execution speed is 3 to 10 times faster. The accuracy of floating point calculations are increased to 16 digits.

REQUIRES: Dual disk.

CBASIC-80
(L001) $150/-

CBASIC by Digital Research is a BASIC language compiler/interpreter for development of financial and business applications. Features include powerful disk access functions, formatted printing, and long variable names.

CB-80
(L039) $500/-

CB-80 is language compatible to CBASIC and is a true compiler which produces object code for direct execution at 2 to 10 times the speed of CBASIC.

Features 14-digit numeric precision and source language library facilities with the INCLUDE statement. Disk files may be random or sequential. Disk file functions include opening, creating, and deleting files. Other functions determine file existence, rename files, and find the file length.

Flexible console INPUT LINE statement allows any input including leading spaces, commas, quote marks, trailing spaces, etc. PEEK, POKE, and CALL statements can handle applications supported by machine language routines.

Printed output is controlled by two commands. After a LPRINTER command all subsequent printed output goes to the system list device. After a CONSOLE command all printed output goes to the system console device.

REQUIRES: Dual disk.

M2CBASIC
(L004) $175/$25

M2CBASIC by Buzzwords is a Microsoft BASIC to CBASIC translator. This program converts programs written in the BASIC language dialect implemented by Microsoft into the BASIC language dialect implemented by Digital Research in the CBASIC, CB-80, CB-86 and CB-68K compilers. The program will also translate BASICA from the IBM PC.

Unconverted statements are handled according to default options set before translation or by invoking an interactive menu driven system, allowing errors to be handled on an individual basis. Translation time of a typical business application source file is under three minutes. There is also an interactive option that allows programmers to type individual Microsoft BASIC lines to be converted immediately to CBASIC compiler syntax.

REQUIRES: Dual disk.

C Programming Language
(L047P) $25

C Programming Language by Kernighan and Ritchie is the original description and authoritative definition text of the C language. It is considered a must for those who program in the C language.

REQUIRES: None.

BDS C
(L056) $150/$25

BDS C by BD Software is a subset of the C language originally developed by Bell Labs. It is for use on Z80 and 8080/8085 microcomputers. The emphasis of the implementation is on programmer productivity.

The compile and link phases have been optimized for speed of program development while code generation has been optimized for compactness and speed of execution. The compiler processes source files at approximately 20 lines per second.

The BDS C documentation is very complete and easy to read. Many applications which are commercially available have been written in BDS C.

REQUIRES: Disk drive and RAM drive.

Microsoft COBOL
(L029) $700/-
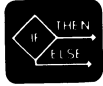
Microsoft COBOL retains the high-level features of standard COBOL, and also introduces superior interactive capabilities and user-oriented features. Direct interaction between data, program and operator is possible.

Compilation of COBOL source programs produces a compact object pseudo-code which is interpreted by the run-time system. The runtime system is a library of relocatable modules that are loaded selectively, according to the given program. Compilation speed is between 150 and 300 lines per minute.

Among the special features included are:
- SCREEN SECTION for definition of formatted screens
- Program CHAINing facilitates interactive menu driven systems
- Sequential, Line Sequential, Relative and Indexed Sequential files
- Program segmentation makes maximum use of machine memory
- Trace style debugging
- COMP-3 Data Format (optional) packs data two digits to the byte

Microsoft COBOL accepts numbers of up to 18 digits and maintains accuracy of up to 30 digits during internal calculations.

REQUIRES: Dual disk.

FORTRAN-80
(L028) $500/-
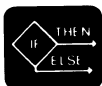
FORTRAN-80 by Microsoft generates compact, modular compiled code. It compiles several hundred statements per minute in a single pass and requires no more than 27K of memory. Compiled programs are relocatable modules that are linked and loaded at runtime. Includes full ANSI Standard FORTRAN X3.9-1966 except the COMPLEX data type with enhancements, including:

- Single byte LOGICAL variables which can be used as integer quantities
- DO loops which use LOGICAL variables for tighter, faster execution
- Mixed mode arithmetic expressions
- Hexadecimal constants
- Hollerith (character) literals accepted
- Logical operations on integer data. .AND., .OR., .NOT., .XOR.
- READ/WRITE End of File or Error Condition transfer
- ENCODE/DECODE for FORMAT operations to memory
- IMPLICIT statement for redefining default variable types
- Includes MACRO-80, LINK-80, FORLIB library, LIB-80 and CREF-80.

REQUIRES: Dual disk.

JANUS/ADA-80
(L044) $300/$75

JANUS/ADA by RR Software is a subset of the ADA programming language developed by the U.S. Department of Defense. ADA combines the best features of languages like Pascal, Algol, and PL/I. JANUS/ADA includes many features such as true modular programming, full error messages in English, walk-backs, and re-entrant initialized variables. Code is ROMable.

Many consider ADA to be the programming language of the future because of its strong backing by the United States government and the Department of Defense. All new programming projects written for the Department of Defense must be written in the ADA language.

JANUS/ADA comes with complete tools for program development including the compiler, an assembler for the target machine, a linker, a disassembler, a cross reference generator, a syntax checker, example programs, and the source code for the run-time libraries.

REQUIRES: Dual disk.

MACRO-80
(L034) $200/-

MACRO-80 by Microsoft is a flexible assembly language development system. It can be used to develop subroutines for functions not provided by high level languages or to develop entire assembly language programs. Especially useful for coding I/O driver routines, for distributed network applications and time-sharing applications, and for virtual memory. Incorporates all 'big computer' assembler features. Resides in 14K memory and has fast assembly rate over 1000 lines/minute.

Macros can be defined to generate commonly used instruction sequences. Supports complete Intel standard macro facility, including IRP, IRPC, REPEAT, local variables and EXITM. Nesting limited only by memory. Macro names take precedence.

Additional features:

- Relocatable modules can be loaded into user-defined memory areas
- Conditional assembly generates different versions of a program
- Variable input radix from base 2 to base 16
- Octal or Hex listings .
- INCLUDE, PRINTX and PHASE/DEPHASE commands
- Accepts either 8080 or Z80 opcodes

Includes LINK-80, CREF-80 AND LIB-80 modules

REQUIRES: Dual disk.

muLISP/muSTAR
(L032) $200/-

muLISP/muSTAR by Microsoft is the smallest, fastest and most complete implementation of the LISP system for microcomputers. It is based on LISP 1.5, but incorporates numerous upward compatible extensions which maximize execution speed and reduce storage requirements. muLISP's compiler produces code that contains only the "distilled" essence of function definitions. Execution speed is maximized because definitions are stored in a linear manner. D-code requires only half the storage space demanded by S-code.

Features include:

- 84 primitively defined LISP functions
- Function declarations
- Exact, infinite precision integer arithmetic
- Flexible program control structures
- Dynamic allocation of data space boundaries
- Dynamic memory management
- Linkage to user defined machine language subroutines

muSTAR is a resident display-oriented editor, written in muLISP, that facilitates incremental program development. It makes the CRT screen a window on the text. Corrections are made through the use of control characters. Includes trace facility for debugging programs. Edited programs can be printed as source files.

REQUIRES: RAM drive.

muMATH/muSIMP
(L031) $250/-

muMATH/muSIMP by Microsoft acts as a very sophisticated calculator that allows the user to perform algebra, trigonometry, calculus, integration, differentiation and transcendental functions — previously possible only on very large computers. Written in muSIMP, a high level language for symbolic and semi-numerical processing, included in the package.

Special features include:

- Exact rational arithmetic (611 digits)
- Algebraic simplification of expressions
- Treatment of equations as expressions which may be assigned, added, multiplied, squared, etc.
- Exact solution of an algebraic equation
- Matrix operations on arrays: transpose, multiply, divide, inverse and other integer powers
- Logarithmic, exponential and trigonometric simplifications and transformations
- Symbolic differentiation, limits
- Symbolic integration of indefinite and definite integrals

REQUIRES: RAM drive.

Pascal/MT+80 ™
(L005) $350/-
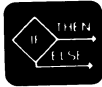
Pascal/MT+ by Digital Research is an integrated series of programs that allows the user to develop production quality software using the Pascal language. It features a compiler, linker, debugger, and disassembler. The compiler accepts International Standards Organization (ISO) Standard Pascal and generates relocatable, native code. It is a highly structured language with advanced debugging capabilities, designed to utilize modular compilation to allow segmented development.
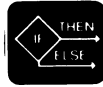
Features included:
- Superset of ISO standard Pascal
- Efficient native code compiler
- ROMable machine code
- Comprehensive utility package included
- Enhanced arithmetic functions
- 14 digit BCD arithmetic
- 15 digit precision floating point
- Extended data types

The linker combines Pascal and assembly language relocatable modules into executable files. The debugger provides symbolic access to the program for displaying variables and tracing program flow.

Program chaining and overlays are supported. When chaining is used, code from one program is totally replaced by code from the next program, Heap space and global data may be maintained. True overlay files can be created by the linker. This facility allows programs larger than the amount of memory available to execute in a restricted memory space.

REQUIRES: Dual disk.

PL/I-80
(L002) $550/-

PL/I by Digital Research implements the new American National Standards Institute (ANSI) Subset G language defined especially for minicomputers. Subset G includes all necessary features of full PL/I for commercial and scientific applications.

PL/I generates relocatable code so users can link-load subroutines created by other language translators. The package includes a linker which can create overlays in either a tree or segmented structure. The PL/I run-time library contains over 300 individual subroutines but only those which are used by your program are loaded. An executable program can be as small as 600 bytes.

Features include:
- Based on ANSI standard
- Block structured, procedure oriented
- Extensive control structures
- Support for multi-user systems
- Dynamic memory allocation
- Comprehensive input and output
- Standardized exception processing

PL/I supports sequential and random file I/O, 15 digit fixed decimal, fixed binary, floating point, character string, and bit string data types. All Subset G exception processing for error conditions.

REQUIRES: Dual disk.

SMAL/80
(L041) $150/$25

SMAL/80 by Chromod Associates is a Structured Macro Assembly Language for 8080/Z80 microprocessors in which statements are written in symbolic notation. For example, A = B not MOV A,B, HL = LABEL not LXI H,LABEL. The structure constructs BEGIN ... END, IF ... THEN ... ELSE ..., and LOOP ... REPEAT make writing, debugging and understanding the code much easier.

Features: — Flexible macro and text pre-processor — Compiler/linker to mix input source code and relocatable object code — Translator program upgrades assembly code to SMAL/80

Code produced by SMAL/80 is as efficient as that produced by a skilled assembly language programmer.

REQUIRES: Dual disk.

XASM Cross Assemblers
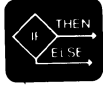
XASM cross assemblers by Avocet Systems generate machine code for the following microprocessors:

XASM05	(L016)	$200 —	Motorola 6805
XASM09	(L017)	$200 —	Motorola 6809
XASM18	(L018)	$200 —	RCA 1802 COSMAC
XASM400	(L019)	$200 —	National Semi COP400
XASM48	(L020)	$200 —	Intel 8048
XASM51	(L021)	$200 —	Intel 8051
XASM65	(L022)	$200 —	MOS Technology 6502
XASM68	(L023)	$200 —	Motorola 6800, 6801, & 6803
XASM75	(L050)	$500 —	NEC 7500
XASMF8	(L024)	$200 —	Fairchild F8 and Mostek 3870
XASMZ8	(L049)	$200 —	Zilog Z8

Documentation separately is $25.

The cross assemblers generate an object code file of Intel HEX or MIKBUG HEX if appropriate, an assembly listing and an alphabetized listing of all symbols defined in the assembly. The cross assembler takes its input from a CP/M text file, and generates the object code, listing and symbol table. The assembly listing is normally sent to the system's LST: device, but may be directed to the console or to a disk file.

The cross assemblers feature a variety of pseudo-operations. There are facilities for conditional assembly, for control of listing format, and for including multiple source files in an assembly.

REQUIRES: Dual disk.

MISCELLANEOUS
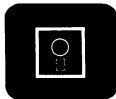
CP/M WorkShop
(M013) $115/-
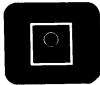
CP/M WorkShop by Datascan teaches new CP/M 2.2 users everything they need to know, in the order they are most likely to need it.

The program is visually oriented and highly interactive. Most students are able to complete the "course" and pass the "final exam" in four to five hours. Portions of CP/M WorkShop can be reviewed to to improve a student's skills whenever necessary.

REQUIRES: RAM drive.

TYPEQUICK
(M014) $85/-

TYPEQUICK by AID Systems can improve individual productivity by teaching touch typing on a personal computer. It is a keyboard tutor which uses artificial intelligence to speed up the learning process.

The TYPEQUICK course comprises 10 structured lessons, each of which has a specific objective and concludes with a report on the progress of that lesson. The computer guides the student from lesson to lesson as it continuously monitors the speed and accuracy of each keystroke. Mistakes are immediately highlighted by the computer's bell or buzzer and must be corrected.

TYPEQUICK "learns" the abilities of the student and customizes the text to be typed such that weak keys appear more often. Lessons commence with a revision of previous studies although users can elect to review any complete lesson. TYPEQUICK has been designed around the very latest computer keyboard teaching techniques which minimizes the learning period.

The course material comprises a diskette and a student's guide which advises on posture, correct keystroking and a description of each lesson.
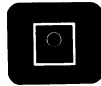
REQUIRES: None.

Media Transfer Service
(MFERX) $25

Media Transfer Service by Westico is for moving data and programs from one media format (disk or tape) to another (i.e. eight inch disk to five and a quarter inch disk). It is available on a per destination media basis and the destination tapes or diskettes are included in the price.

REQUIRES: None.

PSORT
(M012) $100/$15

PSORT by Teratek is a general purpose utility designed for high-speed sorting of aligned fields, fixed length records, with up to ten discrete 'keys' supported. PSORT has been designed for ease of operation. For example, PSORT automatically computes the length of input records and determines which disk drives are valid within each user's system. In addition, when used for sorting Postmaster (D036) mailing list files, PSORT will automatically compute field offsets and significant key lengths, thus supporting complex file management, while not requiring the user to understand data file structure.

Even when two or more drives are available, many other sorting programs attain minor speed improvements at the considerable expense of not being able to accomplish full disk sorts. This is not the case with PSORT! Full disks may be sorted without appreciable speed penalty.

REQUIRES: Dual disk.

Supersort
(M001) $250/-

Supersort by MicroPro is a sort/merge/select utility that handles binary, BCD, packed decimal, EBCDIC, ASCII, left/right justified, floating decimal, exponent notation, lower/upper case data. Records may be fixed or of variable length with fixed or variable length fields, records may have a different number of fields in each record.

Powerful select/exclude functions allow selection criteria to be applied to records during the sort/merge process. Files can be 'sifted' using common comparison and logical operators including less than, equal to, greater than, NOT, OR, XOR, and parenthetical expressions. Comparison values may also be fields in the records.

Supersort is provided in both relocatable and executable form. The relocatable modules in the Supersort library can be used to construct versions of Supersort at different load addresses; or as subroutines to main programs written in COBOL, FORTRAN, BASIC, PL/I, assembler language, and more. By selecting different modules, SuperSort can be tailored to omit or include various functions.

REQUIRES: Dual disk.

ULTRASORT-II
(M006) $165/$20

ULTRASORT-II by CCS is a general purpose sort/merge utility which can be run "stand-alone" or called from a higher level language (such as CBASIC-80). It is written in assembly language for speed and relocates to system memory size. When used as a CBASIC called routine, ULTRASORT-II maximizes the buffer space by saving the TPA on disk.

Sorts on five keys independently in ascending or descending sequence. Handles variable or fixed length fields, alpha or numeric fields, and records as large as 5000 bytes.

The merge and select options allow merging two files, deleting or retaining records by comparing up to four independent select keys based on a select key being less than, equal to, or greater than the selected fields. In addition, select keys can be related using OR or AND for the selection process.

REQUIRES: Dual disk.

STRING/80
(M004) $95/20

STRING/80 by Keybits reduces character string handling in FORTRAN to the simplest terms with its library of relocatable routines. A string and custom library contain over two dozen useful routines including routines to find, pack, fill, move, separate, concatenate and compare strings. There are routines to count the occurrence of one string's appearance in another, to insert, replace, delete and reverse strings. Character strings can be truncated, extracted and scanned.

A powerful set of CP/M interface routines perform all of the CP/M function calls and retrieve the command line parameters, search file directories, and "CALL" other programs.

A separate set of CP/M related routines, written in FORTRAN using the CP/M interface routines, is included as the utility library. These include routines to rename a file, delete a file, select the disk drive, reset the system, and generate a file directory. The FORTRAN source code for these functions is included with STRING/80. All of the STRING/80 subroutines are supplied as .REL files in the Microsoft format.

STRING/80 is supplied with complete documentation and an interactive demonstration program.

STRING/80 source code
(M004S) $295/-

STRING/80 assembler language source code is an extra cost option.

REQUIRES: A Microsoft development system which includes L80 or equivalent.

PLANNING AND ANALYSIS

T/MAKER III
(P036) $275/$70

T/MAKER III by T/Maker Company is a complete data and word processing system. It is a very interactive and visually oriented program that is easy for a beginner to use and a powerful tool for the seasoned Table Maker.

T/MAKER lets the user define equations to automatically process data in tables. It is quick and easy to use for simple operations like balancing a checkbook and just as easy to use for maintaining and processing data for complex financial projections. Its electronic slate concept allows the user to format the data into columns and rows of his own choosing rather than into specific "cells". The visual representation for the equations that control calculations is easy to understand and the equations are always available for review or modification.

T/MAKER data processing features include:
- Calculations for rows and columns
- Sorting data
- Re-arrange columns
- Frequency distribution
- Cross tabulation
- Bar charts
- Net present value
- Percentages
- Projections
- Growth rates
- Percent change
- Transcendental functions
- Load and unload data files to onscreen templates

Titles for columns and rows are completely up to the user and can be of any length. When working with large spreadsheets the frame mode keeps the titles for columns and rows on the screen so that the user is never lost or confused about which column or row is being changed.

T/MAKER's integrated word processor features include:
- Scroll vertically and horizontally
- Find and replace text
- Move blocks of text
- Set or change margins
- Set or change tabs
- Right-justify or leave text ragged
- Center text
- Single or double-space text
- Place page-numbers
- Multi-line headings and footings
- Multiple automatic footnotes
- Panel documents that are wider than the printer

T/MAKER will use printing options for boldface, underscore, and varying type sizes.

A one year subscription to the monthly T/MAKER news letter is included with the purchase price of T/MAKER.

REQUIRES: RAM drive and Disk Drive.

Multiplan™
(P034) $195/-

Multiplan by Microsoft is an easy to use electronic spreadsheet program that allows up to 63 columns and 255 rows. It has a comprehensive help system built-in so that there is little need to refer to the training guide and reference manual during operation.

Multiplan can have up to eight windows for viewing and modifying various parts of the spreadsheet. It also has conditional statements for modifying the flow of processing based on results of calculations and can sort data alphabetically or numerically.

Multiplan spreadsheets can be consolidated into larger and more complex models by interactively transferring data between individual spreadsheets.

REQUIRES: RAM drive.

Fixed Asset Accounting
(A068) $1500/$35

Fixed Asset Accounting by Origin is a comprehensive program which provides control over the physical assets of a corporation, manages accounting transactions on these assets, and produces regulatory reporting information. Multiple organizations can be maintained, and control levels may be defined differently for each organization.

A full range of acquisition and disposal data is tracked for each physical asset. This information can be displayed on-screen for an individual asset or may be listed for groups of assets. A physical inventory work sheet can be printed by the system to aid in verification of asset location.

Asset accounting data is automatically maintained by the system. A full range of accounting processing options can be selected, including summary by general ledger account numbers. Management decisions regarding replacement of existing assets or acquisition of new ones are facilitated by financial reporting. "What if" modeling can be done on the asset base for capital budgeting.

Both state and federal tax accounting are fully supported. Separate depreciation methods may be selected for state and federal. Full ACRS compliance is provided on all assets acquired beginning in 1981. Investment tax credits, gains and losses, and other supporting documentation for filing reports is all standard in the system.

Features:
- Single or multi-company accounting
- Two user-defined levels below company
- User-defined asset classes
- Physical inventory lists printed by location
- All generally accepted book depreciation methods
- General ledger reporting form
- Full audit trail on activities
- Separate federal and state depreciation methods
- Full compliance with ACRS
- Cost recovery schedule (IRS Form 4562)
- Computation of investment credit (IRS Form 3468)
- Recapture of investment credit (IRS Form 4255)
- Schedule of gains and losses (IRS Form 4797)

REQUIRES: Dual disk.

PLANFIN™
(P066) $195/$25

PLANFIN by Business Software is an easy to use forecast and budget program. It leads the user step-by-step through setting up business cases. The program allows the user to produce forecasts, budgets, and discounted cash flows without having to set up the mathematical calculations. PLANFIN also provides for consolidation of divisional budgets.

Data for a case can be entered in years, quarters or months. Once data entry is completed the following reports are available:
- Operating income statement
- Net income and discounted cash flows

Case reports can be displayed on the screen or printed for a permanent paper record. It is easy to make changes in the data and display or print the revised case reports. A complete summary of input data can be printed. Also, cases can be stored on disk for further analysis at a later time.

PLANFIN can be interfaced to Multiplan, SuperCalc or any other spreadsheet that reads DIF files.

REQUIRES: Additional software Microsoft BASIC (L006) and disk drive.

PROFIN
(P067) $295/$25

WHAT IF

PROFIN by Business Software is an easy to use financial analysis program. It can be used to produce forecasts, budgets, discounted cash flows, return on investment, capital expenditure analysis, and a balance sheet without setting up a spreadsheet or doing a lot of mathematical calculations.

Reports printed or displayed include:

- Income statement
- Interest schedule
- Capital expenditure report
- Tax schedule
- Return on equity
- Discounted cash flow
- Balance sheet

It is easy to make changes in business cases already stored and produce new reports. A complete summary of entered data which shows every questions that appeared on the screen, and every response, can be printed.

Use PROFIN for all types of financial analysis:

- Building facilities
- Buying computers
- Leasing motor vehicles
- Forecasting production
- Changing product mix
- Comparing alternative financing arrangement
- Examining different depreciation methods
- Net present value
- And more...

PROFIN can be interfaced to Multiplan, SuperCalc or any other spreadsheet that reads DIF files.

REQUIRES. Additional software Microsoft BASIC (L006) and disk drive.

Real Estate Commercial Analysis for MultiPlan
(P155) $120/-

Real Estate Commercial Analysis for SuperCalc
(P055) $85/-

WHAT IF

Real Estate Commercial/Industrial Analysis by Real Data is a set of four spreadsheet templates designed for use by property owners and developers. Each template is simple to use, yet produces detailed reports. It is easy to make changes in the data or assumptions to produce "What if...?" reports.

Four spreadsheet templates are provided:

1. The PROJECT Template creates a three-page Project Cost Analysis Report. Architectural, land, financing, construction, development and lease-up costs for commercial or industrial projects can be evaluated. An Operating Statement and an analysis of profit from sale can also be created. A large number of variables, nearly all of which can be entered in the area of a single screen, are available for adjusting the model reports. The Rate of Return on Investment for a particular gross rent can be calculated, or the gross rent required to achieve a chosen Rate of Return can be calculated.

2. The EXPENSE Template is used to list typical items of income and expense to produce a detailed annual operating statement. The value per square foot for each item, as well as the ratio of each expense to total gross income can be computed. The Capitalization Rate, Debt Coverage Ratio and other important measures can also be calculated.

3. The LEASEVAL Template is used to calculate the present value of any lease with monthly payments for a term of up to fifteen years. Individual monthly amounts can be varied to reflect special periodic payments, such as tax escalations.

4. The LTRACK Template keeps track of the status of as many as 32 individual rental units per property. Occupied square footage, rental rates, collections for each unit and collections for the whole project can be monitored. The due date of any special rent payments and the commencement and expiration dates of each lease can also be recorded.

The documentation is written clearly and includes a cell-by-cell listing of all formulas.

REQUIRES: Additional software Multiplan (P034), SuperCalc (P011), or SuperCalc2 (P052).

Real Estate Appraisal Package
(P007) $395/$35

WHAT IF

Real Estate Appraisal Package by A.B. Edwards & Associates, Inc. is for use by professionals who appraise single family residential properties. It allows the professional appraiser to render his opinion as to the market value of a piece of real estate.

The Real Estate Appraisal Package assists the appraiser in completing the Federal National Mortgage Appraisal Residential Appraisal Report Form, known as FNMA (Fannie Mae) 1004. A likeness of the FNMA 1004 form is displayed on the screen and the appraiser completes the form on the computer screen section by section. Each screen can be edited as it is entered and once the form is complete, it is possible to change any part of it before printing.

Real Estate Appraisal Package allows the appraiser to maintain records of all appraisals and to use previous reports as a data base for future appraisals. It also prints an invoice for billing the client.

REQUIRES: Dual disk.

Real Estate Overlays for Multiplan
(P156) $120/-

WHAT IF

Real Estate Overlays by Real Data is a series of templates designed to aid real estate investors and accountants in analyzing income producing property. Written by an investor, it provides the kind of meaningful information needed when making investment decisions. Very sophisticated "What if..." analysis and detailed projections are easy using the Real Estate Overlays.

After basic data is entered the cash flow template provides the following:

- Automatic calculation of annual debt service
- Interest and payoff amounts for three loans
- Depreciation (including capital improvements) by ACRS or straight line method with recapture
- Annual capitalization rates and cash-on-cash return
- Net operating income
- Before and after tax cash flows
- Sale proceeds for each year
- Selling price projected yearly by inflation or by capitalization rate
- Internal rate of return for four sale years

Other templates included produce detailed annual income and expense statements and internal rate of return of a series of up to twenty cash flows independent of any property analysis.

The PAYOFF template produces complete loan amortization schedules for notes of up to thirty years and the PAYMENT template creates a table showing the monthly amount required to amortize a given principal over a range of interest rates and repayment periods.

The documentation for Real Estate Overlays is written clearly and includes a cell-by-cell listing of all formulas.

REQUIRES: Additional software Multiplan (P034).

Financial Planning Mind Tools — Multiplan
(P154) $80/-

Financial Planning Mind Tools — SuperCalc
(P054) $80/-

Financial Planning Mind Tools by Expert Systems are templates for SuperCalc and Multiplan which provide read-to-use solutions for most common business analyses. Simply call the proper module into your spreadsheet and fill-in-the-blanks to solve complex business, statistical and real estate problems.

Each of the eighteen modules is fully documented, and so simple to use that you will be able to print a full statement of the problem and your analysis in just a few minutes. Furthermore, you can even use your spreadsheet to modify the templates to reflect your own specail circumstances. Templates can be personalized to print the name of your company as a heading.

Functions included:
● Compound growth
● Continuous compound growth
● Ordinary annuity
● Annuity due
● Continuous annuity calculation
● Amortization schedule
● Net present value
● Internal rate of return
● Break-even analysis
● Depreciation
● Accumulated cost recovery system (ACRS)
● Statistical calculator
● Linear regression
● Variable rate mortgage
● Graduated payment mortgage
● Graduated payment adjustable mortgage
● Wrap-around mortgage

REQUIRES: Multiplan (P034) or Supercalc (P011 or P052).

SuperCalc™
(P011) $195/-

SuperCalc2
(P052) $295/-

SuperCalc by Sorcim uses a spreadsheet simulator screen. User can examine and alter numbers and text within a grid that can cover up to 63 columns and 254 rows of data. Portions of other spreadsheets can be combined to build a completely new spreadsheet. An integrated reporting system makes it easy to generate printed reports.

Designed to use the minimum number of commands to get the maximum power. Press the ? key for assistance. The special error message display pinpoints mistakes for immediate correction.

SuperCalc lets you choose column width, protect cells from accidental alteration, enter text into cells and display two windows or parts of your spreadsheet simultaneously.

Built-in functions include -

> SUM, COUNT, AVERAGE, MIN, MAX, INT, ABS, SIN, COS, TAN, ATAN, EXP, SQRT, LN, LOG10, PI, IF, OR, AND, NOT, ERROR, NA, LOOKUP, NPV

Supported data formats -
> Floating point, Scientific notation, Dollars & cents, Integer, Left & Right justified, Separate label justification

SuperCalc2 additional features:
● Consolidation to add, subract, multiply, and divide worksheets.
● Rearrange rows or columns in alphabetical or numerical order.
● Use calendar dates in calculations.
● Formatted data with dollar signs, commas, blanks for zero values etc.

REQUIRES: RAM drive.

BUYSEL™
(P040) $150/-

BUYSEL by Software City is a comprehensive package for performing stock, commodity and option analysis. It is easy to use — presenting the user with a menu of possible actions.

It contains four trading methods and money management systems:
● Moving Average Method
● Price Channel Method
● Buy Low, Sell High System
● Dollar Cost Buying System

Four different trading methods and money management systems allow the user to find the most suitable technique for trading a particular stock, option or commodity. Also, the techniques that best match the investment objectives of the user can be employed.

Additional features include:
● Black-Scholes call option modelling
● Statistical correlation between different price files.
● Automatically scaled closing price charts on standard 24 by 80 video screens
● Price data entry on a daily basis
● Approximation of long periods of real price data

Price charts show at a glance the price action for selected securities or commodities over any chosen period of time. All transaction signals from the various methods are displayed on the charts as well.

REQUIRES: Additional software Microsoft BASIC (L006) and dual disk.

Tax Planner
(P032) $300/$30

Tax Planner by CPAids is a year-round program for tax planning. It uses an abbreviated system to speed data entry and prints customized reports for clients.

The program contains preset parameters, based on current tax regulations, for the years 1982 through 1985, but these tables are easily modified according to actual changes in regulations or assumptions about prospective changes. The user can keep Tax Planner current and does not need to purchase updates each year.

Tax Planner computes schedules G, 4625, 4726, 4972, 6251, tax tables, tax schedules and sales tax tables. It also does supplemental calculations for excess investment interest and charitable contributions limit.

Two types of tax report can be printed: one compares the tax liabilities based on four assumptions in a single year; the other compares the taxes resulting from one or more assumptions in four successive years.

REQUIRES: Dual disk.

MicroGANTT™
(P018) $395/$25

WHAT IF

MicroGANTT by Earth Data Corporation is a general purpose project scheduling program that allows users to create professional quality project plans, quickly and interactively. It is designed to handle a wide range of situations that managers encounter.

MicroGANTT uses Critical Path Method (CPM) techniques to determine task relationships, slack time, and project completion dates. The user creates a project by defining a typical work week and by choosing a time scale and begin date. MicroGANTT allows the user to interactively define various tasks, including work and time requirements, worker dedication, billing rates, and beginning criteria for a task. Partial completion of a prerequisite task can be specified as a beginning criteria. The user may also specify fixed costs for materials and other items, which the program apportions over the duration of a task.

MicroGANTT displays a Gantt (bar) chart of the project in a time scale ranging from days to years. The time scale can be changed to present more or less detail. It also displays a labor/time summary and a financial summary. Any of the these displays is accessed by a single keystroke. Other keystrokes scroll the displays forward and backward through time so that the user can examine worker time allocation, time and material outlays, and task dependencies. Progress on a project can be monitored by entering the percentage of task completion which is displayed on reports.

A project may be defined to have up to 100 tasks. An unlimited number of tasks may be included in a project by defining tasks as composite tasks. A composite task is a subproject which can also contain up to 100 tasks.

MicroGANTT has features to convert a project file into a text file that can be used as input programs such as sort utilities, spreadsheets, and word processors. Text files can also be converted to a project file.

REQUIRES: Dual disk.

MILESTONE™
(P003) $250/-

WHAT IF

MILESTONE by Organic Software is an interactive program for managing projects. CPM (Critical Path Method) techniques determine the earliest possible completion dates for each task and the overall project.

The Critical Path through a network of tasks is displayed and slack times for non-critical tasks are calculated. Project assumptions are easily revised to make "What If" analyses. MILESTONE also computes the total manpower requirements, manpower costs and other direct project costs. Up to nine manpower skill/cost levels can be allocated to each task.

Projects can be measured in hours, days, weeks, months, quarters or fiscal quarters; with provision to specify working hours, holidays, vacations and other non-productive time periods. The project plan can be displayed or printed in a summary cost/time table, by task or as Gantt charts — with or without manpower and cost data.

REQUIRES: Dual disk.

STATPAK
(P002) $500/$40

WHAT IF

STATPAK by Northwest Analytical is a statistics software library offering the same facilities that the mainframe user enjoys: the ability to call a statistics routine from an existing library, feed in a data file and perform the required computation.

STATPAK programs are divided into two sections: data file manipulation utilities, and the statistical computation routines. The powerful file handling utilities allow the user to create, edit, merge, and select data subsets.

- Mathematical utilities deseasonalize data, generate and evaluate functions, plot data and functions, generate rank and order of data columns, generate random numbers, transform data and extract subsets, curve smoothing, and give a summation of intervals.
- Probability Calculations include Bayes Formula, Factorial, Permutation, Combination, and Probability of No Repetition.
- Single Variable Statistics include Frequency Histogram, Generalized Mean, Descriptive Statistics, Standardized Scores.
- Discrete Distribution Functions include Binomial, Hypergeometric, and Poisson.
- Continuous Distribution Functions include Bivariate Normal, Chi Squared, Exponential, F, Gamma, Incomplete Gamma, Inverse Normal, Khrgian-Mazin, Logarithmic Normal, and t.
- Regression Analysis includes Correlation and Covariance, Multiple Linear, Single Variable, Polynomial, and Forward Step-wise.
- Means Testing includes One Sample t Statistic, Paired t Statistic, Pearson Product Moment Correlation, t Stat for Correlation Coefficient, and t Statistic.

- Survey Data and Contingency Table routines include Chi Squared Bartlett Statistic, Chi Squared Equal Expected Frequencies, Chi Squared Unequal Expected Frequencies, Contingency Tables, Cross tabulation, Differences Among Proportions, and Fisher's Exact Test.
- Non-Parametric Statistics include Friedman Pseudo Two-way ANOVA, Kendall's tau Statistic, Komogorov-Smirnov "goodness of fit", Kruskal-Wallis Statistic, Mann-Whitney Statistic, Spearman Rank-Order Correlation, and Wilcoxon Signed-Bank Test.
- Analysis of Variance includes one-way ANOVA and one-way ANOVA with Repeated Measures, two-way ANOVA and two-way ANOVA with one and two Repeated Measures, and three-way ANOVA and three-way ANOVA with one and two Repeated Measures.
- Time Series functions include Auto-correlation, Cross-correlation, and Fourier Analysis.

STATPAK is written entirely in Microsoft BASIC and all of the routines are available for inspection and customization.

REQUIRES: Additional software Microsoft BASIC (L006) and disk drive.

DEVELOPMENT TOOLS

SYST

Access Manager-80™
(T037) $300/-

SYST

Access Manager by Digital Research is a versatile file access method for program developers. It maintains separate index and data files to eliminate the need to sort the data records. The index is accessed in either ascending or descending order to rapidly search for and retrieve information from an unsorted data file.

Data files may have up to ten keys and logical record lengths can be defined by the user. Duplicate keys are supported and can be distinguished from one another automatically.

Features include:
● Indexed access to data records
● B-tree index structure
● Automatic reclaiming of disk file space
● Efficient memory utilization
● Portability across many compiled languages
Specifications:
Maximum key length . . . . . . .48 bytes
Maximum index file size . . .8 megabytes
Maximum data file size . . . . .Limited by
operating system
A fast recovery program is included with Access Manager for building or rebuilding index files if the index files and data files are not in synch.

REQUIRES: A Digital Research compiled language processor e.g. PL/I, Pascal/MT+, etc.

BPSxref
(T042) $125/-

SYST

BPSxref by BPS is a listing and cross reference generator for Microsoft's BASIC 5.x language. It will produce a formatted program listing (headings, page and line skips) and generate an alphabetized list of program variables and functions cross referenced to the line numbers of the statements where they are used. Operates on ASCII formatted files as produced by text editors such as ED or WordMaster or by MBASIC's SAVE command with the 'A' option. The same format required by Microsoft's BASIC compiler.

REQUIRES: RAM drive.

Display Manager-80™
(T052) $400/-

SYST

Display Manager by Digital Research assists programmers in interactively designing user-friendly and device independent CRT screen displays. It has a stand-alone full screen editor to design displays, and a library of subroutines to place displays on the screen and transfer information to and from fields in the display.

Features included:
● Screen oriented interactive editor
● Library of subroutines
● Complete control of input and output fields
● Device independent CRT support
● Compatible with Digital Research compiled languages

Screens are designed by "painting" them on the screen with the full screen editor. Special commands in the editor allow such things as borders and boxes. Up to 250 displays may be supported in a display file; each display may have up to 250 individual fields.

Field attributes supported:
● Integer
● Decimal
● Alphabetic
● Alphabetic shifted to upper case
● Any printable character
● Any printable character without echo
● Function key only
● Any ASCII character
● Left justified in field
● Right justified in field
● Integer right justified
● Decimal number right justified
● Currency with two decimal digits

Templates can be placed in input fields to make it easier to enter data. For example, a telephone number field displayed as (999)999-9999. When data is entered the cursor automatically skips over the template characters. Also, commas can be inserted if desired. Foreign currency and formats are supported.

REQUIRES: A Digital Research compiled language processor e.g. PL/I, Pascal/MT+, etc.

DR Assembler Plus Tools
(T002) $200/-

SYST

DR Assembler Plus Tools by Digital Research consists of a native-code assembler plus a set of software development tools that help professional programmers work more quickly and efficiently. These tools are a linker, a librarian, a cross-reference utility and a powerful symbolic instruction debugger.

The assembler is for programmers working on complex tasks where it is necessary to develop programs that operate at the fastest possible speed and take up the least amount of space. The linker combines relocatable object files into executable command files, and can generate programs that use overlays. The librarian creates and maintains "libraries" of compiled programs that are available as subroutine modules to other programs, thus substantially reducing programming effort.

The cross-reference utility creates a cross-reference file showing the use of symbolic names in an assembly language program. The symbolic instruction debugger allows a programmer to debug assembler code, looking at specific variables, and changing values whenever required using the symbolic names.

Collectively, these utilities allow the user to translate assembly language modules, link them together to form a program that runs, and generate a cross reference map of the variables used in a program. These utilities can create and manage libraries of subroutines and program modules, as well as create large programs by breaking them into separate overlays.

REQUIRES: Disk drive.

dUTIL™
(T006) $99/-   `SYST`

dUTIL by Fox & Geller is a utility program for users of Ashton-Tate's dBASE II database management system. It saves you time and work by providing the following:
- Faster running time
- Less programming
- Easier debugging

dUTIL combines command files to speed up the program by reducing the number of disk accesses. The original command files remain unchanged.

The INCLUDE option reduces programming by reading text files created by an editor or word processor. The text files contain common groups of commands found in dBASE II command files.

dUTIL also makes the structure of a dBASE II command file easier to understand by automatically indenting IF and DO command sequences. It will comment ENDIF and ENDO statements by placing the IF and DO condition on the same line and highlight all dBASE II reserved words by setting them to upper case.

REQUIRES: Additional software dBASE II (D018) and dual disk.

LYNX
(T011) $250/$25   `SYST`

LYNX, a friendly overlay linker, by Redding Group is used to create executable programs from relocatable files produced by Microsoft's BASIC, FORTRAN, COBOL, and MACRO-80 languages.

LYNX allows the construction of programs that use all available memory including that used by LYNX itself. Thus programs that have reached the maximum size allowed by Microsoft's L80 linker can be increased approximately 9K using LYNX without overlays.

The overlay capability of LYNX is indispensable for programs that are larger than available memory. With overlays, many large programs currently running on minicomputers or large mainframe computers can now be moved to a micro-computer with relatively minor modifications. LYNX reduces the memory required by a program by dividing the program into overlay segments that are brought into memory from disk as needed.

LYNX can be told to get its commands from a disk file. The "HELP" feature displays a list of LYNX commands. Various kinds of program mapping information can be sent to the screen, printer or disk files. LYNX can decode Microsoft REL files for inspection.

LYNX uses overlays in a tree structure. Any routine is available to any overlay that is higher on the branch than the routine itself. Parameter values can be passed to an overlay as though it were a subroutine or through COMMON blocks.

REQUIRES: Disk drive.

M/SORT
(T030) $195/-   `SYST`

M/SORT by Microsoft is a sorting utility which handles all types of sorting requirements extremely rapidly. Available in both stand-alone and language-hosted versions to interface with a variety of programming languages.

It can load an indexed sequential file; sequence data to fit report or CRT formats; and prepare transaction records for merging into a master file. It will, also, sequence records according to a set of data KEYS supplied by the programmer.

Features:
- Binary insertion technique of sorting
- No limit on number or size of KEYS or record size
- File sizes to 2 billion bytes
- Custom user code at record input, output, and compare exits
- Fixed or variable length records
- Equal KEY records sorted according to input sequence
- Implemented in machine-independent macro language

REQUIRES: Dual disk.

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MicroTools™
(T001) $150/$25   `SYST`

MicroTools by New Generation Systems are software utilities that provide extended file processing commands. 25 separate programs can be used by themselves or combined to do more complex functions.

Commands include:
- COL to print input file in multi-column format
- COM to compare to files
- CRYPT to encrypt and decrypt files
- FIND to search for specific patterns in one or more files
- PASTE to concatenate files horizontally
- PR to print a file or a batch of files
- SORT to re-arrange a file according to user supplied parameters
- SPL to split a file in multiple smaller files
- WC to count lines, words, and characters in one or more files.

The documentation supplied with MicroTools consists of a general information section that describes command syntax, options, wildcards, input/output redirection, and pipelines, and an individual description for each tool.

REQUIRES: None.

QUICKCODE™
(T005) $295/-   `SYST`

QUICKCODE by Fox & Geller is a computer program that writes dBASE II command files automatically, without any need for the user to know the dBASE II command instruction language. It guides the user into "painting" application programs on the CRT screen.

QUICKCODE can write programs to:
- Add new records
- Retrieve and display records
- Edit existing records
- Print or delete records
- Validate data entry
- Set default values
- Print mailing labels or forms
- Put data into WordStar (W003)
- Run a report

QUICKCODE also expands the power of dBASE II by introducing four new data types:
1. Dollars
2. Dates
3. Telephone numbers
4. Social Security numbers

REQUIRES: Additional software dBASE II (D018) and dual disk.

SpeedProgramming Package-80™
(T004) $200/-   `SYST`

SpeedProgramming Package by Digital Research is a set of development tools designed to improve the productivity of the Pascal/MT+ (L005) programmer.

Features included:
- Supervisory program supplied in source code
- Screen-oriented text editor adaptable to any CRT
- Interactive, on-demand, syntax scanner
- On-demand source text reformat utility
- On-demand variable spelling check utility
- Disk based logging of all source code modifications
- Hard disk backup utility

The SpeedProgramming Package provides an interactive syntax scanner which works hand-in-hand with the screen editor. When the user requests a syntax scan and an error is detected the editor will place the cursor at the location of the error, place an error message at the bottom of the screen, and give the programmer a full screen of context in which to examine and correct the error.

REQUIRES: Additional software Pascal/MT+ (L005)

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VEDIT-80
(T009) $150/-

SYST

VEDIT by CompuView is an editor designed to take full advantage of a CRT display to make editing files as fast and easy as possible. The main feature of VEDIT is its visual mode editing which continuously displays a region of the user's file on the screen and allows any changes made to the screen display to become the changes in the file. The screen display is changed by moving the displayed cursor to any place on the screen and then typing in new text or typing an edit function key. These insertions, deletions and corrections are immediately seen on the screen and become the changes to the text file.

The visual mode can also perform the common word processing operations such as word wrapping at the end of lines and reformatting paragraphs between right and left margins. It is very easy to send any portion of the text to the line printer. Ten scratchpad buffers can be used for extensive "cut and paste" operations. Powerful search and selective replace functions can be performed.

Additional features:
- Automatic indenting for structured programming
- Command mode with macros for repetitive editing
- Horizontal scrolling
- Help command
- Print formatter command macro

REQUIRES: None.

WORD PROCESSING

TEXT

WordStar™
(W003) $349/-

TEXT

WordStar by MicroPro is a word processing system with integrated printing. Both initial entry of text and alteration of previously entered text are displayed directly on the screen. Most functions take place immediately, resulting in the display of a true print image; additional enhancements are performed during printout.

Automatic margins, justification, and paging allow high speed entry of text. When a word exceeds the margin, WordStar wraps around to the next line. The return key is only used to indicate paragraphs.

Powerful editing commands include BOTH VERTICAL AND HORIZONTAL scrolling, forward and backward paging, character insert and delete, BLOCK AND COLUMN move, global search and replace, read and write from auxiliary files, and reforming paragraphs. A special function suggests and inserts hyphens. Page width can exceed 80 columns.

WordStar's printing capabilities include printing one file while another is being edited!

WordStar includes a comprehensive help screen system in addition to the detailed manual and TRAINING GUIDE.

MailMerge
(W004) $99/-

TEXT

MailMerge is a modular enhancement to WordStar that enables it to merge (combine) data from two files at print time, to perform chained and nested printing, to print multiple copies of the same file automatically, and to print raw data in a form that is easily read.

Chain printing permits a specially formatted file to direct the separate printing of other files, thus printing series of files automatically.

Nested printing permits a file to be printed (or executed) by a reference to it "nested" within another file, thus printing a file within another file. Up to eight levels of "withins" can be printed in this way.

StarIndex
(W001) $99/-

TEXT

StarIndex allows the user to create reference aids to help readers locate information in a report, contract, manual, brief or any document prepared with WordStar.

Features include:
- Alphabetized index with subentries
- Table of contents
- List of figures
- List of tables
- Inserts blank page to make each chapter begin on right-hand page
- Control how pages and headings are numbered

REQUIRES: Dual disk.

Glossary of Computer Terms

Acoustic Coupler: A device that allows a computer to be connected to another computer by placing a telephone handset into it. See MODEM.

Alphanumeric: The letters A to Z including upper and lower case and numbers 0 to 9 or any combination of them.

ANSI: American National Standards Institute. An organization that recommends definitions for engineering and scientific specifications.

Application: The procedure or problem to which a computer is applied.

Application Software: Programs designed for a specific use such as word processing, payroll, etc.

ASCII: (pronounced AS KEY) American Standard Code for Information Interchange. Specifies which computer code will stand for each character, providing a standard that allows computers from different manufacturers to "talk" to each other.

Assembly Language: A low level language which has an instruction statement for each machine function in a computer's central processing unit (CPU).

Auxiliary Storage: A storage device in addition to the RAM or main storage of the computer. Auxiliary storage is the permanent storage for information. It includes magnetic tapes, cassette tapes, cartridge tapes, hard disks, floppy disks.

Backup: n. An extra copy of information stored on a disk, tape or cassette in case one copy becomes unusable. v. The process of creating a backup.

BASIC: Beginner's All-purpose Symbolic Instruction Code. A high level, interactive language.

Batch Processing: An approach to computer processing where groups of like transactions are accumulated (batched) to be processed at the same time.

Baud Rate: A measure of the speed at which data is transmitted (normally between two computers or a computer and a peripheral). 300 baud is 30 characters per second. It is also 300 bits per second.

Binary Numbers: A numbering system that uses only ones and zeros. Information is stored in a computer that way because the hundreds of thousands of microscopic switches in a computer can only be on (1) or off (0).

Bit: Short for Binary digIT. It can have a value of either 1 or 0.

Boot: To "start up" a program. The process of loading part or all of the operating system into main memory.

BPS: Bits Per Seconds. See baud rate.

Buffer: A temporary storage place used to hold data for further processing.

Bug: An error or malfunction in hardware or software.

Byte: A group of eight bits that represent a single character or a number from zero to 255.

Character: Usually one byte (eight bits) that can be printed or displayed (e.g. the letter P).

Chip: An integrated circuit (IC) containing thousands of electronic components microscopically layered onto a piece of silicon as big as this capital O.

COBOL: COmmon Business Oriented Language. A verbose high level computer language.

Code: n. Instructions in a computer language. v. The act of creating code.

Comma Delimited: Usually records with data fields separated by commas.

Command: An instruction, usually a word or character, that tells the computer to do something.

Communications Software: A program that allows computers to "talk to" each other.

Compiler: A program that translates high level language statements into a series of machine instructions.

Computer: Any of a number of devices that employ the von Neumann stored program principle to accomplish a complicated task by performing a series of simple tasks.

Computer Network: Two or more computers connected that can exchange information.

Computer Program: A series of instructions that tell a computer to do something.

Continuous Form: Paper and forms that are connected one sheet to the next. Usually with pin feed holes along each side.

Control Character: A character or command that is produced by pressing down the computer's control key and another key at the same time.

Control Key: A key usually marked "CTRL" or "CTL" on a computer keyboard.

CPU: Central Processing Unit. The part of the computer that does the computing (processing).

CRT: Cathode-Ray Tube. A TV-like device used to display information generated by the computer. Also called a monitor or a display.

Cursor: An indicator on the computer's screen showing where the next character will be displayed.

Daisy Wheel Printer: A printing machine whose print head has a number (usually 96) of arms or petals with a character at the end of each. The quality of the print is similar to a typewriter.

Data: Facts, numbers, letters and symbols that can be organized into information. Especially when processed by a computer.

Data Base: A collection of data in a computer system that can be accessed at one time, such as a mailing list or a list of accounts.

DBMS: Data Base Management System. A DBMS is a set of programs which are used to manipulate and use a data base.

Debug: Finding and correcting errors. Especially in computer programs.

Default Value: The value used if no action is taken to change it.

Device: Any piece of computer equipment.

Dial-up Line: A telephone number that when called is answered by a modem which is connected to a computer.

Direct-connect Modem: A device that connects a computer to other computers through a phone line without using a telephone handset.

Direct Cursor Addressing: The action or ability to position the cursor to any location on the screen.

Directory: A list of the file names on a disk.

Disk: (also Diskette) A round, flat piece of magnetically coated material, either rigid metal or flexible (floppy) plastic, covered by a protective envelope, for storing information. Usually in 8, 5.25 or 3.5 inch sizes.

Disk Drive: A device that can store and retrieve information on a disk.

Disk Space: The number of characters or bytes that can be stored in files on a disk. Usually referred to in thousands (K) or millions (Mega) of bytes.

Display: A computer screen or output device.

Documentation: The instruction manual for hardware or software.

DOS: Disk Operating System.

Dot Matrix Printer: A printer that forms characters as patterns of dots. The dots lie within an area of defined dimensions, such as 5 x 7 dots. Generally, the more dots, the better the print quality.

Double Sided: A type of diskette drive which uses both sides of a disk to store information.

Dual Drive: Two disk drives connected to one computer.

Edit: To make changes in data or a program.

Execute: To run a computer program.

Expansion Module: An interface device that connects to a computer to increase the computer's capabilities.

Field: A unit of information that serves as a building block for a record.

File: A set of data or related records. For example, an inventory file would have a complete record on each part in stock.

File Maintenance: Updating the file to reflect changes in information. Data might be added, altered or deleted.

Fixed Disk: Usually a hard disk drive with several million bytes capacity.

Floppy Disk: See diskette.

Formatting: The process of writing tracks and sectors onto a disk so that computer information can be stored on it.

FORTRAN: FORmula TRANslation. A high level language used primarily for mathematical or engineering problems.

Function Key: A key on the computer keyboard that tells the computer to perform a specific action.

Graphics: The ability of a computer to show pictures, line drawings, bar graphs, etc. on the CRT or the printer or plotter.

Graphics Plotter: A device that is capable of drawing figures, line drawings, and other computer graphics.

Hard Copy: A printed report or listing.

Hard Disk: See fixed disk.

Hardware: The physical parts of a computer system (such as the CRT, CPU, Disk Drive, Printer, Keyboard, etc.) as opposed to software.

Help Screen: Explanations included in software programs that assist the user when operating the application.

Hex: Short for hexidecimal. A convenient way to express binary numbers in groups of four bits. Two hex digits represent a byte of data.

High-Level Language: A programming language that uses simple English words to represent computer commands.

Impact Printer: A printer that prints by hitting a character against the paper. As opposed to thermographic processes.

Information Bank: A collection of information or data (stocks, airline schedules, etc.) accessible with a computer by using a modem.

Integrated: Software and/or hardware which is able to work together.

Input: The transfer of data into a computer.

Input Device: A device used to enter information into a computer, such as a keyboard.

Input/Output (I/O): The process of entering data into a computer or taking it out.

Interactive: A term that describes a computer and software which responds to each action by the operator.

Interface: A system of hardware and, usually, software used to connect two devices (computers and peripherals) so they can "talk to" each other.

K or KB: An abbreviation for kilobytes, which means approximately 1000 bytes. Actually, one kilobyte contains 1024 bytes of data. A computer with 64K bytes of memory has 64 x 1024, or 65,536 bytes of memory.

Keyboard: An input device that allows you to enter alphanumerics and special characters into a computer.

Keystroke Macro: A way of saving each key that is depressed so that the sequence can be repeated as a single command.

Letter Quality Printer: A printer that produces printed output similar to typewriter. Especially as opposed to a dot matrix printer.

Line Printer: A printer that composes and prints a whole line at a time. Its speed is measured in lines per minute (LPM).

Load: To put data and/or programs into a computer.

Machine Language: The "native" language of a computer consisting of fundamental instructions that computers are capable of recognizing and performing.

Main Frame: Usually a large, expensive computer generally used for data processing in large corporations and government.

Mass Storage: See auxiliary storage.

Matrix Printer: See dot matrix printer.

MB: Megabyte. One million bytes or characters. Usually refers to the amount of data that can be stored on a mass storage device such as a disk or tape. A 10MB disk would hold ten million characters of information.

Media: Magnetic tapes, cassettes, cartridge tapes, disks and diskettes used to store data.

Memory: Circuitry and devices in a computer that store data for further use.

Menu: A list of options available to the operator that a program can perform.

Menu-Driven: Application software that presents lists of options for the user to choose from.

Microcomputer: A computer that uses a microprocessor as its CPU.

Microdisk: Also microfloppy and microdiskette. A 3.5 inch diskette.

Microprocessor: Usually a CPU that is contained within a single integrated circuit. See Chip.

Minifloppy: A 5 1/4 inch diskette.

MODEM: Short for MOdulator-DEModulator. A device which transforms signals from a computer or peripheral into a form suitable for transmission over telephone lines.

Module: A device or software program which is usually an attachment or enhancement to a computer system.

Monitor: See CRT.

Multiprogramming: A computer operating in such a way that it can handle two or more computer programs at the same time. Actually, programs are not executed at the same time. Their execution is interleaved.

Network: A system of computers that are all connected to one another. Sometimes by telephone lines.

Numeric Data: Data that is made up entirely of numbers.

Operating System: A "traffic cop" program that oversees the overall operation of a computer system. It must be present in the computer before other programs will work on the computer.

Output: Information or data that comes out of a computer.

Password: A code word or group of characters a computer system might require to allow the operator to perform certain functions.

Peripheral: Equipment (hardware) that is external to the computer itself. The most common peripherals are disk drives, printers, cassette tape recorders, and modems.

Plotter: A special device capable of drawing pictures and graphs.

Port: n. A computer connector to plug in printers, modems, etc. v. The act of altering application software so that it works on another, different computer system.

Power Supply: A device that converts regular electric current from the wall socket into the voltage used by electronic circuits and computer equipment.

Printer: An output device that produces printed, "hard" copy.

Printout: The printed copy of the data produced by the computer.

Program: A set of instructions that tell the computer to do something.

Programming Language: A set of rules and conventions used to prepare a program.

Prompt: A short message (sometimes only one or two characters) that appears on the computer screen when additional input is required before the computer system continues operation.

Qwerty: An abbreviation used to indicate a standard typewriter style keyboard.

RAM: Short for Random Access Memory. Also known as read/write memory or workspace.

Read: The process of taking information or programs from an mass storage device and putting it into the computer's main memory (RAM).

Record: An organized block of information, such as all of the payroll data on one person.

Relational Database: Data files arranged such that associated records can be accessed together.

Report Generator: A computer program which allows the user to create customized reports from data.

Reset: A key that interrupts or re-starts a computer.

Resolution: A measure of the detail with which an image can be shown on a CRT, printer or plotter.

ROM: Short for Read Only Memory. Computer memory that cannot altered. Usually contains machine instructions to start-up the computer. See boot.

RS-232C: A standard which defines how serial interfaces work in terms of voltage levels and specific electrical connections.

Run: Execute a program.

Screen: See CRT.

Screen Oriented: Usually a program which maintains an image on the CRT of the data being processed.

Scroll: The process of moving all the text characters on a screen (usually upwards) to make room for more text (usually on the bottom).

Serial: A type of interface used to connect computers with modems, printers, and other peripherals. See RS- 232C.

Software: Another name for computer programs. See Program.

Sort: Arranging records according to a part or all of the record. i.e. ZIPCODE.

Source Code: Instructions in a computer language that can be read by a person.

Special Character: A character displayed by computer that is not a letter or a number, such as " , % ? ; ( ) $ # + ! — @.

Subset: Usually refers to a computer language that does not have all of the commands defined for that language.

System: A set of hardware and software that works together.

Telecommunications: Transmission of data over long distances using phone lines, microwave, etc.

Terminal: A device used to communicate with a computer. Usually a keyboard and CRT.

Thermal Printer: A hardware device that prints characters by applying heat to heat-sensitive paper. Usually as opposed to impact printers.

Timesharing: A method whereby several operators can use the same computer at the same time. Usually over telephone lines.

TPA: Short for Transient Program Area. The name given to the working space for application programs in the CP/M operating system.

Tube: See CRT.

User: A person that operates a computer. Also end-user.

User Friendly: Usually software designed specifically for users unfamiliar with computers.

Variable: A symbolic name in a program that can be assigned a value — either numeric or text characters.

Visually Oriented: See screen oriented.

Window: A portion of the computer screen (CRT) that is dedicated to a specific purpose.

Write: The process of storing data on external memory such as a disk or cassette tape.

Write Protect: A method of fixing a disk, tape or file so that it cannot be altered.

Z-80: A widely used microprocessor chip developed by Zilog, Inc.

ALPHABETIZED INDEX

NOTES

ORDERING INFORMATION

To expedite delivery of your order you should include:

1. Name
2. Address
3. Phone number
4. Contact person
5. Product name(s) and code(s)
6. Quantity of each being ordered.
7. Media format. (Specify Coleco Adam tape or disk.)
8. Method of shipment.
   a. UPS and US mail are $3.00 for the first product and $2.00 for each additional product shipped within the continental USA.
   b. UPS 2ND DAY is $5.00 for the first product and $3.00 for each additional product.
   c. UPS NEXT DAY is $14.00 plus $3.00 for each additional product (not available to all locations).
   d. Overnight express delivery services range in price from $10.00 to over $100.00. Call for quotation.
9. Method of payment.
   a. COD. Add $2.00 for UPS COD. Call for quotation and availability of COD express delivery service.
   b. American Express, MasterCard or VISA. Give card holder name, card number and expiration date.
   c. Prepayment by check, money order, or wire funds transfer in US dollars to Westico, Inc.
   d. Wire funds to: Chase Manhattan Bank, New York for credit to: Westport Bank and Trust, Westport, CT; for further credit to: Westico, Inc., Account No. 101-536-2. Phone advise.

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