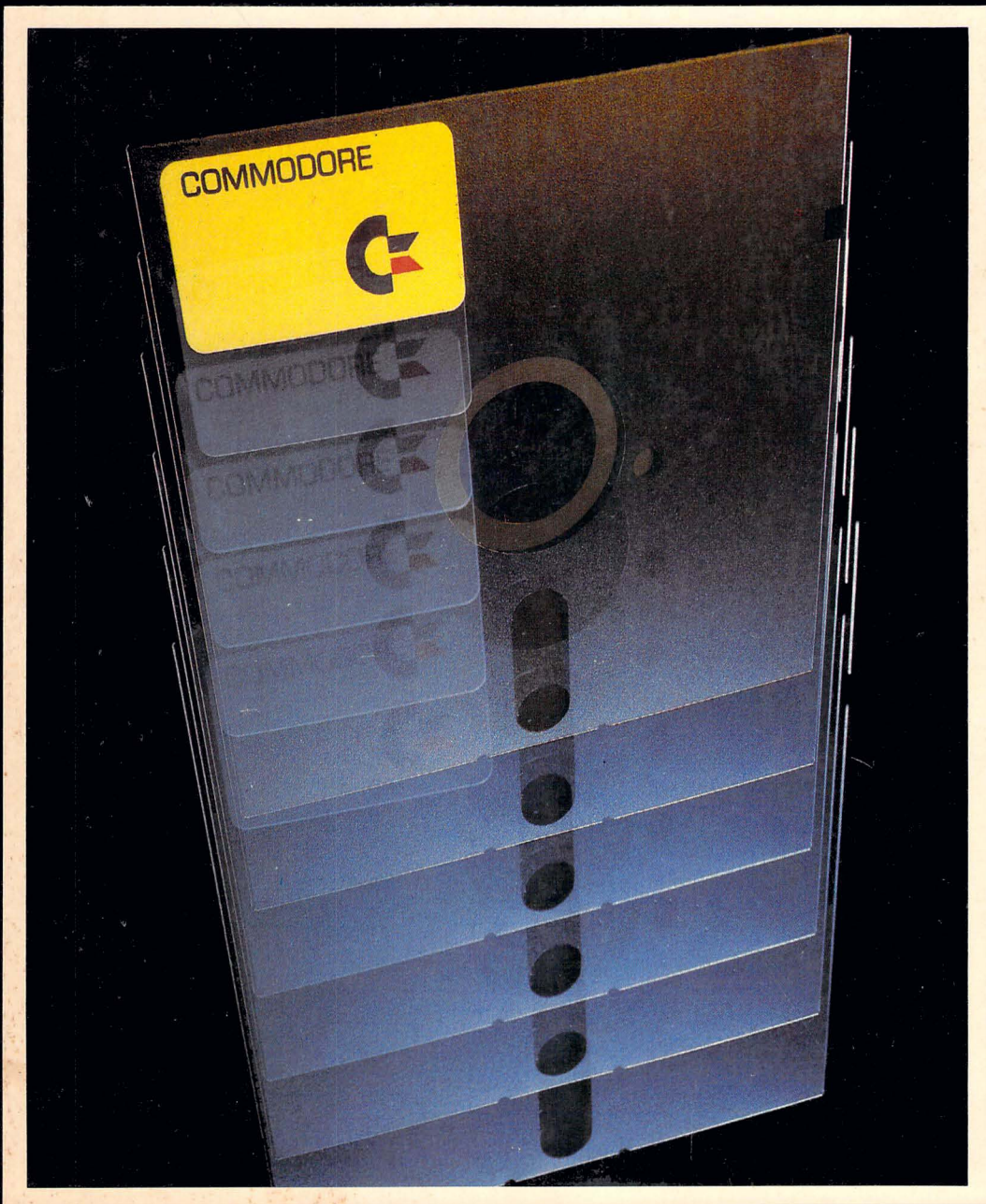


SECOND EDITION

COMMODORE SOFTWARE ENCYCLOPEDIA



 **commodore**
COMPUTER



SOFTWARE ENCYCLOPEDIA

SECOND EDITION

NOTICE TO SOFTWARE VENDORS

If you have software which you would like us to list in this publication, or if you already have a listing and would like changes, updates or additions, please send the necessary information to the address below. If you have never been listed before, please send a copy of your product, a brief description, a product code if any, suggested retail list price, an address from where the product is available, and a phone number at which you can be reached. Send all this information to:

Commodore Business Machines
Software Group
681 Moore Road
300 Valley Forge Square
King of Prussia, PA 19406

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**COMMODORE BUSINESS MACHINES INC.
SOFTWARE GROUP**

**681 Moore Road
300 Valley Forge Square
King of Prussia, PA 19406**

Table of Contents

	INTRODUCTION	7
	HARDWARE OVERVIEW	8
	HOW TO USE THIS ENCYCLOPEDIA	12
	THE CATEGORIES	13
	BUSINESS	15
	WORD PROCESSING	43
	UTILITIES	51
	TECHNICAL AIDS	71
	PERSONAL AIDS	77
	GAMES	91
	VIC 20	123
	PUBLICATIONS	143

	FIRMWARE	153
	HARDWARE	161
	CANADA	171
	EUROPE	183
	EDUCATION	205
	ADMINISTRATIVE AIDS	207
	MATH & SCIENCE	222
	VERBAL SKILLS & SOCIAL STUDIES	329
	VENDORS	393
	PROGRAM INDEX*	401

*Note: Program index may be used as a handy guide to show the scope of this encyclopedia.

INTRODUCTION

This encyclopedia is a listing of most of the software offerings, known to COMMODORE as of this printing, which are available for use on the CBM/PET line of computers. It is divided into thirteen (13) categories. However, some programs from one category may be applicable in another area. For example, a housewife may find that a secretary's appointment program is useful for her own needs. Thus, a program under the Business heading may be of interest to the housewife. We therefore suggest that you carefully review each of the different categories. *It is also the purchaser's responsibility to determine the compatibility of his equipment with programs contained in this encyclopedia.* These programs are included in this encyclopedia for information purposes only. Inclusion does not constitute an endorsement of the product unless the Commodore logo appears opposite the listing. Prices are subject to change without notice.

Commodore makes no warranties, either expressed or implied, with respect to the programs included herein, their quality, performance, merchantability, or fitness for any particular purpose. These programs, when purchased, will be purchased "as is." The entire risk as to their quality and performance is with the buyer. Should the programs prove defective following their purchase, the buyer (and not the creator of the programs, commodore, their distributors or their retailers) will assume the entire cost of all necessary servicing, repair or correction and any incidental or consequential damages. In no event will Commodore be liable for direct, indirect, incidental or consequential damages resulting from any defect in the programs even if it has been advised of the possibility of such damages. Some laws do not allow the exclusion or limitation of implied warranties or liabilities for incidental or consequential damages, so the above limitation or exclusion may not apply.

HARDWARE OVERVIEW*

COMPUTERS

PET/CBM:

The Personal Electronic Transactor was the original self-contained microcomputer offered to the public at an affordable price. The CBM is a PET that has been designed primarily for business use and incorporates features to facilitate business applications. All Commodore computers are equipped with an integrated CRT (cathode ray tube screen), a keyboard, and CPU (central processing unit).

VIC 20:

The Video Interface Computer is the first full-featured expandable color computer under \$325. This computer helps anyone get involved in computing immediately and permits the user to expand the system as he becomes more sophisticated in the art of computing. The VIC 20 connects to any color TV or monitor and provides 5K of memory expandable to 32K.

ROM's:

(Read Only Memory) There are currently three versions in use: 2.0, 3.0 and 4.0. 2.0 was the original ROM supplied (also called "old ROM's"). 3.0 was an improved ROM (called "new ROM's") and was supplied on machines manufactured for a short time in mid 1980. 4.0 is the current version. To find out which version you have, look at the machine immediately after a power on. If the top line reads "**** COMMODORE BASIC ****", the machine is equipped with 2.0 ROM's. If the top line reads "### COMMODORE BASIC ###", the machine is the 3.0 version. And if the top line reads "**** COMMODORE BASIC 4.0 ****", you have 4.0 BASIC.

PET

2000 Series:

This is a 40 column by 25 line (1000 character total) integrated microcomputer equipped with various memory capacities from 8K to 32K and a 9" (diagonal) CRT. Originally it was manufactured with a calculator style keyboard and integrated cassette for mass storage. That version is no longer available since all machines are currently manufactured with the typewriter style keyboard and a minimum of 16K memory. The N keyboard designation is the graphics version while the B keyboard is intended for business use and carries the CBM logo. Currently all machines are shipped with 4.0 ROM's which support disk commands. Software written entirely in BASIC will run on

any ROM version. If a program containing machine language is to be run, it is advisable that you find out what ROM version was used for that program. NOTE: All PET/CBM machines can be field upgraded with a ROM upgrade kit.

- 4000 Series:** 40 column machines with N or B keyboards. The N keyboard is the graphics version carrying the PET logo and has the graphics symbols on the keyboard. The B keyboard is the business model with the CBM logo and has a typewriter style keyboard. This machine is available in 16K or 32K memory configurations (as model numbers 4016 and 4032) and with a 12" (diagonal) CRT.
- 8000 Series:** 80 column by 25 line (2000 character total) business machine with B style keyboard and is available in 32K memory configuration with 4.0 ROM's and a 12" (diagonal) CRT. The latest model is the 8096 providing a total of 96K bytes of RAM in the 4.0 configuration. This is available as a memory expansion add-on board.
- SP9000:** The SuperPET is Commodore's newest addition to the computer market, as of this printing, and is based on the standard 8032 micro, but there the similarity ends. At its heart is a separate 6809 microprocessor and this machine is capable of operating under the following languages: Waterloo microBASIC, Waterloo microPascal, Waterloo microAPL, Waterloo microFORTRAN, as well as Commodore's standard 8032 BASIC 4.0, with Waterloo microCOBOL and compilers under development. Applications developed on the "SuperPET" will interface directly with a mainframe without modification. Communication facilities support standard RS-232 C interfaces at speeds up to 9600 baud. RAM available to the user is 96K (total of 134K) and it will support all current peripherals offered by Commodore except the C2N cassette.

DISK DRIVES

- DOS:** (Disk Operating System) There are four versions of DOS used on Commodore Disk Drives, 1.0, 2.1, 2.5, and 2.6. The original system was DOS 1.0 and is no longer manufactured. 2.1 and 2.5 are used on the 4040 and 8050 disk drives, respectively. These two versions offer enhanced disk commands over the 1.0 making disk operations easier.
- 2031:** This is a single drive version of the 4040 dual drive described below but equipped with DOS 2.6.

- Dual Drives:** At present all Commodore Disk Drives are Dual units which use 5¼ inch floppy diskettes (except the 2031). All units are intelligent, meaning that they do not require computer memory for operation, and are complete with read/write heads, drive motors and track positioning mechanisms.
- 2040:** Equipped with DOS 1.0 and offers a total capacity of 167K bytes per disk drive for a total of 336K. (Can be field upgraded to DOS 2.0.)
- 3040:** European version which is essentially the same as the American 2040.
- 4040:** Same as the 2040 except that it is equipped with DOS 2.1 and has 166K storage capacity (332K total).
- 8050:** Equipped with DOS 2.5, this is the most powerful 5 ¼" Disk Drive offered today with 500K bytes of storage per disk for a total of 1 megabyte!
- 8250:** Has all the features of the 8050 but offers an unprecedented storage capacity of 2.1 megabytes—enough to meet the most demanding applications. Available late 1981.

PRINTERS

- There are two types of printer paper feed mechanisms—tractor and friction. Friction printers feed paper just like a typewriter. Tractor feeds exert positive control on the paper by utilizing sprocket holes along the sides of special paper very similar to film in a movie projector. Such a system enables precise control over the physical position of the paper which is essential for such applications as mailing label printouts and form printing.
- 2023:** This is a friction feed dot-matrix printer which has a print speed of 60 lines/minute. Discontinued.
- 2022:** Same as 2023 except that it is the tractor feed version (replaced by 4022).
- 4022:** Similar to above but with an improved printing mechanism (current production model). Throughout this encyclopedia when reference is made to a 2022, a 4022 may usually be substituted.
- 8023P:** For the more aggressive business applications this dot-matrix printer has the same features of the 4022, plus the ability to handle 132 character lines and 14" wide paper. This printer operates at 150 characters per second. Available in 1982.

8300P:

This is the letter quality printer designed for use in applications which demand the highest print quality such as word processing. Interchangeable plastic or metal printwheels give a choice of hundreds of type styles. All special word processing functions are supported, such as boldface and underlining. An optional tractor feed lets you handle continuous feed paper. Available late 1981.

MISCELLANEOUS

8010 MODEM:

This is a device which permits your PET/CBM to "talk" to other computers over the telephone.

**4010 VOICE
RESPONSE UNIT:**

A voice synthesizer which will endow a PET/CBM with the powers of human-like speech.

ASCII PRINTER:

ASCII stands for American Standard Code for Information Interchange. In order to use this type of printer with PET/CBM computers an RS-232 or parallel interface is required. These are usually letter quality printers but some dot-matrix printers are also included such as the high speed bi-directional Mannesmann Tally 8024.

* Although every attempt has been made to provide as much information as possible with respect to hardware compatibility, the ultimate responsibility lies with the user in determining whether or not a program will function with his particular equipment. **THE PURCHASER IS STRONGLY URGED TO SEEK THIS INFORMATION FROM THE DEALER AND TO SPECIFY HIS EQUIPMENT COMPLEMENT BEFORE ANY PURCHASE IS MADE.**

HOW TO USE THIS ENCYCLOPEDIA

The following format will be used for all software listings:

PRODUCT NAME

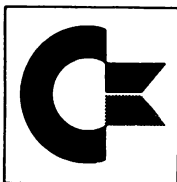
In this area will be a description of the product as supplied by the manufacturer or vendor. Unless the product carries the COMMODORE logo or the COMMODORE APPROVED logo, COMMODORE is not liable for the accuracy of any statements made concerning the product.

HARDWARE REQUIREMENTS: This line will list the equipment configuration required for the program to operate.

Vendor's Name

Retail Price

Product Code



This logo indicates that the product is marketed and supported by COMMODORE. If for any reason you encounter difficulty with the product you are encouraged to contact your dealer or regional representative, and they will make every reasonable effort to find an answer or solution to your question or problem.



This logo indicates that COMMODORE has reviewed the product extensively and believes it to be a highly meritorious product deserving special endorsement. However COMMODORE does NOT market nor offer total support for the product. The end user is requested to contact the vendor directly on any difficulties regarding the product.

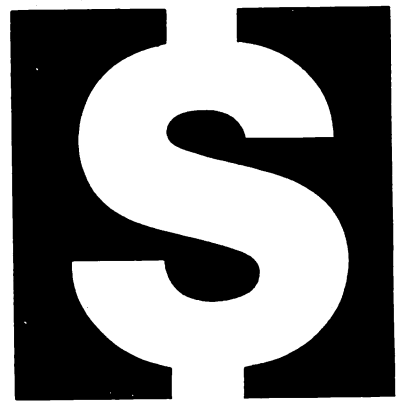
All other products listed in this encyclopedia have been reviewed to a lesser extent. The significance of this is that the sample supplied to COMMODORE, by vendor, was found to have worked *at least* reasonably well and without failure within the constraints of time allowed for review.

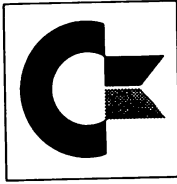
THE CATEGORIES

BUSINESS	This section contains, as its name implies, software intended for use in the business world. There is a wide variety of applications from medium sized professional practices to Mom & Pop stores.
WORD PROCESSING	You will find all the word processor programs that run on the COMMODORE line of computers of which we are aware.
UTILITIES	A wide collection of programming aids which help the programmer in the various aspects of his art, from simple address checking, to full compilers, to languages, to communications, to music boards and graphics.
ENGINEERING AIDS	A list of programs designed to help those professionals whose tasks involve a degree of technical knowledge or skill.
PERSONAL AIDS	These are useful, generally, around the home, and cover areas from the practicality of balancing a checkbook and schedule planning to things as esoteric as astrology.
GAMES	Have fun.
VIC 20	This section contains a rapidly growing selection of software and hardware for the VIC 20 computer.
PUBLICATIONS:	A list of printed matter of particular interest to the PET/CBM user.
FIRMWARE:	A selected group of peripherals and modifications which will either inexpensively convert a COMMODORE computer into another device, (which in dedicated form would usually cost many thousands of dollars), or tremendously expand the computer's horizons permitting it to interface with almost anything you can imagine.
HARDWARE	A selected group of peripherals and modifications which will either inexpensively convert a COMMODORE computer into another device (which in dedicated form would usually cost many thousands of dollars), or tremendously expand the computer's horizons permitting it to interface with almost anything you can imagine.

CANADA	A selected group of software and hardware available from Canada.
EUROPE	A listing of COMMODORE APPROVED products available from Europe. More information on these products may be obtained from the Market Support Manager, COMMODORE UK.
EDUCATION	The education division is subdivided into Administrative Aids and Courseware. Administrative Aids is roughly equivalent to the Business section and is useful to administrators and teachers as they go about the business of administering a school. Courseware is further divided into Math & Science and Verbal Skills & Social Studies (this second section includes just about everything else.)

BUSINESS





OZZ—THE INFORMATION WIZARD

A fast-running machine code program permitting the user to design his or her own data management and retrieval system. The user assigns categories to a variety of numerical or textual data, in matrix or chart form, and using his or her own format to store, access, manipulate and edit the data. Ozz also performs numerical calculations in different categories. The Wizard is layman-oriented and "user friendly" as the conversational style of the illustrated manual indicates.

Specifically designed for the Commodore 8032 computer, Ozz lets you:

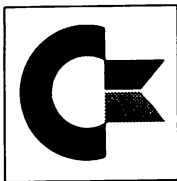
- Format and store information.
- Perform calculations.
- Design forms and documents.
- Analyze information.
- Access files and perform global search.

HARDWARE REQUIREMENT: 8032 CPU, 8050 Disk Drive and suitably interfaced letter quality Printer.

Commodore Dealers

\$395.00

500010



DOW JONES PORTFOLIO MANAGEMENT SYSTEM

- on-line access to quotes for 6,000 stocks
- on-line access to Wall Street Journal, Barrons
- Dow Jones news service stories by stock symbol for 6,000 stocks
- maintain and control stock portfolios
- system provides tax records of all transactions
- automatic valuation of stock portfolio positions via Dow Jones data base
- screen display of current positions valued to the market
- summary and detailed reports on portfolio positions
- automatic dialing and sign-on for Dow Jones data bases with auto dialer modem
- manual dialing and sign on with Commodore modem

HARDWARE REQUIREMENTS: 8032 or 4032 CPU, 4040 or 8050 Disk Drive, 4022, 2022, 2023, 8024 Mannesmann Tally Printer and most suitably interfaced ASCII Printers, 8010 Modem or TNW Auto Dialer Modem.

Commodore Dealers

\$149.95

500040



BUSINESS



INFORMATION RETRIEVAL & MANAGEMENT AID (IRMA)

The Information Retrieval & Management Aid system enables agencies as well as recruiting and search firms to access their entire applicant file with unbelievable speed. The retrieval system offers an unlimited variety of selection methods, which open the applicability of this system to many industries other than simply employment agencies. Among these are: advertising agencies, corporate personnel departments, dating services, insurance agencies, musicians' unions, high school college placement offices, and many more.

The Information Retrieval & Management Aid system offers the following features:

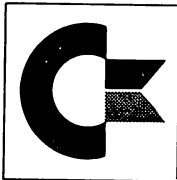
- instruction manual and built-in help file
- up to 5000 candidates per disk
- unlimited file storage
- direct, on screen, data-entry
- multiple file search
- screen and printer display
- file listings by name
- file listings by name and personnel data
- easy editing and purge system
- disk formatting and initialization
- fast data entry
- correction mode

HARDWARE REQUIREMENTS: 8032 or 4032 CPU, 4040 or 8050 Disk Drive, 2022 Tractor Printer or suitably interfaced ASCII Printer.

Commodore Dealers

\$495.00

900040



LTA LEGAL TIME ACCOUNTING

LTA allows law firms to automatically process matters by client, lawyer, and activity simply by recording log entries. Each log is cross-referenced with the appropriate matter and then is managed by the computer. By-product reports provide detailed management information without additional effort.

As the lawyer completes an activity for a client, he annotates a pre-numbered log sheet with the matter number, activity code, i.e., telephone, research, remarks, fee code, etc., to be stored on disk. Later, the secretary batch-keys the daily log entries, which posts the file with the updated information.

On demand, authorized personnel can view on the screen any client data without the need of a printout. Updates and corrections can be made at this time.



LTA can generate these important management reports and allow the user a selective printout. In addition, LTA will store aging analysis, activity revenue, and lawyer productivity reports.

LTA is a total system support approach to law firm administration.

LTA now interfaces with WORDCRAFT 80 word processor.

HARDWARE REQUIREMENTS: 8032 CPU, 8050 Disk Drive, 2022, 4022 or most suitably interfaced ASCII Printers.

Commodore Dealers **\$595.00**



EBS ACCOUNTS RECEIVABLE AND INVENTORY SYSTEM

An integrated software package, combined with the low-cost Commodore hardware, offers a comprehensive integrated receivables and inventory control system at a price small businesses can afford.

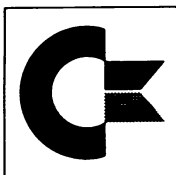
Operating parameters chosen from prompted choices on the computer screen enable even a first-time computer user to tailor the system for his or her particular requirements. No modifications are necessary to make the system work for you.

Features include:

- Order entry operation at time of invoicing.
- Menu selection.
- Backup disk facilities.
- Global change feature.
- Global report generator.
- Foolproof operation "forgives" operator error.
- Easy-to-read manual assumes operator has no previous training.

HARDWARE REQUIREMENTS: 8032 or 4032 CPU, 8050 or 4040 Disk Drive, 2022, 2023, 4022 or most suitably interfaced ASCII Printers.

Computer Marketing Services **\$500.00 each module.**



BPI GENERAL LEDGER

Brings highly sophisticated computerized accounting within the reach of all small businesses. This system has been written in the language of the business and professional community, and can be used immediately with no prior



HARDWARE REQUIREMENTS: PET/CBM 32K Computer, and 4040 Disk Drive.

BPI Systems Inc.	\$395.00
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Tax Preparation System—Form 1040. The features are:

- prints directly on IRS form
- automatic exemption computation
- 1040 long and short forms
- regular or income averaging
- simultaneous separate or joint returns
- schedule A, B, C, D, G, TC, SE
- easy editing
- instant error-free continuous calculations
- file storage for prior years evaluation

HARDWARE REQUIREMENTS: 8032 or 4032 CPU, 4040 or 8050 Disk Drive, 2022 or most suitably interfaced ASCII Printers.

Commodore Dealers	\$495.00	500030
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REAL ESTATE LISTING

Enter, Edit, Delete, Display or Print listings of all property on file (up to 200 listings with data in nine categories per diskette). Any number of diskettes may be used. Lists both property and prospective clients for matching.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$180.00	80-R1
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ACCOUNTS RECEIVABLE

A good general purpose Accounts Receivable package, consisting of 7 interacting programs. Easy to use, yet comprehensive in coverage. Provides



several types of reports, including aging reports, open items, closed items, and unbilled items. Prints customer statements and automatically produces a printed audit trail and summary of all transactions entered. Provides convenient means for manipulating your data base, including your customer list and ancillary files. Will automatically post entries to certain accounts in the General Ledger, described below. Accounts Receivable System II, which runs on the model 8032 computer with 8050 disk unit, can handle about three times that many invoices and customers. Specify your computer configuration when ordering.

HARDWARE REQUIREMENTS: 4032, and 2040, or 4040 Disk Drive.

Creative Software **\$199.95**

GENERAL LEDGER

Creative Software's General Ledger will support up to 450 accounts (2040 or 4040 disk) or as many as 1000 accounts on an 8050 disk. Account numbers are five digits, with an added digit available for multiple profit centers (up to nine). Features a Cash Disbursements/Receipts program, allowing single-entry bookkeeping (since the computer will automatically make the correct balancing entry). Features a perpetual General Journal which records all transactions entered, and automatically lists these transactions for any account and any period of months. Reports include Trial Balance Sheet and Income Statement, Special Reports, Monthly Balance Sheet and Income Statement, and General Journal listing. All the reports are available for the current period, and up to three previous quarters.

HARDWARE REQUIREMENTS: 4032, 2040, 4040, or 8050 Disk.

Creative Software **\$199.95**

INVENTORY

Designed for maintaining inventory in a retail sales environment, this package of 6 programs handles all the fundamental inventory tasks. Inventory may be catalogued, added to, withdrawn from, "shrunk" due to unaccounted-for stock loss, and reported upon. Standard reports include Overstock/Understock Report, Backorder Report, Inventory Retail Valuation Report, and a Physical Inventory Form. A Custom Report Generator allows you to design and print your own reports.

HARDWARE REQUIREMENTS: 4032, and 2040, 4040, or 8050 Disk Drive.

Creative Software **\$199.95**



BUSINESS



JINSAM DATA MANAGER

Jinsam is an electronic filing system which allows you to manipulate and organize files. There are three versions of the JINSAM Data Manager, 1.0 for the 2000 series CBM, 4.0 for the 4000 series CBM and 8.0 for the 8000 series CBM. A file from any version of JINSAM can be upgraded to a higher level and from one disk drive to another. You find information by typing a word or number into the computer and the record or records appear on the screen or on a printer. This printout may be in any form such as lists, labels, reports, or documents. The 4.0 and 8.0 versions hold approximately 1200 records per data base and many data bases are allowed per disk. There are no limits on record length, number of fields or depth of sorting. This system ties in mathematical, statistical and word processing capabilities. Among the interfaces available are: WORDPROPACK, which accommodates WordPro 3, 3 plus, 4, and 4 plus; CALPACK, two-way interface between Jinsam and any program using data interchange, which allows JINSAM files to be analyzed by VISICALC; files to be sorted merged into Jinsam and printed with WordPro STATPACK, which follows the SPSS format used on IBM mainframes; MATHPACK, which permits arithmetic functions; and JINSORT which allows records to be sorted by three or four fields at the same time, and printed in ascending or descending order. The total JINSAM system includes a detailed user's guide, quick reference guide, data base core, report writer, label writer, JINSORT ROM, ROM expander board WORDPROPACK, MATHPACK, STATPACK, each with its own guides, demo programs, sample data bases and the JINSAM Newsletter.

HARDWARE REQUIREMENTS: 32K CBM/PET, 2040, 4040 or 8050 Disk Drive, depending on version, and almost any Printer.

Jini Micro Systems, Inc.	\$395.00 (1.0)
	695.00 (4.0)
	795.00 (8.0)

ACCOUNTS

This program allows you to create a data base for company names, addresses, invoice and purchase order numbers, and amounts of purchase. Locates information on specific companies, determines amounts owed, and lists past-due accounts.

HARDWARE REQUIREMENTS: Contact dealer.

Total Information Services	\$24.95 cassette	SW-3
	\$29.95 floppy disk	



CALENDAR

This program enables you to keep track of appointments in a busy office, schedule your social engagements, etc. It is an all-purpose datebook complete with events, dates, times, and notes.

HARDWARE REQUIREMENTS: Contact dealer.

Total Information Services	\$24.95 cassette	SW-5
	\$29.95 floppy disk	

INVENTORY CONTROL PACKAGE

Random access inventory control. Maintains information on up to 4200 items, as well as purchase orders. Utilizes unique data compression technique for maximum capacity. Excellent user manual and programming guide. Programs are easily customized. Package is menu driven, fully user-proofed, and has been on the market for over one year.

HARDWARE REQUIREMENTS: 32K PET/CBM, 2040 Disk Drive, and Printer.

MiniComp Systems Limited	\$170.00 (US)	Inv. I.O.
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ACCOUNTING ASSISTANT

Solves many of those day-to-day financial problems. Included are: LOAN AMORTIZATION SCHEDULE and DEPRECIATION SCHEDULE.

HARDWARE REQUIREMENTS: 8K PET.

Instant Software Inc.	\$7.95	0048P
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GENERAL LEDGER

(Requires Creative Software's ISAM package to run.) This is a full, real-time general ledger appropriate for use by businesses with yearly revenues of up to \$5,000,000. Based on the Osborne series of business software, this package uses Creative Software's ISAM to provide true on-line general ledger. In addition to all the features of the Osborne package, a general journal of all



GL entries is kept (up to 2680 on one disk) and listings of all entries for a particular account or time period may be obtained.

HARDWARE REQUIREMENTS: 8032, Dual Disk Drive and 2022 Tractor Printer.

Creative Software **\$295.00 plus \$3.50 shipping**

ACCOUNTS RECEIVABLE

An easy-to-use, full-featured accounts receivable, based on the Osborne series and Creative Software's ISAM, this package has all the capabilities typically needed by a small business. Reports include aging analysis, open items, closed items and customer range. Automatically posts invoices to the General Ledger, if implemented. Requires Creative Software's ISAM package.

HARDWARE REQUIREMENTS: 8032, 4040 Disk Drive and 2022 Tractor Printer.

Creative Software **\$295.00 plus \$3.50 shipping**

ACCOUNTS PAYABLE

Based on the Osborne accounting packages, this set of programs covers the range of accounts payable, from purchase order entry to check writing. Reports include open items, aging analysis, and closed items. Automatically posts purchase orders to the General Ledger, if implemented. Requires Creative Software's ISAM package to run.

HARDWARE REQUIREMENTS: 8032, Dual Disk Drive and 2022 Tractor Printer.

Creative Software **Discontinued**

INVENTORY

Using the Creative Software ISAM package, this set of inventory programs allows storage and retrieval with up to five part numbers. Reports include



stock valuation, back order, overstocked, understocked, and activity report. Requires Creative Software's ISAM package to run.

HARDWARE REQUIREMENTS: 8032, Dual Disk Drive and 2022 Tractor Printer.

Creative Software **\$295.00 plus \$3.50 shipping**

GENERAL LEDGER

A stand alone general ledger system for up to 300 accounts. Includes cash disbursements journal, cash receipts journal, and petty cash journal for simplified data entry. Fully prompted for operator ease. Accepts postings from accounts payable, accounts receivable, payroll, etc.

HARDWARE REQUIREMENTS: 32K CPU, Dual Disk Drive, and 80 column Printer.

CMS Software Systems, Inc. **\$295.00**

ACCOUNTS PAYABLE

Maintains complete purchase records for up to 200 vendors. Invoice file accepts up to 400 invoices. Automatic application of credit memos. Check printing with full invoice detail. Can stand alone or be used to update the general ledger.

HARDWARE REQUIREMENTS: 32K CPU, Dual Disk Drive and 80 column Printer.

CMS Software Systems, Inc. **\$195.00**

ACCOUNTS RECEIVABLE

Customer file maintains purchase information for 300 customers. Maintains invoice file for 500 invoices, accommodates full or partial invoice payments, prints invoices and monthly statements. Can stand alone or be used to update the general ledger.

HARDWARE REQUIREMENTS: 32K CPU, Dual Disk Drive and 80 column Printer.

CMS Software Systems, Inc. **\$195.00**



PAYROLL

Maintains monthly, quarterly, and yearly totals for 100 employees. Payroll check printing with full deduction and pay detail. Prints payroll journal plus W-2 and 941 forms. Can stand alone or be used to update the general ledger.

HARDWARE REQUIREMENTS: 32K CPU, Dual Disk Drive and 80 column Printer.

CMS Software Systems, Inc. \$350.00

FARMER'S WORKBOOK

The Farmer's Workbook is a management tool and decision making aid for the agricultural producer. There are twenty-three programs that analyze the economics of four major areas: 1) Livestock Management 2) Grain Management 3) Equipment 4) General Business. The Farmer's Workbook also features very thorough documentation and sample data.

HARDWARE REQUIREMENTS: 32K PET or CBM, 4040 or 8050 Disk Drive, and VisiCalc by Personal Software Inc.

Cyberia Inc. \$250.00

FARROW-FILER

The Farrow-Filer is a management and record-keeping system that allows pork producers to earn greater profits by increasing productivity. 1) Helps pork producers lower their production cost-per-pig by producing more animals. 2) Keeps individual records on each animal. 3) Forecasts predicted farrowings, 90 days in advance. 4) Alerts the operator to possible medical problems in the herd. 5) High visual impact of reports allows for better culling of freeloaders.

HARDWARE REQUIREMENTS: 32K PET or CBM, 4040 or 8050 Disk Drive, and Printer

Cyberia Inc. \$195.00

CYBER-FARMER

Cyber-Farmer is a complete, self-contained single entry farm accounting package. This system includes a chart of account with over 300 accounts and



numbers already set up. Accounts can then be added or deleted to customize it for any farm operation. Computes and prints the following: General Ledger, Inventory, Cash Flow Analysis, Depreciation Schedule, Budget Analysis, Money Borrowed, and Dept Paid.

HARDWARE REQUIREMENTS: 32K PET or CBM Computer, 4040 or 8050 Disk Drive, and Printer.

Cyberia Inc.

\$450.00



ASERT

In a traditional office, you may decide to arrange (sort) files in a variety of ways, but once a filing method has been determined, it is almost impossible to rearrange the records. For example, the hospital blood bank may arrange its files by last name or by blood type, but unless it is willing to maintain two sets of files, it cannot do both. It will never face this problem again with ASERT. It will also be very difficult to search through the files in order to find individual records which fall into a particular category. The personnel manager, for instance, does not look forward to going through all the records in order to find possible job candidates. When using ASERT, he simply asks the computer to search the files for the characteristics he has chosen. With ASERT you can do these tasks and many more, quickly and cost-effectively. It can store up to 1900 records (such as clients) on a single File Disk. Larger files can be easily stored on several disks. Organizing—format your records to do whatever job you need done. You decide how to arrange and use your own File structure. Sorting—organize (sort) your Files in a number of different ways. You can sort alphabetically, by address, or by any of up to 21 different categories. You create the categories and control how and when they are used. You can sort your records in a new way in minutes. Searching—code your Files according to different factors (“searchwords”) of your own choice. You will then be able to search your File for records which have, do not have, or may have those factors (using your own searchwords) in any combination. Generating printed copy—provides the possibility of generating a variety of different printed (“hardcopy”) reports and making mailing labels for all or part of your file. Data from the File can be used by various word processing programs, allowing you to economically customize your correspondence.

Technical Note:

- up to 1,900 records per disk.
- individual records are “virtual” 5,000 character records.
- from 1 to 21 label areas per record; sort on any label.
- fast “machine language” sort and input routines
- restructure files at any time.
- 90 searchwords—user-controlled.
- search for qualities using AND, NOT, and OR logical operators.
- user control of label format, number and length of label fields.
- free text area.
- interact with word processors for customized mailing.



- menu driven.
- user friendly—designed for the neophyte.
- operator-oriented—virtually crash proof.
- CFI “hotline” available for any software problems.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive, and 4040 also available.

CFI

\$495.00

GENERAL ACCOUNTING SYSTEM

A complete one disk accounting system for both large and small businesses. Includes general ledger, accounts payable, and accounts receivable, with optional payroll. Prints invoices, monthly statements, accounts payable checks and payroll checks. Reports print either to printer or screen.

HARDWARE REQUIREMENTS: 8032 CBM, 8050 Disk Drive, and Printer.

CMS Software Systems, Inc.

Price to be announced

CE-1000

A comprehensive cash register/inventory system with bar code reader. The complete system consists of bar code reader (wand), cash drawer, modular interface/tone board, ROM, diskettes, and complete documentation. Any of 2500 inventory items are instantly updated as scanned. Ten interactive programs produce a variety of management reports. Updates, searches, sorts and bar code routines in machine language. Inputs prompted and protected.

HARDWARE REQUIREMENTS: CPU, Disk Drive, and Printer.

Creative Equipment

\$135.00

23125

A/P-A/R, JOB COST & ESTIMATING

Enter, edit, delete, display and/or print the following: accounts payable aging report, accounts receivable aging report, accounts payable bank report, accounts receivable bank report, invoices, statements, vendors



checks with stubs, job cost and job estimating. All of the above are interactive. Has many error traps to prevent bad input or breakout. Includes all customer & vendor addresses.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$310.00	80-AC-100
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ACCOUNTING

Prints checks with 2 stubs. Prints comments such as: invoice numbers, date, check number and total on vendor's stub. Prints all above plus vendor's name on your stub. Prints vendor's complete name and address on check in the correct location for window envelope.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$25.00	80-ACC-2
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INVENTORY

Enter, edit, delete, display and/or print any number of items as follows: 7 categories per diskette with up to 200 items per category and up to 6 facts per item. Categories may be named by the user. Maximum 1400 items per diskette. Print out any item, any category or all items on a diskette. Print out total extended value of items on a diskette.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$95.00	80-ACC-3
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MAILING LIST

Enter, edit, delete, display and/or print up to 950 addresses per diskette. Print labels or a listing for phone solicitation, etc. Includes: name, company name, division, street address, city, state, zip code and phone number. Allows 10 digits for new zip codes. Allows 10 digits for area code & phone.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$80.00	80-AC-4
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LEGAL ACCOUNTING

Complete client billing, provides fast billing, improved cash flow and more reliable/comprehensive information for better management. Handles up to 1200 active cases with any number of details per case. Recommended for an individual attorney or up to eight attorneys in one firm. Prints statements, case histories and trial balance.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$995.00	80-A1
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LEGAL ACCOUNTING DEMO

This is a demonstration diskette to help the dealer sell the complete version of our "legal accounting" program #80-A1. Limited to ten cases.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$15.00	80-A2
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BILLING MANAGER

This will solve your customers' billing problems. Program will handle 12-14 transactions per month per customer, and 550 customers per disk. It will also handle the large accounts, needing up to 200 transactions per month per customer. Program will print bills, age accounts, allows batch input of daily transactions and payments, and prints a hardcopy of each customer's file for backup. User manual: \$5.00 (refunded with purchase).

HARDWARE REQUIREMENTS: 32K CPU, 2040 or 4040 Disk Drive and 2022 or suitably interfaced ASCII Printer.

Bits & Bytes	\$150.00	B&B-BM
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KRAM & SUPER KRAM

KRAM 2.0 Regular Features:

- written in 6502 machine code basic compatible
- create/open a dataset



- put record by key
- add & delete records by key
- get any record by full/partial key
- access by any key in as little as 2 seconds
- supports multiple disks
- read next or previous record
- dynamic space allocation
- dynamic space reclamation
- dynamic index compression
- files never need reorganization
- compatible with language systems

SUPER KRAM'S Added Features:

- **Multikey Support** ● Allowing simultaneous access to a Kram file by more than one key field.
- **Hi-Speed Read** ● This feature allows increased I/O speed up to 60% faster during processing of Super Kram read next, read previous, put and delete requests.
- **Improved Index Architecture** ● Allowing faster index searches and more efficient disk space utilization.
- **Integrated Basic Commands** ● Allowing Super Kram commands to be coded in-line with Basic, providing easier usage of Kram than ever before.
- **User-Specifiable Buffer Pool** ● Allowing the user to specify how many Kram files are allowed open at one time; will support any number of Kram files.

HARDWARE REQUIREMENTS: 16K CPU and 2040, or 8050 Disk Drive.

United Software of America

\$ 99.95 ● KRAM 2.0
\$175.00 ● Super KRAM



VISICALC™

VisiCalc is an "electronic worksheet" which allows the user to build mathematical or financial models—or handle any other calculations which lend themselves to row-and-column analysis. After the model is set up, changing any number also changes any other number dependent on it. "What if" analysis becomes incredibly easy.

HARDWARE REQUIREMENTS: PET/CBM 8032 or 2001, and 8050 or 4040 Disk Drive.

Personal Software

\$199.95

209105



CREATE-A-BASE is a data base management program, able to handle from 1 to 24 fields of information. Features user-defined field headings, and field length does NOT have to be predetermined. Interactive with WordPro, able to act as a mail list, print labels, reports with or without arithmetic functions, menu driven, capable of inserting and deleting fields, merge, and transfer. Special Scan/Edit—scans 10 records a second for full character match anywhere in a record. Full cursor controls for editing. File capacity, 8050 drive; 24 fields 1800 records, 12 fields 3700 records; file capacity, 4040 drive: 24 fields 650 records, 12 fields 999 records.

Micro Computer Industries, Ltd. \$360.00 and up

Control in sensitivity analysis, Financing Terms (Any Combination), Investor Orientation. Use your own identifiers for income and expense categories, property titles, addresses, etc. Measure before and after-tax benefits, both for Future and Present Value Estimates. For any property.

Sof-Tec **\$49.95**

Makes your CBM/PET a bulletin board or attention-getting store window display. The message of your choice (easy to enter) glides across the screen (horizontally) in inch-high letters, at the rate you choose. Impressive results at a fraction of the cost of other forms of advertising . . . every business should have one. Called "best" by Computer Cassettes magazine.

Micro Software Systems	(8032)	\$39.95 cassette	MSS.CP.002
		\$44.95 disk	
	(4016)	\$25.95 cassette	
		\$34.95 disk	



MAXI-CALC

Turns your CBM/PET into a sophisticated desk calculator. Trig & hyperbolic functions, logarithms, and all the inverse functions. Financial calculations for loans, savings, annuities, and more. Does the job of programs costing and more. Includes complete instructions (both on paper and built into the program). Stack operated, like the expensive calculators . . . but the stack is much bigger, and visible! A "best buy."

HARDWARE REQUIREMENTS: 8032, or 4032.

Micro Software Systems	\$29.95 cassette	MSS.UP.014
	\$34.95 disk	

FINANCE—CALC

Provides the financial functions of MAXI-CALC without the math functions, so it will fit in a smaller computer. If you don't have 32K, this program will let you do all the loan, savings, annuity, and other calculations in the expensive program, at an even lower price. A real bargain for those in the know.

HARDWARE REQUIREMENTS: 8032 or 4016 CBM.

Micro Software System	\$19.95	MSS.UP.009
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MAGIS (Service) 5th Generation

(Management Accountability Group Information System). This powerful business program is an entire, fully automated accounting system designed for small businesses. It is fully integrated and interactive. One operation command posts transaction information to all affected accounts. No special training in microcomputers or accounting is required to operate this system. The system contains the following: 385 General Ledger accounts, 10 Departments with Revenue and Expense accounts, an Accounts Receivable with Maintenance and Report capabilities, Accounts capabilities, a Payroll system with federal, state, local, and FICA tax computation and withholding capabilities. It will print Invoices, Statements, Expenses, Payroll checks, Accounts Receivable Reports (aging and delinquencies), Accounts Payable Reports, and Employee Information. The system also generates and prints



valuable management reports such as Departmental Budget, Profit and Loss Statement by departments, Contribution Margin by departments, Trial Balance, and Balance Sheets.

HARDWARE REQUIREMENTS: 8032 CPU, 8050 Disk Drive, and almost any Printer.

Management Accountability Group Contact Dealer



MAGIS (Retail/Wholesale Firms) 5th Generation

(Management Accountability Group Information System). This powerful business program for Retail/Wholesale firms is an entire, fully automated accounting system designed for small to medium size businesses. It is fully integrated and interactive. One operation command posts transaction information to all affected accounts. No special training in microcomputers or accounting is required to operate this system. The system contains the following: 385 General Ledger accounts, 10 Departments with Revenue and Expense accounts, an Accounts Receivable system with Maintenance and Report capabilities, an Accounts Payable system with Maintenance and Reports capabilities, a Payroll system with federal, state, local, and FICA tax computation and withholding capabilities, a Perpetual Inventory system which can produce physical inventory sheets and reorder reports, based on safety stock levels. It will print Invoices, Statements, Expense check, Payroll checks, Accounts Receivable Reports (aging and delinquencies), Accounts Payable Reports, and Employee Information. The system also generates and prints valuable management reports such as Departmental Budgeting, Profit and Loss Statement by departments, Contribution Margin by departments, Trial Balance, and Balance Sheets.

HARDWARE REQUIREMENTS: 8032 CPU, 8050 Disk Drive, and almost any Printer.

Management Accountability Group Contact Dealer

REAL ESTATE (MATE)

The Management Information System for Real Estate (MATE) is a complete information and accounting system that is fully automated and interactive. It has three basic functions. As an accounting system it contains a General Ledger system, an Accounts Payable system, and a Payroll system. Its second major function is a Sales Accountability system. This section captures data on each listing and can display this information by MLS Number, Internal I.D. Number, Owner's Name, Agent, Selected Code, or Page through all Company Listings. It will prepare a Listing Report, Agent Listing Report, Listing Expiration Report, and a New Listing Report. This section can also display information on the firm's Sale Pending Files. Its third



major function is the Property Management system. The firm can review property by a Property Number or Owner's Name. It can list all Properties Managed, or Page through All Properties. It can generate the following reports: Owner's Settlement Sheet, Firm's Profitability Report, Management Expiration Report, Property Insurance Expiration Report, Tenant Listing by Property Tenant Delinquency Report, and Tenant Expense Billing.

HARDWARE REQUIREMENTS: 8032 CPU, 8050 Disk Drive, and almost any Printer.

Management Accountability Group Contact dealer

BUSINESS RESEARCHER

Using the advanced methods of operations research and the principles of linear programming, both the REVISED SIMPLEX and DECOMPOSITION methods are programmed. The REVISED SIMPLEX helps small businesses make decisions where limited resources or supplies exist, or where limited tools or manpower exist. Such a program will allow the owner to maximize profit within these limits. DECOMPOSITION handles cases where several plants share common supplies or resources. This program uses your own words (paint, glass, wood, etc.) for supplies.

HARDWARE REQUIREMENTS: 16-32K CPU (all ROMs).

Briley Software

\$50.00

ACCOUNTING III AND IV—BEC

A family of seven business modules, which operate either independently or linked. Each module is fully documented in a readable user's manual that contains sample printouts and reports. All seven modules are activated by a single EPROM with machine language support programming. The seven modules are as follows:

GENERAL LEDGER—Provides effective financial reporting of income and can produce P/L statements and Balance Sheets on demand. One can transfer ledger accounts, consolidate ledgers and shift column values. Amounts from the G/L transaction file, the Receivables and Payables Invoice files and the Payroll date file are "postable" to any time, providing an up-to-the-minute view of your business.

ACCOUNTS RECEIVABLE—Provides a balance forward billing function to automatically prepare statements. **ORDER ENTRY** to prepare invoices is included (linked to the **INVENTORY** program in the 8050 version). One



can age receivables and include this aging in the customer statement. A user specified service charge calculation is included. The Receivables program is linked to the G/L program and will "post" receivable amounts at any time, at the user's request. A listing, or mailing labels from delinquent accounts or from the entire receivables, file can be printed upon demand.

ACCOUNTS PAYABLE—Provides a balance forward billing function to record payables and write checks for amounts due or portions thereof. The Payables program is linked to the G/L program and will "post" payable amounts at any time, at the user's request. A listing or mailing labels for checks written or for the entire payables file can be printed on demand.

PAYROLL—Permits the user to generate a payroll and write checks for the user's requested pay period frequency. The program handles all the standard deductions, Federal, State, FICA, etc., as well as three special deductions per employee. One can record regular hours and overtime hours (and vacation hours and sick hours: 8050 version). The program is linked to the G/L program and will "post" payroll transactions to the proper G/L accounts automatically. Form 941 and W-2 can also be generated. State withholding, for states other than California, can be added for an additional charge.

INVENTORY—Permits the user to effectively manage the business inventory. One can set minimum levels, print reorder lists, price lists, shrinkage reports, physical inventory forms and more.

JOB COST—Permits the user to set prices for goods, services, wages, etc., and profit and overhead margins which can be used to prepare job bid proposals. One can then track the job and determine actual costs and profits.

MAIL LIST—Permits the user to maintain a mailing list that can be used to print labels or lists, based on a "keyword," and sort the selected subset by Zip Code, or alphabetize the company names or last names.

HARDWARE REQUIREMENTS: System III—any CBM and 4040 Disk Drive. System IV—8032 CBM and 8050 Disk Drive.

Business Enhancement Compuservice	\$190.00—GL AP (ea)
	\$220.00—AC PR (ea)
	\$175.00—ML INV (ea)
	\$ 50.00—EPROM

FLEX FILE

A set of flexible, friendly programs which let you set up and maintain a data base, as well as print files with a versatile report writer or a mail label routine. Subroutines are easily added to programs to make use of the data base files. The Random Access Data Base has a record size limit of 250 characters, with number of records limited only by disk capacity. You can step forward or backward through the file; add, delete, or change a record; and go to a



numbered record or find a record from a specified field. Any field can be specified as the key field at any time. Sequential files from other programs can be converted to random files. Mailing labels program can be printed in any number across and any column position. If the record size is 127 characters (typical) each disk can contain over 1000 (about 2800 for the 8050 disk drive) records. Any number of fields can be printed in any order, or even joined together on one line. Selective printing is also implemented. With the Report Writer, any field can be placed in any column and decimal justification is available along with rounding to any accuracy. Any column can be defined as a series of math functions to be performed on other columns. Running totals may be passed from row to row. At the end of a report, a total and/or average can be calculated for any column. A complete set of record selection parameters are available.

HARDWARE REQUIREMENTS: 32K CPU recommended. Specify your equipment configuration when ordering.

AB Computers

\$60.00

THE BUSINESS CORNER™

A coordinated business package designed to establish and maintain your inventory control system, and maintain an up-to-date sales recording system as an advanced cash register. The system is composed of 6 programs, 2 major files and 7 auxiliary files. It features a scrolling marquis sign program for advertising. The system is designed to readily expand into your own accounting system with the addition of a General Ledger and Business analysis option soon to be available and entirely interactive with your Business Corner I. Among reports available are: Buying Deficiencies, Deficient Use Rate, Deficient Profit/Inventory Cost Ratio, List by Vendor, List by Department Totals, List by Stock Number, etc. The inventory accommodates up to 2500 items and the daily transactions accommodate up to 2140 records, then will loop over again. All operations are under computer control, all inputs are prompted and you are told of all incorrect entries.

HARDWARE REQUIREMENTS: 2000 or 4000 series CBM, 4040 Disk Drive, 4022 or 40 column Printer, and Mark-1 Electric Cash Draw.

"Byte Me" Computer Shoppe

\$500.00

THE MANAGER



A truly user-friendly data base management system which is ideally suited for both the businessman and the programmer. Among the many applications are: inventory control, mailing lists, accounting systems, personnel, costing,

**Canadian Micro Distributors Ltd. \$250.00**

Info-Designs	\$750.00
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Info-Designs	\$750.00
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INFO-2001 ACCOUNTS RECEIVABLE BILLING SYSTEM

Provides easy customer entry and computerized bills. Updates Customer Account with Receivables and provides computerized customer statements and Aged Receivables reports. Interfaces with General Ledger for totally integrated Accounting System. 750 customers and 1500 open invoices per diskette set. Dealer provides training using computer business simulation.

HARDWARE REQUIREMENTS: 4032/8032 CBM, 4040/8050 Disk Drive, and 4022/Mannesmann Tally or suitably interfaced letter quality Printer.

Info-Designs **\$750.00**

INFO-2001 ACCOUNTS PAYABLE SYSTEM

Provides easy entry of vendor invoices, automatic aging and printing of computerized checks with full invoice detail. Interfaces with General Ledger for totally integrated Accounting System. 750 customers and 1500 open invoices per diskette set. Dealer provides training using computer business simulation.

HARDWARE REQUIREMENTS: 4032/8032 CBM, 4040/8050 Disk Drive, 4022/Mannesmann Tally or suitably interfaced letter quality Printer.

Info-Designs **\$750.00**

INFO-2001 GENERAL LEDGER SYSTEM

Provides a comprehensive General Ledger System using Osborne account number conventions for flexibility. Financial statements can be customized by the user to meet specific reporting requirements. Automatically interfaces with other accounting modules or can be implemented independently. Dealer provides training using computer business simulation.

HARDWARE REQUIREMENTS: 4032/8032 CBM, 4040/8050 Disk Drive, and 4022/Mannesmann Tally or suitably interfaced letter quality Printer.

Info-Designs **\$600.00**



INFO-2001 TIME MANAGEMENT/CLIENT BILLING SYSTEM

The Information-Solution for the professional practitioner. This system is applicable for attorneys, consultants, CPA's, architects, etc. The system keeps track of professional time and expense by client and matter, provides billing on professional Billheads, and provides work-in-progress reports and automatic aging of accounts receivables. Interfaces with General Ledger for totally integrated Practice Accounting System. The system accommodates up to 25 timekeepers, 1500 clients, 1500 matters, and 4500 open time and expense charges. Dealer provides training using computer business simulation.

HARDWARE REQUIREMENTS: 4032/8032 CBM, 4040/8050 Disk Drive, and 4022/Mannesmann Tally or suitably interfaced letter quality Printer.

Info-Designs

\$2000.00

STOCK MARKET DECISIONS

Use your computer to develop stock market trading tools, to aid in making stock market decisions. These tools are in the form of various computer programs that implement some well-known, and some not so well-known, statistical analysis, electronic engineering and programming techniques. The programs are written in BASIC and can be entered directly through your computer keyboard. Some analytical discussion accompanies each program, without totally confusing the non-technically oriented reader. There is sufficient annotation with the computer program to guide the computer user through the particular application.

The computer programs are written in subroutine form, to provide a building block approach. Several trading techniques are included among the subroutines. You may try each trading technique with your own stock price data, and select the technique which best suits your needs.

A sample of stock prices is supplied, along with the associated computer program results, so that you can verify the program operation in your computer. When you have verified the programs operation in your own computer, then you are ready to try your own stock price data. This data can be added on a day-to-day schedule to provide a suitable stock trading decision procedure and thus put your home computer to work for you on a daily basis.

HARDWARE REQUIREMENTS: 8K CBM, C2N.

Dr. William A. C. Schmidt

Contact dealer



PARTRAC

PARTRAC is a computerized auto parts handling system, designed to do the invoicing, inventory control and accounts receivable of small, and not so small, auto parts distributors. PARTRAC consists of three separate but interconnected computer programs. All are "on-line" or in the computer at the same time. It is not necessary to change disks with this system. The Invoicing System features instant stock check on any part number, instant price check on any part number, instant customer status check, writes invoices and posts to accounts receivable automatically, writes credit memos and posts to accounts receivable automatically, and writes daily totals reports. The Inventory System keeps track of all information related to a part number. Prices, costs, quantities on order, in stock, back ordered and vendor, it will also print Reorder Advice Reports, Price List Reports, Complete Parts Inventory Reports with total cost of inventory. (Your accountant will like that). The Accounts Receivable section posts all open account sales, prints Accounts Receivable Report with aging function, prints Statements, prints List of Accounts Names, and allows partial payments. PARTRAC is fully expandable. The modular design allows economical expansion. The basic system handles 8000 part numbers, 1000 accounts, and 10,000 open invoices. This can be expanded to about 20,000 part numbers, 3,000 accounts and 25,000 open invoices.

HARDWARE REQUIREMENTS: 8032 CBM, 8050 Disk Drive, 4022 Printer, or Mannesmann Tally 8024 Printer.

Impact

Contact Dealer

THINKER™

A new easy to use menu-driven general business system which holds your hand, guiding you at every opportunity. Even a computer neophyte should be able to use THINKER in a matter of minutes. The system can reconfigure itself to accommodate new hardware that you may add in the future. It uses a true ISAM (Indexed Sequential Access Method), written in machine code to accomplish I/O in record time. THINKER does not call upon you to swap disks in and out for each operation. THINKER will process your inventory, A/P, A/R, customer lists, and general ledger. Capacity is limited only by the hardware used. That means that as larger disks become available the size of your files will grow, but processing time won't. Among the features of THINKER are:

- compatible with REQUEST (see below)
- password accessible security
- computer verified input
- audit log (keeps track of all activities which modify data)
- data failsafe system



BUSINESS

- fast data retrieval
- variable data access

HARDWARE REQUIREMENTS: 8032 CBM, 8050 Disk Drive, and Super Kram Software.

United Software of America \$495.00

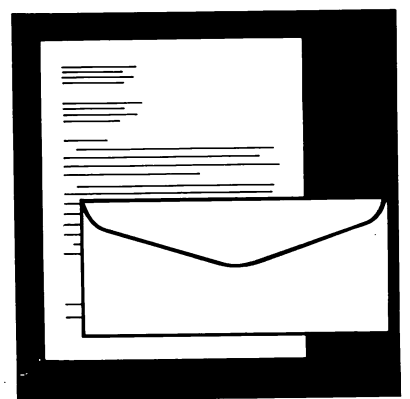
REQUEST™

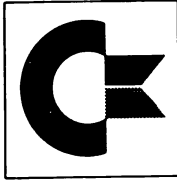
A relational data base management system, which interacts with the user through screen "masks," comprised of screen "pages." These "pages" are made up of information about the fields on the screen, along with edit criteria and default values. By using the powerful screen editor, you can delete, update or add records via the screen "masks." These "masks" will be designed by REQUEST[™] with the user in mind. Since REQUEST[™] can handle records up to 4K bytes in length, the user is given the capability of text-type information in their data bases. Data is compressed when saved to disk, by eliminating repetitive characters for efficient storage and then re-expanded when read back. Fast data access is accomplished through the use of Super Kram. Run-time errors are interrupted and handled by REQUEST[™] and the user is guided through the recovery routines. Since this prevents invalid data from being entered into the data base the program is goof-proof. Input can be accepted in a batch mode for data base maintenance, from a disk generated by data base query. Input may also be accepted from VISICALC, and the SOURCE.

HARDWARE REQUIREMENTS: 8032 CBM, and 8050 Disk Drive.

United Software of America \$225.00

WORD PROCESSING





WORDCRAFT 80

Word Processing is the most significant method of cutting typing costs and Wordcraft 80 turns your Commodore Microcomputer into a professional word processor. This program is designed for the typist and incorporates many unique features, not the least of which is the absence of "wrap-around." Unlike any other word processor program, with the Wordcraft 80 what you see is what you get. Unless you pay literally twenty or thirty times the price, this feature alone is unmatched in any system currently available. The multitude of other features allow you to easily create and edit text. Control characters are not present on the screen to allow a clear view of what will be printed. Of course these characters can be called up by special commands. Among the many features of Wordcraft 80 are:

- Up to 117 character line lengths with up to 98 line pages
- Tabs, indentations, right justification, decimal justification, and decimal columns
- Centering
- Auto page numbering, headers, trailers (even book style—alternate left and right page)
- Character, word and block insertion and deletion
- Block movement and/or reproduction to another location anywhere in the text
- Text merging to form documents
- Merging of form letters with fill files
- Sets up for single sheet or continuous paper
- Half line spacing for sub and superscripts
- Will underline or print boldface along with variable line and character spacing
- Background printing allows printing while editing
- Global printing permits automatic sequential printing of chapters
- Will handle "foreign" data files and data bases and VisiCalc files

In addition, Wordcraft 80 supports all major "daisywheel" printers as well as dot matrix types, including the entire Commodore range. It will output onto disk in ASCII format for use by other programs. This facility is primarily intended for use with the MUPET systems. Also, all disk housekeeping is accomplished within the program. The program comes with a most comprehensive manual and training cards.

HARDWARE REQUIREMENTS: 8032 CPU, 4040 or 8050 Disk Drive and most letter quality Printers.

Commodore Dealers

\$395.00

500020



WORDPRO 1

WordPro 1 is the first program in the WordPro family of word processing programs that has been available for over two years. WORDPRO 1 is a



WORD PROCESSING

cassette-based word processor that offers basic text editing (to include Inserting, Deleting, Margin Control and Tab Setting) and document printing capabilities. WordPro 1 is ideal for students and hobbyists, who need basic word processing capabilities to enhance their productivity. It creates an extremely low-cost system that is very easy to learn and operate.

HARDWARE REQUIREMENTS: 8K PET, Cassette and Printer.

Professional Software Dealers	\$30.00	WP1
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WORDPRO 2 Plus



WordPro 2 Plus is a versatile, easy to use program designed for the entire line of Commodore computers. The cassette contains two programs, one each for the 40 and 80 column CPU's. The disk version will automatically load the correct program. Both cassette and disk programs are self-configuring for either 16K or 32K memories. An excellent package for students, educational institutions and professionals, providing the flexibility of moving from a cassette to a disk based system.

HARDWARE REQUIREMENTS: 16K CPU, Cassette or 2040 or 4040 Disk and Printer.

Professional Software Dealers	\$200.00	WP2 Plus
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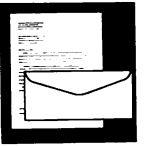
WORDPRO 3



Developed especially for Commodore Computers, WordPro 3 turns your CBM computer into a highly sophisticated word processor. It offers exceptional text editing, document storage, and letter quality printing capabilities important to sophisticated word processing. A few of the more advanced features include: Global Search and Replace, Automatic Page Numbering, Repagination and the ability to link files of text to produce long continuous documents. With the system created by WordPro 3, any business would benefit from the increased productivity inherent to word processing. Compared with many other systems costing up to twice as much, WordPro 3 is well documented, unusually easy to learn, and just as easy to operate.

HARDWARE REQUIREMENTS: 32K CPU, 2040, 4040 or 8050 Disk Drive and any suitably interfaced letter quality Printer.

Professional Software Dealers	\$250.00	WP3
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WORDPRO 3 Plus

Incorporates all the features of WordPro 3 and, in addition, adds subscripts, superscripts, boldface type, variable pitch, variable line spacing, exit to basic, pause and math functions. The pause command allows the operator to change thimbles in the middle of a document. Available in the manual is a section for programmers explaining many items of interest including the creation of sequential files. While WordPro 3 Plus is an excellent word processing tool for professionals, the structure of files created by WordPro 3 Plus facilitates transmission of these files via communications packages, and these files are compatible with many other software packages on the market.

HARDWARE REQUIREMENTS: 32K CPU, 2040, 4040 or 8050 Disk Drive and 2022, 4022 or any suitably interfaced letter quality ASCII Printer.

Professional Software Dealers

\$295.00

WP 3 Plus



WORDPRO 4

Developed specifically for Commodore's 80 Column computer, WordPro 4 offers exceptional text editing, document storage, and letter quality printing capabilities to any business whose needs would benefit from the increased productivity inherent to sophisticated word processing. Functional categories include: Editing, Document Formatting, Document Manipulation, File Handling, Disk Commands and Programmers notes. WordPro 4 includes all the features of WordPro 3 and, in addition, has the ability to begin printing from any page, and has the powerful option to view documents on the screen to see how the document will appear before final printing.

HARDWARE REQUIREMENTS: 8032 CBM, 2040, 4040 or 8050 Disk Drive, and 2022, 4022 or suitably interfaced letter quality ASCII Printer.

Professional Software Dealers

\$375.00

WP 4



WORDPRO 4 Plus

WORDPRO 4 Plus, a state-of-the-art word processor, is the best seller of all the word processors for the Commodore computer. WordPro 4 Plus incorporates all the features of WP1, WP2 Plus, WP3 Plus and WP4. In addition, the valuable features of Simultaneous Input/Output and math



WORD PROCESSING

functions have been added along with the ability to have multi-user systems. WordPro series written by Steve Punter.

HARDWARE REQUIREMENTS: 8032 CBM, 2040, 4040 or 8050 Disk Drive, and 2022, 4022 or suitably interfaced letter quality ASCII Printer.

Professional Software Dealers	\$450.00	WP 4 Plus
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PAPER-MATE WORD PROCESSOR

A full featured word processor, Paper-Mate incorporates 60 commands to give you full screen editing with graphics. For writing text, Paper-Mate has a definable keyboard so you can use either business or graphics machines. Paper-Mate text editing includes floating cursor, scroll up or down, page forward or back and repeating insert and delete keys. Text Block handling includes transfer, delete, append, save, load, and insert. All formatting commands are imbedded in text for complete control. Unlike most word processors, PET graphics as well as text can be used. Paper-Mate can send any ASCII code over any secondary address to any printer. Manual separate \$1.00

HARDWARE REQUIREMENTS: 16K minimum, specify your equipment when ordering.

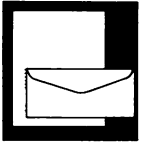
AB Computers	\$40.00 tape w/manual
	\$42.00 disk w/manual

CmC WORD PROCESSORS

This program permits composing and printing letters, flyers, advertisements, manuscripts, etc. Printing directives include line length, line spacing, left margin, centering, and skip. Edit commands allow you to insert lines, delete lines, move lines and paragraphs, change strings, save files onto and load files from cassette (can be modified for disk), move up, move down, print, and type. Added features for the 16/32K version include string search for editing, keyboard entry during printing for letter salutations, justification, multiple printing and more.

HARDWARE REQUIREMENTS: Specify 8 or 16/32 PET, and Printer.

Connecticut microComputer	\$29.50	WPP8
	\$39.50	WPP16/32



PETWORD

Capabilities include upper/lower case, string search and replace, margin setting, centering, automatic paging, text fill and justification; and many other features found on dedicated processors. Manual is available separately for \$5.00 and may be applied toward purchase of program.

HARDWARE REQUIREMENTS: Contact dealer.

Creative Software **\$49.95 plus \$1.50 shipping**

TEXTCAST II

A machine language word processor for easy typing and text editing. Produces ASCII files on tape or disk and prints to ASCII or CBM printer. Centers, underlines, right justifies, numbers pages, and will create data files for PRO-GRESS.

HARDWARE REQUIREMENTS: 8K CPU (3.0 ROMS).

Cognitive Products **\$75.00 tape or disk**

WORD PROCESSOR

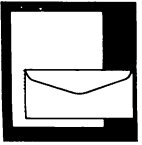
Provides document entry/edit/print/tape/save functions for general purpose use. Upper/lower case provided. Adjustable left/right margins. Saves and retrieves named tape files.

HARDWARE REQUIREMENTS: 8K CPU and C2N.

Optimized Data Systems **\$16.95**

WORDCHECK

WordCheck is a dictionary program designed to check WordPro text files. The program comes with a base dictionary of 2500 root words, suffixes and some prefixes, and word table capacity of 7 to 10,000 words. The program will support multiple tables that can be duplicated, added to, or deleted



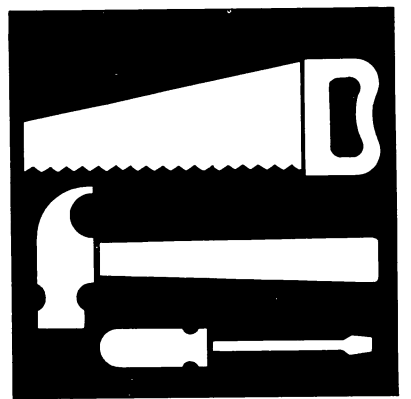
WORD PROCESSING

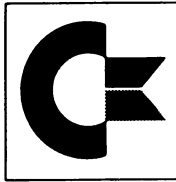
from. WordCheck will chain WordPro's files, identify and display words not in its dictionary. Will support all WordPro commands and special characters.

HARDWARE REQUIREMENTS: CBM 8032, CBM 4040 or 8050, CBM 4022, 8024, NEC, CITO, Diablo, Qume, and ASCII.

Micro Computer Industries, Ltd \$200.00

UTILITIES





INTEGER BASIC COMPILER

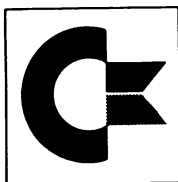
This program, which includes both disk-based and resident Compilers, allows the user to produce, quickly and easily, machine language programs, either sufficient in themselves, or to be called as subroutines from interpreted BASIC. A machine language code compiled under the Compiled Integer BASIC program will execute up to 100 TIMES FASTER than the same code written entirely in BASIC! A number of options are provided to facilitate the linking of compiled and interpreted programs and the user is given full control over all aspects of the compilation process. Programs may be developed and executed in resident mode while both compiler and editor are in memory, and the technique used to do this has been made as straightforward as possible. Programs using the full capacity of the computer can be developed under the disk compiler using the text editor supplied. The interactive program development characteristic of an interpreter and the execution efficiency of a compiler have been preserved together to the greatest extent possible. Particular attention has been given I/O handling with the inclusion of extended logical file commands and many bit level features. The user is cautioned that the version of BASIC is somewhat different from the PET BASIC, and he or she should familiarize himself/herself with the language initially.

HARDWARE REQUIREMENTS: 8032 or 4032 CPU and 8050 or 4040 Disk Drive.

Commodore Dealers

\$149.95

400030



ASSEMBLER DEVELOPMENT PACKAGE

This utility package has all the tools required for the creation and maintenance of 6502 machine language programs. Included are the following: Editor, which aids in the creation and modification of source programs; Assembler, which generates object code, listing, symbol table, and cross reference; Loader, which loads assembled object files into RAM for execution; and Extra Mon, extended monitor for greater flexibility in testing assembly programs. This assembly program is used by Commodore Business Machines to write all system firmware. In addition, the assembler can link files and has libraries to enable the user to build modules and assemble them as required. There are also four-function math and conditional assembly features.

HARDWARE REQUIREMENTS: BASIC 3.0 or 4.0 CPU and any CBM Disk Drive.

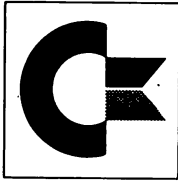
Commodore Dealers

\$99.95

400020



UTILITIES



TCL PASCAL DEVELOPMENT SYSTEM

TCL Pascal is an implementation of the standard Pascal designed for small computers, with as little as 32K bytes of memory. It offers all the features of this powerful language together with some useful enhancements for the personal computer user. This version has two modes of operation. In its simplest mode, the Pascal compiler co-resides in RAM with the user's program. This is ideal for learning the language or writing small programs which do not need the disk. Most Pascal commands are available in this mode except those involving disk files. For more complex programs the disk-based compiler can be used to give the full power of the language.

HARDWARE REQUIREMENTS: CBM 32K, and 2040 Disk.

Commodore Dealers

\$295.00

400010

KMMM PASCAL FOR PET

Compiles rapidly and translates to true machine code. Object code executes much faster than the typical P-Code PASCAL Compiler Interpreters. It's a subset of Standard Pascal (Jensen, Wirth) for PET. Included in package:

- Machine Language Pascal Source Editor
- Machine Language Compiler (generates P-Code)
- P-Code to machine language translator (produces optimized machine language object code—not just a P-Code Interpreter)
- P-Code Interpreter (for debugging and learning)
- Run-time package
- User Manual
- Sample programs

HARDWARE REQUIREMENTS: Versions available for ROMs 2.0 (cassette only), 3.0, 4.0. Requires 16K minimum.

AB Computers

\$75.00

TINY PASCAL

Tiny Pascal is a subset of the full Pascal language as defined by Jensen and Wirth. Tiny Pascal brings you the structured programming constructs:

- IF-THEN-ELSE
- WHILE-DO
- CASE-OF-ELSE



- REPEAT-UNTIL
- FOR-TO/DOWNT0-DO
- PROCedures/FUNCtions

Tiny Pascal gives you integer variables, single dimension arrays, and character constants. Variables and constants may be passed as arguments to procedures and functions. The procedures and functions may be recursive. Additionally, the MEM function may be used as PEEK and POKE to access memory. Tiny Pascal is a complete package consisting of:

- LINE EDITOR—to create, save and modify Tiny Pascal source language statements
- P-Code COMPILER—to translate the source language statements into a machine equivalent program
- P-Code INTERPRETER—to execute the compiled P-Code by having the PET simulate a zero-address, 16-bit, stack-oriented computer
- Sample programs—to test the Tiny Pascal system
- Comprehensive USER's Manual

HARDWARE REQUIREMENTS: Contact dealer.

Abacus Software	\$40.00 ppd cassette
	\$35.00 ppd diskette

TINY PASCAL +

An enhanced version of Tiny Pascal above with support for graphics, which allows the user to create, compile and execute Pascal programs. This language includes, in addition to the above version, GRAPHICS, PLOT, POINT, TEXT, INKEY, ABS, SQR, and supports double density plotting.

HARDWARE REQUIREMENTS: 32K 2000 or 4000 series CBM and Disk or C2N.

Abacus Software	\$40.00 cassette
	\$35.00 disk

Sof-BKUP 2.0

Copy diskettes faster than normal disk copy. Copies all allocated blocks including random files. Displays error messages for all bad blocks.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$40.00	80-P2
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UTILITIES

SUPER-RAM

Diagnostic Routine checks every possible RAM address against every other RAM address on 8-32K PET/CBM Computers.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$20.00	80-P3
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VARI-PRINT

Prints a listing of all variables in a program alphabetically and/or numerically. Prints every line number where each variable occurs. Also leaves space for the programmer to write in a comment or function of each variable.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$25.00	80-P4
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DOCU-PRINT

Prints anything displayed on CRT out to Printer. This program is written in Basic and may be inserted into your program.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$20.00	80-P5
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SCREEN DUMP/REPEAT

Prints anything displayed on CRT out to Printer. Very fast machine language program. This routine may not be inserted in a program, but may be accessed by it. Repeat function allows you to hold any key (including cursor control keys) to Repeat, similar to the Repeat function on the 8032 CBM Computer.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$35.00	80-P6
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TRACE-PRINT

Prints a listing of all line numbers in order of execution as the program is operated.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$25.00	80-P7
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SCRUNCH PLUS

Packs a program to save up to 25% of memory space. DO NOT use this on program source code, only on a copy. After scrunching a program you cannot edit that copy.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$25.00	80-P8
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SORTER

Sorts a one dimensional array alphabetically (written in machine language).

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$35.00	80-P9
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SOFTPAC-1

This package contains 17 programs on Cassette or 18 programs on Disk. It includes a notebook with Backup copies and Documentation. Old favorites included are Memory Test, Loans, Savings, Electricity Cost, Quiz Master, Othello, Othello/2, Strategy, Bounce, Chase, Breakout, and Tank. (Some of these programs have Sound.) This package of programs is Menu-driven. Disk users should specify 4040 or 8050 format when placing their orders.

HARDWARE REQUIREMENTS: Works on OLD ROMS, NEW ROMS, and RETRO-FIT ROMS.

Competitive Software	\$34.95 + \$2.00 Ship (Foreign add 10%)	Softpac-1F or C
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UTILITIES

HEXDEC

Tired of converting numbers to decimal or vice-versa? This is an extremely useful utility program to do the work for you (without making mistakes), at a price that is hard to beat.

HARDWARE REQUIREMENTS: 8K PET, C2N.

Tycom Associates **\$5.95**

MICRO TEXT EDITOR

A cassette-file, line-oriented text editor that allows insertion, deletion and modification of upper- and lower-case alphabetic and numeric strings. Modification is done with cursor control keys. Useful for maintaining data files.

HARDWARE REQUIREMENTS: 8K PET, C2N.

Total Information Services **\$24.95 cassette** **SW-4**

ON LINE

Sets up your modem to talk to any other computer. Send and receive information. Incoming information can be stored in the computer, on the disk or printed. In use now with the Source and the Colorado State University Cyber. Easy to use, but extremely versatile.

HARDWARE REQUIREMENTS: Contact dealer.

Micro Computer Industries, Ltd. **\$39.95** **PET Term**

VIGIL

Video Interactive Game Interpretive Language is easy to learn and permits quick creation of interactive applications. VIGIL has over 60 commands to manipulate graphics figures on the screen. Double density graphics, access to two event timers, tone generation to be used with an external speaker, 9



preprogrammed applications for demonstration, load and save to cassette or disk and comprehensive manual with program listings.

HARDWARE REQUIREMENTS: 8K 2000 or 4000 series CBM and disk drive or C2N.

Abacus Software

\$35.00 USA

LINE & VARIABLE CROSS-REFERENCE GENERATOR

Here's a valuable utility program that generates a cross reference of BASIC program by line number and by variable. This program can be very useful to the programmer (novice or experienced) since it maps out the user's program, thereby helping him or her to find and correct any bugs. It also allows for easy addition or separation of a program into sections, while providing the benefits of saved time and effort in program development. And finally, it helps document a BASIC program by listing all the variables used. If you would like to avoid the eyestrain caused by searching through crowded pages of programming statements looking for line numbers and variable names, then LINE & VARIABLE CROSS-REFERENCE GENERATOR is for you. It can find that "needle in a haystack."

HARDWARE REQUIREMENTS: 8K PET, C2N.

Hayden Book Company

\$16.95

ISAM

This Indexed Sequential Access Method (ISAM) file handling routine is based on a B+ tree structure and allows for extremely fast accessing of records using alphanumeric keys. Using only 2K bytes of RAM, ISAM supports the following functions: CREATE a new ISAM file, OPEN an existing file, READ key and data from a file, WRITE key and data to a file, READ NEXT key and data from file, DELETE a specific key from the file, and CLOSE the file. ISAM supports up to five simultaneously open files. Manual available separately, applicable to purchase price.

HARDWARE REQUIREMENTS: 32K CPU 2040/4040/8050 Disk Drives.

Creative Software

\$99.95

\$15.00 (manual only)



UTILITIES

TOOLKIT MOVER

You can use The BASIC Programmers Toolkit and Commodore's Word Processor or Computhink Disk at the same time. The Toolkit Mover will relocate your toolkit to any free RAM memory area. The program can then be saved on tape or disk and reloaded again at any time. Available on tape. Please indicate old or new ROMS.

HARDWARE REQUIREMENTS: 8K CPU.

P. S. Software House	\$24.95	021
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6502 DISASSEMBLER AND PEEK A BOO

Disassemble ROMS and Machine Language programs. Double check hand assembled programs. Disassemble BASIC ROMs in your PET. Peeks at your memory and displays 25 successive addresses in ASCII, HEX, Decimal and actual characters.

HARDWARE REQUIREMENTS: 8K CPU.

P. S. Software House	\$12.95	011
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MACHINE LANGUAGE UTILITY PACK

Includes an Extended Monitor, Disassembler, a Tape Relocate, Screen Dump onto a Printer, HEX/Decimal conversion, and Machine Language Relocate; Renumber and Merge which are used with BASIC programs. The Utility Pac comes with a combination of a BASIC and a Machine Code program designed to relocate the Utility Pac to any location in memory.

HARDWARE REQUIREMENTS: 8K CPU.

P. S. Software House	\$15.00	015
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ULTRA-MON

Adds 31 Commands to the Machine Language Monitor. The most complete and powerful package of utility programs on the market! Commands are:

- Disassembler
- Integrate
- Quick Trace
- Memory Test
- Printer Off (equivalent to Print #4)
- Transfer with Address Updating
- HEX to Decimal & ASCII
- ASCII to HEX & Decimal
- 1's Complement
- Single Line Assembler
- Fast Type
- Address Correction
- Screen Dump to Printer
- Compare
- Transfer
- Data Correction
- Printer On (equivalent to open 4,4)
- Convert from HEX to Decimal
- Convert from Decimal to HEX
- Decimal to ASCII & HEX
- Auto Cursor
- Inverse
- Run
- Walk
- Fill
- Brake
- HEX +
- HEX OR
- HEX FOR
- HEX AND
- HEX -

HARDWARE REQUIREMENTS: 8K CPU.

P. S. Software House

\$29.95

SPOOLER

For under \$50 you can add hardcopy to PET by using a BAUDOT teletype and this ASCII-to-BAUDOT converter program. Interface uses only 2



UTILITIES

transistors. This quality software package includes program on cassette and documentation.

HARDWARE REQUIREMENTS: 8K CPU.

Kinetic Designs	\$5.95	606
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MEM-EXPLORER

Discover how your CBM/PET really stores your programs and data with this program, that gives you a "window" into your computer's memory. Includes copies of the popular series of articles by Roy Busdieker which inspired the program. Decodes tokens, addresses, and integer values. This package will give you a better understanding of your computer.

HARDWARE REQUIREMENTS: 8032, or 4016.

Micro Software Systems	\$ 9.95 cassette	MSS.PA.016
	\$14.95 disk	

VAR-DICT/XREF

Append this program to yours, and use it to find all the variable names you've used, then build a dictionary of their meanings. Tells you the lines in which each variable appears and cross-references all GOTO, GOSUB, or IF . . . THEN "targets." Indispensable in documenting your program, or in deciphering someone else's.

HARDWARE REQUIREMENTS: 8032, or 4016.

Micro Software Systems	\$19.95 cassette	MSS.PA.016
	\$24.95 disk	

DISK LIBRARIAN

If you have more than just a few diskettes, this program will keep track of program and file storage for you. Put the librarian disk in Drive 0 (right) and "feed" all of your other disks into Drive 1 (left), one at a time. The librarian will build an alphabetical file of all your program and filenames, along with the associated disk name, type of file, file length, and starting track and sector. The librarian also creates a file of disk names, with space remaining



free on each disk, and when it was last updated by the librarian. Lists all programs, prints them out, and finds a single program, or the contents of a single disk.

HARDWARE REQUIREMENTS: 8032, or 4016

Micro Software Systems

\$29.95 cassette

MSS.PA008

VISIBLE MEMORY ROUTINES

Machine language software easily accessible by BASIC. Package includes clear screen, plot-a-point, line draw, and ROSE drawing programs. Other programs available to run with VM Routines: VM LISS-3D Space Art, VM Spirals, VM 3D Plots (same 3D images as seen in many MTU ads.)

HARDWARE REQUIREMENTS: This package requires Micro Technology's Visible Memory Board and an 8K old ROM PET.

Kinetic Designs

\$7.95

LIST MANAGER

Program allows the user to set up a list consisting of five or fifteen fields. Program allows user to add to, print, correct, sort, save, or scratch from list, plus screen scroll. The well-documented program will also handle multiple-field searches. User manual: \$5.00 (refunded with purchase).

HARDWARE REQUIREMENTS: 8-32K PET/CBM, 2040, 4040 or 8050 Disk Drive.

Bits & Bytes

\$99.95

B&B-LM

FORTH +

A full-featured FORTH with enhancements. Easy to use.

- conforms to FORTH Interest Group Standards
- cross compiler to produce either standard object modules or self contained ROMable modules
- built in macro conditional assembler
- complete string processing capabilities (including variable length strings)



UTILITIES

- disk virtual memory for large programs (or small systems!)
- arrays (single or multiple dimensioned)
- full screen cursor controlled editor
- floating point and integer processing
- User's Guide and documentation

A product of IDPC Company

HARDWARE REQUIREMENTS: 16K available RAM and one Disk Drive.

AB Computers

\$65.00

EARL FOR PET

(Editor, Assembler, and Relocator/Linker)

Disk based assembler, editor producing relocatable object code. Editor can edit files larger than memory.

ASSEMBLER FEATURES:

- 2 Pass Assembler
- Generates Relocatable Object Code
- Uses standard MOS Technology mnemonics
- Disk file input
- Listing output to screen or printer

RELOCATOR/LINKER CAPABILITIES:

- Relocates assembler output to desired memory location
- Resolves symbols declared external in assembly
- Links multiple object programs as one memory load

HARDWARE REQUIREMENTS: Contact dealer.

AB Computers

\$65.00 with manual

SPACER EATER

Reduces the size of BASIC programs by removing unnecessary spaces. Specify ROM version and memory size.

HARDWARE REQUIREMENTS: 8K CPU and C2N.

Optimized Data System

\$9.95



SUPER GRAPHICS

Provides machine code extensions to Commodore BASIC for fast and easy plotting and manipulation of graphics on the PET/CBM CRT, as well as sound commands. Animations previously too slow or impossible can now be programmed in BASIC. Move block or entire sections of the screen with a single command. Scroll any portion of screen up, down, left or right. Turn on or off any of 4000 (8000 on 80 column) pixels with a single command. Draw vertical, horizontal and diagonal lines. Create a box, fill it and move it around with simple BASIC commands. Sound commands allow you to initiate a note or a series of notes from BASIC and then play them in background mode without disturbing the program. This permits a program to run at full speed with sound and graphics simultaneously. Commands include Graphic, Tex, Rvs, 1p Set, Draw, Fill, Plot, Move, Print@, Cset, Move, Display, Put, Swap, Pause and Sound.

HARDWARE REQUIREMENTS: Specify equipment configuration when ordering.

AB Computers

\$30.00

FORTH FOR PET

Features include:

- full FIG FORTH model.
- all FORTH 79 STANDARD extensions.
- structured 6502 Assembler with nested decision making macros.
- full screen editing (same as BASIC).
- auto repeat key.
- sample programs.
- standard size screens (16 lines by 64 characters).
- 150 screens per diskette on 4040, 480 on 8050.
- ability to read and write BASIC sequential files.
- introductory manual
- reference manual
- Metacompiler for creating compacted object code which can be executed independently of FORTH system.

HARDWARE REQUIREMENTS: Specify equipment configuration when ordering.

AB Computers

\$50.00



UTILITIES

SUPERBUS

Superbus allows Commodore users to connect up to 18 computers to one disk drive or other device. Users can both read and write to the disk. Sophisticated security system presents unauthorized access to network.

HARDWARE REQUIREMENTS: 2001 PET or CBM (8-32K).

Cyberia Inc.

\$195.00 per computer

MODEM-WARE I, II, III and IV

These programs are designed for use on telecommunications networks such as the SOURCE and MICRONET, or for direct computer-to-computer communication over standard telephone lines. All programs provide: Instructions; Upper/lower case and control character modes; Clear screen; Delete; Escape; Break; CB2 sound for bell and SOURCE prompt; Network pause. Modem-ware I has all these features plus Network-to-CBM/ASCII printer on cassette. Modem-ware II on 2040 disk has above features, plus Network-to-disk; Disk-to-printer; Regular/special control mode switch (allows Source/Source2 operation); Disk utility functions; Network usage/accounting program. Modem-Ware III on 2040 disk has all above features, plus disk-to-disk; (allows direct transfer of PET/CBM programs or files between computers over standard phone lines); File flip (corrects files transferred via Disk-to-disk between old and new ROM computers). IV on 2040 disk has all above features plus Disk-to-network (uploads files, including Wordpro, to network); Convert file program (alters Wordpro formatted files to print correctly on Network).

HARDWARE REQUIREMENTS: Any PET/CBM 8-32K, C2N or 4040 Disk Drive, and CBM 8010 modem.

Halpurr Software

\$ 9.95 I

\$19.95 II

\$29.95 III

\$39.95 IV

SX—100 IEEE-488 MODEM SOFTWARE

This XITEL software package allows the user to make effective use of the Commodore 8010 Modem. The terminal emulation mode allows connection to timeshare networks such as the SOURCE or Micronet, and permits saving to disk or printer for later review. The disk to disk file transmission routines allow the user to transmit both program and sequential files to other users with extensive synchronization, error checking and file manipulation



capability. This operation is automatic as the SX-100 takes over after operator has selected filename, mode and file type. Program features are:

- menu driven.
- communication mode.
- save communication to disk.
- save communication to printer.
- CBM to ASCII conversions.
- business keyboard conversions.
- 40 or 80 character compatible (16K min).
- full/half duplex operation receive files to disk (prg/seq).
- transmit files to disk (prg/seq).
- line verification before transmission, protocol disk directory handler.
- automatic file creation for text storage.
- file playback for off-line viewing.
- transmission error-detection.
- automatic talker/listener synchronization.
- EOT detection.
- Wordpro III (+) and IV (+) compatible.
- Control operation: Form Feed, Line Feed, Tab, Backspace, Delete, Escape, Break, Bell, etc.

HARDWARE REQUIREMENTS: 16K CPU.

Xitel

\$49.95

SX-200 IEEE-488 MODEM SOFTWARE WITH PARITY

The SX-200 software package is similar to the SX-100 above except that it allows the user to make effective use of a modified Commodore 8010 Modem in applications requiring parity transmission. It will only work with the modified 8010.

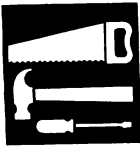
HARDWARE REQUIREMENTS: 16K CPU, with modified 8010 (MX-200). Contact Xitel for details.

Xitel

\$49.95

McTERM

The McTerm package turns the computer into a very intelligent terminal. It allows you to easily participate in the electronic mail revolution. McTerm can communicate simultaneously with another PET or mainframe. You can



UTILITIES

transfer entire disk files to other disk drives; send or receive program, WordPro, sequential, or relative files. This package allows baud selection from 75 to 1200, full and half duplex, local echo, and supports odd, even and mark parity, CRC, error checking for PET to PET files. Complete with program, ROM, cable and Manual.

HARDWARE REQUIREMENTS: 16K CBM/PET with 3.0 or 4.0 ROMs, 2040, 4040, or 8050 Disk Drive, and TTL Level RS-232 Modem.

Madison Computer

\$195.00



SIMPLE FOUR VOICE MUSIC SOFTWARE

This program generates 4 musical voices simultaneously, and is designed to run on all COMMODORE computers. It allows the user to compose and/or play back songs with up to 4 part harmony. Each part may have a different tone color (waveform) and a six-octave (C_0 to C_6) range is possible. The waveforms are actually computed from harmonic specifications coded in the music itself. Nearly any organ voice is possible, not just the kazoo-like square wave sound of other "synthesizer boards," or the PET's CB2 port. Music is coded as a series of 5-byte "events" where 4 of the bytes specify the pitch for each of the four voices and the fifth byte specifies the duration. A very powerful feature of the system is a separate SEQUENCING TABLE which is used to control dynamic tempo, create or change waveforms, change voice assignments, perform repeats, etc., all without modifying the music coding itself. Some experience with the COMMODORE Machine Language Monitor is necessary to code songs.

HARDWARE REQUIREMENTS: 8K CPU. Specify equipment configuration when ordering. MTU K-1002-2 Music Board (See Hardware Section).

Micro Technology Unlimited

\$20.00

1002-3C



INSTRUMENT MUSIC SOFTWARE

This is by far the most powerful and flexible real-time 4-voice digital music synthesis program ever implemented on a microcomputer. Fundamentally, this program is similar to the K-1002-3 above, except the ability to specify an independent amplitude envelope for EACH HARMONIC of the tones has been added. Thus the harmonic structure of the tones actually varies during individual notes, in much the same way as conventional musical instruments. When coded instrument specifications are based on published analyses of common musical instruments, the resulting sounds will indeed closely resemble the analyzed instrument. The greatest power, however, comes from the ability to define original instrument sounds, and with the flexibility



offered, quite a variety is possible. The manual supplied with the program contains an extensive discussion of sound synthesis principles and a library of over 20 different instrument specifications. The cassette contains the music program and three example songs, one each for the 8K, 16K, and 32K machines.

HARDWARE REQUIREMENTS: 8K CPU, K-1002-2 Music Board. Specify equipment configuration when ordering (see Hardware Section).

Micro Technology Unlimited	\$49.00	K-1002-6C
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KEYWORD GRAPHICS

Adds a 320 by 200 pixel display to any COMMODORE computer and is easily accessed through more than 45 additional BASIC commands. You may expand an included sample program, to draw on the screen directly from the keyboard to the degree of complexity needed for your applications (i.e., features such as tracing your own design by moving the drawing cursor from point to point, relocation of points and all lines connecting to those points redrawn with one command). Standard text characters are provided, but the user may easily create additional characters or designs which may be called with one command. Up to four windows may be used to segregate areas of the screen with each window scrolled separately. Relocate any rectangular portion of graphics to any other location with one command. All plotting is executed at machine code speed for high speed plotting. The system permits overlay of the standard PET display, with graphics display for ease in debugging BASIC programs. Advanced features such as coordinate transformation for both translation and scaling, as well as both solid and dotted lines, are available (See Hardware Section.)

HARDWARE REQUIREMENTS: 16K CPU. Specify equipment configuration when ordering. MTU memory expansion package (see Hardware Section).

Micro Technology Unlimited		
ROM 2.0	\$458.00	MTU K1008-42
ROM 3.0	\$483.00	MTU K1008-41
ROM 4.0 9" CRT	\$483.00	MTU K1008-44
ROM 4.0 12" CRT	\$495.00	MTU K1008-43

VISIBLE MUSIC MONITOR

Visible Music Monitor is written entirely in 6502 machine language. VMM provides an easy way to enter 4 part music. The user can see the notes on the screen as they are entered, and can make changes both with the insert and delete keys, and by using cursor up and down to "move" notes on the screen.



UTILITIES

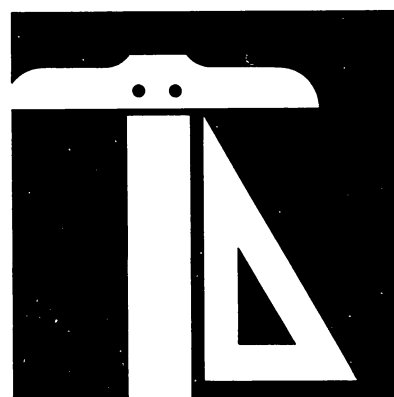
Other features include "record changer" mode to load successive songs without intervention, user definable keyboard, and entry of whole notes through 64ths, including dotted and triplet notes. Additionally, you can specify a change in tempo, set key signature, and transpose at any time. Waveform modification makes it possible to create new instrument sounds. Voices can switch from one instrument to another or gang up on one instrument during the course of the song. Music can be played either with note display (useful for debugging songs), or with no display.

HARDWARE REQUIREMENTS: 8K PET, and C2N. The Visible Music Monitor is intended to support 4-part harmony systems such as the KL-4M.

AB Computers

\$30.00

TECHNICAL AIDS





BEAMS

Compute stress and deflection of a beam if given; length, support and load conditions, shape and dimensions (sq., rect., round, or I). Also this program can recommend the proper American standard I-beam if given; length, support and load conditions and maximum deflection permissible.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$115.00	80-Eng-1
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TRIG/CIRCLE TANGENT

Compute any unknown side (to 5 decimal places) or any unknown angle (degrees, minutes and seconds) of any triangle. Compute tangent points between a circle and a line or between one or two lines and two circles. Answers for tangent problems are shown in X-Y or Z-X coordinates. Also converts degrees to radians or radians to degrees.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$110.00	80-Eng-2
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BOLT CIRCLE

Compute X-Y coordinates (to 5 decimal places) for any number of equally spaced points on a given diameter circle. First location is on the right horizontal center line unless you define an offset above or below in inches or degrees-minutes-seconds. All dimensions are in inches to 5 decimal places.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.	\$25.00	80-Eng-4
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TECHNICAL AIDS

SPUR GEARS

Computers outside diameter, pitch diameter, circular pitch, measurement over wires, chordal thickness, arc tooth thickness, involute of an angle and center distance for full depth or stub tooth external gears.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.

\$35.00

80-Eng-3

MACHINE PART QUOTING

(8-machines)

Compute time and material for parts made in a machine shop using conventional machine tools. Enter all dimensions, type of tool, material analysis, hardness, horsepower of equipment, price per pound of material, and efficiency. Computes speeds, feeds, and number of cuts. Accuracy of the finished part (on every dimension) is computed to arrive at the quoted price.

HARDWARE REQUIREMENTS: Contact dealer.

Computer House Div.

\$280.00

80-Eng-5

ELECTRONIC CALCULATIONS

This program makes the following fifteen calculations: Ohm's law, parallel resistance, wavelength and frequency, power, capacitors in series, coil winding, inductors in parallel, time constant (RC), capacitive reactance, inductive reactance, transformer (volts vs. turns), transformers (current vs. turns), transformers (impedance matching), decibels (power and voltage) and resonant frequency.

HARDWARE REQUIREMENTS: 8K CPU.

Bits & Bytes

\$7.95

MINI-COUNT

Uses parallel user port to measure frequency and time intervals. Can also count pulses. Many sophisticated features such as auto-ranging, averaging



and external stop/start signals. Frequency limit of 17 kHz and pulse widths of 45 μ sec to 65.53 msec.

HARDWARE REQUIREMENTS: 8K CPU, C2N, edgecard connector and clip leads.

Optimized Data Systems **\$19.95**

SURVEY PACK #1

This package consists of four programs covering solutions to a broad spectrum of the problems encountered by a land surveyor/engineer in his surveying/design work. They are both powerful and simple to operate, and have the following advantages:

- Written by a registered land surveyor
- Requires no prior knowledge of computers
- Excellent error recovery and correction
- Program prompted Q & A format leaving nothing to be remembered
- Program may be interrupted and resumed at any point
- Self prompted input

The following programs are contained in this package: Field Data Traverse (up to 250 courses), Coordinate Geometry (up to 250 courses), Stradia Reduction and Pro-Rate (up to 500 points), and Auto-Finish Grades. Programs are fast and easy to operate and have been in regular use. This pack will be added to and revised from time to time and may be custom written to individual needs for a fee.

HARDWARE REQUIREMENTS: 16K CPU, 8050 Disk Drive.

Larry K. McGonegal **\$1200.00**

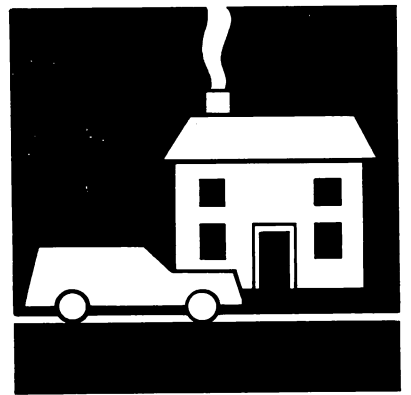
METRIC-CALC

Turns your CBM/PET into a desk calculator similar to MAXI-CALC, but without hyperbolic functions. In place of the financial calculations, it provides an impressive set of metric-english and english-metric conversions covering distance, area, volume, weight, and temperature. Just the thing to help you keep up with the children's schoolwork . . . and help them, too! Reviewed in Radio-Electronics magazine, Best of PET Gazette. This is one of our best sellers.

HARDWARE REQUIREMENTS: 8032, or 4016 CBM.

Micro Software Systems **\$9.95 cassette** **MSS.UP.007**
\$14.95 disk

PERSONAL AIDS





DECORATOR'S ASSISTANT

This integrated set of five programs will compute the cost and the amount of materials needed to redecorate any room. All you do is enter the room dimensions, the number of windows and doors, and the base cost of the materials. These programs can handle wallpaper, paint, panelling, and carpeting, letting you compare the cost of different finishing materials.

HARDWARE REQUIREMENTS: 8K PET.

Instant Software	\$7.95	0104P
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FINANCE

A variety of useful financial formulas in one simple, easy-to-use program. Includes: compound interest, discounts, nominal and effective interest, annuities, loans, depreciation and earned interest table.

HARDWARE REQUIREMENTS: 8-32K PET.

United Software of America	\$12.95
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CHECKBOOK

Balance your checkbook! A cash receipts and disbursements program that will make it a breeze to keep accounts, and up-to-date records. Checks may be sorted by type: e.g., medical, legal, tax-deductible, rent, food, etc. Facilities for cassette storage of data.

HARDWARE REQUIREMENTS: 8-32K PET.

United Software of America	\$15.95
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STOCK OPTIONS

Follows Black-Scholes model for computing theoretical value of a call option. Creates charts of option values based on stock prices and days to expiration.

HARDWARE REQUIREMENTS: 8-32K PET.

United Software of America	\$24.95
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PERSONAL AIDS

MORTGAGE

Your computer will calculate and optimize your mortgage payments. Includes: principal and interest paid to date, outstanding principal and interest, mortgage equity, monthly mortgage payments, interest and principal for any month, and much more.

HARDWARE REQUIREMENTS: 8-32K PET.

United Software of America \$15.95

ANNUAL REPORT ANALYZER

Computes and graphs 5 year growth in sales, profits and earnings. Includes average and compound growth, PE ratio, profit margins, return on equity, payout ratio, implied growth, yield, debt/equity and much more!

HARDWARE REQUIREMENTS: 8-32K PET.

United Software of America \$22.95

ACCOUNTING ASSISTANT

This package will help any businessman solve many of those day-to-day financial problems. Included are: **LOAN AMORTIZATION SCHEDULE**—This program will give you a complete breakdown of any loan or investment. **DEPRECIATION SCHEDULE**—You can get a depreciation schedule using any one of the following methods: straight line, sum of years-digits, declining balance, units of production, or machine hours.

HARDWARE REQUIREMENTS: 8K PET.

Instant Software Inc. \$7.95 0048P

MORTGAGE/FINANCIER

MORTGAGE WITH PREPAYMENT OPTION/FINANCIER. These two programs will more than pay for themselves if you mortgage a home or make investments:



MORTGAGE WITH PREPAYMENT OPTION—Calculate mortgage payment schedules and save money with prepayments. **FINANCIER**—Calculate which investment will pay you the most, figure annual depreciation, and compute the cost of borrowing, easily and quickly.

HARDWARE REQUIREMENTS: 8K PET.

Instant Software Inc. **\$7.95** **0006P**

MAILING LIST

Maintains up to 1340 names and addresses. Primary and secondary sorting on any of five fields. Prints labels one up, two up, three up, or four up. Files can be read by WORDPRO for creating form letters.

HARDWARE REQUIREMENTS: 32K PET/CBM, 4040 Disk Drive, and any 80 column Printer.

CMS Software Systems, Inc.

CHECKBOOK

This program has many checkbook and budget applications: assists in balancing a checkbook; selects and lists checks by person, purpose, or date; sums checks by category or person. Price includes 64 page manual.

HARDWARE REQUIREMENTS: Contact dealer.

Total Information Service **\$24.95 cassette** **SW-2**

MAIL LIST

User can enter 4 lines with 40 characters per line. The title of each line can be changed to suit its use. Complete search features for each line are included. Complete on screen editing, insert, delete, and type over, coupled with editing of each group. No need to type an entire line to make corrections or change a price, or add a number. All or any data can be printed on a printer, and stored on, or loaded from, tape or disk.

HARDWARE REQUIREMENTS: 8K +, available on disk/tape.

P. S. Software House **\$9.95** **010**



PERSONAL AIDS

HOME UTILITIES

Includes 4 different categories: Loans—compound interest on loans. Savings—projects interest, compounds daily, monthly, yearly. Miles-per-Gallon—figures mileage. Electricity—figures cost per kilowatt per appliance daily, monthly, and yearly.

HARDWARE REQUIREMENTS: Contact dealer.

P. S. Software House	\$9.95	013
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ELECTRIC BILL

Household utility program designed to predict what your next month's electric bill is going to be BEFORE you use the electricity. You can watch your consumption rate, cutting back when necessary. Software package comes with BASIC program on cassette and documentation.

HARDWARE REQUIREMENTS: 8K+ CPU (old or new ROMs).

Kinetic Designs	\$4.95	310
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SATELLITE TRACKING

Tracks the OSCAR amateur radio satellites. Uses PET graphics to draw a map of the pass on the screen at one minute intervals. Azimuth, elevation and range given. Acquisition and loss-of-signal times shown. Runs synchronized to real time as option.

HARDWARE REQUIREMENTS: 8K CPU and C2N.

Optimized Data System	\$24.95
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MORSE CODE KEYER

Sends Morse code from the keyboard via the user port. Adjustable speed. Also has "canned message" provisions.

HARDWARE REQUIREMENTS: 8K CPU and C2N.

Optimized Data Systems	\$14.95
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PRIMARY ARCS

This program is for the individual who is knowledgeable in Astrology. It assumes that you have already erected the applicable natal charts and are able to do your own delineations. It provides no delineations, but does the necessary calculations and supplies a speculum and a table of directions to the Placidian house cusps.

HARDWARE REQUIREMENTS: 8K CPU any ROM, C2N.

Access	\$24.95	AST-T1-002
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BE YOUR OWN ASTROLOGER

This package, designed for the individual with no astrological background, consists of the two following programs:

ASCALC; calculates the Sun Sign, Dwad House of the Sun, Weekday, Planetary Hour, Neptune's Sign and the Ascending Sign, and then displays them in a table and gives the corresponding page and chapter numbers of the accompanying booklet for interpretation.

DAY/HOUR determines the time of sunrise and sunset, day of the week, ruling planet of the day and the various planetary hours and associated ruling planets. In addition, several keywords are given for each planet to indicate what is best accomplished during that time. The accompanying booklet provides an in-depth interpretation. Calculations may be made for any date this century and any latitude between 66 N and 66 S.

Access	\$15.95	AST-T2-001
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KNITTING DIRECTIONS

This program provides instructions on how to knit a basic sweater for any woman with a bust size between 30 inches and 52 inches. The program makes adjustments in its instructions according to information given to it concerning patterns and sweater style. The program offers a choice of either a roundneck pullover or a round neck cardigan. It allows for a choice of either zippers or buttons in the cardigan style. This program is also useful for converting instructions that are written for one yarn type but are to be used with another yarn type. It can also be used to write instructions for one sweater style in series of different sizes.

HARDWARE REQUIREMENTS: 8K Pet and C2N.

Janice Pitkof	\$7.95
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PERSONAL AIDS

SCBP-PET DISK

Seventy-six programs of financial, statistical and general applications written in PET Basic and loaded on a 5 ¼" floppy disk. Guaranteed to run. Published with operating instructions. Additional documentation available in book form.

HARDWARE REQUIREMENTS: Contact dealer.

Osborne/McGraw Hill	\$22.50	33-0
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SCBP-PET CASSETTE

Seventy-six financial, mathematical, scientific and general interest programs for PET computers. Ready and guaranteed to run. Cassette comes with loading instructions. Additional documentation available.

HARDWARE REQUIREMENTS: Contact dealer.

Osborne/McGraw-Hill	\$15.00	25-X
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FILE

General purpose file system using PET's cassette file ability. Commands include: LOAD, SORT, PRINT, ADD, REMOVE, CHANGE, and DUMP. Let PET keep track of your birthdays, bills, or almost any other list of items.

HARDWARE REQUIREMENTS: Contact dealer.

Kinetic Designs	\$5.95	307
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HOME ADDRESSER

Handles standard 3-line address and telephone number. Replaces manually kept address books. Functions include: Update, Search, Delete, List, Printer, Add, Sort on last name, and Save. Each file can contain up to 255 entries with 32K memory.

HARDWARE REQUIREMENTS: 8-32K CPU (2.0, 3.0 ROM) and C2N.

Briley Software	\$25.00.
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DELUXE ADDRESSER

Handles mailing labels (1 or 2 up), a 4-line address and telephone number. It has eight user-defined address flags. Sorts either by ZIP, company name or address flag. It will also properly sort intermixed foreign, domestic ZIPS and the new 9-digit ZIPS. Included are the same basic functions as Home Addresser. Each file can have up to 224 addresses with 32K.

HARDWARE REQUIREMENTS: 16-32K CPU (2.0, 3.0 ROM) and C2N.

Briley Software **\$40.00**

INVENTORY

Keep track of valuables for insurance purposes or whenever an accounting of material is required. Each entry records the make, model, serial#, color, and value. Program includes same basic functions as Home Addresser. Sorts either by Item or Value.

HARDWARE REQUIREMENTS: 8-32K CPU (2.0, 3.0 ROM) and C2N.

Briley Software **\$20.00**

SHOPPER

Handy memory device that allows recall of previous sales for comparison with current sales. Each entry records the brand, store, price, units and date. It includes the same basic functions as Home Addresser. Sorts either by Item or Store. Author made it pay for itself when shopping for best sales on motor oil and auto parts.

HARDWARE REQUIREMENTS: 8-32K CPU (2.0, 3.0 ROM) and C2N.

Briley Software **\$20.00**

GROCERY MART

User "programs" favorite grocery store. Data contains aisle name, item, last known price, and tax rates. While at home, the family shopper selects the items desired. The program then groups similar products, prints out a list by aisle, with price of items, total, tax, coupons used and blank lines for last



PERSONAL AIDS

minute purchases. Audit checkstand accuracy, track price changes, and cut grocery costs by becoming a price conscious shopper.

HARDWARE REQUIREMENTS: 8-32K CPU (all ROMs).

Briley Software **\$15.00**

DINNER'S ON!

Pre-record favorite dinners and let this program pick a meal plan for 25 days. Desserts picked separately. Also prints sorted shopping list. Useful for home, frequent camping trips, or sack lunch variety. High adventure on the dinner plate!

HARDWARE REQUIREMENTS: 8-32K CPU (all ROMs).

Briley Software **\$15.00**

LEAGUE BOWL-24

Bowling association scorer for up to 24 teams or two separate conferences of up to 12 teams each. Features include "snapout" displays, absentee adjustments, 21-game handicapping, make-up or delayed games, separate men and women award structuring, 3-way ties, ten concurrent team members allowed, easy editing, instant team statistic sheets and weekly scheduling aids. Entering of data in several sittings is one feature of many to aid you.

HARDWARE REQUIREMENTS: 32K PET (3.0, 4.0 ROMs), 2040 Disk, or C2N Cassette.

Briley Software **\$145.00**

ARCHIVE BOWL

Bowling score archive. Used to extract archive statistics from League Bowl-24 data diskettes.

HARDWARE REQUIREMENTS: 32K CPU (3.0, 4.0 ROMs) and, 2040 Disk.

Briley Software **\$40.00**



TOURNAMENT BOWL

Bowling tournament scorer. Get instant bowling results right in the alley! Handles handicaps, mens, womens, doubles and mixed tournaments. Speedy data entry. Printer option available.

HARDWARE REQUIREMENTS: 16-32K CPU (3.0, 4.0 ROM).

Briley Software **\$30.00**

RNAV3 NAVIGATOR

Fly direct and use less fuel. Use vortacs to navigate with on your flights on the West coast. While made for planes with RNAV equipment, regular VOR flyers can use it as well. Written by a professional pilot. Only the starting and ending coordinates are needed as input. Course plotted can be straight line mode or VOR-to-VOR mode, as a user option. Air nautical miles are used. Instruction book covers mountain avoidance, trip planning and sample flights with explanation. Some pilot terminology is used.

HARDWARE REQUIREMENTS: 8-32K CPU (States: WA, OR, ID, UT, NV, AZ, CA). 16K (8K States plus: MT, WY, CO NM).

Briley Software **\$25.00 (8K)**
\$30.00 (16K)

MAILB—MAILING LIST PROGRAM

This program allows you to add, delete, correct, and display mailing lists entries. Entries are stored on cassette and can be printed on your hardcopy device.

HARDWARE REQUIREMENTS: 8K PET/CBM with one cassette. 16K/32K PET/CBM also supported. A version is available that stores entries on floppy disk (2040).

Total Information Services **\$24.95 cassette** **SW-1**
\$29.95 diskette



CATALOGUE

Keeps a catalogue of books, records, stamps, etc, on tape, and retrieves selectively by fields. Five fields provided, including one that holds up to 5 "category" identifiers for later retrieval.

HARDWARE REQUIREMENTS: 16K CPU and C2N.

Optimized Data Systems **\$16.95**

MATH-CALC

All the advanced math functions of MAXI-CALC, but without financial functions or metric conversions. Enjoy the sophistication of a first-rate calculator, without having to buy the most expensive computer.

HARDWARE REQUIREMENTS: 8032 or 4016 CBM.

Micro Software Systems	\$14.95 cassette	MSS.UP.016
	\$19.95 disk	

CHEQUE-CHECK

The classic checkbook balancer that Computer Cassettes magazine called "best." Works naturally, the way you do. No fancy formats or record-keeping, or cryptic error messages. This program will stay with you until you get the job done, and provide simple helps to find those mistakes that used to cost you hours. Novice or expert, this program will please.

HARDWARE REQUIREMENTS: 8032 or 4016.

Micro Software Systems	\$ 9.95 cassette	MSS.HP.004
	\$14.95 disk	

DIGITAL CLOCK

Your CBM/PET displays a digital clock in giant one-inch digits in the popular electronic seven-segment readout format, in either 12 or 24 style (even switch

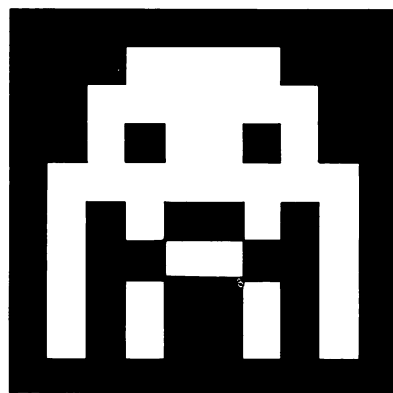


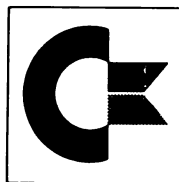
while it's running). A conversation piece sure to impress your friends, and an inexpensive way to see quality software.

HARDWARE REQUIREMENTS: 8032 or 4016.

Micro Software System	(8032)	\$ 9.95 cassette	MSS.HP.006
		\$14.95 disk	
	(4016)	\$ 5.95 cassette	
		\$10.95 disk	

GAMES





GALAXY ONE

This first of a new series of game disks contains all the games on our cassette-based Treasure Troves. The first six Treasure Troves contain some of the first games to be written for the PET, so Galaxy One provides an opportunity to discover the early history of PET games at an inexpensive price. Disk access to any one of the twenty-four programs means that your favorite game can be up and running in seconds. Galaxy One comes with a comprehensive manual. No longer will you be stuck half-way across the Galaxy, as the Klingons mass for attack, wondering which button you should press! Galaxy One contains the following:

- Lunar Landing
- Wumpus
- Jumbo Jet Lander
- Draw Poker
- Concord Lander
- Wrap Trap
- Super 9 × 9
- Black Jack
- Glider
- Awari
- Reverse
- Polaris
- Rotate
- 3D Tic Tac Toe
- Target Pong
- Galaxy Games
- Off the Wall
- Space Trek
- Formula 1
- Space Talk & Space Flight
- Life
- Backgammon
- Crypto

HARDWARE REQUIREMENTS: 8-32K PET/CBM, and Disk.

Commodore Dealers

\$49.95

700010

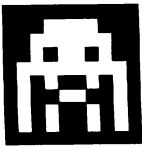
TAG

Play tag with your opponent and try to beat the clock. The sooner you succeed in tagging him and making him "it," the more points you receive. Variable size playing field and variable speed make this game exciting.

HARDWARE REQUIREMENTS: 8-32K PET, plus Creative Software Dual Joystick Interface.

Creative Software

\$9.95 + \$1.50 ship



GAMES

GAMMON GAMBLER™

Gammon Gambler is a highly competitive backgammon program with 10 levels of playing skill. Strategy varies with skill level. Gammon Gambler makes full use of Commodore graphics.

HARDWARE REQUIREMENTS: Contact dealer.

Personal Software Inc.	\$19.95	200206
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MICRO CHESS™

Micro Chess is the industry's first "gold cassette," best seller. The program plays at 8 levels of skill and utilizes 32 book openings—or plays from scratch. The most popular chess program.

HARDWARE REQUIREMENTS: Contact dealer.

Personal Software Inc.	\$19.95	200056
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CHECKER KING™

Checker King plays checkers at 8 skill levels. Playing by tournament rules, Checker King forces jumps (double or triple, too!), "Kings" in graphic mode, and will not allow an illegal move.

HARDWARE REQUIREMENTS: Contact dealer.

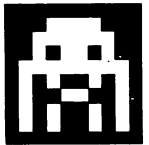
Personal Software Inc.	\$19.95 cassette	200156
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TIME TREK™

Time Trek is a real time (continuous action) space battle game. You are the captain of a starship in active engagement to free the galaxy of Klingons. You control course, shields and fire power while simultaneously tracking Klingons and avoiding ambush.

HARDWARE REQUIREMENTS: Contact dealer.

Personal Software Inc.	\$19.95	200256
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QUEST AND DRAW

Quest is one of the finest basic adventure games for the PET and it will keep the player busy for a long time (we finally found a way out with the treasure, but we won't tell how to do it!). This program has triggered several imitations and was featured in BYTE. It is a great challenge for a rainy evening. Draw, first featured in PEOPLE'S COMPUTERS magazine, was one of the first general graphics programs for the PET and it is still one of the best.

HARDWARE REQUIREMENTS: Contact dealer.

Peninsula School Computer Project \$9.95

Tape 3

SEAWOLF

Use either the keyboard or any Creative Software joystick to move the torpedo gun. You try to hit any of three rows of ships speeding by. Immediately in front of your gun are rows of mines, increasing the difficulty of getting off a clear shot. A real-time clock counts down the seconds, and a high score extends play. Written in machine code.

HARDWARE REQUIREMENTS: 8-32K PET.

Creative Software

\$9.95 + \$1.50 ship

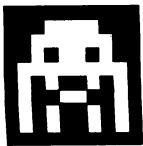
BOUNCEOUT

This PET machine language version of a popular arcade game uses either the keyboard or any Creative Software joystick as the input device. You control a movable paddle to direct a bouncing ball at rows of bricks; each time the ball hits a brick, the brick disappears and your score increases. Adjustable paddle size makes the game fun for beginners, while the speedup feature makes it challenging for experts.

HARDWARE REQUIREMENTS: Contact dealer.

Creative Software

\$9.95 + \$1.50 ship



GAMES

STAR WARS

Try to shoot down Darth Vader in this machine language action game. You are Luke Skywalker at the controls of the Millenium Falcon. Use the joystick to chase Vader around the corridors of the death star. Run out of ammunition and you are doomed to defeat. Adjustable range of skills.

HARDWARE REQUIREMENTS: Creative Software Fairchild Joystick or Creative Software Dual Joystick Interface.

Creative Software **\$9.95 + \$1.50 ship**

ROAD RACE

This machine language program gives you a choice of three different tracks as you battle with your opponent to win the race. Includes oil slicks, automatic lap counters, variable length races, and an elapsed time clock to tenths of a second.

HARDWARE REQUIREMENTS: 8-32K PET.

Creative Software **\$9.95 + \$1.40 ship**

SPACE WAR II

In this real time version of Star Trek, you use the joystick to control the Enterprise and try to fend off aliens while you search for colonizable planets. Variable levels of difficulty and four pages of instructions make this one of the most demanding and enjoyable games available anywhere.

HARDWARE REQUIREMENTS: 8-32K PET plus the Creative Software Fairchild Joystick.

Creative Software **\$9.95**

PENNY ARCADE

Enjoy this fun filled package that's as much fun as a real penny arcade. POETRY—compose free verse poetry on your computer. TRAP—Control two moving lines at once and test your coordination. POKER—Play five card draw poker and let your PET deal and keep score. SOLITAIRE—



Don't bother to deal, let your PET handle the cards in this "old favorite" card game. EAT-UM-UPS—Find out how many stars your Gobbler can eat up before the game is over.

HARDWARE REQUIREMENTS: These five games require the PET with 8K.

Instant Software	\$7.95	0044P
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CASINO I

These two programs are so good, you can use them to check out and debug your own gambling system. ROULETTE 4—Pick your number and place your bet with the computer version of this casino game. For one player. BLACKJACK—Try out this version of the popular card game before you go out and risk your money on your own "surefire" system. For one player.

HARDWARE REQUIREMENTS: Contact dealer.

Instant Software	\$7.95	0014P
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CASINO II

This craps program is so good, it's the next best thing to being in Las Vegas or Atlantic City. It will not only play the game with you, but will also teach you how to play the odds and make the best bets. It is a one player game.

HARDWARE REQUIREMENTS: 8K PET.

Instant Software	\$7.95	0015P
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TREK-X

Command the Enterprise as you scout the quadrant for enemy warships. This package not only has superb graphics, but also includes programming for optional sound effects. A one player game.

HARDWARE REQUIREMENTS: 8K PET.

Instant Software	\$7.95	0032P
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GAMES

ARCADE I

A collection of America's most popular indoor sports: KITE FLIGHT—It's a national sport in India. After you and a friend have spent several hours maneuvering your kites across the screen of your PET, you'll know why! PINBALL—By far the finest use of the PET's exceptional graphics capabilities we've ever seen, and a heck of a lot of fun to boot.

HARDWARE REQUIREMENTS: 8K PET.

Instant Software	\$7.95	0074P
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ARCADE II

One challenging memory game and two fast-paced action games make this package one the whole family will enjoy for some time to come. Package includes: UFO—Catch the elusive UFO before it hits the ground. HIT—Better than a skeet shoot. The target remains stationary, but you're moving all over the place. BLOCKADE—A two player game that combines strategy and fast reflexes.

HARDWARE REQUIREMENTS: 8K PET.

Instant Software	\$7.95	0045P
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CODE NAME CIPHER

Enjoy that same feeling of intrigue and discovery with the Code Name Cipher package. Included are: MEMORY GAME—Would you like to match your memory against the computer's? You can with the Memory Game. CODEMASTER—One player types in a word, phrase, or sentence, and the PET translates that message into a cryptogram. The other player must break the code and solve the cryptogram in the shortest time possible. DECEITFUL MINDMASTER—This isn't your ordinary mastermind-type game. You must guess the five letters in the hidden code word. CODE BREAKER—Cracking this code won't be as easy as cracking walnuts. You'll need to flex your mental muscles to win this game.

HARDWARE REQUIREMENTS: Contact dealer.

Instant Software	\$7.95
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TANGLE/SUPERTRAP

These two programs require fast reflexes and a good eye for angles. TANGLE—make your opponent crash his line into an obstacle. SUPERTRAP—This program is an advanced version of Tangle with many user control options. Enjoy these exciting and graphically beautiful programs. For one or two players.

HARDWARE REQUIREMENTS: 8K PET.

Instant Software

\$7.95

0029P

BASEBALL MANAGER

This pair of programs will let you keep statistics on each of your players. Obtain batting, on base, and fielding averages at the touch of a finger. Data can be easily stored on cassette tape for later comparison.

HARDWARE REQUIREMENTS: 8K PET.

Instant Software

\$14.95

0062P

CHIMERA

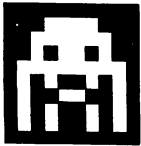
If you think the legendary Chimera was hard to handle, wait until you try the Chimera package. Included are: REFLEX—Round and round the little white ball rolls. Only fast reflexes can guide it into the center of the maze. DRAGON—You'll have to shoot down those pesky, fire-breathing dragons with your cannon. If you succeed, your castle will be safe. If not, it will mean a call to your fire insurance company. For one player. DUNGEON—A very punctual guard comes down to the dungeon every day to torture you. This means that you have only thirty seconds to dig your way under the castle to freedom. For one player. DRAGON HUNT—You must go forth and slay a fire-breathing dragon. The only thing that will protect you from the flames is your shield, if you know when to use it. For one player. DROPOFF—You must make your opponent's men "drop off" the board by moving and firing your own men. For one or two players.

HARDWARE REQUIREMENTS: Contact dealer.

Instant Software

\$9.95

0110P



SANTA PARAVIA AND FIUMACCIO

It is the dawn of the 15th century; you rule a tiny Italian city-state. Your goal—The Crown! Up to six players can compete as rulers and neighboring cities. You control the grain harvest, feed your serfs, set tax rates, dispense justice, and invest in public works. The future of your realm will depend on your decisions. If they are wise, your city-state will grow and you will acquire loftier titles. If your rule is incompetent, your people will starve and you may be invaded by your neighbors. How will you rule your kingdom? Will you be an enlightened leader—or an unscrupulous despot? Only you can answer that question—with Santa Paravia and Fiumaccio.

HARDWARE REQUIREMENTS: Contact dealer.

Instant Software

\$9.95

0175P

TURF AND TARGET

Whether on the field or in the air, you'll have fun with the Turf and Target package. Included are: **QUARTERBACK**—You're the quarterback as you try to get the pigskin over the goal line. You can pass, punt, hand off, and see the result of your play with the PET's superb graphics. **SOCCER II**—Play the fast-action game of soccer with four playing options. The computer can play itself or a single player; two can play with computer assistance; or two can play without help. **SHOOT**—You're the hunter as you try to shoot the bird out of the air. The PET will keep score. **TARGET**—Use the numeric keypad to shoot your puck into the home position as fast as you can.

HARDWARE REQUIREMENTS: 8K PET.

Instant Software

\$7.95

MIMIC

Test your memory and reflexes with the five different versions of this game. You must match the sequence and location of signals displayed by your PET. This one-player program includes optional sound effects.

HARDWARE REQUIREMENTS: 8K PET.

Instant Software

\$7.95

0039P



PET DEMO 1

You can give yourself, your family, and your friends hours of fun and excitement with this gem of a package. **SLOT MACHINE**—You won't be able to resist the enticing messages from this computerized one-armed bandit. **CHASE**—You must find the black piece as you search through the ever changing maze. **FLYING PHEASANT**—Try to shoot the flying pheasant on the wing. **SITTING DUCKS**—Try to get your archer to shoot as many ducks as possible for a high score. **CRAPS**—It's Snake Eyes, Little Joe, or Boxcars as you roll the dice and try to make your point. **GRAN PRIX 2001**—Drivers with experience ranging from novice to professional will enjoy this multi-leveled race game. **FOX AND HOUNDS**—It's you against the computer as your four hounds try to capture the computer's fox.

HARDWARE REQUIREMENTS: 8K PET.

Instant Software

\$7.95

0035P

INVASION ORION

Using the same basic game rules as Starfleet Orion, test your skill against your PET with Invasion Orion. You have a challenging opponent, willing to take either side of a scenario at any time. Choose from three levels of play for the computer. Use supplied scenarios or build your own! Your only limitation is your imagination!

HARDWARE REQUIREMENTS: Contact dealer.

Automated Simulations

\$24.95

B-12

TEMPLE OF APSHAI

Temple of Apshai will take you into magical, mythical labyrinths, populated by fearsome monsters who guard many and varied treasures. Monsters that move in real time will keep you jumping, as you try to fight your way back to the surface with your treasures. With over 16 million kinds of characters—not to mention the possible ways to equip them, Temple of Apshai is good for thousands of hours of learning and playing pleasure.

HARDWARE REQUIREMENTS: Contact dealer.

Automated Simulations

\$39.95

B-21



HELLFIRE WARRIOR

So you've mastered the Temple of Apshai, and you want some more challenge. Hellfire Warrior provides the next 4 dungeon levels, including an apothecary and a magic shoppe. Don't enter this game without courage and an adventuresome spirit. Enter your veteran's character from your Temple adventures and use all your wits, strength and intuition to survive, and bring back to the surface the greatest glory and treasure ever!

HARDWARE REQUIREMENTS: Contact dealer.

Automated Simulations	\$39.95	B-22
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DATESTONES OF RYN

An introduction to adventure software, you have 20 minutes to track down the dastardly robbers who have stolen the datestones. Your mission is to recover the booty before the cutthroats can slip away. Not only do the real time monsters keep you at a dead run, but your time is running out. Scoring is built in to Datestones, allowing you to measure how you do in successive playings, and how your prowess measures up against your friends.

HARDWARE REQUIREMENTS: Contact dealer.

Automated Simulations	\$19.95	B-31
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MORLOC'S TOWER

In Morloc's Tower, you will find 3 kinds of rings, a magic sword, two amulets, 30 rooms and 18 real time actions. There are half a dozen other treasures and a dozen types of monsters, including old Morloc himself. Morloc is an intelligent opponent for you to vanquish. Morloc's Tower is for the beginning fantasy gamer. Easy to learn, but a challenge to master, you'll think you've got it all figured out, but play over and over again to improve your score!

HARDWARE REQUIREMENTS: Contact dealer.

Automated Simulations	\$19.95	B-32
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RESCUE AT RIGEL

The High Tollah is holding a clawful of hostages, and it's your mission to rescue them. Pick your way through the convoluted levels of the base and find the rooms in which the captives are held. There's a gunboat waiting in orbit, but it takes energy to contact them and to beam your friends aboard. Once you've beamed them aboard, you will need all your energy to get back to your rendezvous point and escape the Tollah yourself.

HARDWARE REQUIREMENTS: Contact dealer.

Automated Simulations	\$29.95	B-41
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STARFLEET ORION

Starfleet Orion brings the opportunity to fight space battles in your living room. Scenarios vary in complexity with 2-15 spacecraft. One program is the game, the other scenarios are data files. You get 12 scenarios with the game and you may invent as many more as you see fit. Played with a partner, Starfleet Orion is your key to limitless adventure!

HARDWARE REQUIREMENTS: Contact dealer.

Automated Simulations	\$24.95	AS-111C
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DRAGON'S EYE

Player has approximately a half hour of playing time to find the Dragon's Eye, which is a magical jewel held by an evil magician. The player must find it in one of seven provinces and then return to Fel City where the journey began. Choose one of 16 characters and gain a set of magical abilities (healing, flying, time travel, and teleport). Choice of 4 swords, bow and arrows, or magical bolts. Detailed map helps player search and gives vital information on his condition. Dragons, bats, vampires, ghosts, goblins, serpents, skeletons, and other monsters are encountered, producing animated battle graphics. Thirteen battle commands are available.

HARDWARE REQUIREMENTS: 32K 2000 series and C2N cassette.

Automated Simulations	\$24.95
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GAMES

JUKEBOX SERIES

Extremely well-coded songs. All use varied waveforms for good rhythm and movement. Each group of songs is in memory at one time, so you can make "jukebox" selections for instant replay.

1. Six Blues for PET	\$7.90
2. Some Disco for PET	\$6.90
3. More Jazz for PET	\$5.90
4. Some Ballads for PET	\$5.90
5. More Blues for PET	\$5.90
6. More Disco for PET	\$6.90
7. Three More Blues for PET	\$4.90
8. Disco Light Show for PET	\$6.90
9. Three Sousa Marches for PET	\$4.90
10. Three More Sousa Marches for PET	\$4.90
11. Some Ragtime for PET	\$5.90
12. More Ragtime for PET	\$5.90
13. Some Bach for PET	\$6.90
14. More Bach for PET	\$6.90
15. Duke Ellington for PET	\$9.90

HARDWARE REQUIREMENTS: 4 part Music Boards.

AB Computers **\$4.90 through \$9.90**

CURSOR MAGAZINE

CURSOR is a cassette of high quality programs. You get a C-30 magnetic cassette every other month, with five excellent computer programs via First Class Mail. With each cassette you also get CURSOR NOTES, which provides written instructions, as well as new product announcements.

HARDWARE REQUIREMENTS: 8K CPU, Cassette and Sound.

Cursor Magazine **\$27.00 for 6 issues**
\$ 4.95 each back issue

FOOTBALL

A truly interactive game for 1 or 2 people where you control the offensive runner, trying to gain yardage while avoiding the "tacklers." Full down



keeping, score, and clock functions are provided. Select from 20 levels of difficulty to provide continuing challenge.

HARDWARE REQUIREMENTS: Contact dealer.

Tycom Associates **\$7.95**

PETZEE

This is an excellent computerized version of the Yahtzee game, with the drudgery of score-keeping done for you. Large die are graphically displayed for ease on the eyes. Check your scorepad anytime during game. Multiple players are allowed with separate score-keeping for each, and a final tally of the game results.

HARDWARE REQUIREMENTS: Contact dealer.

Tycom Associates **\$7.95**

MAX

It's you against the computer. This is a popular dice game which requires a bit of wit and an occasional lie to succeed. A unique game with great graphics.

HARDWARE REQUIREMENTS: Contact dealer.

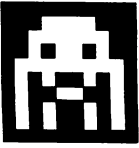
Tycom Associates **\$7.95**

HORSERACE

Play the odds. Pick a horse to win, place, or show, and bet from your "cash" holdings (\$100 to start). Horses hug the rail as they vie for position. Even includes an occasional "photo-finish." Win \$100,000 and bankrupt the track! For 1 to 5 players, a great party game.

HARDWARE REQUIREMENTS: Contact dealer.

Tycom Associates **\$7.95**



GAMES

KOPYKAT

Repeat an ever-increasing sequence of numbers within the allotted time. Choose speed and length of the sequence. Repeat a sequence for competitive play. Graphic display, and optional sound effects via user port.

HARDWARE REQUIREMENTS: Contact dealer.

Tycom Associates **\$7.95**

BATTLESHIP

The classic battleship game. You really have to be on your toes to destroy the computer's fleet before you are "sunk." Instructions on tape.

HARDWARE REQUIREMENTS: Contact dealer.

Tycom Associates **\$7.95**

MAD LIBS

A party favorite! Use your own adjectives, adverbs, etc., and the computer will write funny stories using them. Also good for teaching nouns, verbs, etc.

HARDWARE REQUIREMENTS: Contact dealer.

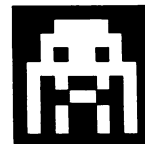
P. S. Software House **\$5.95** **065**

COMPUTER DERBY

Excitement mounts as the horses race toward the finish. Computer keeps track of all bets. Up to four people can play. New winners every time!

HARDWARE REQUIREMENTS: Contact dealer.

P. S. Software House **\$5.95** **066**



BOUNCE

Split second timing required for this game of skill! Challenge family and friends to knock out all the targets with the speedily bouncing ball.

HARDWARE REQUIREMENTS: Contact dealer.

P. S. Software House	\$5.95	067
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STARTREK

All-time favorite with special graphics.

HARDWARE REQUIREMENTS: Contact dealer.

P. S. Software House	\$5.95	070
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MORTAR

For the mathematically inclined; an advanced technical game involving X-Y coordinates and angles to direct the Mortar shell to the target as seen on the Radar screen.

HARDWARE REQUIREMENTS: Contact dealer.

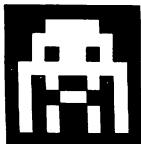
P. S. Software House	\$5.95	071
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RACE CAR

Race your car through the winding maze without crashing. Increase your speed and become a pro—if you can.

HARDWARE REQUIREMENTS: Contact dealer.

P. S. Software House	\$5.95	068
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NUMBERAMA

Numberama is a number-guessing game, based on the game of "Master Mind." The computer will generate a random number with the number of digits you select (1 to 9). As you try to guess the number, the computer will give you clues. This game takes a great deal of strategy for a quick solution.

HARDWARE REQUIREMENTS: Contact dealer.

P. S. Software House

\$5.95

072

AMERICAN HISTORY: THE DECADES GAME—SERIES ONE

The first titles in this Series are time lines of American History presented in game form. Events in these games span time from the opening shot of the Revolution to the opening shot of the Space Age. The games involve placing events in our nation's politics, economics, technology, science, folklore, and art in their proper time. Each game is different and equal in difficulty. For one to four players. The games are for age 13 through adult.

HARDWARE REQUIREMENTS: PET 16K.

Brain Box

\$39.95

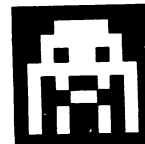
LIFE

This is possibly the finest personal computer version of LIFE currently available. Written in machine language, this program has a completely adjustable speed of generation from four generations per second to single step mode. Complete wraparound is done at the screen boundaries. In addition to user-definable initial configuration, the program will generate its own glider gun. Pattern generation may be interrupted at any time to add or delete elements. This program also introduces a whole new LIFE concept; the optional inclusion of "posts" and "holes."

HARDWARE REQUIREMENTS: Any PET.

Creative Software

\$14.95



ROAD RACE

Two people play this game, racing around a choice of three different tracks, each trying to complete the required number of laps before the other. Choose any number of laps from 1 to 9. Includes oil slicks, automatic lap counters, and elapsed time counter to tenths of a second.

HARDWARE REQUIREMENTS: Any PET, the Creative Software Dual Joystick Interface and two Atari Joysticks.

Creative Software

\$9.95

SKETCHPAD AND MAZE

SKETCHPAD: Use the joystick to draw graphic patterns on the screen. Choose any character to draw. Move in any direction, and erase any unwanted portions of your pattern. The inveterate doodler will love this! **MAZE:** Try to get out of the maze more quickly than anyone else! Don't bump into walls, though, or you will be frozen, unable to move, for a brief but infuriating moment.

HARDWARE REQUIREMENTS: Any PET, either the Creative Software Fairchild Joystick, with Interface, or the Creative Software Dual Joystick Interface.

Creative Software

\$74.95 (specify tape or disk)

STATES GAME

The first title in this Series is a game about our fifty states. Each game contains clues about 10 states in the U.S.A. Five games—50 states! One to four people may play and guess the state, using the clues displayed about each. This game is for age 9 and up.

The States Game Series One / Game One through Game Five

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$39.95



JURY/HOSTAGE

JURY—How good are you at life and death decisions? You screen and select the members of a jury and then participate in the trial. Based on real life court cases, written by an attorney.

HOSTAGE—A hostage has been taken prisoner and you must negotiate with the captors for his release. The fate depends upon your decisions and success.

HARDWARE REQUIREMENTS: 8-32K PET.

United Software of America \$9.95

SPACE INTRUDER

The planet Earth is invaded by creatures from the other planets of the solar system. You must fight off this alien fleet with a movable ray gun. Aliens blast your defensive positions as they move closer and closer to Earth.

HARDWARE REQUIREMENTS: 8-32K PET (Optional—Soundware Music Box).

United Software Of America \$19.95

KENTUCKY DERBY/ROULETTE

KENTUCKY DERBY—they're at the starting gate and . . . they're off! Follow the excitement of the world's greatest race for the finish line. Will your horse make it to the winner's circle?

ROULETTE—32 black or 23 red? All the thrills of a Las Vegas casino, in your own home, and you're there to cash in your chips. How much will you risk to beat the house?

HARDWARE REQUIREMENTS: 8-32K PET.

United Software Of America \$9.95

ALIEN I.Q./TANK

ALIEN I.Q.—Match wits with the alien being. Can you out-think this creature from another world in this one-on-one competition?



TANK—Move, turn, fire! Destroy a powerful aggressor who is attacking your pillbox. Plenty of action as you maneuver against the computer's tank.

HARDWARE REQUIREMENTS: 8K PET (old ROMs Only).

United Software Of America **\$9.95**

SUBMARINE ATTACK

You spot the enemy sub in your periscope and prepare to fire your torpedoes. But first, you must dodge the enemy torpedoes! Great excitement as you develop your tactics for victory beneath the sea!

HARDWARE REQUIREMENTS: 8-32K PET.

United Software Of America **\$9.95**

MIDWAY

The enemy is attacking! The fleet must be saved! You are at the controls as you direct the courses of your ships and planes. Can you meet the challenge of Midway?

HARDWARE REQUIREMENTS: 8-32K PET.

United Software Of America **\$7.95**

SUPER STARTREK

Add some excitement to your Klingon warfare! This version of Startrek includes action, in addition to the "standard" Startrek features. Follow the action as you maneuver about the quadrant! See your photon torpedo seek out and destroy the enemy! Watch your starship dock at a starbase to resupply and effect repairs! With Startrek, your missions are never dull! Long live the Federation!

HARDWARE REQUIREMENTS: 8-32K PET.

United Software Of America **\$14.95**



GAMES

BASEBALL

Bases loaded, bottom of the ninth. Can you get the winning run home? Will there be a new pitcher from the bullpen? Match strategies as you manage against a tireless opponent in America's national pastime. Real time action.

HARDWARE REQUIREMENTS: 8K PET (old ROMs only).

United Software Of America **\$7.95**

SWARM

Huge swarms of killer bees have been sighted in various sections of the U.S. They are spreading at an alarming rate, causing thousands of casualties. You must decide the tactics to be used to combat this deadly menace. You must oversee all 21 sectors of the U.S., and prevent the major city in each section from being overrun by the swarm. Using various combat and urban defense tactics, combined with evacuation and nuclear destruction, you attempt to save the U.S. from the SWARM!

HARDWARE REQUIREMENTS: 8-32K PET.

United Software Of America **\$14.95**

SUPER GOMOKU

The most advanced of Gomoku games. The computer challenges you on 6 levels of play; 8×8 matrix for short games, and up to 15×15 for longer games. Also includes self-play mode.

HARDWARE REQUIREMENTS: 8-32K PET.

United Software Of America **\$9.95**

LASER TANK BATTLE

An action game for 1 or 2 players. Both tanks maneuver, aim and fire! Head to head competition on battlefields that change with every play.

HARDWARE REQUIREMENTS: Old 8K PET only.

United Software Of America **\$9.95**



POKER

Graphic displays depict each hand: players bet, draw cards, and bet again. The House is programmed to make moves in accordance with the hand it has been dealt, and the nature of the betting that has taken place. The computer evaluates each hand, both before and after cards have been drawn, rearranges the cards in each hand appropriately, and clearly displays a summary of all games.

HARDWARE REQUIREMENTS: 8K PET.

Microphys

\$15.00

PC385

BINGO

One to 20 players can enjoy the excitement of this computer controlled game. The computer displays the randomly selected numbers and evaluates the cards in the game after each call is made. The computer can also display the status of any given card during the course of a game. A set of 20 Bingo cards is included with the program. The program permits any of the following games. Any Bingo, frame, full card, letter L, letter T, letter X, letter H.

HARDWARE REQUIREMENTS: 16K PET.

Microphys

\$15.00

PC390

MANSION!

At an elaborate dinner party, the butler discovers that something is missing from the mansion. Find the light-fingered guest quickly! (Maybe the butler did it.)

HARDWARE REQUIREMENTS: 8-32K CPU (all ROM).

Briley Software

\$15.00



MUSEUM!

A famous museum calls and the exasperated voice reports valuable treasure has been stolen. Use your expert deductive skills to catch the thief.

HARDWARE REQUIREMENTS: 8-32K CPU (all ROMs).

Briley Software **\$15.00**

PENTAGON!

Lurking in a corridor is a spy, disguised as a ranking officer. Some secret papers have been reported missing. Locate the spy before he or she gets away.

HARDWARE REQUIREMENTS: 8-32K CPU (all ROMs).

Briley Software **\$15.00**

HIGH SEAS

Aye Mate, here is the salty sea game of pirate ships laden with gold. Carry off loot if ye can, but watch out for icebergs, reefs and floating debris. Even the Bermuda Triangle is out there. The Merchant Fleet has fallen prey to those privateers and it's up to you to clear the sea lanes for safe passage. There is danger, plus gold, adventure, islands, ports of call, ships of all descriptions and three of the most wanted pirates at large.

HARDWARE REQUIREMENTS: 8-32K CPU (all ROMs).

Briley Software **\$15.00**

FUR TRAPPER

In the days of mountain men, thar war wild critters in dem mountains. Fierce bobcats, wily coyotes, dangerous bars, and many other friendly things. Pelts brought big prices back then and those who survived the wild did



very well. Try your hand at those woolly days. Get the pelts afor' they get you.

HARDWARE REQUIREMENTS: 8-32K CPU (all ROMs).

Briley Software

\$15.00

BATTLE TREK *A Galactic Space Game*

The Federation has been invaded by the Klingon Horde. You must rid the galaxy of the Klingons or die trying. At your disposal are photon torpedoes for long-range attacks, and phasers for short-range battles. Klingons are armed only with phasers, but there are many of them and only one of you. Three skill levels: beginner, intermediate, and master. The number of Klingons and their cunning are determined by the skill level.

HARDWARE REQUIREMENTS: 16K CPU and Sound.

Micro-Ed

\$14.95

OT-10

GAMES PACKAGE

Star Fighter: Player attempts to shoot down opposing starfighter while navigating his own starfighter. (PT 507)

Break Out: Player tries to break through a wall by repeatedly hitting the same spot with a bouncing ball. (PT 510)

Pinball: Fast moving pinball game. (PT 511)

Blockade: Try to trap opponent in a blockade. (PT 512)

Dogfight: Try to shoot down opposing plane. (PT 513)

HARDWARE REQUIREMENTS: 8K PET/CBM.

Micro Learningware

\$24.95

PT009



GAMES

TRICKY SQUARE

In this game, the digits 1 through 9 appear on a 3×3 grid. Some numbers, chosen at random, appear in reverse field while others do not. The object is to get all of the numbers, except 5, in reverse field. To do this, the player must press the number keys on the keyboard. When the 1 key is pressed the numbers 1, 2, 4, and 5 change from reverse field to normal display or from normal to reverse field. When the 2 key is pressed, the numbers 1, 2, and 3 change, and so on. The number of games played, along with the total score, best score, and average score is displayed at the end of the game.

HARDWARE REQUIREMENTS: 8K CPU (old or new ROMs).

Kent B. Leppke

\$3.95 tape

\$8.95 disk

ECHO

This game tests the user's senses of sight and hearing. It also involves the memory of the user. The computer thinks of a sequence from 1 to 10 digits in length. The user decides on the length of the sequence. The digits 1 through 9 appear on the screen and those in sequence flash in reverse field revealing the sequence. Also, corresponding notes will be heard if the computer is equipped with CB2 sound. After all the digits are flashed in sequence, the user tries to enter the numbers in the order that they flashed. This sequence is repeated until the user gets the sequence correct or gives up. A score is given afterwards. The number of games played along with total, best, and average score is displayed at the end of the game.

HARDWARE REQUIREMENTS: 8K CPU (old or new ROMs).

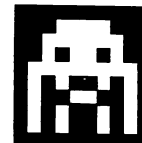
Kent B. Leppke

\$4.45 tape

\$9.45 disk

OBSTACLE COURSE

In this game, the user is the driver of a car in a unique obstacle course race. The score is dependent on distance traveled as opposed to time. Only forward distance is scored, although reverse may be useful at times but does not count. As the race progresses, the number of obstacles increases and they appear at random positions. When the driver hits an obstacle, the race is over. Movement is controlled by the number pad. The number of games



played along with total, best, and average score is displayed at the end of the game.

HARDWARE REQUIREMENTS: 8K CPU (old or new ROMs).

Kent B. Leppke	\$4.95 tape
	\$9.95 disk

MOUSE MAZE

In this game the player is a cat. A mouse has invaded the house and the cat's master insists that the mouse be caught. The mouse's house is a confusing maze of tunnels, which the cat must go through to catch the mouse. Score is based on time it takes to catch the mouse. The number of games played along with total, best and average scores is displayed at the end of the game.

HARDWARE REQUIREMENTS: 8K CPU (old or new ROMs).

Kent B. Leppke	\$4.95 tape
	\$9.95 disk

BATTER UP!!

Here's a classic baseball game that truly tests the player's batting skill. Played between you and another player, or you against yourself, this action-packed game includes 3 levels of display. First, there's the duel between batter and pitcher. Just as in real baseball, the batter decides when to swing at the various pitches. Will you walk, strike out, or get a hit—even a home run? When you get a hit, the display switches to the field and you can watch the fielder try to catch it. When you hit that line drive past the fielder advancing base runners are then displayed. This fully detailed baseball game includes a constantly updated scoreboard showing vital statistics, which include the number of pitches, bases on balls, hits, runs, and strikeouts and ERA (earned run average). And whenever the field is displayed, notice the fans cheering. Why? Because **BATTER UP!!: A MICROBASEBALL GAME** is a crowd pleaser, providing you with hours of challenging fun and excitement.

HARDWARE REQUIREMENTS: PET.

Hayden Book Company	\$10.95
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GAMES

CROSSBOW

One cassette featuring a target game that teaches fractions in an exciting and competitive environment. And it can be played individually or with up to 9 competitors. Three levels of play challenge all ages from 7 to adult: Level 1—teaches recognition of fractional quantities and allows the player to use a ruler to help determine the position of the target on the screen. Level 2—increases judgment of fractional quantities in that the ruler is not displayed until 4 misses. It also accepts only fractions reduced to the lowest common denominator. Level 3—generates a fraction and requires the player to add or subtract a fraction. The resulting sum or difference is the position the arrow will strike.

HARDWARE REQUIREMENTS: PET.

Hayden Book Company

\$9.95

BACKGAMMON

One cassette containing the ancient game that can now be played between you and the pre-programmed player Brutus. And the rules of this world famous game are so simple, anyone can play. The user can develop and add new strategies. And the dice roll can be controlled by the player or the computer. You can even look ahead for optional play moves. An accompanying guide contains complete instructions on loading, playing of Brutus, and a brief description of the program, broken down by line numbers.

HARDWARE REQUIREMENTS: PET.

Hayden Book Company

\$10.95



INSTRUMENT MUSIC SONG PACK 1K-1003-1D

A set of 38 coded songs on 2040 disk.

HARDWARE REQUIREMENTS: 32K CPU, 4040 Disk Drive, MTU K-1002-6C, MTU K-1002-2 (see Hardware Section).

Micro Technology Unlimited

\$20.00

1K-1003-1D



PET GAMES AND RECREATIONS

Action-packed and ready to run! Ten of the longer games from this book are available on tape cassette. If you want instant gratification and communication with your PET, this is for you. Games include: Marblestat, Hurkle, Square, Watchperson, How Many?, Motie, Reverse, Sinners, and Stars.

HARDWARE REQUIREMENTS: 8K PET.

Reston Publishing, Inc.

Contact dealer

BRIDGE 2.0

This program is unique in its ability to challenge the experienced player, and yet provides an entertaining and instructional introduction to contract bridge for the novice. Unlike other bridge programs, BRIDGE 2.0 both bids and plays! The bidding closely follows the Goren point count system and the computer will even "double" your contract if you bid too high! The printout is formatted similar to the bridge column in the daily newspaper. However, the only hands visible during play are yours and the dummy's. Because of the strategies employed, the computer's level of play is high and the opportunity exists to sharpen your card-playing skills. This is one computer program of which you will not tire. In fact, it is addictive.

HARDWARE REQUIREMENTS: 16K PET, C2N, and 2040 or 4040 Disk Drive.

Dynacomp, Inc.

\$17.95 cassette

\$21.95 diskette

HEARTS 1.5

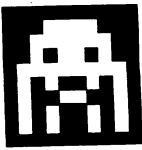
For the first time available as a computer program this version of the popular card game of hearts pits you against two computer opponents. Hearts is a trick-oriented game in which the purpose is to not take any hearts or the Queen of Spades. Penalty points are given for taking those cards and the player with the lowest score wins the game. This computer version allows you to pass your three most undesirable cards to one of your opponents before play. However, the other opponent does the same to you! The program employs a hard-to-beat playing strategy, which creates quite a challenge for even the advanced player. A great way to learn the game or become more proficient at playing hearts.

HARDWARE REQUIREMENTS: 16K PET, C2N, and 2040 or 4040 Disk Drive.

Dynacomp, Inc.

\$15.95 cassette

\$19.95 diskette



GAMES

FLIGHT SIMULATOR

Learn from this realistic, mathematical simulation, which allows you to take-off, fly, navigate, and land an airplane. The program employs kinematic aerodynamic equations, and applies the characteristics of a real airfoil to simulate the response of flying machines, ranging from gliders to space shuttles. Unlike most arcade-like animations, FLIGHT SIMULATOR realistically portrays the problems associated with stalls, landing with the nose wheel first, cross winds, etc. You can practice touch and go landings, take a cross-country trip, or just practice exercising the flight controls, flaps, trim, elevators, bank, and throttle. A program for the thinker!

HARDWARE REQUIREMENTS: 16K PET, C2N, or 2040, or 4040 Disk Drive.

Dynacomp, Inc.

\$17.95 cassette

\$21.95 diskette

VALDEZ

VALDEZ is a simulation of supertanker navigation in the Prince William Sound area of Alaska. It contains a detailed analysis of ship response characteristics, as well as a model of tidal patterns in the Sound. Navigation is aided by a variable range radar display, which shows the land masses and other traffic (ships and icebergs). A unique feature of this simulation is the 256×256 element map employed. Sections of this map are peeked at using the radar display. This map feature is unique and greatly enhances the realism of the program. VALDEZ provides an interesting and educational exercise in ship navigation.

HARDWARE REQUIREMENTS: 16K PET, C2N, and 2040 or 4040 Disk Drive.

Dynacomp, Inc.

\$15.95 cassette

\$19.95 diskette

STARTREK 3.2

STAR TREK 3.2 is a new and exciting version of the classic Star Trek simulation, which many have played on "large" computers. This version, which is a significantly enhanced program, is more complex and more challenging. It was written by a visiting Klingon who decided to give his side a chance. The Empire gets even! The Klingons have learned from their past experiences. Their task force is now composed of both light (the old style) and heavy cruisers. Some of the heavy cruisers have a photon torpedo deflection device and must be attacked from their weak side or with phasers. The Klingons no longer wait to be fired on, but may initiate a battle. They



also attack starbases in distant quadrants without warning and have enough fire power to eventually capture those bases unless the Enterprise goes to the rescue. The Klingons now fight battles with much better strategy. For example, they move. Sometimes they will move behind a star and hide. Other times they may close in for a close range phaser attack. Klingon heavy cruisers sometimes initiate a battle with low energy blasts, trying to give the impression of a light cruiser. However when the Enterprise closes in for a phaser kill . . . surprise!

HARDWARE REQUIREMENTS: 16K PET, C2N, and 2040 or 4040 Disk Drive.

Dynacomp, Inc.

\$11.95 cassette

\$15.95 diskette

GAMES PACK I AND GAMES PACK II

Each of these two software packages contains an interesting cross-section of traditional computer games. The packages are conveniently set up as one large program. This allows you to return to the control program after completing one game, and immediately run another game without having to reload. This feature is very useful for cassette users.

GAMES PACK I includes simple physical models, such as CATAPULT and LUNAR LANDER; an excellent mathematical brain teaser, SWITCH; and entertaining gambling games: BLACKJACK, HORSE RACE, CRAPS, and SLOT MACHINE.

GAMES PACK II contains the popular word puzzle of JOTTO; two entertaining card games: ACEYDEUCEY and CRAZY EIGHTS; the fascinating game of LIFE plus WUMPUS, NUMBER GUESS, and CALENDAR.

HARDWARE REQUIREMENTS: 16K PET, C2N, and 2040 or 4040 Disk Drive.

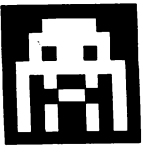
Dynacomp, Inc.

\$10.95 cassette

\$14.95 diskette

HAUNTED HOUSE

“Haunted House” is a nightmare simulation program. You will find yourself in the following predicament: you are lost in one of several hallways of a haunted house. If you can find your way out before midnight, you win. Otherwise, you lose. The game is played by moving through the house, searching the rooms to discover the secret passageway leading to safety (however not all the secret passageways are so commodious). You may find



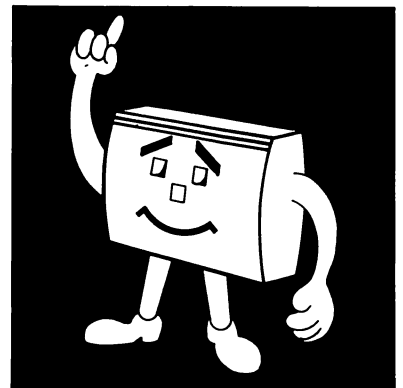
GAMES

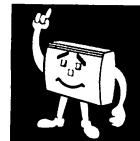
clues along the way; you may also increase or decrease your “luck factor.” Certain rooms of this house are haunted by spirits, which will either help or hinder you.

HARDWARE REQUIREMENTS: 16K System.

Creative Computing **\$11.95**

VIC 20



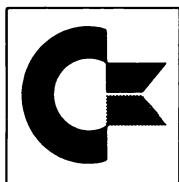


VIC 20 PROGRAM CARTRIDGES

These easy to use cartridges plug directly into the VIC 20 . . . there's no experience needed. Just insert the cartridge and start computing. Cartridge software comes in five categories, color coded by category to help you find your interest area: games and recreation (red), computing aids (black), education (blue), business/calculation (green), and home utility (orange).

VIC games are fun and exciting, from VIC Avenger to Sargon II Chess. Most games play from the keyboard or with a joystick. VIC computing aids help programmers at all levels write better, more powerful programs.

Watch for new programs for education, small business and home use. If you have a suggestion which will help us expand our VIC cartridge library to meet your interest, we'd like to hear from you.



SUPER EXPANDER

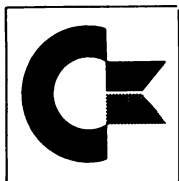
Everything COMMODORE could pack into one cartridge—3K RAM memory expansion, high resolution graphics plotting, color, paint and sound commands. Graphic, text, multicolor and music modes. 1024 by 1024 dot screen plotting. All commands may be typed as new BASIC commands or accessed by hitting one of the VIC's special function keys. Includes tutorial instruction book. Excellent for all programming levels.

HARDWARE REQUIREMENTS: VIC 20.

Commodore Dealers

\$69.95

VIC1211A



PROGRAMMERS AID CARTRIDGE

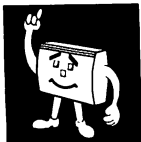
More than 20 new BASIC commands help new and experienced programmers renumber, trace, and edit BASIC programs. Trace any program line by line as it executes, pause to edit. Special EDIT key command lets programmers redefine function keys as BASIC commands, subroutines or new commands.

HARDWARE REQUIREMENTS: VIC 20.

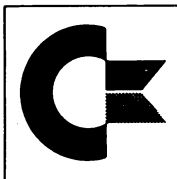
Commodore Dealers

\$59.95

VIC1212



VIC 20



VICMON MACHINE LANGUAGE MONITOR

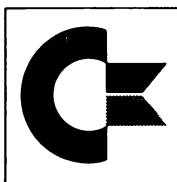
Helps machine code programmers write fast, efficient 6502 assembly language programs. Includes one line assembler/disassembler.

HARDWARE REQUIREMENTS: VIC 20.

Commodore Dealers

\$59.95

VIC1213



VIC AVENGER

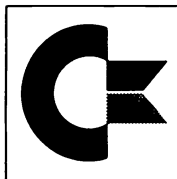
Commodore's most popular cartridge game. It's an invasion of space intruders and you're the "VIC Avenger." Lasers, barricades, aliens, and more . . . it's all part of the excitement. Great space action for arcade enthusiasts! Play with joystick or from keyboard.

HARDWARE REQUIREMENTS: VIC 20.

Commodore Dealers

\$29.95

VIC1901



SUPERSLOT

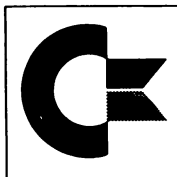
Colorful slot machine game works just like the real thing! Great music and sound effects!

HARDWARE REQUIREMENTS: VIC 20.

Commodore Dealers

\$29.95

VIC1904



VIC SUPER ALIEN

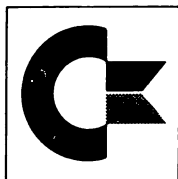
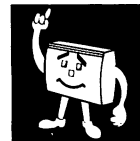
You're trapped in a maze and your only defense is the "alien buster." Can you capture the aliens before they zap you?

HARDWARE REQUIREMENTS: VIC 20.

Commodore Dealers

\$24.95

VIC1906



SUPER LANDER

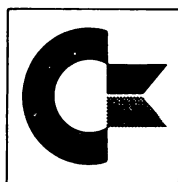
Pilot your "Jupiter lander" through the treacherous crevices of a mysterious planet. Variable rocket thrust, anti-gravity, horizontal retros.

HARDWARE REQUIREMENTS: VIC 20.

Commodore Dealers

\$29.95

VIC1907



DRAW POKER

Casino-style poker recreates the real thing! Superb animation and sound effects add to the fun, mystery and luck.

HARDWARE REQUIREMENTS: VIC 20.

Commodore Dealers

\$29.95

VIC1908



MIDNIGHT DRIVE

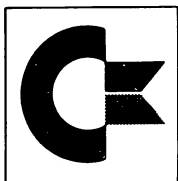
Authentic night driving simulation provides thrills, chills and . . . spills? An unusual computer challenge.

HARDWARE REQUIREMENTS: VIC 20.

Commodore Dealers

\$29.95

VIC1909



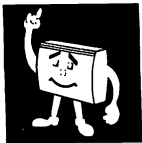
RAT RACE

It's a rat's life in this fast moving, melodic maze-chase game. The challenge is to pick up all the cheese and get as many points as you can . . . but don't run into any cats or let any other rats catch you, and be careful you don't use all your energy. This is a fun game with terrific graphics, sound effects, music and strategy play. All ages.

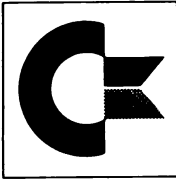
HARDWARE REQUIREMENTS: VIC 20.

Commodore Dealers

\$29.95



VIC 20



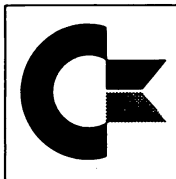
SCOTT ADVENTURE GAMES

Scott Adams Adventure games provide fascinating puzzles that lead you through haunted castles, across treasure laden islands and into the misty realm of computerized "Adventures." If you've never "talked" to a computer . . . and had it "talk" back . . . you'll love these game cartridges. Titles available in December include: ADVENTURELAND, PIRATE COVE, VODOO CASTLE, THE COUNT, and MISSION IMPOSSIBLE. Ask about decoded versions for use with VOTRAX voice synthesizers.

HARDWARE REQUIREMENTS: VIC 20 (also decoded for VOTRAX).

Commodore Dealers

\$29.95-34.95



SARGON II CHESS

Sargon II Chess has been called the most powerful chess game ever written for a microcomputer! The Sargon II Chess cartridge turns your VIC 20 into a top-flight chess opponent. Helps you perfect your game, teaches you strategy and provides hours of challenging fun for all levels, from novice through chessmaster. Perfect for those times when you long for a quick game but your chess partner's not around. (Available December/January.)

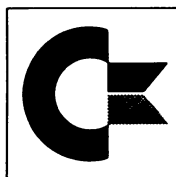
HARDWARE REQUIREMENTS: VIC 20.

Commodore Dealers & Hayden Book Co.

\$39.95

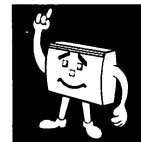
VIC 20 PROGRAMS ON TAPE CASSETTE

Programs on tape cassette are more economical than cartridges (less than half the cost), and are loaded into the VIC 20 using the Commodore Datasette Recorder. The Datasette, which lets you store and retrieve your own BASIC programs on ordinary audio tapes, is the most popular VIC accessory. It opens up a whole library of inexpensive programs, including those listed below, which are available in economical "six packs" or individually.



RECREATION 6 PACK A

CAR CHASE—Fast-paced arcade style racing game which pits you against an opposing car . . . as you race around the track trying to evade the "crash car," you must try to collect all the point markers on the track. Full track



controls include Movement Control, Accelerate, Decelerate. Excellent graphics and play action. \$14.95

BLUE MEANIES FROM OUTER SPACE—A Commodore original! You're defending your starbase against the dreaded "Blue Meanies." They keep eating chunks out of your defenses while you fight them off with six lasers, and a robot who rebuilds your base. Great action, multiple strategies. \$14.95

VIC 21—CASINO STYLE BLACKJACK—You pays your money and you takes your chance . . . except in this game, you don't have to lose real money. Commodore's own **ONE OR TWO PLAYER** blackjack game includes split, double down, surrender and all other great rules that make blackjack so popular. Excellent simulation for card-counting practice! \$14.95

SLITHER/SUPER SLITHER—A computer classic! You maneuver the slither around the screen, trying to capture as many numbered squares before the slither's tail gets too long or you run out of time. The scoring boxes keep appearing and disappearing so you better be quick! Fast. Fun. Frantic! \$14.95

BIORHYTHM/COMPATIBILITY—Are you compatible with your boss? Secretary? Girl friend? Commodore's Biorhythm tape has an exclusive compatibility feature which compares your Biorhythm chart to see if you're compatible. All the VIC needs is your birthdate and you'll see your Biorhythm chart displayed in color, critical "up-down" days and comparison of charts. Perfect for parties! \$14.95

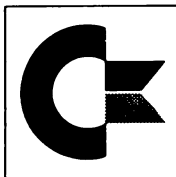
SPACEMATH—How can you put math in a game? We've done it! You've got to guess the solution to the problem in the missile before it hits your spaceship. This is a game of speed. Are you fast enough? Choose the type of problems you want (addition, subtraction, multiplication, division), and the speed (fast/slow). Math practice recommended for students grades 1 through 6. \$14.95

HARDWARE REQUIREMENTS: VIC 20, and Datasette.

Commodore Dealers

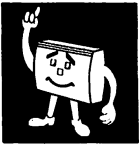
\$59.95 (set)

VT 106 A



HOME CALCULATION 6 PACK A

PERSONAL FINANCE I & II—(2 tapes). Keep track of your monthly personal finances . . . by expense categories YOU define! Household expenses, mortgage and loan payments, income from job or investments . . . it all gets handled quickly and painlessly by the VIC 20 **HOUSEHOLD FINANCE** program. This decision-making tool helps you calculate how much money you'll have left this month . . . lets you define tax categories for business or personal expenses . . . calculate home budgets . . . and gives you a continuous record of your monthly financial transactions. Displays



VIC 20

information in list format or as colorful comparison graphs. All you need are these TWO TAPES (4 SEPARATE PROGRAMS!). Set up the system any way you want, then save the data by month using standard audio cassette tapes. Helpful, convenient, and “friendly” to use. No paperwork! \$29.95

HOME INVENTORY—Keep track of your valuable items . . . home or office . . . on computer! The VIC 20 Home Inventory program lets you list each item, its value, and additional data on easy-to-store, convenient cassette tapes. Your home inventory records can save you money if items are lost, damaged, or destroyed. You’ll want to keep this program in your safety deposit box! Useful and convenient. No paperwork involved! \$14.95

LOAN/MORTGAGE CALCULATOR—FINANCIAL DECISION AID—Can you afford to buy a house now? A car? Should you pay today’s high interest rates or wait until they come down? Will a larger down payment reduce your monthly payments? Can you cut down the loan term by paying more each month? How much more? The VIC Loan/Mortgage Calculator acts like a financial consultant to help you get the answers you need to make key loan and mortgage decisions. Term of loan, interest rate, down payment, amortization tables and more are included. Separate programs calculate mortgage/real estate data and loan data. Very timely in today’s tight money market, when a wrong loan decision can cost more than you planned. \$14.95

VIC TYPEWRITER—HOME WORD PROCESSING & TYPING PRACTICE—The VIC Typewriter helps you write memos, letters, reports, articles . . . even keep a diary! Side One of the tape is a word processing system which lets you write and edit text on your TV screen, using the VIC 20 keyboard like a typewriter. You can also use the VIC GRAPHIC PRINTER to make paper copies of your text . . . and save what you write on standard audio cassette tapes. Side Two of the tape is a “Typing Practice” program. The VIC’s typewriter keyboard and the built-in clock record your typing speed as you practice a variety of exercises designed to increase your speed and dexterity. Typing Practice is educational for new typists and great fun for experienced typists who want to check their speed. Two programs on one tape make this an exceptional value! \$14.95

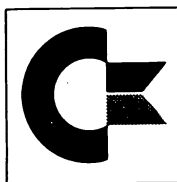
VIC 20 PROGRAMMABLE CHARACTER SET & GAMEGRAPHICS EDITOR—This powerful computing aid lets the VIC user create up to 64 programmable characters—including foreign language character sets, mathematical/scientific notation symbols, and gamegraphics. Characters can be included in BASIC programs and saved on tape. The editor takes only one-half kilobyte of program space. Computer game enthusiasts will be delighted by the full menu of special commands. MASK the current character set, DISPLAY up to nine programmable symbols at once and view the full character set. 8 × 8 matrix. Combines Machine code speed with VIC system features. Can be used at all levels. \$14.95

HARDWARE REQUIREMENTS: VIC 20.

Commodore Dealers

\$59.95

VT 107 A



VICTERM I—TERMINAL EMULATOR

A handy VIC terminal program on tape which converts any VIC to a terminal for use with a telephone modem.

HARDWARE REQUIREMENTS: VIC 20.

Commodore Dealers

\$9.95

VT 232

MATH BID

Drill and practice problems in addition, subtraction, multiplication, or division are presented, as determined by the student. The unique feature of this program lies in the fact that it is an achievement motivation game. That is, before the computer gives a problem to be solved, the student must make a bid on his or her ability to solve the problem (including the amount of time that will be needed). The difficulty level of the problem selected by the computer and the amount of points won by the student will depend on those choices. Each exercise consists of ten problems, after which the student's performance is summarized.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Ed

\$7.95

VMA-1

COUNT 'EM

One to nine steam locomotives appear on the screen. Each problem presents a different number of locomotives. How many are there? If the answer is right, a right answer locomotive chugs across the screen. At the end of the lesson the student's performance is summarized.

HARDWARE REQUIREMENTS: VIC 20.

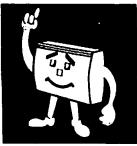
Micro-Ed

\$7.95

VMA-2

MATCHING CAPITAL LETTERS

The computer selects one of several capital letters that appear on the screen. Which letter on the keyboard matches it? The student tries to find and press the key with the matching letter. If the student does not know the answer and



VIC 20

presses the up arrow key, the computer will give the answer. At the end of the lesson, the student's performance is summarized.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Ed

\$7.95

VRE-3

MATCHING SMALL WITH CAPITAL LETTERS

The computer selects one of several lower case letters that appear on the screen. Which capital letter on the keyboard matches it? The student tries to find and press the key with the matching letter. If the student does not know the answer and presses the up-arrow key, the computer will give the answer. At the end of the lesson, the student's performance is summarized.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Ed

\$7.95

VMA-4

WHICH LETTER IS MISSING

The computer presents a row of capital letters on the screen. But one of them is covered. Which one is it? The student tries to find and press the key with the missing letter. If the student does not know the answer and presses the up-arrow key, the computer will give the answer. At the end of the lesson, the student's performance is summarized.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Ed

\$7.95

VMA-5

IDENTIFYING COMPLETE SENTENCES

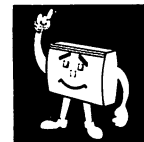
Groups of words are presented on the screen. For each group, the student must identify whether or not it is a complete sentence. The groups are presented in random sequence, and it is unlikely that any given lesson will have exactly the same groups of words as the preceding lesson. At the end of the lesson, the student's performance is summarized.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Ed

\$7.95

VRE-9



TYPE TO READ

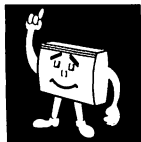
These four sets of tapes are designed for students who have yet to master the basic word attack patterns, essential to the business of learning to read. It is based on the principle that there is usually a dependable relationship between the sounds of the English language, and the ways these sounds are represented in writing. Of the more than one thousand words taught in this series, only three do not have a regular correspondence between symbol and sound: of, to, and the. These three words first appear in Lessons 71 and 72 of Set B. In all other instances, once the students have linked certain letter arrangements with their corresponding patterns of sound, they can rely on this association as they proceed. There are no tricks, exceptions, or surprises to undermine the students' growing confidence in their ability to learn to read. Each lesson begins with a sentence printed on the screen. The learner types this sentence at the keyboard as indicated by an arrow appearing in turn under each letter or space of the problem sentence. As the student types, only correct responses are reproduced on the screen. In this way, the learner's performance is shaped in a positive manner to produce results that are always correct. As each word is typed the learner should pronounce it. For this reason it is recommended that the learner be accompanied by a partner, who monitors the learner's reading of each word. When the learner finishes typing a sentence, the screen clears and the sentence re-appears but with a word missing. This sequence repeats with a different word missing each time until the learner can type the sentence from memory. At the end of each lesson, the learner's performance is summarized, and if the student does not ask for help from the computer by pressing the = sign, the screen will display two space warriors as a reward. The series consists of four sets of programs.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Ed	\$105.00	VRE-13 (A)
	\$119.00	VRE-14 (B)
	\$147.00	VRE-15 (C)
	\$168.00	VRE-16 (D)

READING COMPREHENSION SERIES

This series is designed to be used with the TYPE TO READ series. Whereas Type to Read is intended to help students upgrade their beginning word attack skills, our Reading Comprehension programs are meant to give students practice in understanding what they read. To serve this purpose, the Comprehension series uses a variation of the popular Cloze method—an approach which uses words in context as a means of assessing understanding. Each lesson begins with four lines of text printed on the screen. Each line has a missing word. Near the bottom of the screen are five numbered words. Four of these words belong in the four “blanks” or “holes” in the text. The fifth does not belong anywhere. The problem for the student is to identify where the words belong. It is strongly recommended that the various



VIC 20

Comprehension exercises be used only after certain exercises have been successfully completed for the Type to Read series. The reason for this is that the words used in the Comprehension series are the words used in the Type to Read series. Both series are based on a step-by-step progression carefully worked out to cover a substantial sequence of lessons.

HARDWARE REQUIREMENTS: VIC 20.

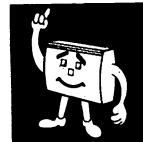
Micro-Ed	\$35.00	VRE-17 (A)
	\$42.00	VRE-18 (B)
	\$77.00	VRE-19 (C)
	\$84.00	VRE-20 (D)

WORD GUESS SPELLING SERIES

This series is designed to supplement regular classroom instruction for grades 2 through 6. It will be most suitable for students who are average or above average in their ability to spell. (For students of below average ability, refer to Extra Practice Spelling Series.) Each grade level consists of 36 lessons programmed on seven tapes. Each tape carries 5 or 6 lessons. All lessons on each tape are available through a single loading. The entire series has a total of 180 lessons. Each tape, after being loaded, works as follows: First, the student chooses the desired lesson from those offered on the tape. Then the computer randomly selects a word from the lesson and, near the top of the screen, prints a rectangle equivalent in length to the length of the mystery word. The student now has three choices. He/she can try to guess the entire word, guess a single letter, or ask the computer to reveal a letter of the word. If the student tries to guess the word, 100 points are won if the guess is right, and 5 points are lost if it is wrong. If the student tries to guess a letter the cost of the guess is one point (right or wrong). If the student's guess is wrong no letters are revealed. If the guess is correct all such letters are revealed. If the student asks the computer for help, only one letter is revealed, even though there may be more than one such letter in the word. The cost of this option is always 2 points. When the student finally guesses the word, the computer summarizes the results on an ongoing basis. This includes the average score per word, plus a list of the specific words presented by the computer.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Ed	\$49.95	VSP-2
	\$49.95	VSP-3
	\$49.95	VSP-4
	\$49.95	VSP-5
	\$49.95	VSP-6



EXTRA PRACTICE SPELLING

This series is designed for students who need extra practice in order to develop their spelling skills. Although the specific words are different from those in the Word Guess Spelling Series, the patterns into which the words are grouped for practice are the same as the patterns listed for the regular series. Each lesson works as follows: A word appears on the screen and remains visible while the student tries to type it on the keyboard. The student makes as many attempts as necessary to accomplish this. When the word has been typed correctly, the screen is cleared and the student is asked to type in the word from memory. If this is not done successfully, the word reappears and the process starts over again. When the student types in the word from memory correctly, a new word is presented and the cycle starts over. The words are selected at random from a bank of 30 to 50 words per lesson. The lesson may be terminated at any time, and the student's performance is summarized with a list of words that caused trouble. The total program includes grades two through six, with thirty-six lessons per level and a total of 180 lessons in all.

HARDWARE REQUIREMENTS: VIC 20.

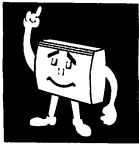
Micro-Ed	\$49.95	VSP-12 (Gr 2)
	\$49.95	VSP-13 (Gr 3)
	\$49.95	VSP-14 (Gr 4)
	\$49.95	VSP-15 (Gr 5)
	\$49.95	VSP-16 (Gr 6)

LUNAR LANDER

This game allows the "Astronaut" to take over the controls of a Lunar Excursion Module (LEM) as it is making its descent to the moon. The program provides information via screen displays, depicting amount of propulsion, fuel remaining, height and descent speed. In addition, the LEM is displayed as it descends to the surface. If the astronaut is not careful, the module can be damaged or even totally destroyed upon impact.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Spec Ltd.	\$9.95 (or any 3 for \$27.50)
	+ .50 shipping



VIC 20

WRAP

This is a game for two players requiring manual skill and dexterity as you attempt to trap your opponent and force him to "Crash." The VIC will act as your opponent if you desire.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Spec Ltd. **\$9.95 (or any 3 for \$27.50)**
+ .50 shipping

BREAKOUT

This game requires skill as you attempt to knock out the various colored bricks, without missing the returning ball. The deeper you succeed in breaking into the wall, the higher the value of your score until you break and truly increase your score. See who can get the highest score.

HARDWARE REQUIREMENTS: VIC 20.

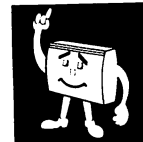
Micro-Spec Ltd. **\$9.95 (or any 3 for \$27.50)**
+ .50 shipping

BLACKJACK

Las Vegas style blackjack with the VIC serving as dealer. Two players can play against the house (VIC), utilizing such strategy as "Doubling Down" and controlling your gets. Each card is displayed on the screen in full color. The VIC provides an easy way to develop your "SYSTEM" before actually going to the tables.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Spec Ltd. **\$9.95 (or any 3 for \$27.50)**
+ .50 shipping



PONS

The standard game of Paddle tennis, with the option of the VIC playing one or both sides of the net. Excellent use of the color and sound capabilities of the VIC.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Spec Ltd. **\$9.95 (or any 3 for \$27.50)**
 + .50 shipping

SLOTS

Try your hand at this "One Armed Bandit." Excellent depiction of a slot machine utilizing the VIC's color and sound capabilities. You can really get arm weary pumping in your money.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Spec Ltd. **\$9.95 (or any 3 for \$27.50)**
 + .50 shipping

ALIEN RAIDERS

The aliens are invading the earth. It is up to you to destroy them before they land. The tension increases as you try to accumulate a high score.

HARDWARE REQUIREMENTS: VIC 20.

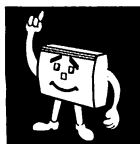
Micro-Spec Ltd. **\$9.95 (or any 3 for \$27.50)**
 + .50 shipping

BOMBS AWAY

Fly your bomber across the landscape and avoid the anti-aircraft fire. Release your bombs and try to destroy the enemy's gun positions.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Spec Ltd. **\$9.95 (or any 3 for \$27.50)**
 + .50 shipping



VIC 20

HOME FINANCE

Calculate payments, interest rates, remaining balances, future balances, annuities and investments. Calculates any unknown, given the other variables of the classic interest formulas. Screen prompts step you through each calculation, after selecting your purpose from a master menu.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Spec Ltd. **\$9.95 (or any 3 for \$27.50)**
+ .50 shipping

OTHELLO

The VIC acts as the board and judge in a two player othello game. Excellent game of strategy and skill.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Spec Ltd. **\$9.95 (or any 3 for \$27.50)**
+ .50 shipping

TARGET MOON

Another hand/eye coordination game involving a maneuverable cannon which you use to shoot down various targets. Excellent use of color and sound.

HARDWARE REQUIREMENTS: VIC 20.

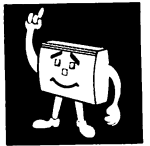
Micro-Spec Ltd. **\$9.95 (or any 3 for \$27.50)**
+ .50 shipping

SHOOTING GALLERY

Go to the arcade and attempt to hit all of the bobbing targets. Accumulate points as you score.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Spec Ltd. **\$9.95 (or any 3 for \$27.50)**
+ .50 shipping



CAPTURE

Draw the robots into the land mines and electrified fences while avoiding their attempts to capture you. Who will win?

HARDWARE REQUIREMENTS: VIC 20.

Micro-Spec Ltd.

**\$9.95 (or any 3 for \$27.50)
+ .50 shipping**

TRAIL WEST

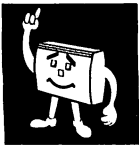
In Trail West, the player is trying to get to the gold fields of California, two thousand miles away. At the outset, some units of food, ammunition, clothes, and supplies are available. Reserve units are also on hand. Reserve units can also be transferred to other categories as needed. The player loses if the reserve units are overspent, or if the units in any of the other categories are reduced to zero. A cycle of events occurs as follows: First the player's situation is displayed. This consists of a listing of the various categories. The player is asked whether any reserve units should be transferred to any other categories. (As the game progresses this will become necessary.) Next, a hunting sequence takes place. On the right side of the screen, a target animal appears. The player uses the numbers 1 to 20 to shoot at the target. The farther down on the screen the target is, the larger will be the number needed to hit the target. Each time the player enters a number, and presses the return key, a bullet shoots across the screen, and the player's ammunition is reduced by one unit. The hunting sequence continues until successful, at which point the player's food supply is increased by three units. Then it is time to travel. Each leg of the journey has a destination shown by an X on the screen. The player is represented by an arrow. The idea is to make the arrow reach the X in as few turns as possible. This is done by entering direction and distance. For example, typing W13 and pressing the return key will cause the arrow to move 13 spaces to the west. As each leg of the journey is completed, the distance to the gold fields is reduced according to how far the player travels. The player's food supply is reduced by one unit for each turn that is required to reach the destination. After this, random events occur. A big storm might hit, a wagon may overturn in a river, and so on. These mishaps have the effect of reducing the number of units in certain categories. Occasionally, the player may be lucky enough to have a few units added to the reserve supply. The game continues until the player either reaches the gold fields or perishes on the trail.

HARDWARE REQUIREMENTS: VIC 20.

Micro-Ed

\$7.95

VOT-1



VIC 20

HOME INVENTORY (2 programs on 1 cassette)

Home Inventory is designed to provide all the functions you need to do a fairly thorough cataloging of your possessions. It will record, change, and delete inventory items in up to 40 different categories. It will evaluate inventory in any category, and it will search the items in memory for specific inventory of possessions. Part I: Entering and Updating Inventory Items. Part 2: Summing and Displaying Inventory Totals.

HARDWARE REQUIREMENTS: 5K VIC and cassette unit.

Creative Software

\$14.95 + \$1.50 shipping

LOGIC GAMES PACKAGE (2 programs on 1 cassette)

These 2 programs, Code Maker and Code Breaker, are based on the famous Mastermind game by Invicta. Utilizing the VIC's color, graphics, and sound, these programs will appeal to those who like solving puzzles or watching while the computer tries to solve the puzzles you give it. Besides providing many hours of entertainment, these programs can turn your VIC into an exciting conversation piece.

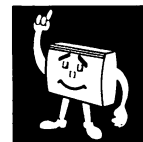
HARDWARE REQUIREMENTS: 5K VIC and cassette unit.

Creative Software

\$14.95 + \$1.50 shipping

RECREATIONAL/EDUCATIONAL PACKAGE II

This package of 2 programs on 1 cassette is designed to entertain as well as educate, and make full use of the VIC's color, graphics, and sound. **MATH HURDLER**—You are racing along a race track, trying to jump 10 hurdles as you go. The hurdles are arithmetic problems, the type and difficulty of which you may choose before starting the race. Watch the man on the screen run and jump, but don't get the wrong answer to the problem, or he will fall when he tries to jump the hurdle! Try to beat your previous high score! **MONSTER MAZE**—You are exploring a labyrinthian cave, trying to travel from one end to the other. The maze is populated with one to three monsters, who can walk through walls as they try to catch and eat you. Just like a real cave, you have to follow various pathways before you can see where they lead. As long as you don't get caught, you may play for as long as you wish. Makes a new



maze every time you play, for even greater challenge. Test your memory, reflexes, and spatial perception while you have hours of fun!

HARDWARE REQUIREMENTS: 5K VIC and cassette unit.

Creative Software **\$14.95 + \$1.50 shipping**

VIC GAMES (3 games on one tape cassette)

SEAWOLF—which is written completely in machine language, is an action game using either the keyboard or joystick. You're the captain of a submarine, and the object is to sink as many ships as possible within 60 seconds. Different levels of skill, sound, color and slowly floating mines add to the challenge and enjoyment of this fast-moving game.

BOUNCEOUT—is also written completely in machine language. A game of anticipation and reflexes, you direct a bouncing ball at a wall of three types of bricks. Each time the ball hits a brick, it disappears from the wall and your score increases. Realistic bounces (such as bouncing off corners and sides of bricks) add to the difficulty. Variable skill levels, sound and color are included in this open-ended game. Uses either keyboard or joystick input.

VIC TRAP—You play against the VIC in this exciting game. Try to trap VIC into running into either your trail, VIC's own trail, or the boundary of the screen. VIC will automatically keep a running score of who wins each round, and display it at the end of each round. Uses either keyboard or joystick input, and includes color and sound.

HARDWARE REQUIREMENTS: 5K VIC and cassette unit.

Creative Software **\$24.95 + \$1.50 shipping**

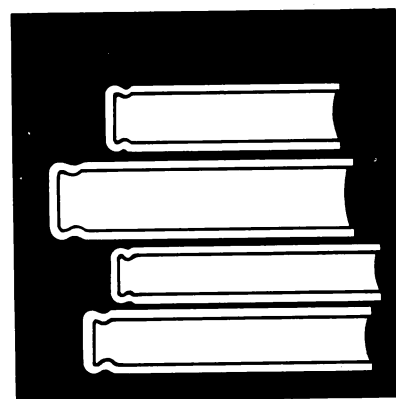
HOUSEHOLD FINANCE PACKAGE (4 programs on 2 cassettes)

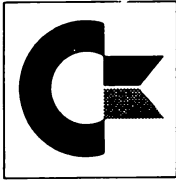
Household Finance was designed to provide all the basic functions you need to do a fairly thorough accounting of your family's finances. It will record, change, and delete expense and income items in 15 general categories. It will give you monthly and yearly totals in any or all categories, and graph a colorful spending profile. It provides a budgeting program to help you clamp down on excessive spending; and its end-of-year feature will read through all your expenses and accumulate the total tax-deductible items you've indicated. Part I: Entering and Updating Income and expenses. Part II: Summing and Displaying Spending Patterns. Part III: Displaying Budgeted and Actual Expenses. Part IV: Calculating Deductible Expenses.

HARDWARE REQUIREMENTS: 5K VIC and cassette unit.

Creative Software **\$34.95 + \$1.50 shipping**

PUBLICATIONS



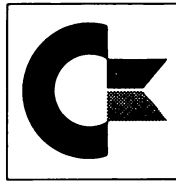


USERS' REFERENCE MANUAL BASIC 4.0

A manual geared to teaching the functions and capabilities of the Commodore 8N, 16N, and 32N professional computers with terminal-styled keyboards. Can also be a supplement for CBM model 16B and 32B with typewriter-styled keyboards.

Commodore Business Machines \$9.95

321604



CBM USER GUIDE

Features of the computer are described in an easy-to-understand, nontechnical manner. Learn about the keyboard, the display screen, and attaching peripherals.

Commodore Business Machines \$7.95

320877

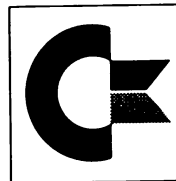


CBM PRINTER MANUAL 4022

Applies to the Tractor Feed Printer Model 2022. This manual contains all the information you need to check out, connect, and operate your printer.

Commodore Business Machines \$7.95

320838



5 1/4" FLOPPY DISK MANUAL FLOPPY DISKS 2040, 4040, 8050

This User's Manual contains the information you need to connect, check out, and operate all of Commodore's Dual Floppy Disk Drives.

Commodore Business Machines \$7.95

320899

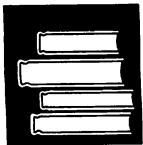


MOS HARDWARE MANUAL

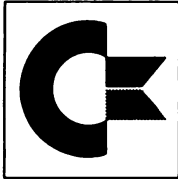
This manual tells you how the 65XX family of microprocessor chips functions and the support chips needed.

Commodore Business Machines \$7.95

320524



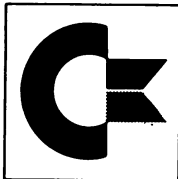
PUBLICATIONS



MOS PROGRAMMING MANUAL

This manual is designed to work in conjunction with the Hardware Manual which describes the basic hardware consideration when using the MOS Technology, Inc. microcomputer family.

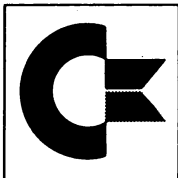
Commodore Business Machines \$6.95 320525



THE PET REVEALED

This book is a collection of discoveries about Commodore Computers, how and why they work, and how to use these facts to write better programs and perform more interesting functions. Programs presented in this book are included for their instructional value.

Commodore Business Machines \$19.95 900010



THE LIBRARY OF PET SUBROUTINES

This book makes the process of writing an application program considerably easier for the average Commodore Computer User. It contains the logical framework on which to build, plus a few aids in the form of standard subroutines.

Commodore Business Machines \$19.95 900020



PET BASIC 1

The complete guide to hassle-free programming. Each chapter is written for the reader who's learning to use the PET. Filled with examples, do-it-yourself exercises, and fun-filled explorations. Also serves as a handy, well-organized reference source for veteran PET owners.

Reston Publishing, Inc. \$12.95 R5524-5



THE COMPUTER TUTOR

Now everyone can learn how to use their personal computer with help from this exciting and entertaining collection of educational computer programs. Designed for parents to introduce their children to computing, the entire family will be able to join in the fun of computer play. Using easy-to-learn techniques, parents can experiment with suggestions for modifying and personalizing their own family programs, while kids will sharpen their math and spelling skills, learn the metric system, and even get a taste of portfolio management by "playing the stock market." At the same time, both parents and children will begin an invaluable lifelong education in computer literacy. The book also includes a discussion of graphic and computer-assisted instruction terms.

HARDWARE REQUIREMENTS: 16K CBM.

Winthrop Publishers, Inc. \$10.95

COMPUTER GAMES

A challenging collection of computer games with something for everyone. Complete programs are provided for a wide variety of highly entertaining games, from the traditional to the new and unusual.

HARDWARE REQUIREMENTS: 16K CBM.

Winthrop Publishers, Inc.

JINSAM NEWSLETTER

Quarterly publication. Includes user applications for JINSAM Data Manager systems, user comments, updates, detailed descriptions of interface accessory modules and new releases.

HARDWARE REQUIREMENTS: None.

Jini Micro Systems, Inc. \$5.00 JMNL



PUBLICATIONS

THE BASIC HANDBOOK

Second Edition

This 480-page SECOND EDITION is the only way to get a handle on the entire BASIC language—the only book that explains all the important BASIC words from around the world. It keeps you up to date with the rapidly growing BASIC vocabulary. With this new book, you can convert most of the BASIC programs appearing in the popular literature to run on your computer. No longer do you have to miss out on elegant and powerful BASIC programs just because they're written in "foreign" BASIC dialects. This new desktop reference helps you understand all the significant new words, plus it provides fresh insights into the old ones. Easy-to-use index, as well as "Variations in Spelling" and "Also See" listings that cross-reference every word. An expanded version of the popular "If Your Computer Doesn't Have It" section and the new "Theory of Disk BASIC." An "Interlocking Subroutines" system is constructed so Line Numbers won't overlap with numbers in other subroutines. And much more.

CompuSoft Publishing

\$19.95

UNDERSTANDING YOUR PET/CBM PET VOL 1

Vol I Basic Programming

A 248-page softcover book that combines five of the successful TIS workbooks. In addition, discussions for both ROM's are integrated into the text. There's a ROM summary chapter, plus a comprehensive index to all topics. Linus, the friendly TIS lion, is featured throughout.

Total Information Services

\$14.95

PET GRAPHICS

Fifty-two page softcover booklet that will help you use one of the most powerful features of the PET/CBM. Explains the use of cursor control and special graphics symbols to draw plots, histograms, and sketches. Describes how to use POKE to directly show information on the display screen.

Total Information Services

\$9.95

WB-3



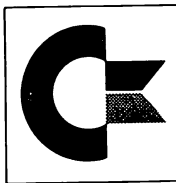
PET INTERFACING

This two hundred sixty-two page book gives you a better idea of how specialized interfaces can be built and used with the PET. The three types of interfacing that are covered in this book are the user port, the memory expansion port, and the IEEE-488 port. Each of these ports has a specific use, and each is covered in detail. This is really a how-to-do-it book with many experiments for you to perform to learn more about interfacing the PET and to learn more about control signals. The book opens with an introduction to PET microprocessor hardware and guides you through the construction of a simple breadboarding circuit. This is followed by interface experiments with the user port, interfacing the PET with the IEEE-488 port. The book concludes with three appendices that contain flowcharts, program listings for a general-purpose listener/talker, and sources of supply for electronic parts. It is directed to the user who wants to expand his or her system by using the user port, memory port, and/or IEEE-488 port.

Howard W. Sams & Co., Inc.

\$16.95

ISBN:0-672-21795-3



COMMODORE THE MICROCOMPUTER MAGAZINE

A bi-monthly publication of COMMODORE BUSINESS MACHINES, Inc. which provides current information, programming techniques, hardware updates, and cost-effective applications relating to the COMMODORE PET, CBM, VIC 20, and SuperPET computers. Enlightening articles by recognized industry experts, along with insightful interviews, provide a close look at the trends in the world of microcomputers. The magazine also contains new product news, details on current software, time-saving tips on programming, product literature reviews, suggestions for educational and business applications, and other information relevant to COMMODORE computer users. Use handy order form at rear of this encyclopedia.

Commodore Business Machines

\$15.00/yr. US

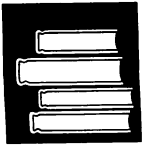
\$25.00/yr. Canada and Mexico



PET/CBM PERSONAL COMPUTER GUIDE

Second Edition

This is a step-by-step guide that assumes no prior knowledge of computers. If you can read English, you can use this book. This revised second edition provides even more useful material than the popular first edition. It covers most of the CBM products including: the CBM 8000 and 4000 series computers, the 2040, and 8050 disk drives, and programmable printers. It is



PUBLICATIONS

a step-by-step tutorial for both BASIC and CBM BASIC. This is the book you must have to really understand your PET or CBM. Each example is thoroughly documented so you can learn how and why the programs work. The book covers everything you need to know to be the master of your PET.

Osborne/McGraw Hill

\$15.00

DIGITAL HARMONY

The book includes a description of the author's computer and peripherals, and the film techniques used, as well as listings and descriptions of programs sufficient for anyone beginning to explore this new art field. The unprecedented discovery of a matching world of harmony in the visual domain foretells a vast new field of exploration for the composer. It promises to transform future small computers into an ideal instrument for creating compositions of aural/visual art.

McGraw Hill

\$21.95

BEYOND GAMES

Use your 6502 personal computer for more than games! Learn how it works and how to make it work for you. This book is for the computer owner who knows little or nothing about bits, bytes, hardware, and software, presents a guided tour of your computer. Beginning with basic concepts such as what is memory? what is a program?, *Beyond Games* moves through a fast but surprisingly complete course in assembly language programming. Having mastered these fundamentals, the reader is introduced to many useful subroutines and programming tools, such as screen utilities, print utilities, a machine language monitor, a hexadecimal dump tool, a move tool, a disassembler, and a simple, screen-based text editor.

McGraw Hill

\$14.95

HANDS ON BASIC WITH A PET

Introduces the student to BASIC on the PET. The reader will immediately note that the book is structured quite differently from most programming texts. Each chapter begins with a statement of the objective for that chapter. Then the student is guided through a set of exercises that demonstrates BASIC in action and permits experimentation with its characteristics. Once a



“feel” for BASIC has been acquired, one can profitably proceed to the usual text treatment. The mathematics level has been kept low so as not to discourage the majority of beginners. The student must have access to a PET to use the text.

McGraw Hill

\$10.95



PET GAMES AND RECREATIONS

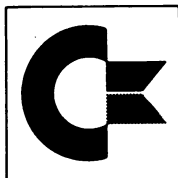
This book is a delightful menagerie of diversions carefully designed to entertain and educate. It's ideal for beginning programmers and equally challenging for computer veterans. Game enthusiasts of all ages will love the variety and excitement. Each game is preceded by an amusing and understandable writeup that gives the “flavor” of the game, a summary of instructions, interesting background information, level of difficulty, and very occasional strategy hint. Each category begins with “A-level” games (players as young as 6 can enjoy these). The range of difficulty within each category progresses from beginners' games to games that could stump a logic professor for a month! There are five types of games:

- Plan-ahead . . . think out strategies
- Deductive reasoning . . . be a detective
- Games of chance . . . gamble with the computer
- Language and counting skills . . . develop these skills
- Recreations . . . pure entertainment

Plus an added bonus—Dr. Wacko's lecture series on Computer Wacko Science. Prerequisite: a sense of humor and a desire to experiment. Laugh and learn.

Reston Publications

\$12.95



VIC PROGRAMMERS REFERENCE GUIDE

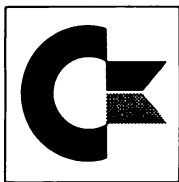
A must for serious programmers. It contains full documentation on VIC hardware and software, including sections on BASIC and Machine Code programming, memory maps, input/output routines, creative programming techniques, and much more—all the information you need to perform computer magic on the VIC. This informative three hundred page manual is one of the most “user friendly” programming references ever offered.

Commodore Business Machines

\$16.95



PUBLICATIONS



THE TRANSACTOR

This is a monthly publication of Commodore Canada, and is primarily a technical periodical, containing pertinent hardware and software information for the CBM, PET, Vic, and SuperPET systems. Each issue features product reviews, hardware and software evaluations, and programming tips from the finest technical experts on Commodore products. Additionally, The Transactor contains general information such as product updates and trade show reports. To receive The Transactor each month fill out the handy subscription card at the end of this encyclopedia and mail it in along with your check or money order.

Commodore Canada

\$10.00/mo. Canada & U.S.

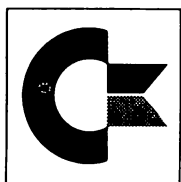
MICROCOMPUTER PRINTOUT

This is an independent magazine specializing in the Commodore system. Each issue is packed with news, articles about programming in PET BASIC, test reports on the latest peripherals, and really thorough software reviews. Plus regular columns by leading experts, readers letters, solutions to programming problems, even a gossip column! Printout can save you time, trouble, and money whether your interest is business, education, or just plain fun. Use the handy order form at the back of the encyclopedia.

Printout

\$45.00 airmail

\$36.00 surface



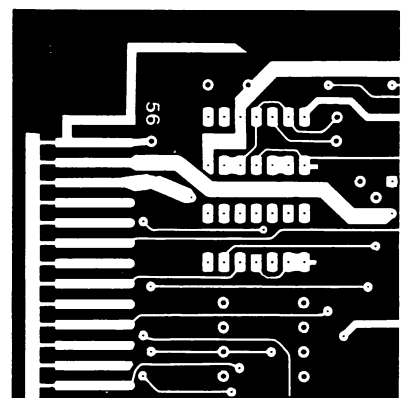
COMMODORE CLUB NEWS

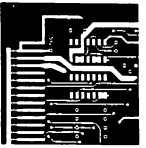
The United Kingdom newsletter is dedicated to supplying up to date information on all Commodore products with special attention being paid to the latest Approved Products. Each issue of Club News is packed with information which will help both beginners and advanced users to gain a better insight into the working of the machine helping them to produce better programs or to buy the correct product for their application. Most of the articles are written by users with an interest in a specialist field such as communications or machine control which makes the magazine a good reference guide. At the same time there are articles written by Commodore staff for helping the beginner to use the CBM computers more effectively.

Commodore (UK)

£15.00

FIRMWARE





SM-KIT

A collection of machine code firmware aids for BASIC programmers on a 4K chip for 40 or 80 column CBMs. Included are: Error Detection, Line Numbering, Screen Output, Output Control to Disk or Printer, Hardcopy, Find, Renumber, Variable Dump, Trace, Disk Commands, Load, Merge, Save and Verify.

HARDWARE REQUIREMENTS: 4.0 ROM version CPU.

AB Computers

\$40.00

PROGRAMMERS TOOLKIT™

The BASIC Programmer's Toolkit™ is a collection of machine language firmware aids designed to enhance the writing, debugging, and polishing of BASIC programs for the PET/CBM. The "toolkit" offers additional ROM storage, avoiding any need to load tapes or give up valuable RAM storage. For the 16K and 32K PET/CBM the ROM chip plugs into a spare socket on the main circuit board. On the 8K PET/CBM, it is mounted on a special PC board with an edge connector. The "toolkit" is not a kit, comes fully assembled, and requires no special tools to install. Available for all PET/CBMs, both 40 and 80 column, in BASIC 4.0.

HARDWARE REQUIREMENTS: Any CPU. Specify equipment when ordering.

Palo Alto ICs

\$39.95

TK-4.0

\$39.95

TK-160

\$59.95

TK-80P

\$59.95

TK-16P

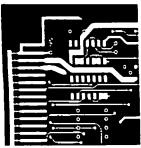
VIGIL

Video Interactive Game Interpretive Language is easy to learn and permits quick creation of interactive applications. VIGIL has over 60 commands to manipulate graphics figures on the screen, double density graphics, access to two event timers, tone generation to be used with an external speaker, 9 preprogrammed applications for demonstration, load and save to cassette or disk and comprehensive manual with program listings.

HARDWARE REQUIREMENTS: 8K 2000 or 4000 series CBM, and Disk Drive or C2N.

Abacus Software

\$35.00 USA



FIRMWARE

MACHINE LANGUAGE UTILITY-PAC

A "TOOLKIT" for Machine Language Programmers. Forty-three additional commands, including DOS, are contained on a 4K ROM. Included are Assembler, Dissassembler, Hunt Memory, Quick Trace, Compare Memory, Transfer Memory, Relocator, Walk Code, Integrate Memory, Screen Dump to Printer, Fill Memory, Fast Code Entry, Hex to Dec and ASCII conversions and Vice Versa. Most functions to screen or printer. Programs accessible from BASIC are DOS, Rev. Print, Screen Dump, Enhanced Screen Dump, Re/new, Auto-Repeat, Disk Append, Rev. Screen and Display. Available at either \$A000 or \$9000 location. Includes manual, call for availability on CBM 8032.

HARDWARE REQUIREMENTS: Any 2000 or 4000 series CBM.

Competitive Software	\$79.95 + \$2.00 ship	MLP3.0/4.0
	(Foreign add 10%)	

BASIC UTILITIES

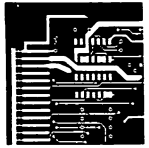
ROM contains 19 programs, including: Auto, Renumber, Delete, Find, Append (tape), Dump, Enhanced Screen Dump, Re/new, Auto Repeat, Append (disk), Rev. Screen and Display. Uses \$9000 location. The 4K version works on COMMODORE disks and printers. The 2K version has only first 10 commands and is the only one which works on CBM 8032. Specify ROM set when ordering—not available for old 8K PET.

HARDWARE REQUIREMENTS: Any CBM (except old 8K PET).

Competitive Software	\$79.95 4K	BAS UT 3.0
	\$39.95 2K	BAS UT 4.0
	+ \$2.00 ship	
	(Foreign add 10%)	

POWER

POWER is a programmer's utility package (in a 4K ROM) containing a series of new commands and utilities added to the Screen Editor and the Basic interpreter. Designed for the CBM BASIC user, POWER contains special editing, programming, and software debugging tools not found in any other microcomputer BASIC. POWER's special keyboard "instant action" features and additional commands make up for, and go beyond the limitations of, CBM BASIC. The added features include: auto line numbering, complete tracing functions, single stepping through programs, line renumbering, and definition of keys as BASIC keywords. 'WHY'



command enhances debugging by listing the appropriate program line and highlighting where BASIC stopped executing. The cursor movement keys are enhanced by the addition of auto-repeat, and text search and replace functions are added to help ease program modification. Can execute a sequential tape or disk file as though it were typed on the keyboard, allowing the user to merge two BASIC programs together. Cursor UP and Cursor DOWN produce previous and next lines of source code. COMPLETE BASIC PROGRAM listings in memory can be displayed on the screen and scrolled in either direction. Add your own commands to BASIC. Includes convenient "stick-on" keycap labels, which define new functions on the keyboard. A must for every dedicated CBM user.

HARDWARE REQUIREMENTS: Any CBM (3.0 or 4.0 ROM).

Professional Software Dealers	\$89.95	8040/4040
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SORT

SORT is a powerful, flexible and easy to use in-memory sorting program, written in 6502 machine language. Most sorts are accomplished in less than a second, and very large sorts take only a few seconds. The algorithm is a diminishing increment insertion sort, with optimally chosen increments. This algorithm has the advantage of being significantly faster (without being much longer) than simpler ones, and significantly smaller (but not much slower) than more complicated ones. Moreover, unlike some of the more complicated algorithms, there are no conditions under which the performance of SORT degenerates or fails. SORT derives as much information as possible about the data it is to sort, from BASIC's internal variable descriptors, and figures out for itself whether it is sorting integers, floating point numbers, or strings, and adjusts itself accordingly. In addition, it determines whether the array has one dimension or two, and takes into account the size of each dimension. The calling program has only to supply the information that SORT can't figure out for itself. In addition, a machine language text screen dump is included in the EPROM as a bonus for the user.

HARDWARE REQUIREMENTS: 16K CPU, 3.0 or 4.0 ROM. Specify when ordering.

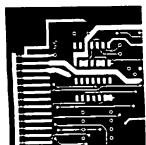
Matrix Software Inc.	\$55.00
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AUTO-BOOT

A ROM that automatically loads and runs the first program on the disk.

HARDWARE REQUIREMENTS: Any PET or CBM.

Cyberia Inc.	\$49.50
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FIRMWARE

DISK-O-PRO

Adds 25 program commands to all models of Commodore PET/CBM upgraded to BASIC 2.0 (also called version 3). Includes all of the commands of BASIC 4.0 plus 10 extra commands such as: program APPEND from the disk, SCROLL program listings, and PRINT USING to format the screen or any printer. The ideal answer to upgrade the original Classic PET to all of the commands of BASIC 4.0. The 4K ROM chip is available when you turn on your PET/CBM. No programs to load or interfere with other programs. No user memory is affected.

Skyles Electric Works

\$75.00

COMMAND-O

Adds 20 powerful commands to all BASIC 4.0 PET/CBM. Includes the enhancement commands: disk INITIALIZE, program APPEND, program EXECUTE, SET user definable key, SEND command to disk, and much more. Additionally, it includes powerful programming aid commands: AUTO line numbering, DUMP variables, DELETE specified line or lines, FIND variables, HELP discover program error, STEP and TRACE program execution, and RENUMBER range of program lines. APPEND program from disk, and much more. The 4K ROM chip is immediately available when you turn on your PET/CBM. No programs to load or interfere with user memory.

Skyles Electric Works

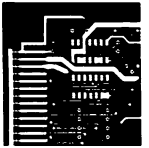
\$75.00

MIKRO

The ideal assembler for beginning machine language programmers or experts who do not wish to go to the fuss of loading a complicated software development system. Write 6502 machine language programs with the same ease as writing BASIC programs on your PET/CBM. All of the outstanding features of the Commodore screen editor are available as well as the BASIC Programmers TOOLKIT or Command-O. Contains all normal assembler features including labels. Includes 50 page manual to get you started with machine language programming. A 4K ROM chip immediately available when you turn on your PRT/CBM. No programs to load or interfere with user memory.

Skyles Electric Works

\$75.00



PIC-CHIP

Forty program commands to easily create dynamic graphic displays: plots, bar graphs; pictures: rolling, scrolling, shifting, and inverting. High speed machine language routines select among the best of the outstanding Commodore Graphic symbols to create your dynamic display. It is like having home movies on your CRT. The 2K ROM chip is immediately available for your programs when you turn on your PET/CBM. No programs to load or interfere with user memory.

Skyles Electric Works

\$60.00

MATH ROM

With this ROM installed in the character generator socket, by poking the lower case character set, you will be able to print most mathematical symbols to the screen. This includes superscripted variables, operators, exponentiation, subscripting, two part integral sign, three part radical sign, forward arrow, and a number of Greek letters.

West River Electronics R&D

\$60.00

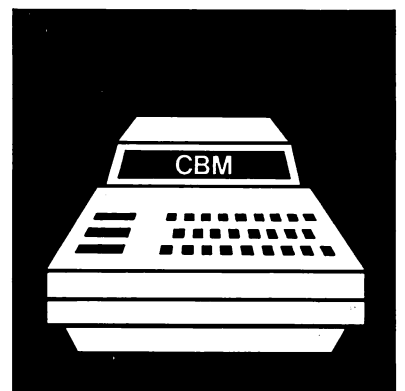
FOREIGN LANGUAGE ROM

This ROM gives the PET all the extra characters needed to display text in English, German, French, Spanish, Italian, Latin, Dutch, Polish, Czech, and Portuguese. As in the Math ROM above only the lower case character set has been changed.

West River Electronics R&D

\$60.00

HARDWARE





REAL-TIME AUDIO SPECTRUM ANALYZER

This device provides full audio spectrum analysis capabilities at a fraction of the price of conventional dedicated systems. The analyzer divides the audio frequency spectrum from 20 Hz to 20 kHz into 31 one-third octave bands. The relative amplitudes of these bands are displayed on the computer CRT. The display mode can be either linear or logarithmic, and decay and gain can be varied by using specially designated keys on the computer keyboard. The firmware provided by the analyzer also allows keyboard control of mode (average or normal), and update (increase or decrease). There is also a peak hold feature as well. The analyzer consists of a set of 31 filters, detectors, an analog to digital converter, a 1K ROM containing machine language routines, and peripheral circuitry needed to transfer analog data into the computer's memory. The simplest BASIC program required to turn the computer into a real-time spectrum analyzer is only three statements long. It can also be used to display up to 32 channels of audio level for use with large mixers and consoles. Accepts input levels from +14 to -20 dBV, input impedance—10K unbalanced, resolution—144 elements (1V input signal gives 7 mV resolution), accuracy— $\pm 1/4$ db, extra pair of op-amps—one wired as 1:1 inverter, one uncommitted. Power is obtained from the computer and all cables, etc., are supplied. Can be programmed to do any or all of the following:

- Store and recall spectrum data
- Perform A, C, or other weighting on spectrum data
- Determine whether any preset amplitudes have been exceeded
- Compare present data with past or other channel data
- Determine reverberation time in any frequency cell and graph decay characteristics
- Generate printouts, graphs, and reports
- Title displays and axes in engineering or other units
- Generate test signals at user port
- Use the computer as a controller to maintain constant loudness in various environments.
- Recognize spectral characteristics of voice or other material
- Find intermittent faults in audio components by monitoring output and catching sudden changes
- Give statistical summary of noise at certain locations on an hour by hour or integrated basis.

HARDWARE REQUIREMENTS: 8K CPU. Specify ROM type when ordering.

Eventide Clockworks

\$595.00

THS224

BIG MEM

Big Mem comes in three configurations, designed to add 16, 24, or 32K of memory to the Commodore computer. It comes complete with all necessary hardware and requires no electrical modification of the computer. It obtains power from the computer's transformer, but not after the regulators. The 24K version allows writing of programs to the total capacity of the computer. The 32K version permits storage of protected machine code and displays.



HARDWARE

There are also sockets for EPROMS in which machine coded programs may be put. Big Mem uses dynamic RAM to maintain extremely low power dissipation, and also permits mounting inside the computer cabinet. Maximum power consumption on the 32K version is only 2.7 watts, and typically about 2.4 watts. All timing is referenced to signals available at the Commodore expansion memory connector. Refresh is performed automatically and transparently, without slowing the CPU.

HARDWARE REQUIREMENTS: 8K 2000 series.

Eventide Clockworks	\$420.00—16K
	\$525.00—24K
	\$615.00—32K



INTEGRATED VISIBLE MEMORY BOARD

The Integrated Visible Memory board is the newest member of the MTU series of high resolution graphics products for the PET and CBM computers. The board offers the PET user full control over a 320 by 200 dot matrix on the display. Additionally, it can be used as an 8K RAM board when the graphics are not in use. The board is installed in the only address space normally open in most PETs. Several valuable features are: 4 types of video image control, 5 bank switchable ROM sockets, and a shared address space bus for external bus expansion. Light pen registers have been built in to accommodate a "to-be-announced" option. The board is designed to fit inside the PET cabinet for maximum protection and portability. Connection from the board to the PET is through a ribbon cable which mates with an MTU connector board. The 5 ROM sockets permit having both RAM and ROM at the same address with software selection that is enabled. The board generates an expansion bus at its edge fingers for simple interfacing to all MTU expansion boards. When using the expansion bus capability, the board should be plugged into a K-1005-P card file, which then gives the user 4 additional external expansion positions. The on-board power supply is driven by AC and unregulated DC from the PET/CBM. All mounting hardware and connectors are provided. The package consists of K-1005 mounting bracket, K-1007 connector board, K-1008 IVMB, and K-1008-C Keyword Graphics Software.

HARDWARE REQUIREMENTS: Specify configuration when ordering.

Micro Technology Unlimited	\$483.00	K-1008-41 (16/32K 2.0 ROM)
	\$458.00	K-1008-42 (2001 1.0 ROM)
	\$495.00	K-1008-43 (40/80 col 2.0 ROM)
	\$483.00	K-1008-44 (16/32K 4.0 ROM)



MUSIC BOARD

Eight bit digital-to-audio converter with 6 pole low pass filter. The board also contains a ½ watt audio amplifier and a volume control. Plugs into the user port and cassette port with edge finger extensions, to permit daisy chaining so use of these two ports is not tied up.

HARDWARE REQUIREMENTS: Any PET/CBM.

Micro Technology Unlimited \$59.00 1002-2

ANALOG INPUT MODULE

The AIM 16 is a 16-channel analog to digital converter which is connected to the computer through the 8 bit input port and 8 bit output port, or through one of the μ MAC SYSTEM'S special interfaces. The input voltage range is 0 to 5.12 volts which is converted to a count between 0 and 255. Resolution is 20 millivolts per count and accuracy is 0.5% $\pm$ 1 bit. Conversion time is less than 100 microseconds per channel. All 16 channels can be scanned in under 1.5 milliseconds. Power requirements are 12 volts DC @ 60 mA.

Connecticut microComputer, Inc \$179.00

POW1

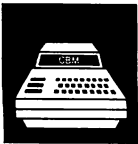
The POW1 is the power module for the AIM 16. One unit has the capacity to handle one AIM 16, one MANMOD1, one XPANDR1, one computer interface, and sixteen sensors.

Connecticut microComputer, Inc \$14.95

TEMPSENS

This module provides two temperature probes for use by the AIM 16. This module should be used with the MANMOD1 for ease of hookup. The MANMOD will support up to 16 probes (eight TEMPSSENS modules). Resolution for each probe is 1 degree F.

Connecticut microComputer, Inc \$69.95



HARDWARE

XPANDR1

Allows up to eight I/O modules to be connected to a computer at one time. It is connected to the computer in place of the AIM 16. Up to eight AIM 16s are then connected to each of the eight ports.

Connecticut microComputer, Inc \$59.95

PARALLEL PRINTER ADAPTER

The ADA1600 is a low-cost easy-to-use interface for Commodore Computers. It allows the PET and CBM computers to use standard Centronics type printers (including the NEC 5530) for improved quality printing. The ADA1600 has a two-foot cable which plugs into the PET IEEE port. Another IEEE card edge connector is provided for connecting disks and other peripherals to the PET. The ADA1600 is addressable and does not tie up the bus. The address is switch selectable. A four-foot cable with a standard 36-pin Centronics connector is provided. A switch selects upper/lower case, upper/lower case reversed (needed for some Commodore machines) and upper case only for clearer program listings. Works with WORDPRO, BASIC and other software. No special programming is required. The case measures $3\frac{1}{2} \times 5\frac{3}{4}$ inches. Comes complete, assembled and tested, with case and cables. Power is obtained from the printer or an external power supply may be used.

Connecticut microComputer, Inc \$129.00

ADA1600

SERIAL PRINTER ADAPTERS

The ADA1450 is a low-cost, easy-to-use serial interface for Commodore Computers. It allows the PET and CBM computers to use standard serial printers for improved quality printing. The ADA1450 has a two-foot cable which plugs into the PET IEEE port. Another IEEE card edge connector is provided for connecting disks and other peripherals to the PET. The ADA1450 is addressable and does not tie up the bus. The address is switch selectable. A six-foot RS-232 cable is provided with a DB25 connector. Pin 3 is data out. Pins 5, 6, and 8 act as ready lines to the printer. Pins 4 and 20 act as ready lines from the printer. These lines can be switched for non-standard printers. Baud rate is selectable to 9600 baud. A switch selects upper/lower case, upper/lower case reversed (needed for some Commodore machines) and upper case only for clearer program listings. Works with WORDPRO, BASIC and other software. No special programming is required. The case measures $3\frac{1}{2} \times 5\frac{3}{4}$ inches. Comes complete, assembled and tested, with case, cables, power supply and software on cassette for graphing functions, formatting data, etc. The ADA1450 has a female DB25 connector at the end



of the RS-232 cable for most standard printers. The ADA1450N has male DB25 at the end of the RS-232 cable for the DIABLO serial printers.

Connecticut microComputer, Inc	\$149.00	ADA1450
	\$149.00	ADA1450N

PARALLEL PRINTER ADAPTER FOR CENTRONICS

The ADA730 is a low-cost easy-to-use interface for Commodore Computers. It allows PET and CBM computers to use Centronics type 730 and 737 printers. The ADA 730 has a two-foot cable which plugs into the PET IEEE port. Another IEEE card edge connector is provided for connecting disks and other peripherals to the PET. The ADA730 is addressable and does not tie up the bus. The address is switch selectable. A cable with a 36 pin card edge connector is provided. A switch selects upper/lower case, upper/lower case reversed (needed for some Commodore machines) and upper case only for clearer program listings. Works with WORDPRO, BASIC and other software. No special programming is required. The case measures 3½ × 5¾ inches. Comes complete, assembled and tested, with case and cables. Power is obtained from the printer or an external power supply may be used.

Connecticut microComputer, Inc	\$129.00	ADA730
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SADI

SADI—The microprocessor-based serial and parallel interface for the Commodore PET. SADI allows you to connect your PET to parallel and serial printers, CRT's, modems, acoustic couplers, hardcopy terminals and other computers. The serial and parallel ports are independent, allowing the PET to communicate with both peripheral devices simultaneously or one at a time. In addition, the RS-232 device can communicate with the parallel device. Special features for the PET interface include: conversion to true ASCII both in and out; cursor controls and function characters specially printed; selectable reversal of upper and lower case; addressable—works with other devices. Special features for the serial interface include: baud rate selectable from 75 to 9600; half or full duplex; 32 character buffer; X-ON, X-OFF automatically sent; selectable carriage return delay. Special features for the parallel interface include: data strobe—either polarity; device ready—either polarity; Centronics compatible. Complete with power supply, PET IEEE cable, RS-232 connector, parallel port connector and case. Assembled and tested.

Connecticut microComputer, Inc	\$295.00
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HARDWARE

EPROM PROGRAMMING SYSTEM

The DRL EPROM Programming System for the Commodore PET consists of the EPROM Programmer itself, which connects simultaneously to the PET's user port and first cassette port, and a software package normally loaded from disk but also usable from cassette. The system can handle 2K or 4K EPROMs, selectable by a switch on the Programmer and a command to the software. (NOTE that not all 4K EPROMs are suitable without other changes to the Programmer.) The software package is written entirely in machine code. The use of machine code has also enabled several facilities to be included, which would have been intolerably slow if written in BASIC. EPP presents a control-panel type of display to the user with a number of characters flashing, to indicate the possible options which can be selected. This control panel is always displayed when running EPP, and the information it presents is always pertinent to the current action being performed. The code and internal working storage of EPP occupy the first 8K or 24K bytes of memory and are available for EPROM reading, writing and verifying operations, and are divided into sections each holding one full EPROM's-worth of data. Thus, the memory arrangement for 2K EPROMs is different than that for 4K EPROMs.

Davidson-Richards (UK)

Computer Marketing Services (US) \$250.00

PET COMMUNICATION SYSTEM

The DRL PET Communication System enables a CBM or PET computer to be used as an interactive video attached remotely or locally to a mainframe computer. Using protocols varying from complex and demanding synchronous modes to relatively simple asynchronous modes, it's more suitable for the former, which makes more use of the power of the system. Comprehensive facilities are provided for applications programs written in PET BASIC to communicate with programs running in the mainframe. This is by the addition of several additional BASIC commands. The System provides synchronous operation to ICL protocol standards ICLC01, ICLC02 or ICL03. These cover 7181, 7501 and 7502 protocols, as used by the various executives on the 7501/7502 range of ICL terminals. It provides a full-facility video emulation, with the full range of addressable cursor and format controls, protected and/or flashing fields, and additional facilities such as screen hardcopy print and mainframe-controlled loading and running of BASIC applications programs. The System consists of a Communications Control Box and a comprehensive software package which is loaded into the PET and controls both the PET and the Box when running communications applications. This package is named PETCM. The Box itself connects to the PET's User Port, and contains a full microprocessor board, with 16 to 48Kb of ROM, a fully programmable Universal Synchronous-Asynchronous Receiver Transmitter (USART) and various parallel ports and timers. It runs software, which is partly resident in its ROM (those routines which are common to all protocols) and partly down-loaded from the PET. The



down-loaded code is concerned with the particular communications line and protocol characteristics. The Box itself connects to the PET'S User Port, and contains a full microprocessor board with 16 to 48Kb of RAM, up to 8Kb of ROM, a fully programmable Universal Synchronous-Asynchronous Receiver Transmitter (USART) and various parallel ports and timers. It runs software which is partly resident in its ROM (those routines which are common to all protocols) and partly down-loaded from the PET. The down-loaded code is that part concerned with the particular communications line and protocol characteristics. The Box provides an RS-232C (CCITT V24) interface for connection to a modem, or directly to the mainframe's communication interface for local use. Timing signals can be provided by the Box if required. The Box handles the Mainframe protocol and a special parallel protocol between itself and the PET. Since the PET's User Port is used rather than the IEEE Port, disk and printer transfer are not affected by the connection of the Box. This design also allows high speed data transfers between the Box and the PET. The Box itself is multiprogrammed via a system of interrupts to enable conversations to be conducted simultaneously, at high speed, with both the PET and the mainframe. The result is highly efficient use of the communications lines so that several terminals (whether they be PET based or not) can be multidropped off the single telephone line, depending on its quality and capacity. The DRL PET Communications System is designed to operate most efficiently at speeds in the range 1200 baud to 9600 baud, although line speeds outside of this range can be selected if required.

HARDWARE REQUIREMENTS: 8032, or 4032, 3042 (8032 recommended).

Davidson and Richards (UK)
Computer Marketing Services (US) \$1495.00

MICROPROCESSOR ISOLATION

SUPER-ISOLATOR ISO-3 offers an effective, convenient method of isolating microprocessor equipment from damaging AC power line spikes, surges and noise. Especially useful in laboratory and industrial environments, the SUPER-ISOLATOR also provides inter-equipment and isolation for super-sensitive installations.

Electronic Specialists, Inc. \$94.95

SOUNDWARE MUSIC BOX

Plug the Soundware Music Box into your computer, and your games and programs come alive! Imagine hearing laser sounds, bounces, clicks, music notes, tunes, or whatever you dream up, from your computer. Soundware



HARDWARE

Music Box can also be programmed independently, for a wide variety of audio experiences. A “must” for all serious game players.

HARDWARE REQUIREMENTS: 8-32K PET.

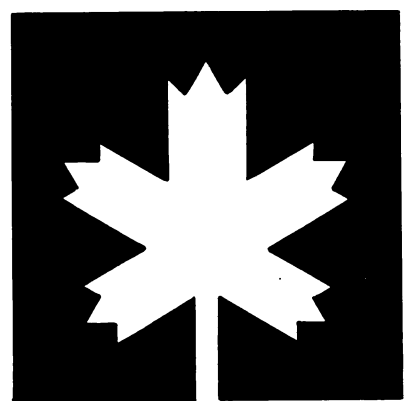
United Software of America \$29.95

3G LIGHT PEN

The 3G Light Pen lets you interact directly with your computer. Keyboard entry is not necessary. All you need to do is point the Light Pen to the CRT screen and the computer responds. Research shows people relate better to pens than to keyboards. The 3G Light Pen can save you time and avoid costly mistakes! Ready to plug in and use. Demonstration cassette is included.

3G Company \$37.95

CANADA





AUDIO/VIDEO ADAPTER

This device slides onto the ports at the rear of the PET. It has a built-in "Petunia" and "CB2" to produce sound or music. It also puts out a video signal for classroom monitors, allowing all students to follow PET program on large TV screens.

HARDWARE REQUIREMENTS: Contact dealer.

Comaldor **\$75.00**

75-OHM TERMINATOR

When plugged into "Video Out" of classroom monitor it improves quality of picture from PET. If TV's are "daisy-chained" use on last TV.

HARDWARE REQUIREMENTS: Contact dealer.

Comaldor **\$2.00**

PETSOUND

The AUDIO component only of the AUDIO/VIDEO ADAPTER. Very compact.

HARDWARE REQUIREMENTS: Contact dealer.

Comaldor **\$25.00**

VIDEO CABLE

We supply quality RG 59/U video cable in any lengths. Ideal for connecting television sets to the AUDIO/VIDEO ADAPTER and interconnection TV monitors.

HARDWARE REQUIREMENTS: Contact dealer.

Comaldor **\$5.00 + .50 cents per foot**



CANADA

COMPOSE

Converts the PET keyboard into an organ. Compose songs and hear them played back. It will save your song on tape to be played later on the PET. You can change the tempo and tone quality each time you hear it.

HARDWARE REQUIREMENTS: Contact dealer.

Comaldor **\$12.00**

CLASSLIST

Avoid the drudgery of making classlists. Takes your pupils' names, alphabetizes them, and prints out classlists with your school name at top, your name, and the subject name and code as well. Gives a choice of 4 sizes of boxes for marks or attendance.

HARDWARE REQUIREMENTS: Contact dealer.

Comaldor **\$12.00**

STORYWRITER & STORYTELLER

These programs allow you to write your own stories or articles with questions for students to answer. Great for follow-up to trips, films, TV units. Valuable for review lessons, ESL, and Special Ed. Written stories and questions are saved on tape for future use. STORYTELLER displays these stories and the questions. Students can read at own rate. After they have answered the questions, the PET resets and waits for the next student to read the unit. At the end, teacher may enter a code word to have students' names, residing times, and answers to questions displayed on screen or printed out.

HARDWARE REQUIREMENTS: Contact dealer.

Comaldor **\$20.00 (for both)**

MATHMADNESS

Super multiplication drill. Displays in large script pairs of random numbers. Pupils type in product to see next pair. Drills on tables from 4 to 9. When



teacher enters code, displays or prints pupil's name and results in random order. Timing sequence may be dropped at teacher's choice.

HARDWARE REQUIREMENTS: Contact dealer.

Comaldor **\$12.00**

MARKS

Takes marks of major and minor tests in various subject areas, weights them as per teacher request, producing final average for each student. Allows for absences. Stores results on tape for future reference. Handles over 40 students.

HARDWARE REQUIREMENTS: Contact dealer.

Comaldor **\$12.00**

SPORTSTAT

If you run a hockey pool or wish to keep track of any house league sport, then this program is for you. Each participant can draft players from the NHL, for example, for his "personal" team.

- team owners
- player roster
- player points (updated as often as you wish)
- team points—with play breakdown
- team standings

HARDWARE REQUIREMENTS: Contact dealer.

Comaldor **\$12.00**

MATHRACE

This math drill allows up to 9 players to have a race with facts in: addition, subtraction, multiplication, division or a combination of the four operations. There are 4 levels within each operation that may be chosen. Should the students have difficulty, the program automatically changes to a lower level. As in "Track and Field" each player races in his own lane. The



CANADA

speed with which a player puts in answers determines how far he moves on each turn. It is enjoyable to learn math.

HARDWARE REQUIREMENTS: Contact dealer.

Comaldor **\$12.00**

COMPARISON SHOPPING

A good program for family studies, consumer education, and mathematics. By keeping track of different stores and various items as chosen by the class, the program performs cost analysis by store, by item, and by selective shopping. It calculates savings in dollars and cents as well as percentage and tallies the number of bargains at each store. Results appear on the screen or via a printer if available.

HARDWARE REQUIREMENTS: Contact dealer.

Comaldor **\$12.00**

INSPECTION DRILL

Orchestras and Bands

This series allows the student to practice his fingering for the instrument he plays. It draws realistic instruments and places notes on a staff for pupils to identify and tell how they would produce that note. The valves, keys and strings move or are highlighted as the student indicates which fingers he would employ. A summary of performance is given at the end.

Instruments available to date:

Trumpet, Baritone, Oboe, Trombone, Saxophone, English Horn, French Horn, Clarinet, Violin, Tuba, Flute, Viola.

HARDWARE REQUIREMENTS: Contact dealer.

Comaldor **\$100.00**

CLASS ROLL MANAGEMENT

For Student Services Departments. During start-up or semester change it is frequently hectic keeping track of Course-Selections, Periods, Teachers,



Rooms, Number Registered in a course, Maximum Number, and Co-registered Subjects. This program, using a floppy disk drive, keeps an up-to-the-minute account of all adjustments as students attempt to change timetables to suit individual needs. During peak periods of adjustment, Guidance Counsellors and Administration cannot always wait for mainframe computers to tabulate fluctuating class size. This microcomputer solution requires a 32K PET and a disk drive, and comes with thorough documentation.

HARDWARE REQUIREMENTS: Contact dealer.

Comalдор

\$38.00

PERMISSION FORMS

Your school can send home consistently neat, well-organized permission forms. The program asks nine questions plus a salutation, date, and name of teacher. It then prints out the complete permission form with a tear-off reply section. From this master, ditto or Xerox copies may then be run in whatever quantities you wish.

HARDWARE REQUIREMENTS: Contact dealer.

Comalдор

\$12.00

INVENTORY

This handy program keeps track of all your Audio/Visual equipment! It easily ADDS, DELETES, or REVISES descriptions. It comes with nine headings for A/V but these can be changed to suit your needs. Keep track of Band instruments, Science equipment, Phys Ed equipment, or anything. Data can be stored on disk or tape for easy recall. View the status of your stock on the screen or get a printout at any time.

HARDWARE REQUIREMENTS: Contact dealer.

Comalдор

\$12.00

CONSTELLATIONS

This program for Science has modes for teaching or testing. It introduces each of 8 constellations with a written description accompanied by an



CANADA

accurate visual representation, highlighting the major star. In the test mode, students must name the constellations and their major star as they appear in random order. This is the first in a series of 4 programs—one for each season.

HARDWARE REQUIREMENTS: Contact dealer.

Comalдор

\$12.00

ATTENDANCE REPORT

Designed to assist your secretary in the mornings. As the attendance folders arrive in the office from the Home Rooms, enter each Home Room's absentees. When you have finished, the computer will sort the students alphabetically and print out an attendance list for the day on 8½ × 11 paper.

HARDWARE REQUIREMENTS: Contact dealer.

Comalдор

\$12.00

MASTER MAIL 2.0

This is a commercial mailing list software package, which was designed and written for business users in Canada. It combines large storage capacity and ease of use with extension support for operation by non-computer office personnel. The programs are tailored for Canadian lists, and the structure of each name is strictly controlled. Sufficient flexibility is offered to the business user, but the personal user may be better served with a non-business software package. The fixed structure of MASTER MAIL 2.0 yields high efficiency and reliability. Two years business usage has shown MASTER MAIL to be a valuable business tool. Among business features are: 1. File management is automatic. The user need not be concerned with the location of files on different disks. The computer issues instructions whenever a disk requires changing. 2. Names are sorted primarily by province. Secondary sorts are by city, company and name. All names are stored in alphabetical order. 3. Labels may be printed singly or in duplicate with or without mailing list codes included. Double labels allow one for envelope, one for insert if desired. 4. Total number of names in each province may be displayed on screen. 5. Mailing list codes may be analyzed to determine the make-up of the list. Useful for marketing assistance. 6. Determine the number of envelopes and inserts that will be required in advance of a mailing. 7. All printouts include date, page numbers and printout description to avoid confusion. General features include: 1. MENU driven with very extensive operator prompting. 2. 93 pages of documentation to lead the user step by step. 3. Total capacity of 77,000 names. 4. Names may be selected for printing or displaying by multiple sort days. 5. List may be displayed on the screen, scanning forwards

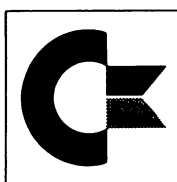


or backwards. 6. User may scan through list, inspecting each name individually. Labels may be printed of individual names in addition to printing by general sort keys. 7. Deletions and corrections are easily accomplished. If corrections result in a name being out of order, it is removed and reinserted in the correct location.

HARDWARE REQUIREMENTS: PET or CBM 32K with 2.0 or 4.0 ROMS, CBM 2022 Tractor printer, CBM 2040 Dual Driver Floppy Disk DOS 1.0 or DOS 2.0

Comaldor

\$229.95



EASYFILE 2

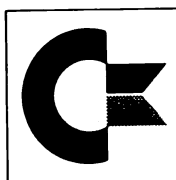
Complete file handling for the CBM

Increase your CBM's handling capabilities by using keyed access to your data. Search your records, using 4-30 alphanumeric character keys, with many times the speed and accuracy of the present CBM system. A valuable, flexible, state-of-the-art programming tool around which to build your CBM system. It's features include: dynamic record allocation, sort alphabetically, insert a record anywhere in the file, a single file can span 4 diskettes, up to 19 files are open read/write at will, read data randomly or sequentially, supports up to 8 disk drives on line. And Screen Formatting is included with EASYFILE. EASYFORM is a programming tool to format the CBM display screen to allow organized data entry. Ideal for customizing your own application software.

HARDWARE REQUIREMENTS: 32K and 2040 Disk Drive. (Basic 2.0 & DOS 1.0) 77 page manual.

Commodore Business Machines Limited (Canada)

\$329.95



HRTS—HOTEL RESERVATION TRACKING SYSTEM

This software system allows the hotel or motel operator to easily and quickly keep accurate track of room reservations. The details of each reservation are entered on the CBM 8032 and displayed on the screen. The computer automatically checks each reservation entry; therefore, it is impossible (for example) to double-book a room. At the beginning of each working day, you will print a "day-sheet" which tells you who is arriving during that day, what room he or she will be staying in, and other valuable information. Reservations may be placed up to five years in advance. You may request a display of the availability of rooms for an entire month at a time, in a format which is clear, concise, and easy to read. In a hotel or motel with less than 200



CANADA

rooms, the Hotel Reservation Tracking System is an invaluable management tool.

HARDWARE REQUIREMENTS: 1 Model 8032 Self-Contained Computer, 1 Model 8050 Dual Floppy Disk Drive, 1 4022 Tractor-Feed Printer, 2 Connection Cables (CBM-IEEE, IEEE-IEEE).

Commodore Business Machines Limited (Canada)

TEACHING TOOLS

Developed by educational psychologists at the University of Toronto and O.I.S.E. Tested Canadian schools, flexible programs useful for a wide variety of students, teaching methods, and situations. Designed to make teaching and learning more effective and enjoyable. Easy to use, comes with complete instructions. Guaranteed to be the best available. Now available:

- | | |
|--|----------|
| ● Addition program | \$ 24.95 |
| ● Subtraction program | \$ 24.95 |
| ● Match Game program | \$ 24.95 |
| ● Letters & Numbers program | \$ 24.95 |
| ● Spelling Package with standard interface* | \$ 99.95 |
| ● Multi-purpose interface** without programs | \$149.95 |

* Standard interface controls your audio recorder.

**Multi-purpose interface adds sound and video output to your computer.

HARDWARE REQUIREMENTS: Contact dealer.

SES Computing Inc. (Canada)



SOFT ROM

The SOFT ROM is compatible with any large keyboard PET/CBM or similar 2532 EPROM systems. May be placed in any ROM socket to give the user room for machine code. If the SOFT ROM is placed in an occupied ROM socket, the user can transfer the PET/CBM ROM into the on-board ROM socket and select between ROM and RAM to manipulate the Commodore operating system. Since the SOFT ROM places write protectable RAM into any of the computer's ROM sockets, it is ideally suited to use as a development tool to test ROM or EPROM based software systems before they are burned in. Examples of software presently available for the SOFT



ROM includes BASIC AID, UNIVERSAL WEDGE, SUPERMON, EXTRAMON, USER PORT PRINTER (Centronics parallel) and a buffered BACKGROUND PRINTER routine. Features: 4096 Bytes of soft ROM, Store Machine Code Software beyond the boundaries of BASIC, Write protect RAM with a flip of a switch, Store variables or indices outside of BASIC, Solve the Conflicting ROM problem by softloading the Appropriate ROM images. Installation is simple, plug-in into any available ROM socket.

Canadian Micro Distributors Ltd. **\$129.00 each**
 \$105.00 (lots of 10)



CMD "DOUBLE-MUPET" MODULE

Designed to allow simultaneous access to more than one IEEE communications bus. This product is designed to work with the Commodore PET/CBM microcomputer and associated peripheral products. Heavy use of the printing function normally dedicates the "MUPET" bus to one user. The "Double-Mupet" relieves this contention by providing the printer or printer spooler with a separate IEEE bus. Features: completely software transparent, multiple "Double-Mupet's" may be used in one system, local and remote IEEE 488 bus operation, a total hardware interface, works with most currently available software, optional printer spooler interfaces available. Applications: Multistation word processing, remote data acquisition, local and remote IEEE devices (test equipment, modems digitizers, etc.), hardware and software development systems, have multiple printers simultaneously accessible (high speed and letter quality), data entry stations (scientific and business).

Canadian Micro Distributors Ltd. **\$1,300 (includes 3 modules)**
 \$350.00 (each additional module)



CMD "MUPET" MULTIUSER DISK SYSTEM

Designed and developed by BMB Compuscience Canada Ltd., to operate with the Commodore PET/CBM microcomputer and the associated Commodore disk drives. Features: Allows up to eight users to independently access the disks, no alterations to existing software required, complete hardware interfaced, software transparent, works well with any PET software (BASIC, ASSEMBLER, DATA BASE, WORDPRO, WORDCRAFT), handles data and program files, optional spooled printer interface available. The MUPET is a multiplexed system which involves the bi-directional transfer of data in the theoretical sense of time sharing. The PET workstations can be connected in a "daisy-chained" fashion from PET to PET. The system priority status is then set on a queuing basis. The



CANADA

standard configuration for the system consists of three PET microcomputers connected through the MUPET controller to the Commodore disk drive. More PET's can be added to the system; but, the practical restriction is eight due to power supply limits. Two spooled printer interfaces have been developed by BMB so that most of today's printers can be added to the system. A printer spooler accepts queued programs of file for listing on the printer. The users can send their output to the spooler and it manages the printer output. The multiuser disk system functions identically with any Commodore PET*/CBM and disk combination. In other words the MUPET operates under the same set of commands as those provided in both the CBM User Manual (p/n 320856-3) and the Disk Manual (p/n 320830-4) operating manuals. External work stations function completely independently of each other.

Canadian Micro Distributors

\$995.00 (includes 3 modules)

\$250 (each additional module)

EUROPE





All products listed in this section are selected items from Europe. Information on any item in this division may be obtained by contacting the COMMODORE Market Support Manager, COMMODORE, Ajax Ave., Slough, Berks, UK.



MAIL ORDER CONTROL

For the mail-order business but adaptable to other uses. Created with both the experienced and novice computer user in mind, to deal rapidly with telephone enquiries, produce printed reports on daily orders, order value summary by method of payment and by order source.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

MMS

£250 + VAT



COMPEC—COSTING

Easy to operate method of accurately recording expenditure against cost centres. A typical application area would be a plant or Taxi company. The 199 costs centres may range from Departments to Sites or Products to Vehicles. Expenditures to be recorded can have as many as 99 classifications, e.g., Wages, Materials, Fuel and Overheads. Descriptions of both the cost centres and the cost categories are easily changed to suit requirements allowing full flexibility. The system provides: Full Audit Trail of transactions, Detailed accounting period tabulations of all transactions by cost centre, Comprehensive Cost centre report totals by category within each cost centre. Facility to carry costs over from one year to the next, user able to set budgets for individual cost centres.

HARDWARE REQUIREMENTS: 32K PET, 3040 Disk Unit and Printer.

MMS

£250 + VAT



OUTSIDE SERVICES

(Costing, Invoicing & Wages Package)

Enables service companies to substantially streamline the preparation of wage sheets and invoices. Typical applications include mini-cab deliveries, field maintenance services, etc. Customer and staff details are by means of the FILE PROGRAM. Costs are then recorded using ENTRY PROGRAM, which prompts the user to answer questions displayed on PET's



EUROPE

screen. Subsequent sessions then add to the files. The files can only be cleared after a printout has been obtained. The INVOICING PROGRAM automatically collates a customer's items and prints his bill. A variable surcharge can be added. VAT is calculated and added as appropriate. STAFF WAGE PROGRAM collates and prints out staff wages (in a wageslip format) with a deductible amount option. Maximum Capacity 200 Customer; 90 staff; 4000 Customer items (approx).

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

£250 + VAT

CASHBOOK

Cashbook takes the hard work out of entering up the cashbook and analyzing the figures. The program has two main functions: 1) Entering up daily/weekly details with up to 20 separate headings. 2) Master printout of all the items accumulated in the data file. Items recorded are: code, date, debit/credit, VAT option, cash/check or balance forward and amount. Additional items can be defined by the user.

HARDWARE REQUIREMENTS: 8032, 8050, Disk Drive.

L&J

3032-3040—20 Fields	£ 90 + VAT
3032-3040—35 Fields	£100 + VAT
4032-4040—35 Fields	£110 + VAT
8032-8050—40 Fields	£120 + VAT



MICROCLERK

Microclerk is a system for keeping textual notes and records on a PET computer. It consists of: (1) A display editor for creating and correcting natural English records of notes, reports, letters, etc. (2) A program to extract from a text all paragraphs containing keyword(s) chosen by the user. Microclerk will also accept any BASIC files from other tape or disk programs and text files stored under WORDPRO and Dataview's WORDCRAFT. The applications of the program not only include menu filing tasks, but will be of interest in the following situations: Minutes of meetings. Recording sales calls, prospect details, etc., Inspection notes. Records of site visits, surveys, etc., Medical records. Technical notes. Reports and manuals. Storage of diary information. The software is well supported both via many



dealers and direct from the supplier. A comprehensive manual comes with the package.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

Dataview

£159 + VAT



GUEST BILLING SYSTEM

The tedious job of entering all the accommodation charges each day is done by the computer automatically. The computer recognizes the date and adds the charges to each guest's account. Even if it hasn't been used for a few days accounts are accurately updated. The program will cater for up to 280 rooms and any guest's account to date can be called to the screen within 2 or 3 seconds simply by entering the room number. When an account is called there is the opportunity to enter services simply by touching a key letter corresponding to an item on a "menu" that is displayed. The list of possible service items can be whatever the individual hotel requires. Twenty-two different items are displayed and up to 75 entries can be made against each account. At the touch of a key, the guest's account can be printed out on customized stationery with a copy for the hotel. Each bill is numbered. When a guest is ready to settle his account the fact is registered by touching a key to signify payment. It is easy to: Change a guest's room number, change the Accommodation Rate, or delete items from an Account. Daily and period totals under each of the headings can be called to the screen whenever required. The totals show: Accommodation, the 22 Service items individually, Credits, Grand Totals, Grand Totals including Service Charges, Payments by Cash, Payments by Credit Cards, Deposits. A code has to be entered before the totals can be called. The Daily Totals automatically Zero each day and the Period Totals can be Zeroed, again under a security code, when desired. The system also lends itself to use where the hotel has a non-resident restaurant—simply by entering Table Numbers in place of Room Numbers. At the touch of a key the calendar can be called and any month displayed from the 18th century onward.

HARDWARE REQUIREMENTS: 3000, 4000, 8000 CPU, 8050 Disk Drive

Landsoft

£350 + VAT



HOTEL GB2

This program contains all the functions of HOTEL GB plus some useful additions. The main one being its ability to automatically bill and analyze for hotels catering for Bed and Breakfast, Half Board and Full Board. However, the hotels totals analysis will give all the items for each day and period



EUROPE

separate totaling for any non-resident meals. Versions available for: Day Date Change hotels, Night Date Change hotels, Single File Disk for smaller hotels (under about 100 rooms).

HARDWARE REQUIREMENTS: 3000, 4000 or 8000 CBM.

Landsoft

£450 + VAT



HOTEL SF

Guest Billing Plus Room Availability—This program combines a more limited version of the above Guest Billing (140 rooms) together with a Room Availability system. The program provides immediate viewing of the availability for up to 12 blocks of rooms for 400 days ahead. A block of rooms are rooms of a similar nature, e.g., singles with baths. Each block can contain up to 99 rooms. The room blocks are initially defined and named by the user using the setting-up procedure.

HARDWARE REQUIREMENTS: 3000, 4000 or 8000 CBM.

Landsoft

£430 + VAT



TRADER

Integrated Stock-Control Invoicing and Sales Accounts—A real-time stock control, invoicing package with full management information, comprehensive reports and analysis. TRADER is totally interactive. Stock levels, account balances, sales totals, etc., are instantly and automatically updated with each transaction. VAT, discounts, gross-profits, etc., are accurately calculated as each invoice, credit-note or other document is produced. Sales analysis and sales reports may be produced on demand showing sales volume and gross-profits against each stock item. Stock reports are available showing stock valuation, low stock, outstanding orders, etc. Reports showing the current status of all sales-accounts may also be produced on demand. Full details of any stock-item or sales-account may be looked up instantly, by any name or code designated by the user. Each stock record contains the stock code, description of item, stores location, current stock, selling price, current cost, average cost, quantity on order, average stock, period sales total and gross-profit from sales. Each Account record contains the account name and address, current balance, last invoice number, last payment received, date of last payment received and aged balance. The total capacity of stock items and sales accounts in 2200 or 7800. Distribution of records is dynamic so that it is possible to enter as many stock-items or sales-accounts up to a combined



total shown above. No significant delay in operating time is evident with a large data base.

HARDWARE REQUIREMENTS: 8032 CBM, 4040 or 8050.

The Bristol Software Factory £300 + VAT



ITEM

A management system to place overheads and purchases under management control. ITEM controls all purchases on an invoice-by-invoice basis. Any supplier's account can be quickly examined to show invoice outstanding, invoice numbers and totals, and when they were dated and settlement discounts that may be due. Remittance advices are printed under total operator control—selecting appropriate invoices for payment and rejecting others, enabling the operator to take maximum advantage of credit and settlements discounts. The purchase ledger is fully integrated to the Nominal Ledger, which may be printed-out or listed on the screen on demand, so that expenditure analysis is instantly available, helping to trim overheads and keep costs in check. And, of course, the Nominal Ledger can include VAT analysis if required. A comprehensive audit trail is automatically produced, saving a great deal of time and trouble at the end of the year. On a 4040 disk system 1000 Purchase Accounts, 200 Nominal Ledger Headings and 600 Active Invoices. If the 8050 disk system is used there can be 3000 Purchase Accounts, 200 Nominal Ledger and 18000 Active Invoices. Sufficient for even the largest company.

HARDWARE REQUIREMENTS: 4040, 8050 Disk Drive.

The Bristol Software Factory £300 + VAT



MONITOR

Open Item Sales Ledger—Controls all sales on an invoice-by invoice basis. Any customer account can be quickly examined, at any time, to show details of all invoices currently outstanding. Statements may be printed, for either. Notes may be added to individual statements by the operator to prompt for payment, etc. Full reports are available including aged-dept analysis over a three month period. Full Nominal Ledger analysis is maintained of all invoices issued and this may, at any time, be printed out or listed on the screen. Of course, the Nominal Ledger can include VAT analysis if required. A comprehensive audit trial is a great deal of time and trouble at the end of the year.



EUROPE

CAPACITY—The system has the capacity to handle up to 1000 Sales Accounts, 6000 Active Invoices and 200 Nominal Ledger analysis headings. Advance programming techniques enable fast access of any record.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

The Bristol Software Factory £300 + VAT



PETAID

PETAID is a sophisticated and powerful BASIC program structure and data base manager. It provides for creating, amending, converting to new formats, files and reports containing commercial mathematic, screen formatting and file formatting. Searching, sorting, indexing, immediate access via any alpha field. Searching, reporting, deleting, creating of history files, creation of sub files, extension of existing files can be performed using any system index. Special facilities provide for the amendment of an existing record format by the addition of fields, the removal of fields or the change of headings and locations. The system will allow mathematics on the record to be changed at any time. Mathematical functions which are allowed are: equal to, multiply, divide, add, subtract, compare, percentage, round, integer, exponent. Even if you have already established your data base the system will allow for conversion of the data base to the new format. Full commercial mathematics are available within the file handling and the report generation, allowing for such complete applications as stock control to be fully set up and handled by the user—including reports. Records can be viewed, nudged, printed under direct access. The system embodies a label printing facility providing for multiple labels. Part Commodore configurations can also be supported with different PETAID versions. Comprehensive directory listings are available under program control. Multi-volume files are under program control. Multi-volume files are permitted for files which won't fit on one disk. Access is allowed by only part of the keyfield or alpha field. Direct access allows "nudging" up and down the file. The system caters for possible common records within the same file.

Training Disk (3000/40000 Series)

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

Stage One Computers

PETAID Version 4.2—Keyed & Indexed Access Method Commodore Disk	£250 + VAT
PETAID Version 4.2 & Report Generator	£300 + VAT
PETAID Version 5.1—Keyed Indexed Access Method for 8032	£250 + VAT
PETAID Report Generator (Page Format—PV4)	£125 + VAT
PETAID Auto Demo/Customer Training Disk (3000/40000 Series)	£25 + VAT



DATA MANAGEMENT SYSTEM

Record keeping made fast and simple on the 32K PET. Main features are: Programs calculation automatically on ALL the records on file or on pre-selected records, e.g., rapid and accurate calculation of inventory values, discounts, across-the-board price changes, fees, VAT, exchange rates, sales figures, etc. Calculates and compares information with constants AND with other fields of information, e.g., on a stock file searches for all records where IN STOCK level is less than MINIMUM STOCK. Or, on sales records, it will add monthly sales figures to each other for annual totals. Searches on several criteria, e.g., everyone who lives in Yorkshire, and/or has a salary of 5,000 to 6,000 and/or joined the company/club before a certain date, and/or has a 10% discount. Sorts the record on any field, either on alpha or numeric criteria, e.g., name order, or invoice amount order or part number order, etc. It has a unique link to WORDCRAFT and WORDPRO; selected information from selected records can be transferred automatically to Word processed letters, thus saving hours and hours of typing time. Prints labels. Prints reports in a variety of formats. Files may be merged and fields may be added or dropped as required, e.g., to insert results of calculations or to store information not initially anticipated. Amends and updates information automatically. Up to 13,600 records on an 8050 and 5000 on a 3040/4040 disk system. Written in BASIC with machine code sorts and searches. Requires absolutely no programming skills.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

CompSoft Limited

£190 + VAT



CREAM COMPUTER SHOP

The Creamwood Business Controller (Sales)—Provides the following important features most businesses require: The main ledger supports approximately 750 accounts and 2750 transactions per month (can be extended without limit) and also prints VAT analysis. Prints cash book, invoices, credit notes and cash paid journals. Invoices/Quotations can be generated on the system and automatically posed to the ledger. Postings can be made at any time to suit user. Account History Transactions available at any time (without limit). Instant comprehensive screen or hardcopy display of account information as required is provided together with powerful analysis features. Accounts are accessed by name or number. Selective customer mailing list available on demand. This program has been designed to run on a Commodore 8032 computer and an 8050 disk drive together with an 80 column printer either PET or ASCII. A version designed to run on the 4040 disk drive is also available on request.

HARDWARE REQUIREMENTS: 8032, 4040, 8050 Disk Drive.

Cream Computer Shop

£300 + VAT



EUROPE



SOLICITOR'S BOOK-KEEPING

Written in accordance with the Solicitors' Accounts Rules, the system maintains both Client and Office ledgers (including nominal accounts). The features include: Automatic updating of both Client and Office bank accounts. Full Audit Trail printed simultaneously with entry. Trial Balance printout available at any time. Automatic printing of Completion Statements for conveyancing in form suitable for issue to client. Automatic production of fee note. Detailed printout of all transactions on both ledgers available monthly. Interrogation facilities to screen or printer. Version available on 3000 and 4000 PETs provides for up to 500 live accounts including 70 nominal accounts. (8000 series with enhanced capacities available shortly.)

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

Anchor Computer Systems £1,200 + VAT



GASOLINE STATIONS ACCOUNT

The program has been prepared specifically for the production of monthly ledgers, etc., invoice sales; purchases; expenses; retail sales. The program aims to: Reduce month-end work load in ledger production. Remove errors in month-end totalling and analysis. Remove errors in daily entries. Provide detailed analysis of sales and purchases. Produce a VAT reconciliation. The program caters for the analysis of daily payments and sales for four distinct ledgers. (Each ledger handles up to 120 entries.) **INVOICE SALES**—e.g., Service Bay, giving the following information: Invoice Ref. Number; Goods Value; VAT Component; Analysis of Sales; Oil; Parts and Materials; Labor Costs; MOT Charges. **PURCHASES**—e.g., Goods/Suppliers, giving the following information: Invoice Ref. Number; Goods Description; Goods Value; VA Component; Suppliers Ref. Number; Analysis of Purchases; Gas; Oil; Parts; Materials; Equipment; Sundry Expenditure; Minerals; Vending Machines; Cigarettes; Sweets. **EXPENSES**—e.g., Overheads, Rent, etc., giving the following information; Goods Description; Goods Value; VAT Component; Analysis of Expenses; Rent/Rates; Heat/Lighting; Telephone; Post/Stationery; General Equipment; General Repairs; Motor Expenses; Sundry Expenditure; VAT Payments; Management Drawing. **RETAIL SALES**—e.g., Counter Sales, giving the following information: Credit Sales; Credit Receipts; Sundry Receipts; Gas Sold (gals); Goods Value; VAT Component; Analysis of Retail Sales; Gas; Cigarettes; Car Wash; Oil; Sweets; Minerals; Accessories. The major advantages of the program are: A. Substantially reduces error in bookkeeping and reduces account auditing costs. B. The user is able to produce an audit trial for all entries and retain a security file. C. The month-end records are sorted and totalled giving complete reconciliation of monthly entries. (Also the VAT on total goods supplied is calculated, for comparison with the summation of the daily entries.) D. The VAT component is calculated for each of the daily entry invoice records for validation of sales/purchase invoices. E. Analysis of



expenditure/income can be undertaken for up to 10 headings per ledger and validated against the total value. This ensures that the correct individual entry has been made. F. Provision can be made for individual customer/supplier accounts to be produced as requested.

HARDWARE REQUIREMENTS: 803, 8050 Disk Drive.

Micro Associates

£250 + VAT



FILEPROG

Fileprog is a general purpose disk-based record filing system, incorporating print routines. The program will allow creation and subsequent updating of up to 3000 records, each containing company name, contact name, address, telephone number and notes. Tailored versions are available to provide more records, or other information in the records. There is a search and display facility, to allow visual display of records found by company name, together with the option to print what is on the display. There are seven different print facilities to print records for individual companies, all records containing a specific sorting code, a mailing list for self-adhesive labels by sorting codes, a mailing list for all companies and a company list facility, which prints all company names together with the associated notes, but without addresses. Fully self-checking back-up routines are included for both blank (new) diskettes and existing back-ups to ensure data on file cannot be accidentally lost. Files are organized to allow a maximum of 200 records for each letter of the alphabet, although the overall maximum is 3000 files.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

Amplicon

£140 + VAT



NEWSBOY

Newsboy is an accounting and distribution system which handles the retail newsagent's tasks of keeping accurate, current records of his customer accounts for newspapers and periodicals. Newsboy updates customers' records to account for: 1. Payments 2. Shortages 3. Substitutions of non-delivered papers 4. Price Changes 5. Delivery Charges 6. Holidays 7. Changes in customer requirements 8. Changes in customer details 9. Miscellaneous purchases. The newsagent can operate the system at his point of sale, where he can look up his customers' details and receive payments to update their accounts. Comprehensive analysis facilities enable the



EUROPE

newsagent to plan his orders for newspapers and magazines week by week, thus reducing the problem of over ordering.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

CPS **£1,100 + VAT**



GOLD

GOLD is a costing and invoicing system for use in the manufacturing jewelry trade. It enables costing information to be adjusted quickly and straightforwardly, and maintains the best selling price for your products at all times. GOLD offers these advantages to the large and small manufacturing jeweler: Immediate re-costing of all products on entry of a new precious metal price. Up-to-date full or partial price list print available at any time. Costings can be adjusted for individual items or a specific range as and when required. Visual display or print of current costing information available at the touch of a button. Invoices produced by entering quantity and product number only. Automatic extension, totalling and printing of invoices.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

CPS **£575 + VAT**



TIME RECORDS COSTING

The system caters up to 1,000 clients, 100 employees and three work types per clients from nine types available. The information is held as follows: (1) Client Cost Information—This includes reference number, name and address, work in progress, cost balance, chargeable expenses total, interim bills total and the breakdown by three possible work types of the hours and cost allocated by any number of employees. (2) Employee Cost Information—This includes name, charge rate, time analysis this period and year to date. (3) Work In Progress Information—This holds up to 12,000 client/employee totals which are used when analyzed by either client or employee to give a comprehensive current position of either. (4) Reports—A detailed summary of the work in progress against any client may be obtained including analysis by three work types, total expenses, hours, interim bills this period and year to date. Also included is the current cost recovery figure and reports may be selected by partner, office or even firm if required. Employee reports show the analysis of time sheets over the various work types by time and by cost for the current period and the year to date. All data input is validated by rigorous error checking routines.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

Computer Services Midlands Ltd. £600 + VAT



VATMAN

VAT Retailers Special Schemes—This program is designed to assist accountants providing a VAT service to their clients; it will also benefit the trader completing his own VAT forms. Providing not only the complete VAT computation for all the current special retailer's schemes, but also valuable analysis of purchases and printed copies of prime entries. Fast and Accurate—Input to the system is of two types; daily takings and purchase invoices. Comprehensive validation checks ensure that errors are minimized. All inputs are stored on disk and can be reviewed and/or amended at any time. Input time is minimized by allowing abbreviated entries and default values. Easily Auditable Reports: The reports produced by the system for a complete set of books for VAT purposes and are easily verified. (1) Takings Report. Grouped into weeks and printed in date order. (2) Purchase Day Book analyzed by expense code. (3) VAT Computation Worksheet. All necessary information for VAT return. Period End—The programs deal automatically with end of period procedures, including scheme adjustments, where applicable. The frequency of VAT returns can be defined for each client as can the VAT rated in operation.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

Computer Services Midlands Ltd. £450 + VAT (to cover one scheme)
 £250 + VAT (to cover one scheme)



COMACCOUNTS—MICRO 30/40, 80

A fully integrated accounting system which supports 800 Sales Accounts, 800 Purchase Accounts, and 400 Nominal Accounts enabling up to 24,000 postings to be made each month. The large nominal ledger will permit a highly detailed analysis of sales and purchases, if required. The current month for a given ledger is kept open item, i.e., the individual amount for transactions, with dates, for that month are shown for each account number. "Brought Forward" balances are held for the preceding three months. In this way, monthly statements for sales ledger customers are produced, together with Aged Analysis of debtors and creditors and transactions listing of Nominal Ledgers. All inputs to the system are monitored and an audit trail is produced with checksums on batches of input documents. A special consolidation facility allows the user to cope with situations where the limit of 800 accounts (in the Sales and Purchase Ledgers) is exceeded. Month end procedures are simple and straightforward. Input System: Input of invoices and credit notes to Sale and Purchase Ledgers. Transfers within Nominal Ledgers. Cash received and paid. Account set-up and amend. Output System: Immediate details, and aged balance, available on any named account. On demand Trial Balance and aged analysis of debtors and creditors. Nominal Ledger transaction listing. Sales Ledger statements. Purchase Ledger transaction listing. Label printing for statements and mailing list. Comprehensive Audit Trial. Profit and Loss Account and



EUROPE

Balance Sheet—with facilities for budget, variance and comparatives. The Comaccounts Micro 30/40 and Micro 80 package includes COMBIS and COMSTOCK.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

Merchant System	£750 + VAT (Micro 30/40)
	£950 + VAT (Micro 80)

COMINV

An optional program, which works in conjunction with COMACCOUNTS, giving the user the following additional features: 1. Invoicing—the user may specify exactly which information is to be printed. 2. Sales Analysis—by up to 10 product groups. 3. Automatic posting into the COMACCOUNTS Sales and Nominal Ledgers.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

Merchant System	£150 + VAT
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COMBIS

Essentially a computerized card index, COMBIS allows the user to define up to 10 sections (fields within a record). Up to 2000 records can be stored per diskette, instantly recalled and easily updated. A larger number of records can be spread over several diskettes. Up to 24 characters can be recorded in each field, giving a total of 240 characters storage per record. A single key sort facility makes it possible for the user to sort records into alphabetical or numerical order. When the data base has been entered the program really begins to get clever. As well as displaying all the records or printing out a complete list, selective searches can be made. "A list of all sales prospects in HUDDERSFIELD," or "the names and addresses of all suppliers of BALL BEARINGS," can be immediately obtained by keying the appropriate parameter. Up to 10 parameters can be specified at one time, e.g., "properties in SURREY, with FOUR, TWO GARAGES, near a RAILWAY STATION" . . . and so on. Numeric comparisons can also be easily made: "More than TWO BEDROOMS," "under 100,000". The program can be used in conjunction with Commodore's Word Processing program for automatic letter writing and address lists can be directly printed out onto solid-adhesive labels with the aid of the Commodore 3022 printer.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive, 3022 Printer.

Merchant Systems	£150 + VAT
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COMSTOCK

The following information is instantly available on each stock item: 4000 items, Stock number (enables COMSTOCK to keep track of your stock), Alternative stock number (the one you or your supplier normally uses), Description, Total quantity in stock, Number of items on order from supplier, Number of items on order from customers, Costs and sale price, Re-order level, Total sales (kept to date), Unit of sale. Printed Reports—The following reports can be printed at any time: A list of all stock items below order level. A complete report of the current stock position, including the sales and cost value information with the items below reorder level highlighted. A report of stock movements for the current period—a vital security feature. In addition COMSTOCK can be used to print out a stock take form for manual stock taking—and subsequent to the stock take allows the stock position to be reconciled accordingly.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

Merchant Systems

£150 + VAT



PETPLAN

Overview—Petplan is a business planning game which is used extensively by business students, practicing business managers and by people who are interested in how a business operated. Micro Version—This game is a micro version of a very successful “big” computer model which has been used and enhanced over many years on management development programs. The Business—The game simulated a business which produces a product called “Petal.” It sells to a market over which it has some degree of control. It is free to change its manufacturing, selling and financial policies to suit its objectives. The game may be played by a single player or by a team of players, up to four. A team can consist of a “board” of directors comprising, for example, finance, marketing and production directors and a managing director. The player may set his own objective(s). A fairly obvious objective is the one that maximizes return to the shareholders. It should be noted that the stock market expects earnings or capital employed to be three times the current loan interest rate.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive.

ACT

£60 + VAT

PAYROLL

Specially designed for the first time user, this powerful payroll system makes wage calculation fast, easy and accurate. The operator only keys in those



EUROPE



items which vary from period to period, e.g., expenses, units produced, etc. The computer does the rest. It calculates the gross pay, before and after tax adjustments tax, NI and pension (if applicable), down to net pay and prints a payslip in duplicate. When the run is complete, it prints totals and a coin analysis. The clear screen layouts and detailed user manuals, combined with the speed of processing (40 secs. per employee, inc. printing and payslip) makes this system ideal for any small to medium size company. Tax and NI updates available.

HARDWARE REQUIREMENTS: 8032, 8050 Disk Drive, Printer.

Computastore

£185 + VAT (cassette)

£195 + VAT (disk)



BAR CODE READER

A printed strip carries the information to be read, coded in the form of a series of vertical bars which are either thick or thin. These special labels can include up to 28 characters, and can be supplied as pre-printed sequential numbers or random numbers to suit an existing system. In operation, a hand-held pen containing an infrared light source is traversed across the surface of the label; coded information is converted to ASCII data and transmitted to the terminal. The label may be read from either direction, and neither the pen angle nor speed of traverse is critical. Visual and audible alarms are provided, and operate if the data received from the pen is not correct. The electronic system performs a check operation on all data before transmission to the terminal. Applications of the system include stock control, goods inwards records, quality control procedures, record systems and point-of-sale terminals. The main advantages are excellent data integrity, no computer operating skill required and the ability to locate the bar code reader remotely from the terminal. The equipment is supplied complete with the Commodore compatible IEEE-488 interface and an RS-232 output, self-contained AC power supply and "ready," "error," and "repeat" indicators. IEEE primary address, parity and transmission rate are internally set and user variable. The unit is physically similar to the Commodore 3040 Floppy Disk Unit.

Machsize

£1,175 + VAT



MARK SENSE CARD READER

Features—Easily programmed using a pencil and a card. Automatic turn-on and card feed. Compact and lightweight. Accepts any length card. Ideal for business and education applications. Now all you need is a 2B pencil, a card and the WEGO MARK SENSE CARD READER to enter data into your



microcomputer. It's the simple, low cost alternative to keyboard data entry. Applications are virtually endless. The Wego Mark Sense Card Reader is ideal for Education Applications, such as teaching programming and marking multiple choice questions with full grading and reporting. (An introductory program for this included in the price.)

Wego Computer Ltd.

£620 + VAT



HIGH RESOLUTION COLOR PRINTER

The CX80 is a PET compatible color printer offering 7 colors, print needle addressing, user programmable and extended character facilities. Colors selected by control codes in the BASIC program and are printed from a tricolor ribbon. The full range of PET graphics and reverse characters is supported. There is programmable line and form feed, and characters may be mixed with graphics on the same line.

HARDWARE REQUIREMENTS: Directional dot matrix at 150 cps; 80 columns; 5 × 7 matrix for characters; 6 × 7 matrix for graphics; 6 or 8 lines per inch spacing; 160 characters buffer; size 191mm × 413mm × 325m; IEEE 488 interface.

Banner

£895 + VAT



VOLTAGE REGULATOR

Mains voltage "noise" has been a long standing problem for computer users working in an environment where heavy duty power lines are frequently switched. All too often the results are frequent hardware failure and/or corrupted data. This voltage regulator gives a high level of transient suppression and is ideally suited to the power requirements of Commodore PET and Floppy Disk unit.

Banner

£147 + VAT



KC NETKIT

The KC NETKIT, for multi-purpose low cost PET communication. Designed and developed by Kingston, the NETKIT is more than an interface, it is a hardware/firmware package that dramatically widens the scope of the PET. Main Features: The NETKIT consists of interface hardware and 2K of machine code. Permits safe high speed exchange of



EUROPE

programs and data between a PET and any other RS-232 device (up to 4800 Baud). Allows the PET to be linked to a wide range of fast/slow printers, time sharing systems, etc. Transforms PET into a smart or dumb terminal, allowing it to be externally controlled for all functions from say a mini or mainframe. Gives full character conversion—useful in programming and in communicating with devices such as paper tape readers/punchers for analyzing NC machine times and creating high speed telex tape. Share processing and programming between PETs. Converts ASCII files into PET tokenized BASIC. Gives ten new SERIAL BASIC commands. Easy to install inside the PET. Installation instructions and detailed operating manual included, together with three operating support programs, which assist in making the NETKIT simple and easy to use, with no complicated machine code required. (12 month parts and labor guarantee)

Kingston

£135 + VAT



CHROMADAPTOR *COLOR INTERFACE FOR PET COMPUTER*

The Sadektronics CHROMADAPTOR enables your PET computer to produce stunning color on a television set. Features: Sixteen colors available under software control. High performance 8 MHz UHF modulator for a crisp display. Audio output via PET's user port available from television speaker. High quality 12" × 9" × 3½" metal casing. Fully assembled, tested and guaranteed. Facilities: Background and foreground colors are individually selected for every screen character location. Allows all PET's characters and graphics to be programmed in color. Absolute simplicity of operation and programming. Simple conversion of existing black and white programs to color. Background and/or foreground colors of total screen area may be changed using only three instructions. All facilities available using either BASIC or machine code. May be used with old or new ROM PET's. Design: Single printed circuit board for reliability. Built-in mains power supply unit. All British design and manufacture to suit U.K. television system. Plugs directly into domestic television aerial socket. R.G.B. output for color monitor available. Documentation: Full instructions provided. Free color games and demonstration programs provided. All connecting leads included, even a 13 amp mains plug.

Sadektronics

£295 + VAT



MONADAPTOR

Audio-Visual T.V. Interface for PET Computer—The Sadektronics monadaptor is a completely self-contained unit which reproduces both Sound and Vision from the Commodore PET Computer on an ordinary UHF



television set. A picture of black on white, or white on black, can be selected by the user according to taste. Mere seconds are needed to connect the Monadaptor to the PET as it simply plugs directly into the PET's "User" and "Second Cassette Port." Both of these connectors are duplicated on the Monadaptor, thus retaining all the expansion facilities of the PET. The Monadaptor comes ready assembled and tested, including its own television aerial lead—nothing else to buy. We guarantee that you will be impressed by the clarity of both picture and sound. No corners have been cut—the highest quality components have been used throughout, including an incredible 8 MHz bandwidth UHF modulator.

Sadektronics

£45 + VAT



TAPEPREP AND TELEXPREP

The production of telex messages using a telex machine is slow and inflexible, and ties up the telex machine. An obvious alternative is to produce the telex tape "off-line" (away from the telex machine). If this is done using a microcomputer other possibilities immediately come to mind. Once the message is keyed in it could be printed out on a fast printer for checking by the originator, and stored on a magnetic medium such as floppy diskette for later recall. When the inevitable corrections and second thoughts arrive the message could be recalled and edited (no need to re-enter from scratch), and only when transmission is agreed would a tape be punched and fed into the telex machine. TELEXPREP allows you to do all of this—and more. It will even read back paper tape. A similar paper tape production problem exists with NC and CNC machine tools. Although some such tools allow program input and checkout at the machine this would seem to be waste of valuable production time. Again the capability of keying in NC programs off-line, then storing, editing, listing and punching them as required offers a cost-effective increase in flexibility and throughput. TAPEPREP is the program to do this. It too allows input from paper tape for further editing, conversion of old tapes for new tools, storage of existing tapes, etc. Since the NC program is stored as a sequential file of text it is straightforward to write utility BASIC programs for standard conversions, toolpath checkout, syntax checking, etc.

HARDWARE REQUIREMENTS: 3032, 4032, or 8032 Disk Drive.

Taylor Wilson Systems

£300 + VAT (Telexprep)

£300 + VAT (Tapeprep)



LARGE KEYBOARD

Large keyboard for 8K PETs. (Connects directly to 4K and 8K PETs, no special software required.)

Petalect

85.50 + VAT



EUROPE



ELECTRONIC BALANCE INTERFACE

Any electronic balance may be interfaced to any computer in the Commodore range allowing the PET to be used on-line to process weights.

Petalect

£99.50 + VAT



PRACTICE MONITOR

Practice Monitor provides comprehensive information on all patient consultations. The system offers unprecedented opportunities for doctors interested in preventive medicine, regular patient review, epidemiology and audit. Details of up to 19,000 patient consultations in a specified period may be recorded for each group of 3 doctors. Period information can be automatically added together to produce year end figures. Each patient visit is recorded on an appointment slip using the PM number to give the patient's identity, sex and age and a 3 digit code based on the RCGP's classification of 600 diseases, to record the reason for the visit. This information is used to monitor all consultations within the practice. Disease registers are created automatically and monthly follow-up lists produced. All patients seen in a given age range may be identified and all those seen for a particular reason.

Medicom

£400 + VAT Repeat Prescription
£400 + VAT Age/Sex Register
£400 + VAT Practice Monitor
£1,100 + VAT Complete Practice
Manager System



IEEE-488 INTERFACE FOR X-Y PLOTTER

A PET compatible X-Y plotter interface, with pen-lift control is available from 3D. This unit enables IEEE-488 bus controllers to output graphical information to any analog plotter via the IEEE-488 bus. Technical Specification—Resolution in both X and Y: 8 Bits. Monotonicity: Full 8 bits. Settling Time: 1 micro sec. Output Voltage: 0-2.5 or 0-5 (customer specifies). Both X and Y output voltages are simultaneously presented. Pen-lift control relay contacts are provided. The interface is completely addressable from the IEEE-488 bus, with the address internally link selectable (customer may specify). The unit is supplied in an attractive case complete with its own power supply, fuse, ON/OFF switch, indicators, mains lead, IEEE-488 bus to PET connector, and BNC output terminals for X, Y and 4mm terminals for pen-lift control.

Digital Design & Development

£200 + VAT



IEEE-488 COMPATIBLE 16-CHANNEL RELAY UNIT

A PET compatible 16 channel relay unit is now available from 3D. This unit will allow the closure or release of each individual relay under program control, since each channel is individually addressable. The unit meets the IEEE-488 standard bus requirements, with the primary address internally link-selectable (customer may specify). The interface is supplied complete in an attractive case, with self-contained power supply, ON/OFF switch, fuse, mains leads, indicators, etc. Relay contacts are brought out to front panel by insulated 4mm terminals, with a LED showing whether it is operated. A PET IEEE-488 connector and lead is also supplied. **TECHNICAL SPECIFICATION**—No. of relay contacts available: normally 16 s.p.s.t. Relay power capability: 100V, 0.5 amp, 10W. Operate and Release Times: less than 1.5 ms. LED for monitoring Closure and Release of each relay. Mains-switching relays with contact ratings of 250V AC, 250 mA may be supplied as an optional extra.

Digital Design & Development

£350 + VAT



IEEE—488 COMPATIBLE 16 CHANNEL 8 BIT ANALOG-TO-DIGITAL CONVERTOR UNIT

A PET compatible 16-channel, 8 bit analog-to-digital convertor unit is available from 3D, enabling your system to monitor variations in as many as 16 analog signals. **TECHNICAL SPECIFICATION**—Resolution: 8 bits (1 in 256), Non-linearity: $\pm 1/4$ LSB. Zero Error: $\pm 1/8$ LSB. Conversion time: approximately 150 micro sec. The unit is fully addressable from the IEEE-488 bus, with address internally link-selectable (customer may specify). The unit is supplied in an attractive case, complete with its own power supply, fuse, ON/OFF switch, indicators, mains lead, and BNC-type input connector. For a small additional charge the customer may specify alternative input connectors. Reading may be easily obtained from BASIC using GET, or alternatively a machine code program is available for fast data acquisition.

Digital Design & Development

£300 + VAT



IEEE-488 COMPATIBLE 8 CHANNEL 8 BIT DIGITAL-TO-ANALOG CONVERTOR UNIT

A PET compatible eight-channel 8-bit digital-to-analog convertor unit is now available from 3D. This unit enables IEEE-488 bus controllers to output analog voltages to eight independent channels. **TECHNICAL SPECIFICATION**—No. of channels: 8. Resolution: 8 bits. Monotonicity: Full 8 Bits Settling time: 1 micro sec. Accuracy 0.19% (2.5V range), 0.5% (customer



EUROPE

may specify). The output voltage may be specified by the customer, and is buffered by a voltage follower operational amplifier (i.e., low impedance output). The interface implements the IEEE-488 bus protocol, and is completely addressable from the bus, with the address internally link selectable (customer may specify). The unit is supplied in an attractive case, with its own self-contained power supply, fuse, ON/OFF switch, indicators, mains lead, IEEE-488 PET connector and lead, and front panel BNC output sockets for each channel.

Digital Design & Development £350 + VAT



IEEE-488 COMPATIBLE 8 CHANNEL 8 BIT DIGITAL DATA ACQUISITION UNIT

This unit enables IEEE-488 controllers to collect digital information from instruments such as digital voltmeters or counters or from contact closures, etc. Data can be read from peripheral data sources as single bit, nibble or bytes. System may be configured as either: 8 channels of 8 bits; 4 channels of 16 bits or 4 channels of 4 BCD digits. Positive or Negative 5V logic, handshake signals are provided between the interface and the digital instrument providing the data; polarity, pulse-width, etc., may be customer specified. The interface is completely addressable from the IEEE-488 bus, with the address internally link-selectable (customer may specify). The unit is supplied in an attractive case, and with its own power supply, fuse, ON/OFF switch, mains lead, and PET-IEEE connector.

Digital Design & Development £400 + VAT

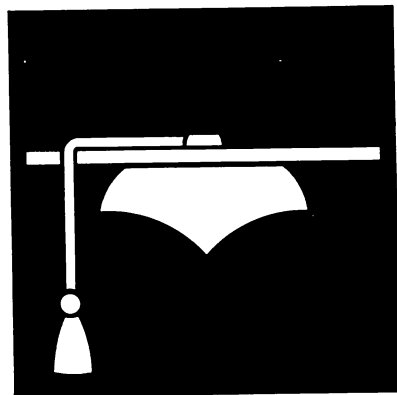
THE ALPHATRONIC LIGHT PEN

The Alphatronic Light Pen Package consists of a hardware light pen and a series of software programs presented in disk form, which enable psychiatrists, psychologists, physicians, sociologists and other professional interviewers to administer and score visually presented tests. In any application involving choice selection, the Alphatronic Light Pen frees subjects from the need to make keyboard responses, and is therefore ideally suited for tests involving a wide range of age-groups and abilities. The Alphatronic Light Pen is available as a complete package, including BASIC program instructions for use with all Commodore PET programs. However, Alphatronic Microprocessor Applications Ltd. is also able to provide special purpose software, enabling the light pen to be used in a variety of applications.

HARDWARE REQUIREMENTS: Any PET/CBM

Alphatronic Microprocessor Applications Ltd.

EDUCATION





ADMINISTRATIVE AIDS

PROJECT BASIC

This program makes student record keeping a whiz. Now administrators, principals, teachers, parents, and students can obtain a Student's Basic Skills Record without the hassle of updating complicated student records, searching for and compiling information, worrying about errors, and making xerox copies. All that is needed is a clerk or a teacher's aid in a school to insert information by feeding Mark Sense Cards in the card reader connected to the CBM computer. Project Basic then scores any test up to 100 items, correlates the results to locally selected Objectives and Instructional Materials, automatically stores the results in the student's file and prints the results for teacher review. Then the clerk can request 18 different reports such as: Student Progress Reports, Objective Grouping Reports, Daily Class Reports, Report Cards, Class and Grade Status, School and District Status Reports, etc. It is like having an automatic file cabinet connected to a high speed typewriter. Directors of curriculum, federal program coordinators, principals, and teachers can change the parameters of any basic skill, test item, etc., for any subject area and any class at any grade for any program. For the first time, after extensive field testing, each school within a district can efficiently and economically monitor and evaluate student basic skill progress without all the paperwork. Instructional books and inservice training are available.

HARDWARE REQUIREMENTS: 32K CPU, 4040 Disk Drive, 4022 Printer, Mark Sense Card Reader.

Evans Newton Inc.

\$1995.00

1002

PROJECT TIME

Helps directors of federal programs manage and evaluate standardized and district tests. Project Time was developed in cooperation with state and local school district federal program directors and has been operational in schools throughout the country for the past year. This program provides fifteen different reports, including item analysis of standardized or district test results; school and district ranking by grade of student test results; alphabetical listing of student test results by school and district; student/parent information files; student test history files; district grade test performance reports.

HARDWARE REQUIREMENTS: 32K CBM, 4040 Disk Drive, 4022 Printer.

Evans Newton Inc.

\$1995.00

1004



Helps directors of special education to meet the report demands of public law 94-142, and helps special education teachers to manage and monitor student progress. Student Individual Education Prescriptions (IEP's) includes: student information, administrative checklists, educational diagnosis, recommended educational program, annual goals, short term goals, support services, and evaluation data.

HARDWARE REQUIREMENTS: 32K CBM, 4040 Disk Drive, 4022 Printer.

Evans Newton Inc.	\$1995.00
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Provides state attendance administrators, district and school administrators, parents, teachers and attendance clerks with an automated microcomputer system for monitoring, managing, and evaluating student attendance data. Project Attend monitors student tardiness and absenteeism by period through the use of an optical card reader connected to the computer. This basic information is then used to provide a wide range of status reports by student, period, grade, and school for district and state reporting, such as: teacher and daily attendance reports by period, parent student attendance reports, principal period, grade and school attendance reports, district/state membership/absence reports, state year-end enrollment reports for register book.

HARDWARE REQUIREMENTS: 32K CPU, 4040 Disk Drive, 4022 Printer, and Card Reader.

Evans Newton Inc.	\$2495.00
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A series of ten tutorials and two applications on using and programming the PET/CBM computer. The courseware, which assumes no knowledge of computer usage or programming skills, progresses from keyboard operations to such topics as for-next loops, arrays, and advanced topics. Price includes software and MICROCOMPUTER WORKBOOK.

HARDWARE REQUIREMENTS: 2000 or 4000 Series CPU, C2N (16K required) or Disk Drive (32K required). Specify when ordering.

Sterling Swift Publishing Co. \$74.95

**SECTOR 3**

It is your first day on the job as a journeyman air traffic controller. You are on your own. Your watch starts slowly. You direct the shuttle helicopter from Diamond City Airport to Heartland Airport without difficulty. A private aircraft comes in from the north to leave at the southeast. A jet comes in from the west to land at Diamond City. The helicopter shuttle also wants to return. You give the jet landing orders and instruct the helicopter to wait at a VOR. As the jet lands, you notice that the helicopter is running low on fuel. You hurriedly direct it to land and then notice four aircraft of various types entering your area. Two more are waiting to take off. You start to panic as you issue frenzied orders. Only your quick reactions prevent an aircraft from exiting at the incorrect altitude. Another runs out of fuel just as it lands. Suddenly, a military jet streaks across the center of your area. There is a prop aircraft in its path. You are given a collision warning and, just in time, you prevent a crash. You still have not finished. Another 15 aircraft remain to be dealt with. An hour later, you have made only five errors. Finally your watch is over.

HARDWARE REQUIREMENTS: PET/CBM 24K

Alan Conover

CS-1302

CLASSROOM MANAGEMENT*PROJECT BASIC*

This package is a series of well thought out programs that make student record keeping a whiz. Now, administrators, principals, teachers and parents can obtain student Basic Skills Records when needed—all without the problems normally associated with updating complicated student files. You can search for information and compile reports, without worrying about errors. Programs also automatically score district-selected standardized tests or diagnostic tests.

HARDWARE REQUIREMENTS: Contact dealer.

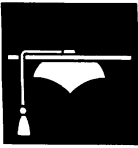
Evan Newton, Inc.

\$1995.00 (1 Copy) TA
(Multi-copy price available)

ADMINISTRATIVE PACKAGE

There are five separate modules in the series:

The first module provides daily and cumulative attendance reporting. The



ADMINISTRATIVE AIDS

attendance bulletin can be informatively annotated prior to completion. Complete search capability.

Schedule updates, including new class lists, student schedules and add-drop forms are generated by the second module. All section changes are recorded and true class counts and an up-to-date school course directory may be generated.

Complete exam scoring and detailed item analysis of all standardized objective tests are provided by module three. The same data base associated with the attendance and scheduling features is accessed by this module. A mark sense card reader is a required hardware component here.

The fourth module supplies the user with end of marking period report cards and cumulative school record production for each student. Generation of class ranking and honor roll search is also available.

The fifth and final module produces mailing labels addressed to parents of general or selected groups of students.

HARDWARE REQUIREMENTS: 32K CBM, 4040 Disk and Printer.

Microphys	\$250.00-\$2500.00 (Multi-district discount available)
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SCHOOLPAC-1

Contains a number of programs designed to help a teacher compose tests or study helps from the screen automatically. Teacher's SECURITY ACCESS CODE prevents students from being able to STOP, LIST, or PRINT the program. Programs support RELATIVE and BROAD BASE UNIT testing, through MULTIPLE CHOICE, FILL-IN or TRUE-FALSE, as desired by teacher. Programmable for any subject or grade level and maintains scores of each student by name, and shows it on screen or prints to the printer. Tests may be saved for use anytime. Multi-featured MEMORY TEST and notebook with BACKUP COPIES and Program Listings are included along with extensive documentation. Disk users specify 4040 or 8050 format.

HARDWARE REQUIREMENTS: Any 8-32K PET or CBM and C2N or Disk combination.

Competitive Software	\$34.95 + \$2 ship School-Pac-1 F or C (Foreign add 10%)
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PRO-GRESS

A multiple regression BASIC program which reads unlimited records from tapes or CBM disk. Accepts up to 45 variables on 32K machines and permits transformations. Provides means, standard deviations, correlations; R, R-square, F, degrees of freedom; constant and coefficients, betas, and student's t's. Output to screen, or to ASCII or CBM printer.

HARDWARE REQUIREMENTS: 8-32K CPU (old or new ROM).

Cognitive Products	\$45.00 tape
	\$50.00 disk

PET PREDICTS

This program computes the days, hours, and minutes a person has lived. It is a light-hearted forecast of an individual's future. It is a good fund raiser for school fairs, etc.

HARDWARE REQUIREMENTS: Any PET, C2N, and 4022 Printer.

Comm*Data Systems Inc.	\$7.95	CDE002
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GUEST REGISTER

This program is ideal for open houses, Fun Nites, etc., to keep an accurate list of those who attend the event. The information may be printed to the screen or to a printer. Address labels may be generated for future mailings.

HARDWARE REQUIREMENTS: Any PET, C2N, and 4022 Printer (optional).

Comm*Data Systems Inc.	\$10.95	CDE022
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ETCH A PET

A computer version of the popular drawing game. Pictures may be saved to cassette.

HARDWARE REQUIREMENTS: Any PET and C2N.

Comm*DATA Systems Inc.	\$4.95	CDE017
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ADMINISTRATIVE AIDS

MAILING LIST/TELEPHONE DIRECTORY

The system has a capacity of 3000 names, addresses and phone numbers, and is designed for the inexperienced computer user. This program allows you to create and maintain a mailing list and/or telephone directory for businesses, schools, clubs, organizations, etc. This program comes in three parts: PC950 which permits the entry of data and search codes and stores data; PC951 which permits printing of labels by zip code, alphabet, telephone area code, or six-digit search code, or displays phone numbers; PC952 which permits updating of data.

HARDWARE REQUIREMENTS: 16K CPU or 8032, 2040 or 8050, and printer capable of accepting mailing label stock. Specify equipment configuration when ordering.

Microphys **\$125.00**

ATTENDANCE SYSTEM

This package enables a school to effectively and efficiently maintain and update daily and cumulative student absentee records. The daily attendance bulletin can be informatively annotated and school and grade level attendance statistics are computed and clearly displayed. Student records can be quickly searched to reveal absences on a particular day or within a specific time period.

HARDWARE REQUIREMENTS: 8032 CBM, 8050 Disk Drive, and 4022 Printer.

Microphys **\$600.00**

SCHEDULING-UPDATE SYSTEM

This package permits a school to manage changes in student schedules or to register new entrants during the school year. Guidance personnel enter student scheduling changes or new course assignments; the computer will then generate the add-drop forms, issue new class lists and print out new student schedules. True class counts and an up-to-date school course directory may be generated at any time.

HARDWARE REQUIREMENTS: 8032 CBM, 8050 Disk Drive, and 4022 Printer.

Microphys **\$500.00**



MESSAGE LABELS

This program will allow you to create messages on the PET screen using full cursor movements. You may then print as many copies of the message as you wish on a single or multi-wide label paper, or save for later use.

HARDWARE REQUIREMENTS: Any PET, C2N, and 4022 Printer.

Comm*Data Systems Inc. **\$12.95** **CDE001**

CAREER SKILLS

Practice in relating current skills with selected careers. The user is then asked to select a career skill and then reviews job listings for that skill. Intermediate, Junior, Senior.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs)

Microcomputers in Education **\$9.95 tape** **CC69**
 \$7.50 disk
 (min. of 5 programs)

PROCTOR

Up to 15 PET/CBM (any model) Commodore disk drive (any model) and a simple but effective program loading controller. The proctor takes charge of the IEEE bus and resolves multiple user conflicts. Each student can load down from the same disk but cannot inadvertently load to or wipe out the disk. Good for computer aided instruction (CAI) and for library applications. Offering hundreds of programs to beginning computer users. This combination of hardware and software protects the disk from unexpected erasures and settles IEEE bus usage conflicts. Only the instructor or a delegate can send programs to the disk. Yet all of the PET/CBM's in the system have access to all disk programs. Available for all Commodore PET/CBM, disk models.

Skyles Electric Works **\$95.00 per PET/CBM**

HEADMASTER

"formerly, REGENT"

The ultimate in classroom multiple PET/CBM computer training systems. A suprisingly inexpensive, simple, and effective way to have students of all



ADMINISTRATIVE AIDS

levels of computer capability work and learn on a system with up to 15 PET/CBM's (any model) and any of the Commodore dual disk drives. A complete in-classroom educational time sharing system with 75,000 bytes of programs and instructions available to all users at all times, and with additional space for 1000,000+ bytes of library programs. Includes all of the features found in PROCTOR and much more.

Skyles Electric Works

**\$250.00 for the first PET/CBM
\$150.00 for each additional PET/CBM**

PROCTOR + 80, PROCTOR + 40

The ultimate in an inexpensive, multi-station, word processing system for the office and/or the classroom. All of the features of PROCTOR, plus we modify your Word Pro 4-Plus or Word Pro 3-Plus into a multi-station word processing system for up to 15 PET/CBM and a Commodore disk drive. An additional program gives "big system spooling" operation for all printed output. Any printer may be controlled by any computer to print any output file. The printing operation is almost invisible to the other system user.

Skyles Electric Works

**\$275.00 for first PET/CBM
\$160.00 for additional PET/CBM**

PROCTOR + FILES

The ultimate in an inexpensive, multi-station, business system for data bases, record keeping, accounting, and word processing. A multi-station disk file handling system for the office and/or classroom. All the features of PROCTOR plus a complete multi-station disk data file handling capability for up to 15 PET/CBM's and a Commodore disk drive. Now you can run any BASIC language, PET/CBM business in a multi-station configuration.

Skyles Electric Works

**\$275.00 for the first PET/CBM
\$160.00 for additional PET/CBM**

PET COUNSELOR

This program is a light-hearted spoof of counseling and is intended for entertainment only.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$7.95

OT-4



PILOT AND FIVE PILOT

Programs

This program contains an interpreter that lets the PET use the language and is optimized for programs with lots of dialog. PILOT was the subject of a feature article in the Fall 1979 issue of COMPUTE. The additional programs (including a fine version of Hammurabi) not only have tremendous value in themselves, but act as models to help the user learn PILOT.

HARDWARE REQUIREMENTS: For old and new ROM Machines.

Peninsula School Computer Project \$19.95

#1

DIVISIONAL BUDGET

This program keeps a sequential disk record of several budgets, accumulating total spent as entries are input. It allows the operator to: (a) create a new account file; (b) update an existing account file; (c) print all records in an account; (d) display an account summary; (e) search an account for a given record; (f) display all account numbers on file; (g) format a data disk for use; and (h) modify a given record. Divisions or departments in elementary schools, junior and secondary schools, colleges or universities; anyone maintaining budget records through purchase order and invoice records. Detailed documentation, with step-by-step instructions, included.

HARDWARE REQUIREMENTS: 32K PET, 2040 Disk Drive and CBM or ASCII Printer.

Sheridan College

\$100.00 + shipping

CLASS MARK TRACKING

This program permits instructors to keep records of their students' marks (up to 50 students, each with up to 50 marks). The program allows for the assignment of weighting factors to assist in calculating the final grade. Elementary School, Junior and Secondary Schools, College or University. Full documentation, with step-by-step instructions, included.

HARDWARE REQUIREMENTS: 32K PET, 2040 Disk Drive and CBM or ASCII Printer.

Sheridan College

\$100.00 + shipping



ADMINISTRATIVE AIDS

HAY SALARY CALCULATION

This program is designed for use in an institution that uses the Hay method of calculating employees' salaries (for no more than 250 employees). The program includes a machine language scrolling routine, which allows the user fast access to any given record. The cursor may be placed on any given field and changes will automatically be made in all other fields. Colleges or Universities or other institutions using the Hay method to calculate salary. Partial documentation currently available; full documentation available September, 1981.

HARDWARE REQUIREMENTS: 32K PET, 2040 Disk Drive and CBM 2023 Printer.

Sheridan College **\$100.00 + shipping**

BAR GRAPH

A program designed to accept up to 60 pieces of data, and print a bar graph from that data. The range of both the horizontal and vertical axes may be specified and the graph will be printed with headings and sub headings. Useful for any school or company interested in graphing data.

HARDWARE REQUIREMENTS: 8K PET, 2040 Disk Drive and CBM 2023 Printer.

Sheridan College **\$25.00 + shipping**

REVIEW MANAGER

Allows the teacher to create, and the student to use, a data tape containing questions and answers of all types. No programming is required of the teacher, because the computer does all the work. Teacher may provide a hint if student fails to give correct answer on the first try. Full scoring information is given at the end of a session. Two utility programs are included which allow a duplicate of data tapes to be made and a hardcopy to be made of all questions, answers and hints for the teacher's reference.

HARDWARE REQUIREMENTS: Any Commodore Computer with C2N.

Bits & Bytes **\$19.95**



THE CLASSIFIER

A set of 13 programs that will schedule classes for a school or college. Beginning with preregistration requests, these programs develop a master schedule, individual student schedules, teacher schedules, class rosters, and room usage reports. The system features multi-period classes with up to 196 courses, and up to 13 periods. Teacher and/or room constraints may be imposed and meeting times may be fixed.

HARDWARE REQUIREMENTS: 8-32K CPU, 2 C2N's and Printer.

Mount Castor Industries	\$1500.00	PT
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GRADE AVERAGE

This program is unique in that it enables the teacher to calculate grade averages by BOTH numeric and letter grades. Grades may be entered together without needing conversion. Program furnishes numeric and letter grade averages, as well as complete ranking and summary of each student's grades. Plus and minus is implemented and the program can be converted to any standard.

HARDWARE REQUIREMENTS: 8K CPU, any ROM. Specify equipment configuration.

Educational Activities, Inc.	\$11.95	(CP)-20161
	\$26.90	(DK)-CLASS

GRADE STORAGE DISKETTE

Especially made to go with all Educational Activities diskette programs. After students finish working on a particular program, the teacher inserts the Grade Storage Diskette and it will record and store the students' scores. The diskette can store scores from many programs simultaneously.

HARDWARE REQUIREMENTS: 8K CPU, any ROM. Specify equipment configuration.

Educational Activities, Inc.	\$11.95	(DK)-20170
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GRADES

Compute mid-term or quarter grades for up to 40 students in up to 10 subjects. Allows use of weighting factors, and will compute percent and



ADMINISTRATIVE AIDS

letter grades. Gives grade distribution and results by student or by subject. Grades 1-6.

HARDWARE REQUIREMENTS: 16K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$7.95	30A
	\$14.00 set	(30A & B)

ENROLLMENT

Computes state enrollment figures by grade and by school. Teacher names must be entered into DATA statements. Designed to be used by school secretary. Grades K-6.

HARDWARE REQUIREMENTS: 8K CPU, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$7.95	30B
	\$14.00 set	(30A & B)

PET/CBM STUDY MADE EASY

Program Instructions

The program can be used either to create a study drill, or to run a test. The test will start and will continue automatically, asking the questions until the power to the machine is switched off (the program cannot be interrupted). To create a drill, press "Q" in response to the first question. Everything is explained fully from that point on.

HARDWARE REQUIREMENTS: 8K PET and CBM.

Robert Purser

Price: Contact Dealer

CLASS MANAGER

This new program incorporated many important design features:

- It provides flexibility for use at any grade level or in any subject.
- It provides flexibility for recording various mark categories (eg., test, class participation, exam, etc.) selected by the user and weighted in the final mark according to a pre-set figure.



- It accumulates and saves separate numbered student marks each term for up to 4 terms and provides a final average for each term and an entire year.
- Marks and weightings can be changed at any time.
- It provides considerable flexibility for different equipment configurations (disk drive/cassette/printer (Commodore and other)/ no printer, etc.).
- It provides printed output at any stage for any class and also provides a class attendance listing.
- Complete documentation is included with user hints and notes for programmers.
- Many safeguards are included to reduce "pilot error."

The "menu" for the program includes the following choices:

- Create a new class file.
- Read an existing class file (from tape or disk).
- Save a class file (on tape or disk).
- Enter a set of marks.
- Display/Change a student's marks.
- Change weight of marks.
- Add or change a student name.
- Delete a name.
- Start a new term.
- Print markbook (screen display also possible)
- Print attendance list.
- Display class list.

The "Class Manager" is designed to work for the teacher to accurately record, calculate and document individual student records. A great deal of time has been spent testing the program in the classroom to make it more flexible and easy to use. It is now one of the most comprehensive programs of its kind (Commodore PET min 16K).

HARDWARE REQUIREMENTS: 16K PET, C2N, or Disk Drive, 4022 Printer (optional).

Merlan Scientific	\$70.00 tape	25M100
	\$74.00 disk	25M200

THE WORLD OF NUCLEAR REACTORS

A series of 4 unique programs designed to show how a nuclear reactor works under normal conditions and what can possibly go wrong when a problem arises.

HARDWARE REQUIREMENTS: 4016 CBM, and C2N or Disk Drive.

Merlan Scientific Ltd.	\$64.00 tape
	\$68.00 disk



ADMINISTRATIVE AIDS

ANATOMY OF A REACTOR

This program uses extensive graphics to illustrate a nuclear reactor. Each section is labeled as it is identified. This is followed by 2 tests on the reactor component names and functions.

HARDWARE REQUIREMENTS: 4016 CBM, and C2N or Disk Drive.

Merlan Scientific Ltd.	\$64.00 tape
	\$68.00 disk

ANIMATED REACTOR

This program uses extensive graphics to illustrate a nuclear reactor. Each section is labeled as it is identified. This is followed by 2 tests on the reactor component names and functions.

HARDWARE REQUIREMENTS: 4016 CBM, and C2N or Disk Drive.

Merlan Scientific Ltd.	\$64.00 tape
	\$68.00 disk

THREE MILE ISLAND TIMELINE

This program uses sound and a scrolling text to simulate a sequential teletype presentation of the key headlines and events as they unfolded to an astounded public in 1979.

HARDWARE REQUIREMENTS: 4016 CBM, and C2N or Disk Drive.

Merlan Scientific Ltd.	\$64.00 tape
	\$68.00 disk

DISASTER AT THREE MILE ISLAND

The extensive graphics and animation of the "Animated Reactor" program are used to trace the series of events that led up to a partial core meltdown.

HARDWARE REQUIREMENTS: 4016 CBM, and C2N or Disk Drive.

Merlan Scientific Ltd.	\$64.00 tape
	\$68.00 disk



ANSWER BOX

This tape is a slightly modified version for the Answer Box program listed in the May/June 1980 issue of COMPUTE Magazine. Answer Box assumes that students will bring printed instructional materials to the micro, and type in their answers to problems at the computer keyboard. The computer then becomes a sophisticated response device, providing immediate reinforcement, keeping track of student progress, and summarizing learning results at the end of each lesson, including time on task. In order to prepare Answer Box programs, teachers need to have only the ability to type answers on data lines. The computer does the rest. On the present tape, Lines 100-104 are used to print the name of a hypothetical Answer Box program. In this instance, it is called IDENTIFYING COMPLETE SENTENCES. As a teacher prepares his/her own Answer Box program, this title would need to be changed accordingly. The REM statements on Lines 10-60 explain how the answers to a printed exercise are to be entered on the appropriate data lines. Note that Lines 7000-7998 are to be used to enter the data. It should be emphasized that a single Answer Box program can be used to work with a multiplicity of printed exercises. As the REM statements indicate, the various groups of answers must be separated by lesson numbers also entered on the appropriate data lines. Look at Line 7000. The first data entry is 23, which is the number of a hypothetical lesson. There are no restrictions regarding the kinds of words or phrases that can be entered as answers. However, considerations of student interest and attention would suggest that lessons should normally be limited to twenty or thirty problems. Note that at the end of the answers for a lesson, the arrow pointing up on the data line tells the PET the lesson is over and that the results should be summarized. Remember: The problems themselves are in printed materials that the student will bring to the computer. The student then types his/her answers at the computer keyboard. If a student's answer is right, a smiling Answer Box face appears, while the student's name flashes on and off underneath it. If the student's answer is wrong, a frowning Answer Box face appears with the word WRONG. If the student does not know the answer to a problem, typing the question mark will cause the right answer to be revealed. However, the student must also type the right answer before the computer will go to the next problem.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$7.95

OT-8



MATH & SCIENCE

ZAP

A multiplication game for two people that provides practice of facts for numbers 2 through 6. Graphics are used. During the game, players cannot get out of the program unless they turn the computer off or until one of them scores 100 points. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC2
	\$7.50 disk (min. of 10 programs)	

STARS

Guess a number between 0 and 100, which has been randomly selected by the computer. As you get closer, more and more stars appear. Some graphics are used. The stop is disabled. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC6
	\$7.50 disk (min. of 10 programs)	

MATH DRILL

Choose 10 addition, subtraction, multiplication, division, or mixed operation problems, with range of 0-5, 0-10, or -10 to +10. Keeps track of time used for the 10 problems, and gives summary of correct and incorrect answers, at end of run.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs)

Microcomputers in Education	\$9.95 tape	CC10
	\$7.50 disk (min. of 10 programs)	



BASEBALL

A multiplication fact drill and practice for two people or teams. Graphics are used to show a baseball diamond and the positions of the runners. This is a three-inning game. Directions are given at the end of the game for playing additional innings. Intermediate, Junior.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs)

Microcomputers in Education	\$9.95 tape	CC16
	\$7.50 disk (min. of 10 programs)	

PLACE VALUE 1

Determine how many ones, tens, hundreds, etc., are in the given number. You are given 10 place value problems. The results are summarized. Helpful hints are given to help determine the correct answer after an incorrect answer has been given. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC25
	\$7.50 disk (minimum of 10 programs)	

LIGHT BULBS 1

Computer shows a configuration of a bulb, battery, and wire. You must decide whether or not the bulb will light, and if not—why not? You determine the number of circuit problems to be tried. Summary of the results are given at the end. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC26
	\$7.50 disk (minimum of 10 programs)	

DRAGSTRIP MATH

Six different levels of math in drill form. Two to four players compete to have their race car reach the finish line first. Graphics are used. The forward movement of the cars is random. A car will not move on an incorrect answer.



MATH & SCIENCE

Choice of addition, subtraction, multiplication, division, or mixed operation problems are given. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers In Education	\$9.95 tape	CC29
	\$7.50 disk	

NUMBER WORDS

A version of the game "Concentration" where the player must match numbers with their number-words. A game for one or two people. Score is kept for each player. Stop is disabled. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K Pet (both old and new ROMs).

Microcomputers In Education	\$9.95	CC32
	\$7.50 disk (min. of 10 programs)	

ZAP ADD

Addition game for two people which provides practice of sums for range 0-5. Some graphics used. Stop is disabled. A game is 35 points. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC33
	\$7.50 disk (min. of 10 programs)	

NUMBER SEQ 1

Determine which number is missing out of a sequence of four numbers from 0 to 9. No written directions are given, so children unable to read can use the program. Hints are given to help discover the correct answer after each incorrect input. Stop is disabled. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC39
	\$7.50 disk (min. of 10 programs)	



NUMBER SEQ 2

Determine which number is missing within a given sequence of five numbers ranging from 10 to 99. No written directions are given, so children without reading ability may use the program. Stop is disabled. Helpful hints are given to discover correct answer after each incorrect input. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95	CC41
	\$7.50 disk (min. of 10 programs)	

PLACE VALUE 2

Timed practice in place value. Two minute time limit per run. One or two players can use the program. Three levels of difficulty, and choice of three different types of problems. Some graphics used.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC42
	\$7.50 disk	

ROUNDING

Practice in rounding numbers to the nearest 10's, 100's, 1,000's, or 10,000's place. Ten problems are given with the results summarized at end of run. Two level option: (1) numbers between 100 and 9999, and (2) numbers between 100 and 99999. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

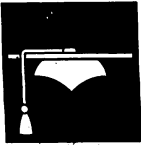
Microcomputers in Education	\$9.95 tape	CC43
	\$7.50 disk (min. of 10 programs)	

RULER CM

Determine the length of the given strip, in centimeters, using the 9 cm ruler simulation. Hints are given to help discover the correct answer after each incorrect input. Stop is disabled. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC43
	\$7.50 disk (min. of 10 programs)	



MATH & SCIENCE

RULER INCHES

Determine the length of the given strip, in inches, using the 6" ruler simulation. Hints are given to help discover correct answer after each incorrect input. Stop is disabled. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC45
	\$7.50 disk (min. of 10 programs)	

COUNTING 1

Determine how many shapes are given on the screen. Stop is disabled. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC46
	\$7.50 disk (min. of 10 programs)	

MATH SWIM

Two players, by answering math problems, compete to climb a diving tower and dive into the water first. Choice of addition, subtraction, multiplication, and division problems. Graphics used. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC47
	\$7.50 disk (min. of 10 programs)	

COUNTING TENS

Determine the number of shapes by counting the groups of tens and then the ones. Two level choice. Hints are given to help determine correct answer after an incorrect input. Stop is disabled. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC48
	\$7.50 disk (min. of 10 programs)	



RULER FRACTION

Determine the position of the spaceship on the given ruler simulation, and get a ride on the spaceship. Ten problem series with summary at end. Series of hints are given to help determine correct answer. Two level choice given. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC50
	\$7.50 disk (min. of 10 programs)	

FRACTIONS 1

Practice in determining if the shape is divided in half, thirds, or fourths. Examples of $\frac{1}{4}$, $\frac{1}{3}$, or $\frac{1}{2}$ are given before drill begins. On level 1, if showing examples is not necessary, level 2 goes directly into problems. At level 2, if incorrect answers are given, the program automatically goes back to level 1 for help. Series of 6 problems given at a time. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC52
	\$7.50 disk (min. of 10 programs)	

FRACTIONS 2

Practice in determining how many fourths, thirds, and halves are shown on the screen. Examples of $\frac{1}{4}$, $\frac{2}{4}$, $\frac{3}{4}$, $\frac{4}{4}$, $\frac{1}{3}$, $\frac{2}{3}$, $\frac{3}{3}$, $\frac{1}{2}$, and $\frac{2}{2}$ are given before drill begins. Nine problems within a run. Hints are given to help determine correct answer. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC53
	\$7.50 disk (min. of 10 programs)	



ADDITION FACTS 0—5

Timed addition drill for one minute or 40 problems. Both vertical and horizontal format used. Summary at end of run. Problems given for sums 0—5. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC55
	\$7.50 disk (min. of 10 programs)	

SUBTRACTION FACTS 0—5

Timed subtraction drill with a choice of 40 problems timed, or one minute of problems. Vertical and horizontal format used. Summary at end of run. Problems given for differences of 0—5. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC56
	\$7.50 disk (min. of 10 programs)	

MULTIPLICATION FACTS 0—25

Timed multiplication drill for products 0—25. Choice of 40 problems timed, or one minute of problems. Summary given at end. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC57
	\$7.50 disk (min. of 10 programs)	



DIVISION FACTS 0—25

Timed division drill for dividend 0—25. Choice of 40 problems timed, or one minute of problems. Summary given at end of run. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC58
	\$7.50 disk (min. of 10 programs)	

INEQUALITIES

Practice, using a fishing simulation, in deciding if one given number is greater than, less than, or equal to another given number. Graphics are used. Summary provided after 10 correct answers have been given.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC54
	\$7.50 disk (min. of 10 programs)	

ALGEBRA

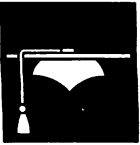
This is a series of programs designed to assist a student through various levels of the subject. Topics include: set operations, signed arithmetic, linear equations, factoring, and quadratic equations. An example of each class of problem is given, followed by a changing sequence of problems to be solved by the student. After each problem, an answer is provided to check results. Excellent for a review, used concurrently with a course.

HARDWARE REQUIREMENTS: Contact dealer.

Tycom Associates	\$19.95 (7 programs on 1 cassette) or
	\$29.95 (1 program per cassette)

TRIGONOMETRY

This program will be of special interest to educators, engineers, and scientists. Appreciation program designed to take the burden out of trig calculations! Given any three quantities of a triangle, the unknown quantities



MATH & SCIENCE

will be instantly calculated and printed. Professionally written with graphics and internally protected against illegal quantities.

HARDWARE REQUIREMENTS: Contact dealer.

P. S. Software House **\$9.95 (cassette)** **03**

MATH TUTOR

Grade school level; students select the category they wish: addition, subtraction, division or multiplication. This program is unique with its oversized numbers, using the student's own name and lots of pats on the back for encouragement.

HARDWARE REQUIREMENTS: Contact dealer.

P. S. Software House **\$5.95 (cassette)** **01**

SUBTRACTION FACTS 0—10

Timed practice in subtraction with differences ranging from 0 to 10. The student may choose between 40 problems which are timed or one minute of problems. A summary and practice are provided at the end of the program. Both vertical and horizontal formats are used. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education **\$9.95 tape** **CC80**
\$7.50 disk (min. of 5 programs)

ADDITION FACTS 0—10

Timed practice in addition with sums ranging from 0 to 10. The user has a choice of one minute of problems, or 40 problems which are timed. A practice and summary are provided at the end of the program. Both vertical and horizontal formats are used. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education **\$9.95 tape** **CC81**
\$7.50 disk (min. of 5 programs)



SUBTRACTION FACTS 0—20

Timed practice in subtraction problems with differences ranging from 0 to 20. Choice of doing 40 problems which are timed, or one minute of problems. Summary and practice are provided at the end of the program. Both vertical and horizontal formats are used. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC82
	\$7.50 disk (min. of 5 programs)	

ADDITION FACTS 0—20

Timed drills in multiplication of products 0 to 100. Choice of doing 40 timed problems, or one minute of problems. Summary and practice is provided at the end of the program. Both vertical and horizontal formats are used.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC83
	\$7.50 disk (min. of 5 programs)	

MULTIPLICATION FACTS 0—100

Timed drill in multiplication of products 0 to 100. Choice of doing 40 timed problems, or one minute of problems. Summary and practice is provided at the end of the program. Both vertical and horizontal formats are used.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC84
	\$7.50 disk (min. of 5 programs)	

DIVISION FACTS 0—81

Timed drill in division for problems with dividends 0 to 81. Choice of doing 40 problems which are timed, or one minute of problems. Summary and



MATH & SCIENCE

practice are provided at the end of the program. Quotients range from 0—9, and divisors from 1—9. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC85
	\$7.50 disk (min. of 5 programs)	

COMPARE FRACTIONS

Determining if the given fraction is less than, greater than, or equal to the other given fraction. Two levels of problems are offered. Tutorial help is given after incorrect input. Summary given at end of run. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC86
	\$7.50 disk (min. of 5 programs)	

LONG MULTIPLY

Practice in long multiplication. Can be used by 1 or 2 players. Multiply two- or three-digit numbers. Tutorial help given after incorrect input. A run consists of five problems which are timed. Summary follows at end of program. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC87
	\$7.50 disk (min. of 5 programs)	

RULER OBJECTS INCHES

Measure the length of certain objects in inches. Program requires the use of standard objects which are listed in the program documentation, or additional items can be "programmed in" by the user. Summary follows each run of five problems. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC88
	\$7.50 disk (min. of 5 programs)	



RULER OBJECTS CENTIMETERS

Measure the length of certain objects in centimeters. Program requires the use of standard objects which are listed in the program documentation, or additional items can be "programmed in" by the user. Summary follows each run of five problems. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC89
	\$7.50 disk (min. of 5 programs)	

FRACTION-EQUIVALENT

Practice in finding the equivalent fraction of a given fraction. Two levels of problems within program—with or without having to reduce. Tutorial help is given after incorrect input. Summary follows run of ten problems. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC90
	\$7.50 disk (min. of 5 programs)	

VITAFACTS SERIES

Vitafacts is a series of six health education topics, approved by the Canadian College of Family Physicians. Topics include:

Drinking & Drugs	502156
Talking About Sex	502206
Heart Attacks	502306
Your Blood Pressure	502356
Growing Up	502106
Birth Control	502256

Combines taped (audio) discussion or group panel with computer aided instruction.

HARDWARE REQUIREMENTS: Contact dealer.

Personal Software	\$19.95 each topic
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THE HUMAN BODY

The Human Body: An Overview

Introduction to the Human Body
The Skeletal System
The Muscular System
The Digestive System
The Respiratory System
The Circulatory System
The Nervous System
Review and Test

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$59.95*

***Multiple copy plan—up to five additional copies @ 60% off each full title package.**

The SKELETAL SYSTEM

The Skeletal System

The Central Skeletal System
The Limbs
Ligaments/Cartilage
Joints
Review and Test

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$39.95*

***Multiple copy plan—up to five additional copies @ 60% off each full title package.**

THE MUSCULAR SYSTEM

The Muscular System

How Muscles Work
Voluntary Muscles
Involuntary Muscles
Cardiac Muscle



**Muscle Fatigue
Review and Test**

HARDWARE REQUIREMENTS: 16K PET.

Brain Box **\$46.95***
***Multiple copy plan—up to five additional copies @ 60% off each full title package.**

THE NERVOUS SYSTEM

The Nervous System

Hearing
Sight
Smell
Touch
Taste
Review and Test

HARDWARE REQUIREMENTS: 16K PET.

Brain Box **\$46.95***
***Multiple copy plan—up to five additional copies @ 60% off each full title package.**

GENETICS!

Upon running the program, a genealogy (family tree) will appear on the screen. The computer will then ask you if certain types of genetic inheritance could produce such a genealogy of a trait. Afterward the computer will tell you if you are correct or not, and then tell you the correct answer. If you choose to get explanations, the computer will proceed to explain why each means of inheritance is not possible. Explanations are in this form: (1) A written explanation is printed at the bottom of the screen. (2) An arrow points to the person in the genealogy to which the explanation is referring. The program terminates after each explanation. Type RUN for a new family tree. HS.

HARDWARE REQUIREMENTS: 8K PET, CB2 Sound.

Microcomputer Workshops **\$20.00**



MATH & SCIENCE

MATH DRILL

Program generates random addition, subtraction, multiplication and division problems. Maximum numbers used are set by user. User chooses drill with either integers or decimals. A section of programs allows a teacher to set up drill for entire class. A record will be kept for each student on a data tape, giving score on each type of operation. Scores below teacher-chosen cutoff are displayed in reverse video to aid in quick identification of student problem areas.

HARDWARE REQUIREMENTS: 8K PET and C2N.

Bits & Bytes

\$19.95

B&B-MD

BASIC FIRST AID

These six programs are interactive, computer-assisted instruction in which new material is presented and reviewed with the student. A mid-term and final exam are included. Program covers the life-threatening situations: shock, poisoning, burns, heart attack, choking, stroke, drowning, heat emergencies, and eye injuries.

HARDWARE REQUIREMENTS: 8K PET and a single tape unit. Works with any ROM series.

Bits & Bytes

\$19.95

B&B-BFA

BIOLOGY I

BUFLO Explores effect of harvesting policies on buffalo population.

MALAR Researches factors involved in simulated malaria epidemic.

POP Student studies validity of several population growth models (4K).

RATS Simulates effects of environmental and control factors on rat population.

STERL1 Investigates effectiveness of two methods of pest control.

STERL2 Extension of STERL1 to include cost analysis.

HARDWARE REQUIREMENTS: Contact dealer.

Project LOCAL

\$17.95



BIOLOGY II

DIET	Retrieves from nutrient data base to explore diet adequacy.
GENE1	Simulates inheritance of traits according to Mendelian model.
HARDY	Simulates formulation of Hardy-Weinburg genetic principle.
LOCKEY	Investigates lock and key model of enzyme specificity.
PHOSYN	Student explores effects of amounts of CO ₂ and light on photosynthesis.
TAG	Simulates use of tagging/recovery in measuring wildlife population.

HARDWARE REQUIREMENTS: Contact dealer.

Project LOCAL **\$17.95**

ECOLOGY I

EARTH	Retrieves from data base to investigate global energy situation.
ENERGY	Explores effects of several factors on U.S. energy crisis.
FUTURE	Simulates potential effects of President Ford's 1975 energy plan.
LIMITS	Simulation that explores effects of civilization's growth.
POLUT	Simulation for study of factors affecting H ₂ O quality.

HARDWARE REQUIREMENTS: Contact dealer.

Project LOCAL **\$17.95**

MATHEMATICS I

FRAC	Practice with word problems involving fractions and decimals.
CVAREA	Approximates area under curve by 4 methods (4K).
JCGRAPH	Graphs user-defined functions (4K).
POINTS	Practice using Cartesian coordinates.

HARDWARE REQUIREMENTS: Contact dealer.

Project LOCAL **\$8.95**



MATH & SCIENCE

PHYSICS I

- CHARGE Simulates Millikan oil drop experiment (4K).
- SCATR1 Computes distribution of scattered alpha particles (4K).
- SCATR2 Graphs simulated alpha scattering, 3 models of atom.
- SCATR3 Plots simulated alpha scattering after Rutherford.
- SLITS Simulates Young's double-slit experiment.

HARDWARE REQUIREMENTS: Contact dealer.

Project LOCAL \$14.95

POTPOURRI

- CLIMATE Practice identifying climates, climatic patterns.
- MAD-LIB Practice identifying parts of speech—but fun (English).
- PCP Tutorial on finding % composition of compound (chemistry).
- SAP Computes statistics for survey data (social studies).
- STATAL Finds mean, median, standard deviation (statistics, teacher aid).

HARDWARE REQUIREMENTS: Contact dealer.

Project LOCAL \$15.95

PRO-CAL-1

This program supports single key execution of more than 50 forward and inverse arithmetic, algebraic, trigonometric and exponential functions. It implements calculations in binary, octal, decimal, and hexadecimal modes, with single keystroke conversion between modes and simultaneous decimal equivalent display.

The program uses the PET monitor to display ten memory registers, five stack registers and a record of the 14 most current input/output operations, permitting instant checking of procedures and results. It also allows the



recording and playback of calculator programs on cassette, and permits the use of most calculator software already in existence up to a limit of 255 steps.

Written in BASIC and machine language, the program comes complete with software on cassette and an operating manual.

HARDWARE REQUIREMENTS: Contact dealer.

Applications Research Co. **\$26.00 domestic**
 \$28.00 foreign

MICROMATH

A comprehensive one-semester remedial mathematics course for students in grades 6 through 12.

HARDWARE REQUIREMENTS: 16K CPU, 2040 or 4040 Disk Drive.

Sheridan College **\$500.00**

MICROMATH (Geometry)

An extension of the popular MicroMath package covering: (a) Plane Geometry (Units of Length, Units of Area, Units of Angular Measurement, Properties of the Square and Rectangle, Properties of the Triangle, and Properties of Other Plane Regular Shapes); (b) Geometry of the Circle (Parts of a Circle, The Concept pi and Radian Measure, and Calculations for a Circle); (c) Geometry of 3D Objects (Units of Volume, Properties of Cubes, Pyramids, Cylinders and Cones, and Properties of Spheres); and (d) Graphs (Axes, Determining Scale, Constructing Bar and Line Graphs, Titles and Labels).

HARDWARE REQUIREMENTS: 16K CPU, 2040 or 4040 Disk Drive.

Sheridan College **\$150.00**

DESCRIPTIVE STATISTICS

Six programs designed for grades 6 to 12. Programs which make good use of PET graphics, include: (a) Average: Describes and defines the concept of the average. A graphical reinforcement of the concept is provided, as well as a



MATH & SCIENCE

sample problem; (b) Grouped Data: Provides a computational alternative for calculating the average of a large set of repetitive or grouped data. It includes an example problem for the student; (c) Coding Methods: A second computational procedure is demonstrated, together with an example problem; (d) Frequency Distribution and Mode: Describes the frequency distribution and mode of a data set, including the histogram. It includes practice exercises for finding the mode of a distribution; (e) Median: Calculates the median of a set of data and the procedure is simulated for randomly generated data. It includes a machine language routine for ordering the data and a sample program is provided; (f) Summary: The concepts of the five previous programs are brought together so the student can see how these statistics effectively describe a set.

HARDWARE REQUIREMENTS: 8K CPU, 2040 or 4040 Disk Drive.

Sheridan College

\$100.00

6502 MACHINE LANGUAGE CONCEPTS

This program consists of 14 units which explain and demonstrate the concepts of 6502 Machine Language Programs, including: (a) Registers, (b) Addressing Modes, (c) The Store Instruction, (d) 6502 Programming Concepts, (e) Index Register Instruction, (f) Flags and the Status Register, (g) The Compare Instruction, (h) The Branch Instructions, (i) Addition & Subtraction, (j) Jump to Subroutine, and Return from Subroutine. Jump, (k) The Stack, (l) OR & AND (m) Multiply and Divide, (n) Rotate Left and Rotate Right.

HARDWARE REQUIREMENTS: 8K CPU, 2040 or 4040 Disk Drive.

Sheridan College

\$150.00

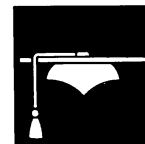
NUMBER SERIES

Contains 8 programs that provide practice in a common math problem type. The first lesson teaches how to approach number series and how to analyze their patterns. Later lessons provide practice with increasingly difficult problems, giving clues if you have difficulty with the problem.

HARDWARE REQUIREMENTS: Contact dealer.

Program Design, Inc.

\$16.95



WSFN, LEMON, KALEIDOSCOPE, RENUMBER

WSFN is not a radio station—it's a computer language which lets PET users create beautiful geometric figures while learning some valuable programming concepts at the same time. Lemon is a time-tested simulation of a lemonade stand with a very well done display of the daily transaction summary. Kaleidoscope brings us back to graphics, but this time the user just watches while the computer does the work! Renumber goes a long way towards remedying the lack of a REN statement in Commodore's BASIC.

HARDWARE REQUIREMENTS: Contact dealer.

Peninsula School Computer Program

\$14.95

Tape #2

NATURE OF SYSTEMS

Thirteen programs designed to explain and demonstrate: (a) Basic Concepts, (b) System Components, (c) System Components II, (d) Emergent Properties, (e) Level Structure, (f) Feedback, (g) Closed Systems, (h) Open Systems, (i) Discrete Systems, (j) Continuous Systems, (k) Trajectory Systems, (l) Systems Classification, and (m) The Systems Approach.

HARDWARE REQUIREMENTS: 8K CPU, 2040 or 4040 Disk Drive.

Sheridan College

\$150.00

TITRATION, KINETICS, BOHR ATOM REDOX

Subjects covered include: Titration with a simulated burst; kinetics with an 80×50 data plot and a log plot; Bohr Atom, a study of one electron system; and redox, a game simulation covering oxidation reduction potentials in metals.

HARDWARE REQUIREMENTS: 8K (old or new ROMs).

Dr. William M. Butler

**\$40.00 set of 4 CHEMPET #1
programs on cassette**



MATH & SCIENCE

ACIDS AND BASES, DENSITY, ORGANIC ID, THERMOCHEMISTRY

Subjects covered include: Density calculations with simulated water displacement volume determination; thermochemical calculations and measurements using a calorimeter; acid and base pH calculations; and identification of an organic unknown.

HARDWARE REQUIREMENTS: 8K (old or new ROMs).

Dr. William M. Butler

**\$40.00 set of 4 CHEMPET #2
programs on tape (discount available)**

EDUCATIONAL PACKAGE II

Change Maker: Practice in making change for randomly selected purchase and payment amounts. (PT 308)

Hangman: Well known word guessing game in which user is able to substitute any set of words. (PT 503)

Name that Letter: Players bid number of tries it will take to guess the letter the computer is thinking of. Players take turns challenging each other and computer gives clues. (PT 109)

Kingdom: Player assumes role of king in ancient kingdom in this simulation, and tries to manage resources and people. (PT 408)

Animals: Computer tries to guess animal that PLAYER is thinking of. Computer asks questions and has ability to learn. (PT 508)

HARDWARE REQUIREMENTS: 8K PET, CBM.

Micro Learning

\$24.95

PT007

OIL WELL

This is an exercise in drilling for oil by finding the prime factors of a number. Refine a number into its prime factors ($24 = 2 \times 2 \times 2 \times 3$) and watch the oil flow! From oil well to pipeline to tank truck, the learner will have many opportunities to become an oil millionaire.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$14.95

MA-33



PRIME FISHIN'

This is an exercise in identifying prime and composite numbers. The student goes fishing in Lake Eratosthenes to catch prime fish. Composite fish are illegal. The computer keeps a fishing score card for the student.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$14.95

MA-34

SUBTRACTION

This program presents problems in subtraction allowing the learner to pick the amount of digits in each number. The learner is also given the option of problems involving borrowing or no borrowing. All problems are generated at random. The learner works with each problem just as if he/she were doing it on a piece of paper.

HARDWARE REQUIREMENTS: 16K PET (old or new ROMs) and C2N.

Micro-Ed

\$20.00

MA-35

NUMBER JUMPER

The learner practices the skill of adding numbers quickly. The goal is to start small but, eventually, be able to add nine numbers in a row. Watch the jumper hurdle the numbers after each success! One miss, though, and it's back to the beginning!

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$14.95

MA-36

PINBALL I.Q.

This program gives the learner practice in finding the whole number part of a quotient in division. Correct answers will light up bumpers on a pinball



MATH & SCIENCE

machine and build up the player's score. The game is over when all the bumpers are lighted.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$14.95

MA-37

CATERPILLAR 500

It's not a car but a caterpillar that speeds around the oval in this Indy 500 type of race. To get the worm moving, just solve expressions such as $(8 \times ?) + 3 = 59$, and it's worth 7 laps around the track. A clock records total time in this 100-lap race.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$14.95

MA-38

SUM-IT MOUNTAIN

Carry the flag to the top of Sum-It Mountain in the fastest time possible. Success depends on the learner's ability to add numbers rapidly. Any mistake means starting all over from the bottom. A clock records the climb time.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$14.95

MA-39

FAT CHANCE

An understanding of multiples is needed to make the student's "fat chance" pay off. The player must predict the chances of a certain number being the multiple of another number.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$14.95

MA-40

**SECTOR FIVE**

This is an exercise in estimation. The student's job is to locate and turn back hordes of Kuminons that roam the galaxy. The key to success is estimating correctly the number of space invaders appearing on the player's scanner.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$14.95

MA-41

TWO-MINUTE WARNING

This program features a football race-against-the-clock as the player subtracts yardage on the way to the goal line. The runner moves across the screen each time he carries the ball. Any mistake, however, leads to a fumble and an automatic touchdown for the other team. In this learning game, the student practices the skill of successive subtraction.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$14.95

MA-42

LAST OF THE NINTH

It's the last of the 9th and your team is trailing by 10 runs. Do you play it safe and just try to get on base, or do you gamble for the home run? The greater the risk, the more difficult will the problem be in this test of the learner's ability to solve a variety of multiplication problems.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$14.95

MA-43

SLAM DUNK

Challenge your shooting eye and swish the net in this basketball competition. Make five shots in a row and watch your player rise to the occasion with a



MATH & SCIENCE

slam dunk. If you miss, your opponent scores. There's a time clock in this drill and practice game on subtraction facts.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$14.95

MA-44

MATH SPORTS PACKAGE

This package puts together ten of the math programs described above for a price lower than you would pay if you purchased each one separately. Here is what you get: Sum-It Mountain, Number Jumper, Slam Dunk, Two-minute Warning, Last of the Ninth, Medal Winner, Pinball I.Q., Caterpillar 500, Math Golf, Numbowl.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$139.50

MA-45

COORDINATE

This program is designed to give the learner practice in plotting points on a Cartesian coordinate system. A graph is displayed and the student is asked to plot a point picked at random. The cursor is moved by using the 2, 4, 6, and 8 keys. When the learner decides that the cursor is in the correct position, he/she presses the letter A. The learner is then told whether the answer is correct. If the answer is incorrect, the correct position of the point is shown on the screen. The student may stop the drill at any time by pressing the letter S. The number of correct points plotted will then be shown.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$20.00

MA-46

ADDING OR SUBTRACTING TWO AND THREE PLACE NUMBERS IN COLUMNS

Addition or subtraction problems using two and three place numbers in columns. The learner works with each problem, beginning with the units column on the right and moving left, guided by an arrow displayed under the



appropriate column. If the learner does not know the correct answer, the question mark may be pressed and the computer will display the correct answer. Student's performance is summarized. Intermediate.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95

MA-10

ADDING WITH OBJECTS

Each lesson presents ten randomly generated addition problems with sums up to twenty. Small diamond shapes representing the numbers to be added appear on the screen. If the learner answers incorrectly, the computer will give the right answer. If the learner presses the question mark, the computer will also give the right answer. Learner's performance is summarized. Primary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95

MA-6

TIC-TAC MATH

Set in game format with players answering math problems in order to get on the "board." Difficulty levels (1-10) are set by the players. The program uses addition, subtraction, and multiplication. Performance is summarized at the end of each session. Grades 2-6.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.

\$4.95

CDE004

ADD

The student is asked single digit problems. There is a choice of straight addition problems or problems with a demonstration of reversed digits. Performance is evaluated at the end of each session. Grades 1-4.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.

\$4.95

CDE006



MATH & SCIENCE

NUMBERS I

In this program students are asked number recognition. The number is displayed on the screen in an easy to read 3 inch size and a corresponding number of figures are shown above it. Grades K-1.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.	\$4.95	CDE007
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HORSE/DIVISION

This game format program uses simple division to drill two to five players. Player's horses advance by correctly answering the problems. If the student does not answer the question in the time allowed the horse does not advance. Grades 3-6.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.	\$4.95	CDE008
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MULTIPLY

The student is asked single digit problems. There is a choice of straight multiplication problems or problems with a demonstration of reversed digits. Performance is evaluated at the end of each session. Grades 2-4.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.	\$4.95	CDE009
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NUMBERS II

Counts figures representing dogs as well as digits. It will aid the student if an incorrect answer is given by counting one dog at a time with them. Performance is evaluated at the end of each session. Grades K-1.

HARDWARE REQUIREMENTS: Any PET, C2N.

Comm*Data Systems Inc.	\$4.95	CDE010
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NUMBERS III

Teaches a primary level student to coordinate numbers with an equal number of "dogs." Time allowable and difficulty level can be set. Performance is evaluated at the end of each session. Grades K-1.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc. \$4.95 CDE013

REDUCING FRACTIONS

The player is given a fraction that needs reducing. If done correctly the player gets a chance to fire his "big gun" at the computer's "big gun." The player is given ten chances to win. Performance is evaluated at the end of each session. Grades 3-6.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc. \$4.95 CDE014

SIMPLE SUBTRACTION

A series of very simple subtraction problems will be presented. Each one will first be presented with a graphic animation of the subtraction process, and then with just the numbers. Series consists of 15 problems. Performance is evaluated at the end of each session. Grades K-1.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc. \$4.95 CDE015

DECIMALS

This program has 5 levels of difficulty in rounding off decimals. If an error is made, the program takes the student through a step-by-step correction procedure. The program keeps track of time elapsed and incorrect answers.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc. \$4.95 CDE019



MATH & SCIENCE

DRILL

Students have a choice of addition, subtraction, multiplication, or a mixture of all three. Difficulty levels 1-4, time allotted for answering, and number of problems may be set by the player. Problems answered incorrectly are repeated twice and then reviewed again at the end of the sequence.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.	\$4.95	CDE020
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AREA AND PERIMETER

This personalized program introduces the student to the formulas needed to figure area and perimeter with graphic illustrations. Five problems follow to test the student's comprehension. If difficulty is encountered in either area or perimeter, the instruction is repeated with additional problems.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.	\$4.95	CDE023
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ROMAN NUMERALS

There are five different variations in this program. The student may be drilled on Roman Numerals, or the conversion from Roman Numerals to Arabic, or the reverse.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.	\$4.95	CDE026
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ATOMS

This program explains what atoms are by breaking down the molecular structure of salt. It defines and works with molecules, protons, neutrons, and electrons. Six-question quiz follows lesson. Grades 6-7.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.	\$4.95	CDE016
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CONSTELLATIONS

This program begins with a brief background on how the zodiac constellations first received their names. The twelve labelled constellations then appear on the screen, one at a time. A drill session follows, with the use of cursor movement to make selections. The student is given two chances to select the correct answer. If the first try is incorrect, a hint is given.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.

\$4.95

CDE024

ADDITION AND SUBTRACTION PROGRAMS

These programs are suitable for grades one through six and for special education classes. The addition program has 24 levels of difficulty. The subtraction program has twelve levels. Problems are presented vertically. Answers are input from right to left, and carrying or regrouping can be marked. Immediate feedback is given, with graphics reinforcing correct responses. By making selections from a menu, the user can set the number and level of difficulty of the problems, time limit, number of attempts allowed on each problem, and several other aspects of the program.

HARDWARE REQUIREMENTS: 8K PET.

Teaching Tools

\$20.00

LETTERS & NUMBERS PROGRAM

This program is ideal for young children first learning to use the computer. It uses upper/lower case letters and numbers created with PET graphics. Options within the program include matching of one or more items, completing sequences, and filling in missing items. In each option, letters, numbers, or both can be selected.

HARDWARE REQUIREMENTS: 8K PET.

Teaching Tools

\$20.00



MATH & SCIENCE

MULTIPLICATION TABLE

Practice in multiplication of numbers 1 through 9, with products ranging from 1 to 81. Additional practice is provided for problems answered incorrectly. The stop key is disabled. Intermediate, Junior.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC7
	\$7.50 disk (min. 5 programs)	

ADDITION WITH CARRY

This program gives the learner practice in addition with a carry and allows him/her to design any size problem up to 9 rows and 9 columns. All problems are generated randomly so that a different problem will be presented each time the program is run. The learner works with each problem just as if he/she were doing it on a piece of paper. Intermediate, Junior.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed	\$20.00	MA-17
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BAR GRAPH

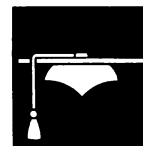
Drill and practice exercise using a bar graph with different pieces of information on it. There are ten problems in all. Learner's performance is summarized. Intermediate.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed	\$7.95 tape	MA-12
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CLOCK

This program presents problems in telling time by the hour or half-hour. Each lesson consists of twelve randomly selected clock faces showing various times. The learner answers by first typing the number of the hour, then a



colon, then the minutes. Pressing the question mark key will cause the right answer to be revealed. Learner's performance is summarized. Primary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 tape

OT-5

COUNT 'EM

One to ten steam locomotives appear on the screen. Each problem presents a different number of locomotives. How many are there? If the student does not know the answer, and types the question mark, the computer will give the answer. Student's performance is summarized. Primary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 tape

MA-2

MATH BID

Drill and practice problems in addition, subtraction, multiplication, or division are presented. A different choice can be made for each game. The difficulty level for each game can also be set. Program is an achievement motivation game. If student does not know the answer, and types the question mark, the computer will give the answer. Intermediate.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 tape

MA-1

MATH SEQUENCE

The programs are success-oriented and provide structured drill with immediate feedback. Students work at their own pace toward mastering specific skills. Programs cover: addition, subtraction, multiplication, division, laws of arithmetic, negative numbers, fractions, decimals, and percents.

HARDWARE REQUIREMENTS: 8K CPU (any ROM).

Milliken

\$200.00

M1004



MATH SHOOTOUT

The idea of this program is to have the learner practice doing math exercises as fast as possible. Difficulty levels and time requirements can be set for any of four areas: addition, subtraction, multiplication, and division. Each lesson consists of ten problems. Learner's performance is summarized.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 tape

MA-11

1-2-3 DIGIT MULTIPLICATION

This program presents problems in multiplying a 3 digit number by a 1, 2, or 3 digit number, at the option of the learner. All problems are generated randomly so that a different one will be presented each time the program is run. The learner works with each problem just as if he/she were doing it on a piece of paper. Intermediate, Junior.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$20.00

MA-18

STORY PROBLEMS IN ADDITION & SUBTRACTION

The computer presents an assortment of story problems in addition and subtraction. The student must read and understand what is being asked for before the problem can be correctly solved. If the student does not know the answer and types the question mark, the computer will give the answer. Student's performance is summarized. Intermediate.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 cassette

MA-3

SUBTRACTING WITH OBJECTS

Each lesson presents two randomly generated subtraction problems with numbers from one to ten being subtracted from each other. Small arrows and diamonds represent this operation. If the learner's answer is wrong, the



computer will give the right answer. If the learner presses the question mark, the computer will also give the right answer. Learner's performance is summarized. Primary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 cassette

MA-7

TARGET MATH

The learner selects problems in addition, subtraction, multiplication, or division at a difficulty level of his/her choice. Learner's performance is summarized. Intermediate.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 cassette

MA-5

TIMED DIVISION FACTS

Two types of timed practice for division facts 0-5. Primary, intermediate.

HARDWARE REQUIREMENTS: Contact dealer.

Microcomputers in Education

\$9.95 cassette

CC58

\$7.50 disk (min. of 10 programs)

WHAT NUMBER IS MISSING?

Digits from 1 to 9 appear in sequence on the screen. But one of the digits is missing. Which one? Each lesson consists of ten problems randomly presented. If the student does not know the answer, typing the question mark will cause the right answer to be revealed. Student's performance is summarized. Primary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 cassette

MA-4

**WHICH NUMBER COMES NEXT?**

For each problem, three numbers in sequence between 1 and 20 are presented, followed by a blank. What belongs in the blank? It is the next number in sequence. Two possible answer choices are presented. Each lesson consists of sixteen problems randomly presented. Student's performance is summarized. Primary.

HARDWARE REQUIREMENTS: Uses 3G Light Pen.

Micro-Ed

\$7.95 cassette

MA-13

CALORIMETRY

Generates a series of four questions dealing with the principle of calorimetry. The definition of specific heat capacity and the conservation of energy principle are thus reviewed.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys

\$20.00

PC8

FRACTION CONCEPT

Determining if the divided shape is in equal parts halves, thirds, or quarters. A summary follows a run of 10 problems.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education

\$9.95 tape

CC108

\$7.50 disk (min. of 5 programs)

FRACTION SYMBOLS 1

Match the correct fraction symbol to the given, divided object. Help is provided if incorrect answer is given. A summary is given after 10 problems. Primary.

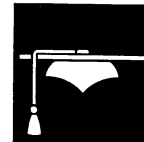
HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education

\$9.95 tape

CC109

\$7.50 disk (min. of 5 programs)



MATHEMATICS FOR SCIENCE SERIES SERIES 1: MEASUREMENT

Scale Reading:

This program teaches the student how to read a linear scale, emphasizing the need to show the correct number of digits in measurements and how to estimate between scale divisions.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific	\$20.00	20M500
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Linear Scales:

This program is an extension to scale Reading. It teaches the student how to read a variety of scales in which the markings increase by various amounts, i.e., scales that go up by 1's, 2's, 10's, 50's, etc., with different numbers of markings between the gradations.

HARDWARE REQUIREMENTS: 16K, CPU, C2N or Disk Drive.

Merlan Scientific	\$20.00	20M505
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Vernier Scales:

This program teaches the student how to interpret the readings on a vernier scale. The scale shown on the screen is straight, although the concepts learned can easily be adapted to the curved scales found on some laboratory equipment.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific	\$20.00	20M510
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SERIES 2: BASIC MATH TECHNIQUES

Significant Figures:

This program teaches the student how to judge the number of significant digits in a number. This basic concept is essential in dealing with measured quantities.

HARDWARE REQUIREMENTS: 16K, CPU, C2N or Disk Drive.

Merlan Scientific	\$20.00	20M515
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MATH & SCIENCE

Rounding Off:

This program teaches proper rounding off techniques by asking the student to round off a variety of numbers to specific numbers of significant digits, analyzing the mistakes, and prompting the student to give the correct answer.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific	\$20.00	20M520
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Calculations and Rounding Off (addition and subtraction):

Students are asked to perform mathematical (addition and subtraction) calculations (a calculator is simulated on the computer screen) and they write their answers rounded off to the appropriate number of digits. Answers are analyzed and feedback is provided.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific	\$20.00	20M525
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Calculations and Rounding Off (multiplication and division):

Students are asked to perform mathematical (multiplication and division) calculations (a calculator is simulated on the computer screen) and they write their answers rounded off the appropriate number of digits. Answers are analyzed and feedback is provided.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific	\$20.00	20M530
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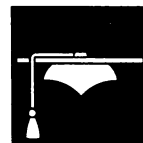
SERIES 3: EXPONENTIAL NOTATION

Scientific Notation:

The program teaches students to convert numbers from “ordinary” to scientific notation and vice-versa.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific	\$20.00	20M535
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Exponential Calculations (addition and subtraction):

The program teaches addition and subtraction of numbers expressed in scientific notation. Students are encouraged to express answers with the correct number of significant digits.

Merlan Scientific	\$20.00	20M545
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Exponential Calculations (multiplication and division):

The program reviews the multiplication and divisions of powers of ten, then moves on to examples involving numbers expressed in scientific notation. Students are encouraged to express answers with the correct number of significant digits.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific	\$20.00	20M540
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SERIES 4: MISCELLANEOUS

Metric Conversions:

The program teaches a method of converting numbers expressed with one metric prefix to another. The largest prefix used is Mega, the smallest is micro.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific	\$20.00	20M550
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Slopes of Graphs:

The program teaches the student how to find the slope of straight line graphs and provides many examples. Problems involve both negative and positive slopes in the first quadrant.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific	\$20.00	20M555
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Diskette Package:

Mathematics for Science Series on Diskette.

Merlan Scientific	\$180.00 (12 programs)	20M5100
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**LONGITUDINAL WAVE DEMONSTRATOR**

This program demonstrates both single pulses and periodic LONGITUDINAL waves moving along a spring. The program allows the viewer to stop and restart the motion, to show the motion at different speeds, and to highlight the movement of a single coil. With the computer interfaced to a large TV monitor, the program is an excellent aid in teaching an entire class.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific

\$24.00

20M175

CHEMICAL NOMENCLATURE SERIES*Organic Compound Nomenclature:*

This program displays a choice of nine different types of organic compounds on the screen. The compound type (e.g., alkene, aromatic, ester, amine, etc.) is selected by the user. There are literally hundreds of possibilities. The length of chain, position of functional group and position of branch are changed randomly by the computer. The user is then asked for the IUPAC name and corrected if it is wrong.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific

\$22.00 tape

22M120

Hydrocarbon Nomenclature:

The computer randomly creates alkanes from thousands of possibilities. The chain length, number of branches, position of branches, and length of branches vary. The program includes three levels of difficulty with recent best scores for each printed on the screen. The user is asked to enter the correct IUPAC name for the hydrocarbon displayed. If incorrect, the name entered is analyzed. Suggestions follow as to how to correct the answer. If wrong a second time, the correct answer is given.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific

\$22.00 tape

22M120

Inorganic Nomenclature (Name to Formula):

The student is given the name of a binary compound or acid salt, and must type in the formula. The program uses a sophisticated input routine, capital and small letters, and the computer automatically places numerals below the

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Inorganic Nomenclature (Formula to Name):

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Diskette:

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific **\$66.00 tape** **22M190**

Boyle's Law:

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Charles' Law:

261



MATH & SCIENCE

volumes of trapped gas must be measured on the screen and entered into the computer. Conclusions are drawn from a graph displaying the results and then the user is led through sample problems.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific	\$22.00 tape	22M15
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Gas Law Drill:

This program provides drill in mathematical and non-mathematical gas law problems. The variables include volume, pressure, temperature, density and mass. Explanations and correct solutions are provided when errors are encountered and a calculator mode is included for convenience.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific	\$22.00 tape	22M220
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Equilibrium I:

High resolution bar graphs are used to display relative amounts of nitrogen, hydrogen, and ammonia in the Haber process as equilibrium shifts. The objective is to learn how temperature and pressure affect the equilibrium in opposite ways and to try to obtain the "ideal" compromise without having the display "explode." As well as bar graphs, temperature, pressure, rate and economical situation are constantly displayed.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific	\$22.00 tape	22M310
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KMT—Introduction:

The relationship between temperature and molecular speeds of molecules in a gas is established, and the effect of temperature on gas volume is introduced.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

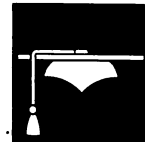
Merlan Scientific	\$22.00 tape	22M410
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KMT—Changes of State:

The student follows the molecules in a crystal of ice as melting occurs, evaporation occurs, and finally the water boils. The equilibrium situations at the melting and boiling points are displayed.

HARDWARE REQUIREMENTS: 16K CPU, C2N or Disk Drive.

Merlan Scientific	\$22.00 tape	22M420
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Diskette:

All of the Gas Law and Kinetic Molecular Theory programs can be purchased on one disk.

HARDWARE REQUIREMENTS: 16K CPU and Disk Drive.

Merlan Scientific **\$99.00 tape** **22M490**

WORKING WITH BASIC ADDITION FACTS

Each lesson consists of fifteen problems. If the learner wishes, he/she may practice adding only a certain number. Problems are posed at random and are not repeated unless they are missed. They may then be repeated more than once. At the end of each lesson, the learner's performance is summarized according to the following categories: number of problems, number of errors, answers given by the computer, average correct response time, total lesson time, and specific problems that gave the learner trouble.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed **\$7.95** **MA-8**

WORKING WITH BASIC MULTIPLICATION FACTS

Each lesson consists of fifteen problems. If the learner wishes, he/she may practice multiplying by a certain number. Problems are posed at random and are not repeated unless they are missed. They may then be repeated more than once. At the end of each lesson, the learner's performance is summarized according to the following categories: number of problems, number of errors, answers given by the computer, average correct response time, total lesson time, and specific problems that gave the learner trouble.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed **\$7.95** **MA-9**

LOCOMOTIVE

From one to ten steam locomotives appear on the screen. How many are there? Two possible answer choices are presented. The student places the



MATH & SCIENCE

point of the light pen on a small square associated with the answer of his or her choice. If the choice is correct, a little steam locomotive chugs across the screen. If the choice is not correct, a bad face appears and the problem is repeated. The lesson consists of ten problems, randomly presented. However, the program may be terminated at any time simply by pressing the space bar. Then the student's performance is summarized.

HARDWARE REQUIREMENTS: 8K PET and 3G Light Pen.

Micro-Ed

\$7.95

MA-14

GREATER THAN/LESS THAN

The student is given a problem that looks like this example:

$(6 - 4 + 3) ? (5 + 4 - 2)$. Using the light pen, the student chooses the math symbol meaning "greater than" to replace the question mark and make the statement true. Each completed lesson consists of ten problems randomly selected. However, the program may be terminated at any time simply by pressing the space bar. Then the student's performance is summarized.

HARDWARE REQUIREMENTS: 8K PET and 3G Light Pen.

Micro-Ed

\$7.95

MA-16

LONG DIVISION

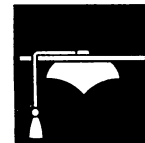
This program presents problems in long division allowing the learner to choose a 1, 2, or 3 digit divisor. All problems are generated randomly so that a different problem will be presented each time the program is run. The learner works with each problem just as if he/she were doing it on a piece of paper. The cursor locates the position of the next entry. All errors are immediately flagged and the learner may then enter a new answer. The correct answer will then be shown if the learner makes a second error, and he/she may then continue with the problem.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$20.00

MA-19



MATH SAFARI

Hunt awful ADDCHNIDS, slashing SUBSLIMPS, malicious MULGR-LAS, and daring DIVAGLONS in this Mathematical Safari! The evil beasts move across the screen, challenging the student, who must get them before they get away. Large bold numbers make it easy for the hunter to aim his/her math gun. However, as the safari progresses, the animals move faster. Fortunately, there is a quick plane back to civilization if the safari needs to be shortened. At the end of each hunt, the results are summarized. Different levels of difficulty make this program appropriate for students of varying abilities.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$20.00

MA-20

PRIME NUMBER

For each problem the computer will display a grid of numbers from 1 to 100. One of these numbers, selected at random by the computer, will flash on the screen. The student's job is to identify the number as prime or composite. At the end of the lesson, the student's performance is summarized.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$7.95

MA-21

DECIMAL EQUIVALENTS OF FRACTIONS

The computer displays a number line marked with fractions. What is the decimal equivalent of the highlighted fraction on the number line? At the end of the lesson, the student's performance is summarized.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$7.95

MA-22

MEDAL WINNER

Here is a math exercise that can be used on either a group or an individual! The object is to create a multiplication problem with three digits to produce



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the largest product. The computer will display three random digits (such as 5, 3, 9) and a product ($39 \times 5 = 195$) that can always be bettered (for example, $53 \times 9 = 477$). Each learner will meet the challenge with his or her own arrangement. The computer will then print all the winning arrangements and award a gold, silver or bronze medal for a player's performance. Each learner has an opportunity to win medals in ten events.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$14.95

MA-23

GREAT TIMES HOTEL

This hotel is filled with mystery and intrigue. Certain clues will lead the player to the floors where strange things are happening. The greatest challenge of all is to discover the secret of the multiple elevators. In doing so the learner will master the concept of common multiple.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$14.95

MA-24

GUZINTA HOTEL

This Hotel has a special set of "multiple" elevators that stop only on certain floors. The player must decide what elevator to use to reach several floors on one ride. Making the right decisions leads to an understanding of the concept of greatest common factor.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$14.95

MA-25

MATH SPIN

This is an exercise in multiplication. The object is to win 21 points before the computer does. Using a random choice technique, the student will create problems both for himself and for the computer. The game points can then be won in various ways.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$7.95

MA-26



GUESSTIMATOR

This program gives a student the opportunity to learn to estimate proportion by having the computer respond appropriately to estimates. For each problem, a rectangle is partially filled at random by the computer. What proportion on the box is filled? Make a guesstimate! The student may choose the level of difficulty: easy or hard.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$14.95

MA-27

NUMBOWL

The computer presents three random numbers. The student must put these into an equation so the total is as close to 30 as possible. However, the total must not be more than 30. For example if the computer generated the numbers 3, 5, and 9, the student might create the equation $(3 \times 5) + 9 = 24$. There are ten turns (bowling frames) to a game, and a perfect score (attainable only through a combination of skill and luck) would be 300 points.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$14.95

MA-28

PARTING SHOTS

A box with 36 squares appears on the screen. The computer randomly places four kinds of characters in these squares. Shooting at the box by pressing the RETURN key will cause all but one kind of character to be erased. Problem for the student: What fraction tells how many characters remain in relation to the total number of squares? The student tries to express this fraction in its lowest term. Game points are scored depending on how many characters are in the squares and whether the student can express the fraction in its lowest term.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$14.95

MA-29



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GUESSTIMATOR B

The purpose of this program is to **ESTIMATE** answers before working them out by calculator or with pencil and paper. Estimate by moving a pointer to a position on a number line, using the **+** and **-** keys. The **SCALE** of the number line may be changed by pressing the **=** key. Five levels of difficulty are available and problems are presented in sets of five.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$14.95

MA-30

THE FABULOUS L-C-M MACHINE AND THE GENEROUS JACKPOT MINE

The purpose of this program is to win at the L-C-M machine. This is done by finding the least common multiple of three numbers randomly generated by the computer. If the student wins enough during nine tries, the Big Dollar Board will fill up, and the computer will take the student to see a Big Event at the Jackpot Mine.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$14.95

MA-31

MATH GOLF

Place numbers in an order-of-operations arrangement that will better par. Club selection is important. If you're really good, you might make a hole-in-one every time on this nine hole course. This program gives the student practice in forming equations with the different math operations.

HARDWARE REQUIREMENTS: 8K PET.

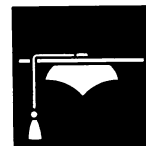
Micro-Ed

\$14.95

MA-32

CALORIMETRY ANALYSIS

This utility program is designed to solve the various time-consuming problems involved in the study of calorimetry. Substances undergoing



changes in phase, as well as changes in temperature, may be dealt with by this program.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys

\$20.00

PC306

CENTRIPETAL FORCE

Generates a series of 6 questions, dealing with the analysis of the motion of a particle undergoing uniform circular motion.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys

\$20.00

PC6

CHEMISTRY ANALYSIS I

This utility program is designed to solve problems involving the mole concept and molarity.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys

\$20.00

PC307

CHEMISTRY ANALYSIS II

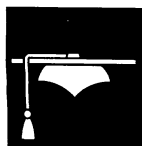
This utility program is designed to provide solutions to problems using normality, molarity, changes in freezing and boiling points of solutions.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys

\$20.00

PC308



MATH & SCIENCE

ELECTRIC FIELD ANALYSIS

Generates a series of 6 questions dealing with the work done in transferring a charged particle between two points in a uniform electric field.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC35
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EMF OF ELECTROCHEMICAL CELLS

Generates a series of questions in which the student determines the EMF of a randomly synthesized electro-chemical cell.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC34
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FARADAY'S LAW

Generates a series of questions dealing with the analysis of an electrolytic solution.

HARDWARE REQUIREMENTS: Contact dealer.

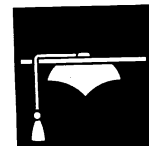
Microphys	\$20.00	PC22
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FORMULAS OF COMPOUNDS DRILL

Students are given practice in learning to write the formulas of randomly synthesized compounds.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC39
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GAS LAW ANALYSIS

This utility program is designed to solve a large variety of problems in which gases undergo isothermal, isobaric, isovolumic, and general processes.

Microphys

\$20.00

PC303

GENERAL GAS LAW

Generates a series of questions dealing with the behavior of a gas undergoing a general process in which all three thermodynamic variables may change.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys

\$20.00

PC12

GRAM-MOLECULAR MASS

Randomly synthesizes inorganic compounds, whose gram-molecular masses are to be determined. The writing of chemical formulas is also thus reviewed.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys

\$20.00

PC23

HEATS OF FUSION/VAPORIZATION

Generates a series of 3 questions dealing with the concepts of fusion and vaporization.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys

\$20.00

PC10



INELASTIC COLLISIONS

Generates a series of seven questions dealing with the analysis of an inelastic collision. The concepts of linear momentum and kinetic energy are reviewed.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC5
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LINEAR KINEMATICS

Generates a series of 5 questions dealing with linear motion and the analysis of a graph of instantaneous speed versus time.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC1
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LONGITUDINAL STANDING WAVES

Generates a series of 4 questions dealing with the longitudinal wave pattern established in open and closed organ pipes.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC16
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MIRRORS AND LENSES

Generates a series of 5 questions, dealing with the image-forming properties of convex and concave mirrors and lenses.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC17
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THE MOLALITY CONCEPT

Generates a series of questions, dealing with the concepts of gram-molecular mass and molality.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC27
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THE MOLARITY CONCEPT

Generates a series of 3 questions, dealing with the concept of molarity; the mole concept is also reviewed.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC25
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THE MOLE CONCEPT

Generates a series of questions which deal with the mole concept and the writing of chemical formulas.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC24
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MOMENTUM AND ENERGY

Generates a series of 11 questions, dealing with the concepts of linear momentum, impulse, and kinetic energy.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC3
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NAMING COMPOUNDS DRILL

Students are given practice in learning to name randomly synthesized compounds whose formulas are given.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC38
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THE NORMALITY CONCEPT

Generates a series of questions dealing with the concepts of gram-molecular mass, gram-equivalent mass, and normality.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC26
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PARALLEL CIRCUIT ANALYSIS I

Generates a series of 10 questions dealing with the analysis of a parallel circuit consisting of three resistors and a battery. Thus the concepts of resistance, potential difference, and power are reviewed.

HARDWARE REQUIREMENTS: Contact dealer.

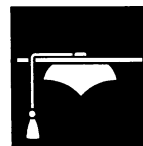
Microphys	\$20.00	PC20
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PARALLEL CIRCUIT ANALYSIS II

Generates a series of 6 questions dealing with the analysis of a parallel circuit consisting of three resistors and a battery. Thus the concepts of resistance, potential difference, and Ohm's Law are reviewed.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC20A
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PERCENT CONCENTRATION

Generates a series of questions relating to the computation of the percent or fraction concentration of randomly generated solutions.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC32
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pH CONCEPT

Generates a series of questions, dealing with the concept of pH and pOH. The student gains experience in working with logarithmic scales.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC33
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PHOTOELECTRIC EFFECT

Generates a series of 4 questions, dealing with the analysis of photoelectric emission from the surfaces of various randomly selected metallic cathodes.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC36
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PROJECTILE ANALYSIS

This utility program is designed to solve the general projectile motion problem. Time of flight, horizontal range, final velocity, and angle of impact are among the values determined.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC305
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MATH & SCIENCE

PROJECTILE MOTION

Generates a series of 11 questions dealing with the analysis of a projectile in flight. Thus the basic definitions of kinematics are reviewed.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC2
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PULLEY SYSTEM—MACHINES

Generates a series of 7 questions dealing with the analysis of a pulley system consisting of single, double, or triple fixed and moveable blocks. Thus the concepts of work and efficiency are reviewed.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC7
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SERIES CIRCUIT ANALYSIS

Generates a series of 10 questions, dealing with the analysis of a series circuit consisting of three resistors and a battery. Thus the concepts of resistance, potential difference, and power are reviewed.

HARDWARE REQUIREMENTS: Contact dealer.

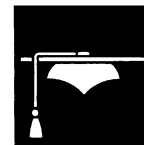
Microphys	\$20.00	PC19
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SERIES/PARALLEL CIRCUIT ANALYSIS

Generates a series of 6 questions, dealing with the analysis of a circuit in which a single resistor is in series with a parallel combination of two resistors.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC21
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SPECIFIC GAS LAWS

Generates a series of 3 questions, dealing with gases undergoing isothermal, isobaric, and isovolumic processes. Thus, Boyle's, Charles', and Gay-Lussac's laws are reviewed.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC11
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SPECIFIC HEAT CAPACITY

Generates a series of 4 questions, dealing with the definition of specific heat capacity.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC9
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STOICHIOMETRIC ANALYSIS

This utility program is designed to provide solutions to problems involving mass/mass, mass/volume, and volume/volume relationships in chemical reactions.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC309
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STOICHIOMETRY: GENERAL

Generates a series of questions, dealing with stoichiometric relationships in chemical reactions. Mass/mass, mass/volume, and volume/volume problem types are randomly generated.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC31
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STOICHIOMETRY: MASS/MASS

Generates a series of questions, which develops the facility to solve problems involving mass/mass relationships in various chemical reactions.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC28
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STOICHIOMETRY: MASS/VOLUME

Generates a series of questions, which develops the facility to solve problems involving mass/volume relationships in various chemical reactions.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC29
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STOICHIOMETRY: VOLUME/VOLUME

Generates a series of questions, which permits the development of facility in solving problems which involve volume/volume relationships in various chemical reactions.

HARDWARE REQUIREMENTS: Contact dealer.

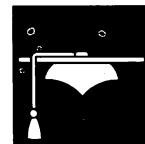
Microphys	\$20.00	PC30
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SYMBOLS AND VALENCES DRILL

Students are given practice in learning the symbols and valences of the common ions and radicals encountered in elementary courses.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC37
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THERMODYNAMICS I

Generates a series of 5 questions, dealing with a confined gas that undergoes an isobaric process. Thus the concepts of molar heat capacity, Charles' Law, and the first law of thermodynamics are reviewed.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC13
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THERMODYNAMICS II

Generates a series of 5 questions, dealing with a confined gas that undergoes an isobaric compression during which a quantity of heat is removed.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC14
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TOTAL INTERNAL REFLECTION

Generates a series of questions dealing with the reflection of light at appropriate interfaces.

HARDWARE REQUIREMENTS: Contact dealer.

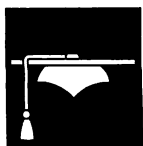
Microphys	\$20.00	PC40
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TRANSVERSE STANDING WAVES

Generates a series of 4 questions dealing with the study of the standing wave pattern established in a wire fastened at both ends.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC15
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VECTOR ANALYSIS I

Generates problems in which the student is asked to determine the magnitude and direction of the resultant of a concurrent system of three to five vectors.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC301
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VECTOR ANALYSIS II

This utility program is designed to determine the magnitude and direction of a system of concurrent vectors.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC302
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INTRODUCTORY CALCULUS PROGRAMS

This is a series of 12 programs designed for use in introductory calculus courses at both high school and college levels. Each program generates a unique set of problems for each student. Answers may be suppressed or generated so that the student may check his own work. The student then solves his set of problems away from the computer. On completion he returns to the computer, and enters his code number and answers. His responses are graded by the computer, which displays the correct answers to any questions which may have been missed. A percent score and brief comment reflecting overall evaluation are also given. Each program is available individually or as a set.

HARDWARE REQUIREMENTS: 8K CPU

- PC726—Differentiation of Algebraic Functions
- PC727—Maxima/minima Problems: Part I
- PC728—Maxima/minima Problems: Part II
- PC729—Relative Rate Problems: Part I
- PC730—Relative Rate Problems: Part II
- PC731—Integration of Algebraic Functions
- PC732—Differentiation of Trigonometric Functions
- PC733—Integration of Trigonometric Functions
- PC734—Integration: Areas of Plane Figures
- PC735—Integration: Volumes of Solids
- PC736—Integration: Arc Lengths
- PC737—Integration: Surface Areas of Solids

Microphys	\$ 15.00 ea
	\$180.00 set



POKER

Pits the skill of various players against each other and against the Computer House. Graphic displays depict each hand. Players bet, draw cards, and bet again. The House is programmed to make moves in accordance with the hand it has been dealt, and with the nature of the betting that has taken place. The computer evaluates each hand before and after drawing cards, and displays each of these values, as well as the outcome of each game. Total standings of the House and players are displayed at the conclusion of each hand.

HARDWARE REQUIREMENTS: 16K CPU, and C2N.

Microphys

\$15.00

PC385

BINGO

One to 20 players may enjoy the excitement of this computer-controlled and managed game. The computer displays the randomly selected numbers, and evaluates the cards in the game after each call is made, in order to determine if a winning card exists. The computer can also display the status of any given card during the game. A set of 20 Bingo cards is included with the program. Players must create their own cards and enter these into the computer. The program permits the following types of games: a. horizontal, vertical, or diagonal bingo, b. frame or border, c. full card, d. letter L, e. letter T, f. letter X, or g. letter H.

HARDWARE REQUIREMENTS: 16K CPU, and C2N.

Microphys

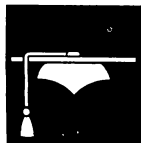
\$15.00

PC390

MICROSCOPE DOCUMENTATION

The computer shows a picture of a microscope with labelled parts. It asks the student to type in the number of the piece they want identified. It then flashes the answers for the student to study. When the student is done studying he types a zero to get out of the study mode. He is then offered a choice of going to the study mode, test mode, or exit mode.

TEST MODE—The computer shows a picture of a microscope and asks the student to identify 15 parts of the microscope. It gives the student 3 chances to answer each question. After the test is finished the program tells the student how many parts he identified correctly. When the student is done



MATH & SCIENCE

testing he types a zero to get out of the test mode. He is then offered a choice of going back to the test mode, into the study mode, or stopping.

HARDWARE REQUIREMENTS: Any PET/CBM.

Janice Pitkof

\$7.95

ARITHMETIC

This program can be used for grades K-12. It provides practice in the four arithmetic functions on 8 different skill levels, from very easy to very difficult. The program gives the student 10 to 16 questions in each area and rewards the student with a smiling face for each correct answer. The student has three chances to get the answer right after which he will be told the answer.

HARDWARE REQUIREMENTS: Any PET/CBM.

Janice Pitkof

\$11.95

ADDING BLOCKS

This program offers practice in beginning addition, using objects associated with the addends. Levels of help, which include objects for the sum, are provided. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education

\$9.95 tape
\$7.50 disk

CC63

ZAP MULTIPLICATION 5—9

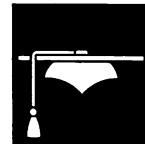
A multiplication game for two people, which provides practice of facts for numbers 5 through 9. Graphics are used. The students are locked into the program until one scores 300 points. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education

\$9.95 tape
\$7.50 disk (min. of 5 programs)

CC74



ZAP ADD 5—9

An addition game for two people that provides practice of facts for addends 5—9. Graphics are used. The student is locked into the program until one of them gets 100 points. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC65
	\$7.50 disk (min. of 5 programs)	

ADDITION TABLE

Practice is provided in addition of numbers 1 through 9, with sums ranging from 2 to 18. Additional practice is given for problems answered incorrectly. The student is locked into the program. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC77
	\$7.50 disk (min. of 5 programs)	

COMPETE

Plant competition. Computer simulations of seven investigations concerning interactions between flowering plants.

HARDWARE REQUIREMENTS: 2000 or 4000 Series, 2.0, 3.0, or 4.0 ROMs on tape, and 3.0 or 4.0 ROMs on disk.

Conduit	\$35.00	BIO182
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COEXIST

Study of population dynamics through simulation of biological situations.

HARDWARE REQUIREMENTS: 2000 or 4000 Series, 2.0, 3.0, or 4.0 ROMs on tape, 3.0 or 4.0 ROMs on disk.

Conduit	\$35.00	BIO118
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MATH & SCIENCE

EVOLUT

Evolution and natural selection. Enables students to follow course of natural selection of as many generations as desired.

HARDWARE REQUIREMENTS: 2000 or 4000 Series, 2.0, 3.0 or 4.0 ROMs on tape, and 3.0 or 4.0 ROMs on Disk.

Conduit	\$35.00	BIO082
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CHEMISTRY LABORATORY SIMULATIONS

Acid-base titration, reaction kinetics, oxidation-reduction, and Bohr model of the atom are examined.

HARDWARE REQUIREMENTS: 2000 or 4000 Series, 2.0, 3.0, or 4.0 ROMs on tape, and 3.0 or 4.0 ROMs on disk.

Conduit	\$40.00	CHM254
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HABER

Ammonia synthesis. Computer simulation of the Haber process and examination of how various conditions influence the course of the reaction.

HARDWARE REQUIREMENTS: 2000 or 4000 Series, 2.0, 3.0, or 4.0 ROMs on tape, and 3.0 or 4.0 ROMs on disk.

Conduit	\$35.00	CHM199
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RKINET

Reactions kinetics. Mathematical modeling of the ways various factors influence the rate of a chemical reaction.

HARDWARE REQUIREMENTS: 2000 or 4000 Series, 2.0, 3.0, or 4.0 ROMs on tape, and 3.0 or 4.0 ROMs on disk.

Conduit	\$35.00	CHM160
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OPTICS ANALYSIS

This utility program is designed to solve a variety of problems involving the image forming properties of thin lenses and concave and convex mirrors.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$20.00	PC18
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REFRACTION OF LIGHT

Generates a series of 3 questions dealing with the behavior of light rays striking a planar interface between two optical media.

HARDWARE REQUIREMENTS: Contact dealer.

Microphys	\$28.00	PC18
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ACCELERATION DUE TO GRAVITY

The program shows an animated real-time simulation of a dense object falling from rest. By showing the fall one frame at a time, the student may make measurements of displacement-time data from which he may show that g is constant and calculate its value. The computer checks the accuracy of the student's measurements and requires the student to re-do poor ones.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific	\$18.00	20M310
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AVERAGE SPEED

This program leads the student from a definition of average speed through a series of problems designed to reinforce the concept. Many of the problems are illustrated by animated diagrams. Throughout the program, the student is provided with feedback appropriate to his answer. The program concludes with a self test which scores the student on his progress.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific	\$24.00	20M120
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AVERAGE VELOCITY

Similar to the program on Average Speed, these exercises explore the concept of average velocity, providing many examples and feedback.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific

\$24.00

20M120

DATA ANALYSIS SERIES (3 programs)

PLOTAGRAPH I:

This program accepts data and plots a graph on a 60×40 array of points, by making use of the PET graphic characters. Scaling of axes is done automatically.

PLOTAGRAPH II:

This program will plot up to four different sets of data on the same grid. Each data set is represented by a different symbol. Scaling is done automatically.

TICKERTAPE:

This program quickly analyzes tickertape data. The student inputs the displacement of each dot on the tape (measured from the first dot). The computer will plot displacement-time, velocity-time, and acceleration-time graphs.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific

\$28.00

20M210

MORE ALGEBRA

A set of 5 Computer Assisted Instruction programs for the COMMODORE Computer to complement TYCOM ALGEBRA. Programs included are:

SLOPE which reviews the concepts of graphing, slope and distance between points.

SIMUL simultaneous linear equations in two variables showing solution by substitution, as well as combination.

QUAD quadratic equations which may be solved by factoring.

DISC use of the Discriminant to determine the nature of the roots of quadratic equation.



COMP review of the Quadratic Formula

All programs keep score and provide games upon exit. All five programs are available on one cassette or a set of five cassettes.

HARDWARE REQUIREMENTS: 8K CPU (any ROM) and C2N Cassette.

Tycom Associates	\$19.95 5 on 1
	\$26.95 5 on 5

WORD PROBLEMS

A CAI module intended to teach algebra students how to set up and solve word problems from several formats, and with randomly generated values. The student is given the correct answer if a wrong answer is entered, and a score is given upon exiting the program.

HARDWARE REQUIREMENTS: Any 40 column PET/CBM, and C2N.

Tycom Associates	\$19.95
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ECOLOGICAL MODELING

This package of eight programs introduces students to techniques for modeling ecological systems and processes. Students experimentally test hypotheses and predict results from ecosystems by controlling initial population size, growth rate, time length of the simulation and other parameters. Includes copies of user's manual.

HARDWARE REQUIREMENTS: 2001 or 4000 Series, 2.0, 3.0 and 4.0 ROM on tape, 3.0 and 4.0 on disk.

Conduit	\$65.00	BIO03P
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LINKOVER

Allows student to plan and execute a program of experiments to draw a genetic map of a single chromosome. The student specifies a series of genetic crosses and, from the resulting data, builds up a linkage map for ten genes of



MATH & SCIENCE

a hypothetical diploid species. The three-point testcross technique is used. Includes 6 copies of student's notes, and one copy of teacher's guide.

HARDWARE REQUIREMENTS: 2001 or 4000 Series, 2.0, 3.0 and 4.0 ROM on tape, 3.0 and 4.0 on disk.

Conduit **\$35.00** **B10122P**

ENZKIN

Permits students to obtain realistic results, rapidly using the computer program to simulate enzyme-catalyzed reactions. Six enzymes are simulated by the program for student's study. Includes six copies of Student's Notes, one copy of Teacher's Guide.

HARDWARE REQUIREMENTS: 2001 or 4000 Series. 2.0, 3.0 and 4.0 ROM on tape, 3.0 and 4.0 on disk.

Conduit **\$35.00** **B10181**

MATRIX ALGEBRA

A sequence of self-contained CAI units which take the student step by step from the definition of a matrix through all the elementary operations. Each operation has a definition and several examples, then drill-and-practice dialogue follows with randomly generated problems. Can be used as a supplement for self-study. Includes six copies of Student's Notes, one copy of Teacher's Guide.

HARDWARE REQUIREMENTS: 2001 or 4000 Series. 2.0, 3.0 and 4.0 ROM on tape, 3.0 and 4.0 on disk.

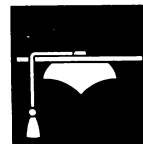
Conduit **\$50.00** **MTH267**

INTERP

Wave superposition. This program increases understanding of modeling in physics. Uses wave theory of light in explaining observed phenomena.

HARDWARE REQUIREMENTS: 2000 or 4000 Series, 2.0, 3.0, or 4.0 ROMs on tape, and 3.0 or 4.0 ROMs on disk.

Conduit **\$35.00** **PHY183**



INTRODUCTORY MECHANICS DRILL PACKAGE

This is a series of four programs on one tape. Each program is designed to drill a student on the use of one specific formula or concept. The drill is presented in a game-like atmosphere in which the student is challenged to work quickly. The student receives feedback on accuracy and time taken.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific	\$16.00	20M420
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LINEAR AIR TRACK—MOMENTUM IN ELASTIC COLLISIONS

This program displays a real time simulation of the motion of objects of different mass along a frictionless air track. The objects collide elastically, allowing the student to make measurements and do calculations which lead to a confirmation of the law of conservation of momentum.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific	\$20.00	20M350
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MILLIKEN'S EXPERIMENT

This program simulates the original oil drop experiment. The particle is injected into the chamber and then ionized. By increasing or decreasing the voltage on the plates, the particle is brought to equilibrium and the voltage recorded. After 5 successful attempts the PET assists the student in analyzing the experimental data to determine the charge on the particle.

HARDWARE REQUIREMENTS: 16K minimum.

Merlan Scientific	\$26.00	20M335
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NEWTON

Satellite orbits. Simulations of Newton's experiments.

HARDWARE REQUIREMENTS: 2000 or 4000 Series, 2.0, 3.0, or 4.0 ROMs on tape, and 3.0 or 4.0 ROMs on disk.

Conduit	\$35.00	PHY130
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MATH & SCIENCE

PERIODIC MOTION

These 5 programs teach the concepts of periodic motion, cycle, longitudinal and transverse vibration, amplitude, phase, period and frequency.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific	\$28.00	20M150
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PERIODIC WAVES: BASIC CONCEPTS

This sequence of 3 programs concentrates on periodic waves, introducing the ideas of wavelength, amplitude, period, and frequency. Although the lessons stress transverse waves, a segment at the end demonstrates longitudinal waves and their related vocabulary.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific	\$24.00	20M165
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PERIODIC WAVES: INTERFERENCE AND STANDING WAVES

The final sequence of 2 programs analyzes the production of standing waves on a stretched spring, by applying the ideas of interference to the case of periodic wave motion.

HARDWARE REQUIREMENTS: Contact dealer.

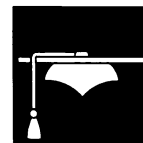
Merlan Scientific	\$24.00	20M170
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PHOTON INTERFERENCE

This program simulates random behavior of photons passing through a double slit and slowly produces a statistical pattern of bright and dark bars.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific	\$12.00	20M140
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RADIOACTIVITY—HALF LIFE

This program simulates the radioactive decay of a short-lived radioisotope. Data is collected for a 7 minute period, then the student is guided through an analysis to determine the half life of the isotope. The program includes sound to enhance the presentation.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific	\$20.00	20M340
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SCATTER

Particle shattering. Computer simulations of nuclear scattering investigations.

HARDWARE REQUIREMENTS: 2000 or 4000 Series, 2.0, 3.0, or 4.0 ROMs on tape, and 3.0 or 4.0 ROMs on disk.

Conduit	\$35.00	PHY129
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SUPERPOSITION PACKAGE

This is a series of two programs designed to help illustrate how two or more waves add together to produce superposed waveforms.

Superposition I: A static presentation in which two or more waves may be added. For each wave, the wavelength, attenuation and phase delay may be specified.

Superposition II: A dynamic presentation in which two waves and their resultant waveform are shown rolling up the screen continuously. For each wave, the wavelength, attenuation, and phase delay must be specified.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific	\$16.00	20M130
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TARGET PRACTICE

This program takes the form of a game designed to test the student's knowledge of projectile motion equations. The student is given three or four



MATH & SCIENCE

flight parameters (range, muzzle velocity, firing angle, and height above ground level) and asked to calculate the fourth. Graphics simulate the flight of the projectile. Points are awarded for accuracy and the student's final score is displayed as a percent.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific	\$18.00	20M410
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WAVE DEMONSTRATIONS

This program is designed for teacher use in demonstrating wave phenomena. Routines include a periodic transverse wave, a periodic longitudinal wave, constructive and destructive interference of pulses, and standing waves on a string. The program allows the teacher to freeze the waves in order to illustrate specific points of discussion such as wavelength and direction of particle motion.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific	\$24.00	20M180
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WAVES IN A LINEAR MEDIUM: SUPERPOSITION

The concepts of constructive and destructive interference of pulses are explored in a series of 2 programs. The student will be taught the details of how to use the superposition principle to construct wave patterns resulting from the interference of two pulses.

HARDWARE REQUIREMENTS: Contact dealer.

Merlan Scientific	\$24.00	20M160
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THE ATOM

Text, tables, and graphics are used to present the basic principles of atomic structure. Protons, electrons, neutrons, and the atomic number and weight of atoms are introduced, and the student is asked to apply the principles being learned. Following the lesson, the student is quizzed, with questions randomly selected from a bank of thirty. The program ends with a summary



of student performance. This is the first in a projected science series that will include programs on the molecule, the cell, simple machines, and more.

HARDWARE REQUIREMENTS: Specify equipment configuration when ordering.

Micro-Ed	\$14.95	SC-1
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GENETICS

This program is a classroom tool for health, biology, and advanced placement biology classes. It is designed for use with either a full class or by individual students. Once a student is taught the basic laws of inheritance, he/she can run Genetics to test his/her knowledge. The program will draw a family tree on the screen (up to three generations). Persons on the screen with a specific genetic trait are marked. The learner is then asked whether the trait is caused by a dominant, recessive, or sex-linked gene. If an incorrect answer is entered, the learner has the option of getting an explanation, supplied by the computer. Detailed documentation is supplied with each program.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs), C2N, with CB2 sound optional.

Micro-Ed	\$20.00	SC-2
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ELEMENTARY MATH PACKAGE I

Place Value: Introduces the basic concepts of the decimal number system and place value. Contains drill and practice session. (PT 102)

Number strings: Practice in adding strings of numbers. (PT 103)

Math Drill: Drills in addition, subtraction and multiplication with graphics. (PT 104)

Divisional Drill: Practice in division. User specifies level of difficulty in this and two previous programs. (PT 105)

HARDWARE REQUIREMENTS: 8K PET, and C2N.

Micro Learningware	\$24.95	PT001
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MATH & SCIENCE

ELEMENTARY MATH PACKAGE II

Fractions: Introduces concept of fractions with many graphic illustrations followed by drill and practice. (PT 106)

Decimals: Introduces the user to decimals with drill and practice. (PT 107)

Bagels: User tries to guess a three digit number given clues from the computer. (PT 201)

Stones: Play against the computer by picking the last stone without picking up more than ten stones at a time. (PT 202)

Factor: Easy way to learn factoring. Player selects a number from one of fifty displayed by the computer. (PT 110)

HARDWARE REQUIREMENTS: 8K PET, and C2N.

Micro Learningware	\$24.95	PT002
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BUSINESS PACKAGE

General Ledger: Simulated computerized accounting system which gives user practice in accounting without the drudgery of hand written journals. (PT 303)

Depreciation: Calculates depreciation using straight line, double declining balance, or sum of the years methods, according to IRS guidelines. Provides depreciation schedule. (PT 305)

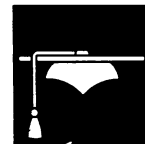
HARDWARE REQUIREMENTS: 8K PET, and C2N.

Micro Learningware	\$14.95	PT003
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BUSINESS PACKAGE II

Annuities: Calculates amount that can be accumulated with an initial investment, for a specified number of periods, at a specified interest rate. (PT 304)

Loan Amortization: Complete loan analysis program that calculates either payment amounts, number of periods, rate of interest, length of loan or total interest, and print amortization schedule. (PT 307)



Bank Reconciliation: Accepts bank balance, checkbook balance, checks written, outstanding checks, charge and reconciled bank statement. (PT 307)

Stock Market Simulation: Players buy and sell stocks. Allows selection from 26 stocks that fluctuate in price based on market indicators such as prime rate and inflation. (PT 309)

HARDWARE REQUIREMENTS: 8K PET, and C2N.

Micro Learningware **\$24.95** **PT004**

GAMES PACKAGE

Star Fighter: Player attempts to shoot down opposing starfighter while navigating his own starfighter. (PT507)

Break Out: Player tries to break through a wall by repeatedly hitting the same spot with a bouncing ball. (PT 510)

Pinball: Fast moving pinball game. (PT 511)

Blockade: Try to trap opponent in a blockade. (PT 512)

Dogfight: Try to shoot down opposing plane. (PT 513)

HARDWARE REQUIREMENTS: 8K PET, and C2N.

Micro Learningware **\$24.95** **PT009**

SCIENCE PACKAGE

This package consists of five programs which provide drill and practice in the physics of motion. A problem is presented and, if an incorrect answer is given, a step-by-step solution is provided. Student may use his own calculator or one supplied by the computer. The following formulas are available:

1. $s = vt$ (PT 776)
2. $s = v^0 t + \frac{1}{2} at^2$ (PT 777)
3. $a = (v_f - v)/t$ (PT 778)
4. $s = \frac{1}{2} at^2$ (PT 779)
5. $a = v_f/t$ (PT 780)

HARDWARE REQUIREMENTS: 8K PET, and C2N.

Micro Learningware **\$24.95** **PT021**



FRACTION SYMBOLS 2

Matching the fraction symbol $\frac{1}{2}$, $\frac{1}{3}$, or $\frac{1}{4}$ to the given picture. A summary follows a run of 10 problems. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC110
	\$7.50 disk (min. of 5 programs)	

FRACTION EQUIVALENT 2

Determining the equivalent fraction of the given fraction. Help is given after an incorrect answer is given. A summary follows a run of 10 problems. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC111
	\$7.50 disk (min. of 5 programs)	

COMMON DENOMINATOR

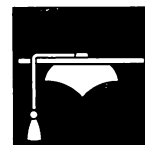
Determining the common denominator of the two given fractions. Two-level choice of problems is given: (1) finding the least common multiple, or (2) finding the least common denominator. Tutorial help is given after incorrect input. A summary is given at the end of a 10-problem run. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC112
	\$7.50 disk (min. of 5 programs)	

ADD FRACTION I

Adding fractions with identical denominators, with or without reducing. Two level choice is given: (1) having to reduce or (2) not having to reduce the



answers. Help is given after input. A summary follows 10 problems. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC113
	\$7.50 disk (min. of 5 programs)	

ADD FRACTION 2

Adding fractions with unlike denominators, and reducing the answers. Help is given after incorrect answer is given. A summary follows 10 problems. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC114
	\$7.50 disk (min. of 5 programs)	

ADD FRACTION 3

Adding fractions with unlike denominators with having to reduce the answers. Tutorial levels of help are given when correct denominators and/or numerators cannot be determined. A summary is given after five problems. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC115
	\$7.50 disk	

SUBTRACTION FRACTION 3

Subtracting fractions with like denominators, with or without having to reduce the answers. Help is given after incorrect answer is given. A summary follows 10 problems. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC117
	\$7.50 disk	



MATH & SCIENCE

INTRODUCTION TO MATHEMATICS ON THE COMPUTER

This program was designed to help slow-learners and learning-disabled students increase their mathematical abilities, by decreasing distractability factor and increasing interest. Six levels of ability are available in addition, subtraction, multiplication and division, with 20 questions on each level. If the student misses a question twice, the computer gives the same question as a word problem. When student gets a score of 85% he/she goes to the next level.

HARDWARE REQUIREMENTS: 8K CPU (any ROM). Specify equipment configuration.

Educational Activities, Inc.	\$34.95	(CP)-20030
	\$39.95	(DK)-20030

INTRODUCTION TO DECIMALS ON THE COMPUTER

Modeled on Introduction to Mathematics on the Computer, except it covers decimals.

HARDWARE REQUIREMENTS: 8K CPU (any ROM). Specify equipment configuration.

Educational Activities, Inc.	\$34.95	(CP)-20031
	\$39.95	(DK)-20031

INTRODUCTION TO PERCENT

This program involves rewriting a percent as a decimal, and a decimal as a percent.

HARDWARE REQUIREMENTS: 8K CPU (any ROM). Specify equipment configuration.

Educational Activities, Inc.	\$15.95	(CP)-20035
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FRACTIONS AS A PERCENT

This program explains and provides practice in rewriting fractions as a percent.

HARDWARE REQUIREMENTS: 8K CPU (any ROM). Specify equipment configuration.

Educational Activities, Inc.	\$15.95	(CP)-20036
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FINDING A PERCENT AS A NUMBER

The instruction and practice of the previous programs are used to find a percent of a given number.

HARDWARE REQUIREMENTS: 8K CPU (any ROM). Specify equipment configuration.

Educational Activities, Inc.	\$15.95	(CP)-20037
All 3 above cassette	\$45.00	(CP-PERCENT)
	\$45.00	(DK-PERCENT)

MISSING MATH FACTS

Contains addition, subtraction, multiplication and division examples on four levels of difficulty which the student chooses. Each example is presented with the answer, but some other component is missing. After three tries, the complete problem is presented.

HARDWARE REQUIREMENTS: 8K CPU (any ROM). Specify equipment configuration.

Educational Activities, Inc.	\$34.95	(CP)-20020
	\$39.95	(DK)-20020

**BASIC MATH COMPETENCY SKILL DRILLS**

These individualized programs will not only enhance basic math skills, but will also motivate interest in math for poor as well as average students. Programs make full use of graphics so that even reluctant students become eager to begin class. Each program contains several examples in a wide range of types and levels of difficulty. Within each difficulty range the computer selects examples at random. In examples involving more than one step the student is guided through the problem and cannot proceed until each step is done correctly. The computer responds to each student by name and rewards correct answers with bold graphics.

HARDWARE REQUIREMENTS: 8K CPU (any ROM). Specify equipment configuration.

Educational Activities, Inc.

CP-20040 Addition and Subtraction of Whole Numbers
CP-20041 Multiplication and Division of Whole Numbers
CP-20042 Tables 1-12 Addition, Subtraction, Multiplication and Division
CP-20043 Rounding Off Numbers
CP-20044 Addition and Subtraction of Fractions
CP-20045 Multiplication and Division of Fractions
CP-20046 Decimals Addition, Subtraction, Multiplication and Division
CP-20047 Graphs and Mean, Median and Mode
\$ 15.95 ea
\$115.00 CP-COMP (comp. set)

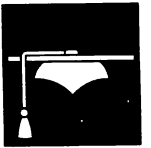
DK-2004041 Addition, Subtraction, Multiplication and Division of Whole Numbers
DK-2004243 Table 1-12 Rounding Off Numbers
DK-2004445 Addition, Subtraction, Multiplication and Division of Fractions
DK-2004647 Decimals & Graphs and Mean, Median and Mode
\$ 39.95 ea
\$135.00 DK-COMP

COUNT MULTIPLES

Practice counting with multiples ranging from 2 to 10. Levels of help are automatically provided. Options are provided on which multiples are used and on what the starting point will be. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education \$9.95 tape CC69
\$7.50 disk (min. of 5 programs)



RULER FRACTION 2

Get a ride on a spaceship by determining the position of the spaceship on the given ruler simulation. Ten-problem series given with summary at the end. Series of hints are given to help determine the correct answer—(fourths and eighths of a unit). Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC69
	\$7.50 disk (min. of 5 programs)	

COLUMN ADD

Choice of two- or three-digit numbers. Choice of adding 3, 5 or 7 numbers. Help is given after the second incorrect answer on a problem. The program can be used with one or two students. Time is recorded and a summary provided at the end of five problems. Intermediate, Junior.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC69
	\$7.50 disk (min. of 5 programs)	

MATH DIVING

After choosing an operation (addition, subtraction, multiplication, or division) and one of six levels of difficulty, two players compete to climb a tower and be the first to dive into a pool of water. Players advance up the ladder by correctly answering math problems.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc.	\$9.95	JMH101
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RACE CAR FACTS

Two to four players compete, in a math drill format, to get their race car to the finish line. Six levels of difficulty are provided and a choice of one of the four basic math functions or mixed operation problems is given. Extensive



MATH & SCIENCE

graphics are used to advance the race cars a random amount on a correct response, or not to advance for incorrect answers.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH102

TICTACTOE FACTS

Two to four players compete, in tic-tac-toe format, to answer math problems. Six levels of difficulty are provided for each of the four basic math operations.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH103

COUNTING

This program provides practice in counting stationary objects, moving objects or sounds in the range of 1-10 or 1-20. A tutorial format with at least three levels of help is used.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH104

MATH FACTS

A timed practice of addition, subtraction, multiplication, division or mixed operations, with six levels of difficulty, is provided. A summary of time and accuracy is given after 10 problems. The student is provided with help if necessary.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH105



SPEED FACTS

Two people compete on math facts using the four basic operations and choosing among six levels of difficulty. Each person has the opportunity to respond. The first one to do so can attempt to answer the problem. Points are awarded for correct answers and a summary is given when a winner is declared.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH105

PLACE VALUE

Choice of place value, expanded notation, or decimal notation, with four levels of difficulty, is offered. Tutorial help is provided and a summary given at completion of lesson.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH113

NUMBER SEQUENCE

Practice is provided in supplying a missing number of a sequence with a choice of three levels. Level 1: (0—10); Level 2: (0—100); Level 3: (0—1000). Tutorial help is provided with no reading required.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH114

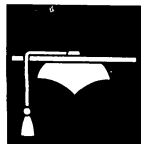
NUMERAL NAMES

This is concentration game format, to practice matching numerals with their corresponding names. The program provides the option for either one or two students.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH115



ACID-BASE CHEMISTRY

ABEQ—demonstrates acid-base equilibria; students vary initial concentrations and disassociation constants to observe effects on equilibrium concentrations, pH and percent dissociation. **BUFFER**—demonstrates pH changes in buffer solution; students establish initial conditions and observe pH values as a strong acid or base is added to both the buffer and a comparison sample of pure water. **BRNST**—drill on recognition of Bronsted acids and bases in a randomly selected sequence of reactions. **DRILL1**—drill on a variety of fundamental concepts in multiple-choice format, such as identifying conjugate acids/bases and interpreting relative strengths of acids, from a table of equilibrium constants. **DRILL2**—practice problems concerning pH, pOH for solutions of acids, bases and buffers of varying strengths. **ENDPT**—titration simulation in which student tries to analyze an unknown acid sample in the most efficient manner. **KHP**—practice with problems concerning standardization with potassium acid phthalate and determination of equivalent weight of unknown acid. **MOLAR**—practice problems concerning moles, grams and molarity of solutions. **PH**—ph problem exercise presented in stages arranged in order of increasing complexity. **TCPLOT**—plots a titration curve demonstrating pH changes as strong base or acid is added to any weak acid or base, with up to eight dissociation constants. **TCPROB**—practice problems of the type encountered in plotting a titration curve.

HARDWARE REQUIREMENTS: Contact Dealer.

Programs for Learning, Inc.

\$150.00

AB-1

ATOMIC STRUCTURE

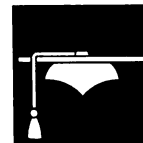
ATOMIC—drill on the number of protons, neutrons and electrons in atoms with atomic numbers through 22. **IP**—drill on predicting relative ionization energies for different atoms and ions, based on their positions in the Periodic Table. **LEWIS**—drill to develop mastery of the octet rule. **MILKAN**—simulation of the oil drop experiment; by varying voltage across plates, student finds conditions which keep drops stationary. **NUCLER**—practice interpreting equations for nuclear reactions in which one of the sub-atomic particles has been omitted. **SPDF**—drill on determining the number of electrons with given principal and azimuthal quantum numbers in a particular atom selected at random from a range determined by student. **RYDBRG**—questions concerning the relationship between the energy levels and spectral lines in a hydrogen atom. **TRENDS**—questions concerning various trends and relationships between atoms based on their relative positions in the Periodic Table. **VSEPR**—practice using the V S E P R methods to predict hybridization and geometry of simple molecules and ions.

HARDWARE REQUIREMENTS: Contact Dealer.

Programs for Learning, Inc.

\$150.00

As-1



FUNDAMENTAL SKILLS FOR GENERAL CHEMISTRY

BALEQ—drill on balancing equations. **CONVERT**—drill on Metric/English conversions. **DENSITY**—practice with problems concerning density, mass and volume. **ELEMENT**—drill on symbols, atomic number, electron configuration of first 20 elements. **EXPO**—tutorial exercise explaining exponential notation. **IONS**—drill concerning symbols and charges for common ions. **METRIC**—drill on SI units of mass, length and volume. **MOLWT**—practice in computing formula weights. **NOMEN**—drill on names and formulas for common compounds. **SIGHELP**—drill on significant figures. **SYMBOL**—drill on names and symbols of elements. **TEMP**—practice with temperature conversions.

HARDWARE REQUIREMENTS: Contact dealer.

Program for Learning, Inc.

\$150.00

FS-1

CHEMISTRY WITH A COMPUTER

EQPROB—practice problems concerning equilibrium constants; given reaction type and concentrations, determine constant, or, given constant, determine concentrations. **GASES**—conventional assortment of pressure-volume-temperature problems for practice with Boyle's, Charles' and the combined gas laws. **KSP**—problems concerning solubility product calculations. **MOLES**—drill on problems concerning percent composition and gram-mole relationships in common compounds. **EXP19**—simulation of ChemStudy experiment concerning the development of a scheme of analysis based on three solutions, and for test regents. **EXP20**—simulation of ChemStudy experiment concerning an introduction to qualitative analysis with metals of the second group. **REDOX**—practice on various topics concerning oxidation-reduction systems such as identifying electrodes losing or gaining electrons, direction of electron flow, and potential difference in a given cell. **SOLUBLE**—practice problems requiring interpretations of typical solubility curves. **SOLUTIONS**—drill on moles, molarity, molecules and dilution. **STATE**—simulation of system in which a substance is to be identified by observing changes of state when it is heated or cooled. **SYSTEM**—drill on metric units of length, mass and volume.

HARDWARE REQUIREMENTS: Contact dealer.

Program for Learning, Inc.

\$150.00

CC-1



CHEMICAL EQUILIBRIUM

ACIDEQ—practice problems on pH, pOH with strong and weak acid/base/buffer solutions (same as DRILL2 in AB-1). EQCALC—practice estimating equilibrium concentrations for any reaction with known equilibrium constant. EQUIL—investigation of two systems, one with a large K_{eq} , the other with a small constant (PCL5m phosgene) to develop understanding of relation between constant and concentrations. EQ-PROB—drill and practice computing concentrations from initial data and equilibrium constant, or constant from concentrations (same as EAQPROB in CC-1). HABER—simulation of ammonia synthesis allowing variations in temperature, pressure and catalyst to show effects on speed of reaction and equilibrium concentrations. HIEQ—simulation of hydrogen-iodine-HI equilibrium system to introduce concept of equilibrium constant. H2S—practice problems with concentrations of various species present in hydrogen sulfide solutions at varying pH values. KSP—practice problems with solubility product calculations (same as KSP in CC-1). KSP2—practice problems with solubility product to predict precipitation when mixing dilute solutions containing ions of slightly soluble compounds. LECHAT—drill on applications of Le Chatelier's principle.

HARDWARE REQUIREMENTS: Contact dealer.

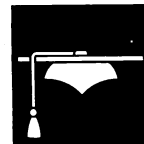
Programs for Learning, Inc.	\$150.00	EQ-1
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CHEMISTRY WITH A COMPUTER

A widely used collection of tutorial, simulation and problem-generating programs for general chemistry. Tutorials Provide . . . individualization of assignments, immediate evaluation of responses, a new set of problems with each run, and remedial assistance where necessary. Simulations provide . . . models of lengthy laboratory or imaginary experiments to encourage the discovery approach, enhancement of experiments by allowing pre or post laboratory investigations. Problem generating programs provide . . . individualized sets of questions for tests or assignments. Can be used with any introductory chemistry course at high school or college level, and on any computer system which runs in BASIC. There are 28 programs fully documented with sample runs, complete listings and suggestions for classroom use.

HARDWARE REQUIREMENTS: Contact dealer.

Programs for Learning, Inc.	\$14.95	CC—B
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ADDITION WITH CARRY

This program gives the learner practice in addition with a carry and allows him/her to design any size problem up to 9 rows and 9 columns. All problems are generated randomly so that a different problem will be presented each time the program is run. The learner works with each problem just as if he/she were doing it on a piece of paper. The sum of each column is entered followed by the appropriate carry above the next column with a cursor locating the position of the next entry. All errors are immediately flagged and the learner may then enter a new answer. The correct answer will be shown if the learner makes a second error. He or she may then continue with the problem. Elementary and up.

HARDWARE REQUIREMENTS: 8K PET.

Microcomputer Workshop **\$20.00**

SUBTRACTION

This program presents problems in subtraction, allowing the learner to pick the amount of digits in each number. The learner is also given the option of problems involving borrowing or no borrowing. All problems are generated at random, so a different problem will be presented each time the program is run. The learner works with each problem just as if he or she were doing it on a piece of paper. Each step in the subtraction process is entered one digit at a time, with the cursor locating the position of the next entry. When the learner is ready to borrow, he or she presses the letter B and the cursor moves to the digit to be borrowed from, allowing the student to make that change. After the borrowing changes have been made, the cursor moves to the normal position allowing the actual subtraction to be made. All errors are immediately flagged and the learner may then enter a new answer. The correct answer will be shown if the learner makes a second error, and he or she may then continue with the problem. Elementary and up.

HARDWARE REQUIREMENTS: 16K PET.

Microcomputer Workshops **\$20.00**

123 DIGIT MULTIPLICATION

This program presents problems in multiplying a 3-digit number by a 1, 2, or 3 digit number at the option of the learner. All problems are generated randomly, so a different problem will be presented each time the program is run. The learner works with each problem as if he/she were doing it on a piece of paper. The learner first does the multiplication digit by digit, including all



MATH & SCIENCE

carrys, and then does the addition generated from each multiplication. A cursor locates the position of the next entry. All errors are immediately flagged, and the learner may then enter a new answer. The correct answer will be shown if the learner makes a second error, and he or she may then continue with the problem. Elementary and up.

HARDWARE REQUIREMENTS: 8K PET.

Microcomputer Workshops \$20.00

LONG DIVISION

This program presents problems in long division, allowing the learner to choose a 1-, 2- or 3-digit divisor. All problems are generated randomly, so that a different problem will be presented each time the program is run. The learner works with each problem, as if he or she were doing it on a piece of paper. Each step in the long division process is entered one digit at a time, with a cursor locating the position of the next entry. All errors are immediately flagged and the learner may then enter a new answer. The correct answer will be shown if the learner makes a second error, and he or she may then continue with the problem. Elementary and up.

HARDWARE REQUIREMENTS: 8K PET.

Microcomputer Workshops \$20.00

COORDINATE

This program is designed to give the learner practice in plotting points on a Cartesian coordinate system. A graph is displayed and the learner is asked to plot a point picked at random. The cursor is moved by using the 2, 4, 6 or 8 key. When the learner decides that the cursor is in the correct position, he or she presses the letter "A." The learner is then told if the answer is correct. If the answer is incorrect, the correct position of the point is shown on the screen. The learner may stop the drill at any time by pressing the letter "S." The number of correct points plotted will then be shown. 7th—10th grade.

HARDWARE REQUIREMENTS: 8K PET.

Microcomputer Workshops \$20.00



TIMES

Presents random facts to 9×9 . After a second error, it gives the correct answer to be entered, and repeats the problem later. The time to answer correctly is displayed. Grade 3.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teacher Pet Software	\$ 7.95	1A
	\$14.00 set	(1A & 1B)

DIVISION DRILL

Presents random facts to 90/9. Program is similar to multiplication. Grade 4.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	1B
	\$14.00 set	(1A & 1B)

DECIMAL—%

Conversion of decimals to percent or vice-versa is drilled. After a second wrong response, it gives instructions for conversion with graphics, then the correct answer to be entered. Grades 5-8.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	2A
	\$14.00 set	(2A & 2B)

DECIMAL X

This tutorial goes step by step through the multiplication of 2 numbers. The number digits in each number and the location (or absence) of the decimal point is set only the correct digits are accepted when answering, and carries are in the correct location. The sub-products must be added, then the decimal is placed in the answer by pressing the space bar. This program is



MATH & SCIENCE

written for 1 to 4 users, with teacher control of the maximum number of problems and grade level. Grades 3-12.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	2B
	\$14.00 set	(2A & 2B)

DECIMAL + & -

Randomly drills addition and subtraction of decimals. The numbers vary randomly from whole numbers to hundredths, and the student must align the decimal points, before working the problem, by pressing the space bar. Entry is right to left, so the problem can be worked at the PET. Grades 3-12.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	3A
	\$14.00 set	(3A & 3B)

FRACTION X

Drills multiplication of 2 fractions. The largest denominator used may be changed. The program comments on reducing the answer. After a second wrong answer, a tutorial on multiplying fractions is presented. Grades 5-8.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

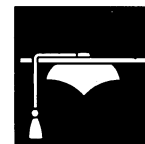
Teachers Pet Software	\$ 7.95	3B
	\$14.00 set	(3A, & 3B)

FRACTION + & -

Random addition and subtraction problems are presented. A tutorial on finding common denominators is presented after a second wrong answer. The program comments on reducing the answer. Grades 6-8.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	4A
	\$14.00 set	(4A, & 4B)



AGRICULTURE

Study nine agricultural belts: corn, cotton, wheat, etc. Afterwards, the students will be given 10 minutes with the program to see how many questions they can answer, as part of their grade for the unit. A question for a particular fact sheet appears on the screen. The student scans the fact sheet for the answer and types it into the computer. If the answer is wrong, the computer says, "Sorry—try again." When the answer is right the Computer responds, "That's right!" . . . "Do you want another question?" On "y" another fact sheet and question is selected at random and appears on the screen. On "n," the student is told how many correct answers he or she has made. With a few minor changes, it could be adapted to any textbook for purpose of review, testing, or simply motivation.

HARDWARE REQUIREMENTS: 8K PET.

Marion E. Beaver

\$11.95

BASIC IN A NUTSHELL

A BASIC program that teaches BASIC programming. It starts out with the assumption that the student only knows how to turn the microcomputer "ON." Three cassette tapes (or 2 disks) are mounted in the cover of a loose-leaf notebook that also contains supplementary information frames. The course is divided into ten 2-part lessons. From a simple PRINT "HI" through arrays and graphics, to complex programs, all of the Level II commands and statements are exercised. The instruction method consists of explanation, example, trial and testing. Commands and statements are presented and explained and examples are shown both on the screen and in the notebook. Then the student is presented with some problems to solve using the BASIC elements under discussion. If an incorrect answer is given, two more tries are allowed, then the correct answer is displayed. Each lesson ends with a test that is administered and scored by the computer. The results are entered into the student's progress chart. More comprehensive examinations are given at the end of Lesson 5 and at the end of the course. This course isn't just for youngsters, but for anyone who wants to be able to program effectively using BASIC language. It is therefore highly recommended for TEACHER IN-SERVICE training as well.

HARDWARE REQUIREMENTS: Contact dealer.

Willowdale Media Inc.

\$94.00



MATH & SCIENCE

QUOTIENT QUIZ

You are given just the remainder of a number divided by 3, by 5, or by 7. Can you guess the number? You get 5 tries, and the computer tells you if you're close.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	20A
	\$14.00 set	(20A & B)

FIND THE FACTORS

Given the sum and product of two numbers, can you guess the numbers? The program gives you hints if you are having problems, then finally tells you the answer if you don't get it. There are 3 levels of play: easy (1-10), hard (1-100) and negative numbers (-50 to $+50$).

HARDWARE REQUIREMENTS: 8K CPU, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

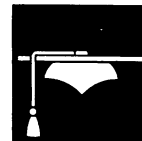
Teachers Pet Software	\$ 7.95	20B
	\$14.00 set	(20A & B)

CHOMP

2 to 5 players take bites out of a "cookie." The size of the cookie can be chosen. Who will chomp the poison square? (A version of NIM). Grade 2.

HARDWARE REQUIREMENTS: 8K CPU, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	40A
	\$14.00 set	(40A, B, & C)



CHEMIST

Use ratios to find the answer and avoid being blown up! The ratio is easily changed. If you do get de-protoplastized, the computer tells you how to find the answer. Grade 5.

HARDWARE REQUIREMENTS: 8K CPU, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	40B
	\$14.00 set	(40A, B, & C)

PIZZA

In this game, using coordinates, a letter on a grid "calls" you and asks for a pizza. Can you deliver the pizza to the correct coordinates? Grade 3.

HARDWARE REQUIREMENTS: 8K CPU, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	40C
	\$14.00 set	(40A, B, & C)

CHANGE

Practice subtraction making change up to \$100. If you get the correct answer, the program tells you what coins to give for change. Grade 3-6.

HARDWARE REQUIREMENTS: 8K CPU, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	41A
	\$14.00 set	(41A, B, & C)

CHIEF

A humorous practice in mixed operations, requiring paper and pencil and knowledge of fractions or decimals. Grade 5.

HARDWARE REQUIREMENTS: 8K CPU, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	41B
	\$14.00 set	(41A, B, & C)



MATH & SCIENCE

NICOMACHUS

Enter remainders of a number divided by 3, by 5, or by 7, and the computer will guess your number. Grade 5.

HARDWARE REQUIREMENTS: 8K CPU, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	41C
	\$14.00 set	(41A, B, & C)

HIGH SCHOOL PHYSICS LESSONS

A series of 64 computer-aided instruction lessons on high school physics. These programs were all written by classroom teachers and have a special format. After a short introduction and explanation, the instruction proceeds by question and answer. If a question is missed, an explanation is given. The following lessons are available. Metric units, uniform motion, accelerated motion, forces and vectors, Newton's Laws—Inertia and Force, Newton's Laws—Gravitation, circular motion, momentum, work and energy, power and conservation of energy, temperature, specific heat, change of phase, kinetic theory, pulses and waves, wave properties, sound waves, reflection, refraction, diffraction and interference, light, index of refraction, lenses, single and double slit, electromagnetic spectrum, spectra, static electricity and the electroscope, electrical structure of matter, Coulomb's Law, properties, electric fields: quantitative, the electron, conductivity, conservation of charge and energy, series-parallel circuits: qualitative, series-parallel circuits: quantitative, electric power and energy, nature of magnetism, magnetic fields, magnetic effects, electromagnetic induction, generators and motors, electron beams, dual nature of light, photoelectric effect, the quantum theory, Rutherford Atom, Bohr Atom, atomic spectra, atomic accelerators, atomic structure, natural radioactivity, induced radioactivity, doppler effect and the red shift, simple circuits, fusion vs. fission, atomic reactors, types of heat engines, the 4 cycle engine, physics of music, energy sources, how radio works, how TV works, the 4 forces of the universe.

HARDWARE REQUIREMENTS: Any PET. Use disk for best efficiency.

American Peripherals	\$ 24.95 ea.
	\$700.00 set on tape
	\$450.00 set on tape

HIGH SCHOOL CHEMISTRY LESSONS

A series of 41 computer-aided instruction lessons on high school chemistry. These programs were all written by classroom teachers and have a special



format. After a short introduction and explanation, the instruction proceeds by question and answer. If a question is missed, an explanation is given. The following lessons are available: Elements, compounds, mixtures, thermometry, phases of matter, gases and kinetic theory, liquids and solids, atomic structure, isotopes, energy levels, probability model of the atom, ionization energy, electron affinity, natural radioactivity, bonds between atoms, bonds between molecules, molecular and empirical formulas, properties of elements in the periodic tables, chemistry of a group (family), chemistry of a row, mole concept, formula calculations, moles and gas density, mole-mass problems, Prop. of solutions, molarity, reaction curve, equilibrium, spontaneous reactions, electrolytes, acid and base reactions, conjugate acid-base pairs, ionization constant, pH, oxidation number, electrochemistry, electrolytic cells, balancing redox equations, characteristics of organic compounds, bonding in organics, homologous series, carboxy compounds, and organic reactions.

HARDWARE REQUIREMENTS: Any PET. Use disk for best efficiency.

American Peripherals

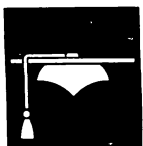
\$ 24.95 ea.

\$600.00 set on tape

\$350.00 set on disk

HIGH SCHOOL BIOLOGY LESSONS

A series of 39 computer aided instruction lessons on high school biology. The series includes definition of life functions, instruments of cell study, cell structure and organells, single-celled organisms: paramecium, amoeba, eulena, proteins and their structure, carbohydrates, lipids, comparisons of proteins, carbohydrates and lipids, enzyme structure and action, general nutrition and nutrients, nutrition in lower animals, digestion and absorption in man; methods of transport; diffusion, osmosis, active transport, patterns of circulation; protozoa, hydra, earthworm, grasshopper, circulation in man; the heart and blood vessels, circulation in man; paths of blood and lymph, blood; composition and function, blood; protective functions, clotting, immunity, typing, cellular respiration; concepts, role of ATP, redox, cellular respiration; krebs cycle and electron transport, organism respiration; respiratory surfaces and adaptations, human respiration: the system, gas transport, regulation, excretion in lower organisms, human excretion: the liver, deamination and urea, human excretion; kidneys, microscopic structure, urine formation, regulation in lower organisms, human nervous system; CNS and PNS, synapses and impulses, behaviors: reflexes, instinct, habits, the endocrine system: glands and their secretions, regulation: interplay of glands and nerves, photosynthesis: light and chlorophyll, photosynthesis: light and dark reactions, photosynthesis; leaf structure and



MATH & SCIENCE

function, plant nutrition: other autotrophic and heterotrophic, stem structure and function: xylem, phloem, plant regulation; growth and hormones.

HARDWARE REQUIREMENTS: Any PET. Use disk for best efficiency.

American Peripherals	\$ 24.95 ea.
	\$600.00 set on tape
	\$350.00 set on disk

HIGH SCHOOL MEDICAL TECHNOLOGY

A series of 20 computer-aided instruction lessons on high school medical technology. Included are microscopic measurement: general and stage micrometer, pH; types of indicators and their ranges, histology; somatoplasmic tissues, histology; germoplasmic tissues, hematology; bleeding and clotting times, hematology; counting cells, hematology; hemoglobinometry, hematology; blood typing, ABO and Rh, hematology; preparation and examination of a blood smear blood disorders; anemias, leukemias, etc., pulse, heartrate, blood pressure, bacteriology; basic rules and procedures, bacteriology; instruments and equipment, bacteriology; methods of sterile technique, bacteriology; fixing and staining techniques, bacteriology; physical growth methods, bacteriology; physiological tests, bacteriology; applications in environmental study, bacteriology; human flora, friend or foe?

HARDWARE REQUIREMENTS: Any PET. Use disk for best efficiency.

American Peripherals	\$ 24.95 ea.
	\$300.00 set on tape
	\$150.00 set on disk

HIGH SCHOOL AVIATION SCIENCE

A series of 20 computer-aided instruction lessons on high school Aviation Science. Included are basic principles of aerodynamics, federal aviation regulations, aircraft flight instruments, aviation and weather, aircraft weight and balance/performance, and flight computers, navigation: dead reckoning; navigation: VOR; airports: procedures and types, history of flight, careers in aviation; space flight: a brief overview, types of commercial aircraft, military aircraft designs; air disasters: causes and cures.

HARDWARE REQUIREMENTS: Any PET. Use any disk for best efficiency.

American Peripherals	\$ 24.95 ea.
	\$300.00 set on tape
	\$150.00 set on disk



HIGH SCHOOL MARINE BIOLOGY

A series of 22 computer-aided instruction lessons on high school Marine Biology. Included are Marine invertebrate groups; plants of the sea: seaweeds, plants of the marsh and estuary; wanderers of the sea: plankton, symbiosis in the sea; marine ecology: general, beach ecology, marsh ecology, deep water ecology, marine chordates; a study of fish, whales and their relatives: mammals in the ocean, measuring the physical environment: marine instruments, submersibles: a close-up view; underwater habitats: where creatures live, dangerous creatures of the sea; sea monsters: fact or fantasy; history of marine science: development of today's discipline; sharks: a study of the shark and its relatives, venomous animals of the deep, sounds in the sea, careers in the marine science.

HARDWARE REQUIREMENTS: Any PET. Use disk for best efficiency.

American Peripherals

\$ 24.95 ea.

\$350.00 set on tape

\$200.00 set on disk

HIGH SCHOOL OCEANOGRAPHY

A series of 14 computer-aided instruction lessons on high school oceanography. Included are distribution of the hydrosphere, chemistry of the sea, physical properties of sea water; ocean currents: locations and effects; waves: causes and effects on land, tides; estuaries: physical characteristics, geography of the sea floor; sea floor spreading: plate tectonics, ocean sediments, shoreline processes and features, ocean pollution, energy from the sea, resources from the oceans.

HARDWARE REQUIREMENTS: Any PET. Use disk for best efficiency.

American Peripherals

\$ 24.95 ea.

\$300.00 set on tape

\$150.00 set on disk

COMPUTER SCIENCE SERIES

A series of 29 lessons on all aspects of computer science, including: print commands, for-next loops, graphics on the PET, if-then, string manipulation, types of variables, advanced commands in BASIC, parts of a microcomputer, pokes, sound on the PET, subscripted variables, sorting, boolean operators, binary system, octal and hexadecimal number systems, storage media, data files, introduction to machine language and assembly language I, introduction to assembly language and machine language II,



MATH & SCIENCE

common interfaces, connecting the computer to the real world, understanding time sharing systems, history of computing, inside the PET, debugging techniques, four main parts of a computer, description of FORTRAN, character sets, and random numbers.

HARDWARE REQUIREMENTS: 32K or any PET with a disk drive.

American Peripherals	\$ 24.95 ea.
	\$600.00 set on tape
	\$350.00 set on disk

STATISTICS PROGRAMS

A series of 18 lessons on statistics, including descriptive statistics of 1 variable, descriptive statistics of 1 weighted variable, statistical analysis of 2 variables, least squares fit, least squares curve, CHI-SQ, sign test confidence interval, confidence limits for difference between two populations, confidence limits Wilcoxon method, test of Binomial proportion, spearman rank coefficient for two data series, correlation matrix for N series of data, youden square design analysis, mean-standard deviation, median test to compare two data groups, multiple linear regression.

HARDWARE REQUIREMENTS: Any PET.

American Peripherals	\$ 15.00 ea.
	\$150.00 set on tape
	\$ 95.00 set on disk

THE EARTH AND ITS COMPOSITION

The student is introduced to the basic components that make up the earth on which we live. Water, mountains, air, volcanoes, etc., are explained as are the ways in which they are formed, eroded, changed and "reborn" in other places as "other things." Relationships of one to the other are explained where appropriate. Grade 3.

HARDWARE REQUIREMENTS: 8K PET, (any ROM).

Right On Programs	\$10.00 + \$1.50 per order	E14
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MULTIPLICATION AND DIVISION

Student introduced to basic multiplication facts (slight review), then is brought up to the fourth grade level. A random series of examples require answers to be typed in by student. Incorrect answers are corrected. Grade 4.

HARDWARE REQUIREMENTS: 8K PET, (any ROM).

Right On Programs **\$10.00 + \$1.50 per order** **E15**

MONEY

Student is given several “examples” (reasons) why understanding of money and ability to add, subtract, multiply and divide money are so important. Examples are given and incorrect answers corrected. Examples are random. Grade 4.

HARDWARE REQUIREMENTS: 8K PET, (any ROM).

Right On Programs **\$10.00 + \$1.50 per order** **E16**

GEOMETRIC FIGURES

Matching geometric figures. Geometric figures are reproduced on the screen, facing in different directions. Student is shown how the figures are the same, regardless of the direction in which they face. Game, requiring accurate matching, helps motivate the student to pay attention and “find the match”. Grade 4.

HARDWARE REQUIREMENTS: 8K PET, (any ROM).

Right On Programs **\$10.00 + \$1.50 per order** **E17**

INSECTS

This program provides the student with some interesting background information on insects. A series of questions will help the student check to see if he/she has remembered the information. A good basic beginning with



MATH & SCIENCE

enough information to start the student searching further, for an in-depth research report. Many topics can be garnered from this program. Grade 4.

HARDWARE REQUIREMENTS: 8K PET, (any ROM).

Right On Programs **\$10.00 + \$1.50 per order** **E19**

PROBLEM SOLVING

Introduces the student to the very simple basics of problem solving. Shows students the various ways in which a math problem can be written. Then shows how same problem would appear "in words." Shows student how, though it might seem confusing at first, to change a word problem into a number problem. Random problems appear at end so student can have fun solving problems. Grade 5.

HARDWARE REQUIREMENTS: 8K PET, (any ROM).

Right On Programs **\$10.00 + \$1.50 per order** **E20**

SETS

Introduces basic concepts of sets to the student and then provides examples of not only what they are but how they are used; how they relate to math and how they relate to "real life." Grade 5.

HARDWARE REQUIREMENTS: 8K PET, (any ROM).

Right On Programs **\$10.00 + \$1.50 per order** **E21**

SOUND

The student is introduced to basic concepts in the science of sound. Examples are given of everyday sound experiences to help the child relate the scientific concept to his/her everyday life. A simple game will encourage the child to learn and recall the information given. Grade 6.

HARDWARE REQUIREMENTS: 8K PET, (any ROM).

Right On Programs **\$10.00 + \$1.50 per order** **E28**



COMMUNICATIONS

From the simplest beat of the tom-tom to the most sophisticated laser beam communications system, the student is taken on a trip through time. Basic facts about communication, how it is used, its importance, and how its speed has changed our lives is covered. Grade 6.

HARDWARE REQUIREMENTS: 8K PET (any ROM).

Right On Programs **\$10.00 + \$1.50 per order** **E28**

THE PET PROFESSOR

This complete arithmetic package consists of 77 programs recorded on 40 high quality cassettes and packaged in four attractive albums. The instructional techniques chosen are those which have been most commonly used by teachers. They are simple and consistent. These programs are not just drill and practice, but consist of the following:

- THE OBJECTIVE or concept clearly stated
- AN EXAMPLE done step by step with a moving cursor
- VOCABULARY explained
- SAMPLE PROGRAM for study to try
- A FIVE QUESTION TEST with scoring and options
- REPETITION at any time

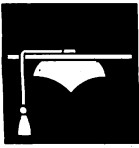
The PET PROFESSOR is suitable for elementary and secondary school classes, individualized programs, traditional environment as supplementary work, to introduce new concepts, remediation and basic competency.

HARDWARE REQUIREMENTS: Specify equipment configuration when ordering.

Cow Bay Computing	\$499.00 (complete) \$235.00 (whole numbers—32 programs) \$175.00 (fractions—24 programs) \$175.00 (decimals—21 programs)
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ROOTS

If you want to determine the zeroes of a polynomial having real coefficients, ROOTS is the program for the task. ROOTS employs a relatively little known algorithm described in the computer mathematics literature several years ago. This algorithm iteratively seeks all the roots simultaneously. The convergence is cubic (and therefore rapid) and very stable, requiring no



MATH & SCIENCE

explicit initial guesses from the user. Accuracy is usually within two digits of the inherent precision of the computer and within two digits of the precision of the calculated solutions. The program also shows the original polynomial. Convergence failure is highly unlikely and, if it occurs, it is generally limited to special multiply (M-2) roots. Any order polynomial may be treated.

HARDWARE REQUIREMENTS: 16K PET.

Dynacomp

\$10.95 cassette

\$14.95 diskette

\$17.45 8" MBASIC disk

REGRESSION I

REGRESSION I is a complete and coordinated regression curve-fitting package for the analysis of linear and non-linear, one-dimensional data. It is based on various subroutines and techniques presented in Volumes 1 and 2 of BASIC Scientific Subroutines (by F. Ruckdeschel, published by McGraw-Hill, Fall 1980). REGRESSION I provides many of the facilities available on large FORTRAN-speaking machines and more. However, unlike many of the FORTRAN equivalents, there is no confusion as to the input/output variable formats. The software is very easy to use. In addition, the analysis is interactive, thereby permitting the user considerable freedom in experimenting with fitting functions and orders of approximation. Also a special algorithm is employed to determine the coefficients which have round-off error properties much superior to the matrix algorithms commonly used. This greatly reduces the need to perform calculations in double precision or to pre-process the data. The features of REGRESSION I include: (1) Easy data entry and editing. (2) Automatic data sorting and plotting (of both the data and fitted curves). (3) Fast and accurate regression. (4) A choice of many fitting functions, including forms supplied by the user. (5) Analysis of the standard error of the derived coefficients and the correlation coefficient. (6) Data storage and retrieval. Once the regression has been performed, the user may immediately repeat the analysis using the same data set (with editing if desired) and test other functional forms. REGRESSION I is not only a powerful statistical tool for use in the engineering, business and social sciences, it is educational as well. Because the program presents the regressed coefficients as well as their estimated error bounds, the student may learn by experience how much credence to place on the derived coefficients. In addition, he/she may also get a feel for the general types of fit associated with various inexperienced experimenters to be tricked by regression results, especially those having high R^2 values. REGRESSION I is designed to guard against this.

HARDWARE REQUIREMENTS: 16K PET.

Dynacomp

\$19.95 cassette

\$23.95 diskette

\$26.45 8" CP/M MBASIC disk



REGRESSION II

PARAFIT is a parametric least squares regression program, designed specifically for the determination of non-linear coefficients in complicated mathematical expressions. This is to be contrasted with the linear polynomial coefficients calculated by REGRESSION I. A typical problem suited for analysis by PARAFIT might be the following. Information has been collected on the failure rate of a particular product. This information is in the form of normalized fraction of items which failed per unit time interval after production. The times at which their data was collected may not be equally spaced such that the set consists of many (f., t.) pairs. The functional form assumed is the Weibull distribution:

$$f(t) = [vt (v-1)] e^{-(t/u)^v}$$

Given the (f., t.) data pairs, what are the least squares regression values for the parameters u and v?

PARAFIT may be used to solve this problem. The user inserts the functional form as a BASIC program statement and runs PARAFIT. The program employs a special form of modifying steepest descent to interactively determine the unknown parameters. Features included in PARAFIT are automatic plotting of both the data and fitted function; cassette (or diskette) data saving and loading; and data file building/editing. PARAFIT is easy to use as well as effective, and is an excellent companion to REGRESSION.

HARDWARE REQUIREMENTS: 16K PET

Dynacomp

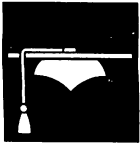
\$19.95 cassette

\$23.95 diskette

\$26.45 8" CP/M MBASIC disk

MULTILINEAR REGRESSION

This is the third program in the DYNACOMP statistics series. Whereas Regression I and Regression II (PARAFIT) are designed for analyzing bivariate data, MLR is capable of treating multivariate situations with no limit (other than available computer memory) on the number of dimensions. The general form of the equation fitted will be $Y = a_1(x_1) + b_2(x_2) + c_3(x_3) + \text{etc.}$ The variables are the x. The regressive coefficients are a, b, c, etc. The functional forms f. (x), may be virtually anything. MLR automatically offers a choice of nine mathematical forms, including the logarithm and exponential, as well as the simple default f. (x.) = x.. In addition, the user may replace the default form with his own function. These choices can be independently made for each dimension. The data input to MLR may be either from the keyboard or from cassette/disk files. Data may be loaded, saved, added to, deleted, and generally edited using the convenient data manipulation procedures provided. The number of data points is limited only by the computer memory available. The outputs from MLR are the regression coefficients and the standard error associated with



MATH & SCIENCE

these coefficients. Such error estimates are very useful, but often neglected by regression programs. MLR also supplies the standard error of the estimate for the fit and the correlation coefficient. Finally, MLR offers the opportunity to use the regressed equation to calculate values along the fitted hyper-curve. Operationally, MLR employs two distinctly different methods for finding the regression coefficients. The first method uses matrix algebra techniques and is quite fast. The second method utilizes a very stable form of steepest decent optimization. This second approach is much slower in execution, but requires significantly less computer memory and can handle "ill-conditioned" situations with high accuracy. Also with this, time and the coefficients and standard error of the fit are displayed at each step.

HARDWARE REQUIREMENTS: 16K.

Dynacomp

\$24.95 cassette

\$28.95 diskette

\$31.45 8" CP/M MBASIC

DATA SMOOTHER

This package provides the user with a fast and easy means to least-squares smooth equally spaced data and plot the results. Any size data set may be treated within the memory limits of your machine. The variation in each data point is smoothed according to the weighted average of points surrounding it. The averaging span is 3 to 25 points. The order of the local smoothing is linear to quintic (first to fifth degree polynomial). Also calculated are the smoothed first and second derivatives of the data at each point. The width of the plot is user-controlled. The software automatically considers the printer width chosen and number of data points to produce a graph having a good aspect ratio. This program is very useful for smoothing out day-to-day stock market fluctuations, in order to determine underlying trends. It is also beneficial to the businessman in planning inventory, based on varying sales volume. The scientist and engineer may apply the smoothing software to noisy data sets. Communications engineers can apply it to incoming data as a "digital filter."

HARDWARE REQUIREMENTS: 16K PET.

Dynacomp

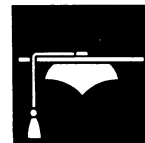
\$24.95 cassette

\$28.95 diskette

\$31.45 CP/M MBASIC disk

HARMONIC ANALYZER

HARMONIC ANALYZER is the third in DYNACOMP'S series of Fourier transform software packages. Whereas FOURIER ANALYZER and



TRANSFER FUNCTION ANALYZER (TFA) were designed with limited duration signals in mind, HARMONIC ANALYZER is specific to repetitive waveforms (cyclic processes). All the data entry, storage, retrieval, and editing features of TFA have been included, as well as the signal and transform plotting functions. The Fourier integral has been replaced with Fast Fourier Transform (FFT) routines which is the essence of the harmonic analysis. A cubic spline interpolation procedure has been added so that the user may transform irregularly spaced data. Also, the data need not be entered in temporal order; it is sorted before being transformed. The spline interpolations and sorting features are unique to HARMONIC ANALYZER and will be appreciated by those familiar with other FFT programs requiring the data to be both in order and evenly spaced. The spline interpolation scheme was particularly chosen over others to minimize the unwanted interpolation oscillation ("ringing") associated with abrupt signal changes, such as square wave steps. The FFT employed is a base-2 algorithm; that is, the number of data points must be an even power of 2. This places a small restriction on the input data set, but increases the speed of the transform calculation. HARMONIC ANALYZER is a program which should be in the software library of every scientist, engineer, or experimenter who deals with repeating waveforms.

HARDWARE REQUIREMENTS: 16K PET.

Dynacomp

\$24.95 cassette

\$28.95 diskette

\$31.45 CP/M MBASIC disk

FOURIER ANALYZER

FOURIER ANALYZER is a scientific program which can be applied to examine the frequency spectrum characteristics of defined duration signals, such as groups of pulses. The user inputs a data set which is Fourier transformed into the frequency space descriptors of amplitude and phase. The amplitude and phase results are displayed in tabular form. The input data and calculated results may also be plotted at the user's option. The input data set is limited in extent only by the memory size of the host computer, and is not restricted to equally spaced values. FOURIER ANALYZER is certainly a powerful and educational tool for the engineer, scientist, student, or anyone involved in cyclic phenomena (e.g., music, stocks, etc.).

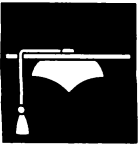
HARDWARE REQUIREMENTS: 16K PET.

Dynacomp

\$16.95 cassette

\$20.95 diskette

\$23.45 8" MBASIC disk



TRANSFER FUNCTION ANALYZER

TRANSFER FUNCTION ANALYZER is a frequency spectrum analysis package designed with the engineer in mind. It applies the concept of the Fourier integral transform to an input data set to provide a frequency domain representation of the function approximated by that input data. TFA is based on DYNACOMP's popular **FOURIER ANALYZER**, but includes special data handling features. It also presents the results in conventional engineering terms (decibel, log-frequency). The user may save and recall both the input data file and previously calculated results. Data files may be loaded (from cassette, diskette, or disk), added to, deleted from and generally edited. As with **FOURIER ANALYZER**, the input data may be plotted before the calculations are started. The frequency domain results may also be plotted, as well as saved (to be later recalled for new plots). In addition, the analyses are easily separated with different frequency parameters without re-entering the data. The transformed results are displayed in conventional engineering form. The amplitude points returned are in decibels (DB) relative to the peak value (O OB). The phase is in degrees. The frequency transform is calculated equal log-frequency intervals, as is common practice Acoustical and Electronic Engineering. The frequency results may be optionally plotted. When the amplitude plot is performed, it is in decibel/log-frequency format. This permits easy identification of the characteristics "roll-off" in frequency response. For example, a 9 DB/octave (e.g., 10 log (F(W)) straight line roll-off of a three pole filter is immediately apparent from the plot. TFA was originally designed as part of a consulting assignment involving the analysis of amplifier transfer function. It is, therefore, a program which has been tested in an actual commercial application. In this particular case, the output data, corresponding to the real time response of an amplifier to an input pulse ("delta function"), was used directly as input to TFA, and the frequency amplitude results directly gave the transfer function for the amplifier. Whereas DYNACOMP's, **FOURIER ANALYZER** is well suited to the basic science and educational fields, as well as many engineering applications, **TRANSFER FUNCTION ANALYZER** is a key tool for the electronics and acoustics engineer involved in the analysis of limited duration signals.

HARDWARE REQUIREMENTS: 16K PET.

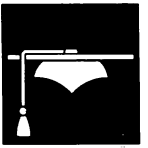
Dynacomp

\$19.95 cassette

\$23.95 diskette

DIGITAL FILTER

DIGITAL FILTER is a comprehensive data processing program which permits the user to design his own filter function or choose from a menu of filter forms. The filter forms are subsequently converted into non-recursive



convolution coefficients, which permit rapid data processing. In the explicit design mode, the shape of the frequency transfer function is specified by directly entering points along the desired filter curve. In addition, multi-stage Butterworth filters may be selected. Features of DIGITAL FILTER include plotting of the data before and after filtering, as well as display of the chosen filter functions. Also included are convenient data storage, retrieval, and editing procedures. The format of the data storage is consistent with that used by REGRESSION II, TRANSFER FUNCTION ANALYZER, and HARMONIC ANALYZER. This permits the user to selectively filter data before processing by any of the above programs.

HARDWARE REQUIREMENTS: 16K PET.

Dynacomp

\$29.92 cassette

\$33.95 diskette

\$36.45 8" CP/M MBASIC disk

BASIC SCIENTIFIC SUBROUTINES

BASIC SCIENTIFIC SUBROUTINES, VOLUME I by F. Ruckdeschel (published by BYTE/McGraw-Hill; see the January 1981 issue of BYTE Magazine, page 173) is the first in a series of books designed to provide microcomputer users with scientific subroutines written in BASIC. The subroutines have been designed to facilitate the application of microcomputers to scientific tasks which have previously been largely in the domain of the large timeshare mainframe computers. Through arrangements with the author and BYTE/McGraw-Hill, DYNACOMP has become the exclusive distributor of three software packages keyed to the above text. Each package includes programs organized by chapter and accessed/demonstrated by a special menu program written especially for DYNACOMP. Unlike other software packages commercially available, which are keyed to texts, you do not have to search the tape (diskette or disk) to load a particular program. They are all loaded in one step and are called according to the menu selection. This makes life much easier for the user. Because of the total length of the software listed in the text (greater than 33 kilobytes), three collections have been organized:

Collection #1

Chapter 2—Alphanumeric Data Plotting—Equally Spaced Data, Arbitrarily Spaced Data. Chapter 3—Complex Variables—Polar Coordinate Conversion, Addition, Subtraction, Multiplication, Division, Powers and Roots, Spherical Coordinate Conversation.

Collection #2

Chapter 4—Vector and Matrix Operations—N-vector Addition, Subtraction, Multiplication (dot and cross products), N-vector Lengths, Angles Between Vectors, Matrix Addition, Subtraction, Multiplication, Transposition, etc., Row Operations, Cofactors, Determinants, Inversion, Eigenvalues, Exponentiation.



MATH & SCIENCE

Collection #3

Chapter 5—Random Number Generators—Uniform, Normal, Poisson, Binomial, Exponential, Fermi, Couchy, Gamma, Beta, Weibull. Chapter 6—Series Approximations—Sine, Cosine, Arctangent, Natural, Base-10 Exponent and Logarithm.

HARDWARE REQUIREMENTS: 16K PET.

Dynacomp

\$14.95 per collection (cassette)

\$18.95 per collection (diskette)

\$21.45 per collection ("8 disk)

Documentation accompanying each collection

PHOTOGRAPHY

There are 16 programs making good use of the PET graphics, which describe basic photographic techniques, including: (a) Light 1—the nature of light; (b) Light 2—electromagnetic spectrum; (c) Light 3—basic properties of light; (d) Light Meter Method; (e) Negative Exposure; (f) Photographic Process Control—Part 1; (g) Photographic Process Control—Part 2; (h) Depth of Field—Part 1; (i) Depth of Field—Part 2; (j) Depth of Focus—Part 1; (k) Depth of Focus—Part 2; (l) Hyperfocal Distance—Part 1; (m) Hyperfocal Distance—Part 2; (n) Bellows Extension—Part 1; (o) Bellows Extension—Part 2; (p) Decision Matrix. Academic Level: Junior High School, Secondary School, College or University.

HARDWARE REQUIREMENTS: 8K PET and 2040 Disk Drive.

Sheridan College

\$200.00 + shipping



VERBAL SKILLS & SOCIAL STUDIES

LEARNING TO USE AN INDEX

A sample index is shown on the screen. The student is asked a series of questions and types in the correct answers. At the outset of the program the student is told he/she is "lost in the woods." Every correct answer brings a clue to help the student get home safely.

HARDWARE REQUIREMENTS: 8K PET (any ROM).

Right On Programs **\$10.00 + \$1.50 per order** **L4**

LEARNING TO LOCATE BOOKS ON THE SHELF

This program explains the different ways in which books are shelved in libraries. Fiction and non-fiction marking on the spines are explained, as well as how to find those books on the shelves.

HARDWARE REQUIREMENTS: 8K PET (any ROM).

Right On Programs **\$10.00 + \$1.50 per order** **L5**

LEARNING TO UNDERSTAND THE CARD CATALOG

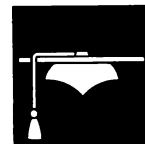
This program explains the 3 ways to look up a book in the card catalog. After providing all the basic information, the student is asked a series of questions about various books, and is required to type the correct answers, indicating he/she knows which drawer to consult, depending on the information available.

HARDWARE REQUIREMENTS: 8K PET (any ROM).

Right On Programs **\$10.00 + \$1.50 per order** **L6**

DICTIONARY

Learn and practice use of the dictionary. Three levels of difficulty. After three consecutive correct answers, the program automatically moves to the



next level. The program ends after three correct answers are given in third level. Primary.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC59
	\$7.50 disk (min. of 10 programs)	

END IT

Practice in adding endings to root words. Choice of four different ways to add endings. Run of 10 problems, with summary at end. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC60
	\$7.50 disk (min. of 10 programs)	

HOMOPHONES

Practice in using words that sound the same but are spelled differently. Run of 10 problems. Choice of practice or tutorial type problems. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC61
	\$7.50 disk (min. of 10 programs)	

TIC-TAC-SPELL

A version of the "Tic-Tac-Toe" game, that provides practice in spelling. Designed for two people. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC62
	\$7.50 disk (min. of 10 programs)	



VERBAL SKILLS & SOCIAL STUDIES

FRENCH

This set of programs is intended as a vocabulary builder for the French student. Several modes of operation exist for both noun and verb practice. The user may choose to be passively drilled, with the computer supplying English words followed by the French equivalent at regular time intervals, or may choose to be a participant. As a participant, the user may opt for multiple choice answers, or may supply one. In both modes, the computer tallies answers and gives a final score. (2 programs).

HARDWARE REQUIREMENTS: Contact dealer.

Tycom Associates

\$15.95

VOCAB

English vocabulary builder. Through the use of synonyms, the student learns to associate the meaning of new words. Programs can be operated in two modes. The first mode presents a list of synonyms, one page at a time, for student study. The second mode quizzes the student by asking questions such as "I am thinking of a 5 letter word meaning severe, what is the word?" The student has several chances to answer, and may be given clues, such as "My word starts with 'AC'." The programs can be useful for Junior High School to College level students, depending on the individual. The VOCAB tape contains 2 programs: VOCAB1 (easier words), and VOCAB2 (harder words). Each tape contains over 750 word pairs (1140 words).

HARDWARE REQUIREMENTS: Contact dealer.

Tycom Associates

\$15.95 (two programs)

STATES AND CAPITALS

Learn the states and their capitals; multiple choice or fill in the answers.

HARDWARE REQUIREMENTS: Contact dealer.

P. S. Software House

\$5.95 (cassette)

02



INTRODUCTION TO THE FOUR BASIC READING SKILLS

The first title in any reading Series must be reviewed first, as it previews the skills to be practiced in the rest of the Series.

Introduction to the Four Basic Reading Skills

The First Skill—How To Recall Details
The Second Skill—How To Identify the Main Idea
The Third Skill—How To Draw Conclusions
The Fourth Skill—How To Put Things In Order

Review and Test of the Four Basic Reading Skills

HARDWARE REQUIREMENTS: 16K PET

Brain Box

\$39.95*

***Multiple copy plan—up to 5 additional copies @ 60% off each full title package.**

SKILLPRACTICE TWO

Titles Two through Eleven in each reading series provide skill practice through clever and informative stories. These ten “Skillpractice” lessons are equal in difficulty and not necessarily sequential.

This series can be used as enrichment for bright youngsters, on levels for fifth grade through junior high school, as remedial material for anyone—or just for personal enjoyment.

This Series provides guided skills with high interest and easy readability. The Reading Series is for age 10 and up.

Skillpractice Two

Lessons one through five, from Electric Cars to Rent-A-Cow

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$39.95*

***Multiple copy plan—up to 5 additional copies @ 60% off each full title package.**



VERBAL SKILLS & SOCIAL STUDIES

SKILLPRACTICE THREE

Skillpractice Three

Lessons one through five, from Shrimp Fisherman to the Man-in-the Moon.

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$39.95*

***Multiple copy plan—up to 5 additional copies @ 60% off each full title package.**

SKILLPRACTICE FOUR

Skillpractice Four

Lessons one through five, from Pygmy Rabbits to Trolley Cars.

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$39.95*

***Multiple copy plan—up to 5 additional copies @ 60% off each full title package.**

SKILLPRACTICE FIVE

Skillpractice Five

Lessons one through five, from an Auto Race to Squeaky Shoes.

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$39.95*

***Multiple copy plan—up to 5 additional copies @ 60% off each full title package.**

SKILLPRACTICE SIX

Skillpractice Six

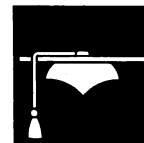
Lessons one through five, from Rollerskates to the Life of Spiders.

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$39.95*

***Multiple copy plan—up to 5 additional copies @ 60% off each full title package.**



WORD ELEMENTS—SERIES ONE

The Word Elements Series is written to increase spelling, reading, grammar, vocabulary and comprehension skills. This series teaches the recognition and the use of word parts. Each lesson explains the use of a least one prefix or suffix. The user can gradually increase language skills by concentrating on and mastering one affix at a time. This series is for age 10 and up.

Word Elements—Series One

The Prefix Sub-
The Prefixes Uni-, Bi-, Tri-
The Prefixes Semi-, Hemi-, Demi-
The Prefixes Inter-, Intra-, Trans-

HARDWARE REQUIREMENTS: 8K PET.

Brain Box

\$39.95*

***Multiple copy plan—up to 5 additional copies @ 60% off each full title package.**

WORD ELEMENTS—SERIES TWO

Word Elements—Series Two

The Prefix Mal-
The Prefix Mis-
The Prefix Dis-
The Prefix Dys-
Review and Test

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$50.00*

***Multiple copy plan—up to 5 additional copies @ 60% off each full title package.**

WORD ELEMENTS—SERIES THREE

Word Elements—Series Three

The suffix -meter
The suffix -meter in the metric system
The suffix -gram
The suffix -gram in the metric system
Review and Test

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$39.95*

***Multiple copy plan—up to 5 additional copies @ 60% off each full title package.**



VERBAL SKILLS & SOCIAL STUDIES

WORD ELEMENTS—SERIES FOUR

Word Elements—Series Four

The Suffix -ess
The Suffix -fy
The Suffix -ize
The Suffix -ic
The Suffix -ical, -ically
Review and Test

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$46.95*

***Multiple copy plan—up to 5 additional copies @ 60% off each full title package.**

WORD ELEMENTS—SERIES FIVE

Word Elements—Series Five

The Prefix In-
The Prefix En-
The Prefix Ex-
The Prefix Out-

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$39.95*

***Multiple copy plan—up to 5 additional copies @ 60% off each full title package.**

WORD ELEMENTS—SERIES SIX

Word Elements—Series Six

The Prefix Audi-
The Prefix Tele-
The Prefix Phono-
The Prefix Photo-
The Prefixes Stereo-, Video-
Review and Test

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$46.95*

***Multiple copy plan—up to 5 additional copies @ 60% off each full title package.**



WORD ELEMENTS—SERIES SEVEN

Word Elements—Series Seven

The Suffix -ee
The Suffix -or
The Suffix -eer
The Suffix -ster
Review and Test

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$39.95*

***Multiple copy plan—up to 5 additional copies @ 60% off each full title package.**

WORD ELEMENTS—SERIES EIGHT

Word Elements—Series Eight

The Prefix Ped-
The Prefix Derm-
The Prefixes Dent-, Ortho-
The Prefix Manu-
Review and Test

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$39.95

WORD ELEMENTS—SERIES NINE

Word Elements—Series Nine

The Suffix -ish
The Suffix -ism
The Suffix -ist
The Suffix -ine
Review and Test

HARDWARE REQUIREMENTS: 16K PET.

Brain Box

\$39.95



VERBAL SKILLS & SOCIAL STUDIES

WORD FUNCTIONS

This series teaches language concepts, grammar and parts of speech. For age 9 and up.

Word Functions

- Homonyms
- Synonyms
- Antonyms
- Homonym Matching Game
- Second Synonym Lesson
- Troublesome Words (to, too, two)
- Troublesome Words (it's, its)
- Review and Test

HARDWARE REQUIREMENTS: 16K CPU.

Brain Box **\$39.95**

GRAMMAR : NOUNS—SERIES ONE

For ages 11 and up

- Proper Nouns
- Capitalization: Titles are Tricky
- Special Classes of Nouns
- Common Nouns
- Review and Test

HARDWARE REQUIREMENTS: Contact dealer.

Brain Box **\$39.95**

ELEMENTARY I

BAGELS Three-letter-word guessing game (4K).

COINS Practice computing value of random coin combinations (4K).

MUGWUMP Game involving logic, use of X-Y Coordinates (4K).

KEYBOARD "Warm-up" game for beginning computer users.

ADDITION Practice addition problems; 4 difficulty levels.

HARDWARE REQUIREMENTS: Contact dealer.

PROJECT LOCAL **\$10.95**

VERBAL SKILLS & SOCIAL STUDIES

ELEMENTARY II



- BAGELS** Three-digit-number guessing game (4K).
- HMRABI** Economic decision-making (simple Sumerian Game-4K).
- HURKLE** Game involving problem-solving, X-Y coordinates (4K).
- SCIENCE** Science fair project—computer uses in science.

HARDWARE REQUIREMENTS: Contact dealer.

PROJECT LOCAL **\$9.95**

ALPHABET

This program is designed to aid the pre-reader in learning the alphabet. The program can be set to show the letters with a prompt letter, or to allow the more able student to find the next letter on his own. You will be able to select either capital or lower case, amount of time allowable, and number of times the child will go through the alphabet. Performance summarized. Grades K-1.

HARDWARE REQUIREMENTS: Any PET and C2N.

Comm*Data Systems Inc. **\$4.95** **CDE012**

GOLF

A number game involving addition and subtraction of selected numbers to arrive at par. Input is checked for validity. This is a nine-hole game. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education **\$9.95 tape** **CC19**
 \$7.50 disk (min. of 10 programs)



VERBAL SKILLS & SOCIAL STUDIES

USAGE

Complete the given sentence using one of the two given verbs. You determine how many sentences will be tried. Summary given at end of run. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC23
	\$7.50 disk (min. of 10 programs)	

ALPHABET

Computer displays seven consecutive letters of the alphabet. You determine which letter is missing. Three levels of prompts are used to help the user discover which letter is missing. Stop is disabled. Primary.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC2
	\$7.50 disk (min. of 10 programs)	

TRAVEL COUNSELLING

This program provides students with a simulation of an airline reservation system for actual business practice in the field of travel counselling.

HARDWARE REQUIREMENTS: Contact dealer.

Sheridan College	\$25.00
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TYPING

The 6 units in this basic typing package convert the PET keyboard to a standard typewriter keyboard and teach touch typing, including home row finger placement; keyboard location of alphabet and numerals; and drills for speed and accuracy with instant feedback.

HARDWARE REQUIREMENTS: Contact dealer.

Sheridan College	\$50.00
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VERBAL SKILLS & SOCIAL STUDIES

READING COMPREHENSION

Five reading comprehension programs which present logical problems. The student picks the one word in four that doesn't belong with the rest. Builds analytical skills essential for understanding what you read.

HARDWARE REQUIREMENTS: Contact dealer.

Program Design, Inc. \$16.95

PRESCHOOL IQ BUILDER

Teaches vital cognitive skills that children must learn in order to do well in school. In part 1, Same and Different, the child discriminates between two forms. In part 2, Letter Builder, the child matches a letter on the display to one on the keyboard. Accompanying Parent's Guide gives instruction.

HARDWARE REQUIREMENTS: Contact dealer.

Program Design, Inc. \$16.95

ANALOGIES

Contains 6 programs that teach what an analogy is and what the common types are. It provides a method for analyzing analogies and provides practice in handling all types of analogies. Final lesson is an analogies test.

HARDWARE REQUIREMENTS: Contact dealer.

Program Design, Inc. \$16.95

VOCABULARY

Contains 11 programs, including a set of graded vocabulary questions on synonyms and antonyms. The last lesson is a test on vocabulary. Total of 400 questions and 2000 words in course.

HARDWARE REQUIREMENTS: Contact dealer.

Program Design, Inc. \$16.95



VERBAL SKILLS & SOCIAL STUDIES

VOCABULARY BUILDER 2

Contains 11 programs like those in Vocabulary 1, but using a more advanced word list.

HARDWARE REQUIREMENTS: Contact dealer.

Program Design, Inc. \$16.95

CODE BREAKER

Contains 3 scrambled message games of increasing difficulty, that build basic word handling skills needed for good writing. First game scrambles letters within the words in the message; next 2 games scramble letters and also word order. Messages are made up by the computer from an extensive word list.

HARDWARE REQUIREMENTS: Contact dealer.

Program Design, Inc. \$16.95

STORY BUILDER

Series of partially completed verses that the child completes. Teaches grammar skills in an enjoyable way. Word Master is a logic game where the child tries to guess a 3-letter word generated by the computer. Teaches reasoning and vocabulary.

HARDWARE REQUIREMENTS: Contact dealer.

Program Design, Inc. \$14.95

MEMORY BUILDER

A series of educational games to improve memory, attention span, and concentration. Letters and 3-letter words are used. Player has three options: play against the computer, play against him or herself to play against another player. Especially good for parent and child to play together.

HARDWARE REQUIREMENTS: Contact dealer.

Program Design, Inc. \$16.95



SPELLING PACKAGE

The Teaching Tools Spelling Package is one of the most powerful and flexible packages available for teaching spelling with PET microcomputers. This package includes everything needed to use your PET and audio tape recorder to teach the spelling of any words, using spoken presentations of the words. You receive: tape recorder interface that plugs into the back of your PET, and record program to make the tapes students use with the spelling program. Two types of interfaces are available. The **STANDARD INTERFACE** contains the tape recorder control unit only. The **MULTI-PURPOSE** interface also adds sound and a connection for a video monitor. The sound unit is completely self-contained, has a volume control, and gets its power from the PET, so it does not require batteries. It comes with instructions for using sound in your own programs. The video monitor connector requires a cable (not supplied) with an RCA type phono plug and the proper connector for your monitor. You can then show whatever is on the PET screen on a video monitor—ideal for classroom demonstrations. The multi-purpose interface can be purchased separately.

HARDWARE REQUIREMENTS: 8K PET

Teaching Tools

\$139.00

CATCH THE RHYMING FISH

A word flashes on and off at the top of the screen. Then, three fish begin pulling other words across the screen. One of these words rhymes with the word at the top of the screen. The student uses a fishing pole to catch the right answer fish. Learner's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95

RE-12

HARD AND SOFT C

Each problem in this program consists of a word containing either a soft C or a hard C. The student is to identify the C for the problem word by pressing S for a soft C or K for a hard C. Each problem word is randomly selected from a bank of fifty words. Each lesson consists of ten problems. Student's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95

SP-8



VERBAL SKILLS & SOCIAL STUDIES

HARD AND SOFT G

Each problem in the program consists of a word containing either a soft G or a hard G. The student is to identify the G in the problem word by pressing J for soft G or G for hard G. Each problem word is randomly selected from a bank of fifty words. Each lesson consists of ten problems. Student's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95

SP-9

HOMONYM MACHINE

The computer randomly selects a pair of words with the same sound but different meanings. One of the words is displayed flashing on and off in the upper left corner of the screen. What is the other word, the one that is the homonym? Learner's performance will be summarized. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95

VO-4

IDENTIFYING COMPLETE SENTENCES

Groups of words are presented on the screen. For each group, the student must identify whether or not it is a complete sentence. Student's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (cassette)

RE-9

ITS/IT'S—YOUR/YOU'RE

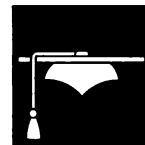
This program provides drill and practice problems using troublesome homonyms. Problems are randomly sequenced and drawn from a larger bank of problems. Student's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (cassette)

WD-3

**LAY/LIE**

This program instructs the student in the proper use of the verbs lay and lie. Twenty problems are then given requiring the student to select the appropriate verb. Student's performance is summarized. Elementary and up.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (cassette)

WD-5

MAKE A SENTENCE

Some scrambled words appear on the screen. For each group, the student must identify whether or not it is a complete sentence. Student's performance is summarized. This program uses sound. Grade 1.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (cassette)

RE-10

MATCHING CAPITAL LETTERS 1

A large capital letter appears on the screen. What letter on the computer keyboard matches it? The student tries to find and press the key with the matching letter. If the student does not know the answer and types the question mark, the computer will give the answer. Pre-school and kindergarten.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (cassette)

RE-3

MATCHING CAPITAL LETTERS 2

A large capital letter is displayed on the screen. Then two or more letters appear. One letter of this pair matches the first letter. Which one? The student places the point of the light pen on a small square associated with the letter of his/her choice. Summary of student's performance is displayed. Pre-school and kindergarten.

HARDWARE REQUIREMENTS: PET, 3G Light Pen

Micro-Ed

\$7.95 (cassette)

RE-4



VERBAL SKILLS & SOCIAL STUDIES

MATCHING WORDS 1

Each problem consists of a moving word and two possible matching words randomly selected from a bank of 40 pairs of words. The student must choose the matching word. Student's performance is summarized. Kindergarten and first grade.

HARDWARE REQUIREMENTS: Contact dealer, a 3G Light Pen.

Micro-Ed

\$7.95 (cassette)

RE-7

MATCHING WORDS 2

A word appears. Then two more words appear. One word of this pair matches the first word. Which one? The student places the point of his light pen on a small square associated with the answer of his/her choice. Student's performance is displayed. Kindergarten and first grade.

HARDWARE REQUIREMENTS: PET, 3G Light Pen

Micro-Ed

\$7.95 (cassette)

RE-8

MISPLACED OR DANGLING MODIFIERS

A phrase or clause modifying a word that it should not modify is a misplaced or dangling modifier. In this program, twenty sentences are presented in random sequence. Students must indicate for each sentence whether or not it needs to be re-written. Student's performance is summarized. Elementary and up.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (cassette)

US-1

THE NOUN

Common and proper nouns. Subject matter is first defined and taught through examples. Learner is tested. Performance is summarized. Elementary and up.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (cassette)

GR-2

**PUNCTUATION SERIES**

These lessons provide drill and practice using a standardized test format. The computer randomly selects and presents a problem sentence. The student must identify where a mistake in punctuation occurs. As the learner responds, the computer not only says whether the answer was right or wrong, but sets forth the applicable rule for the correction. Elementary and up.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$56.00 (8 tapes)** **PU-4**

READING RACER ONE

This program is designed to give a student practice in reading six short passages at a speed chosen by the student. After each passage, a comprehension question is asked. Student's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **RE-2**

RUN-ON SENTENCES

Each problem consists of a group of words that should be divided into two sentences. The learner moves an arrow across the screen and places it after the word that should end the first sentence. Each lesson consists of from eleven to sixteen problems. Learner's performance is summarized at the conclusion of the lesson. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **PU-1**

SIT/SET

The proper use of the verbs sit and set is explained. Twenty problems are then given requiring learner's response. Performance is summarized. Elementary and up.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **WD-4**



VERBAL SKILLS & SOCIAL STUDIES

SPELLING LEVEL A (SECOND GRADE)

Programs consist of a total of 36 lessons, with 10 words in each lesson. The words are used to represent a particular rule or pattern that is being taught, i.e., short A words, short vowel words ending with K, some irregularly spelled words, etc. Elementary.

HARDWARE REQUIREMENTS: Any PET (old or new ROMs).

Micro-Ed **\$49.95 (7 tapes)** **SP-2**

SPELLING LEVEL B (THIRD GRADE)

Programs consist of a total of 36 lessons, with 10 words in each lesson. The words are used to represent a particular rule or pattern that is being taught, i.e., short vowel words, adding ING to words that end with E, spelling homonyms, etc. Elementary.

HARDWARE REQUIREMENTS: Any PET (old and new ROMs).

Micro-Ed **\$49.95 (7 tapes)** **SP-3**

SPELLING LEVEL C (FOURTH GRADE)

Programs consist of a total of 36 lessons, with 10 words in each lesson. The words are used to represent a particular rule or pattern that is being taught, i.e., long and short A sounds, compound words, words with silent consonant letters, etc. Elementary.

HARDWARE REQUIREMENTS: Any PET (old and new ROMs).

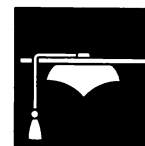
Micro-Ed **\$49.95 (7 tapes)** **SP-4**

SPELLING LEVEL D (FIFTH GRADE)

Programs consist of a total of 36 lessons, with 10 words in each lesson. The words are used to represent a particular rule or pattern that is being taught, i.e., long and short I sounds, words with AR or ARE, ED and ING endings for verbs, etc. Elementary.

HARDWARE REQUIREMENTS: Any PET (old and new ROMs).

Micro-Ed **\$49.95 (7 tapes)** **SP-5**

**SPELLING LEVEL E (SIXTH GRADE)**

Programs consist of a total of 36 lessons with 10 words in each lesson. The words are used to represent a particular rule or pattern that is being taught, i.e., one-syllable words with short vowel sounds, compound words with a vowel-R sound, vowel sounds in soft syllable endings, etc. Elementary.

HARDWARE REQUIREMENTS: Any PET (old and new ROMs).

Micro-Ed

\$49.95 (7 tapes)

SP-6

SUBJECT AND PREDICATE

The concept of subject and predicate is defined. The computer presents problems for the student to solve. Each problem is a sentence. The student is asked to identify the complete subject, the simple subject, the complete predicate, or the simple predicate. Learner's performance is summarized. Elementary and up.

HARDWARE REQUIREMENTS: Any PET (old and new ROMs).

Micro-Ed

\$7.95 (cassette)

GR-6

TACHISTOSCOPE

This program flashes small groups of words on the screen in random order. The student attempts to read each group at a glance, and then to reproduce it correctly at the computer keyboard. Five speeds are available. Student's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Any PET (old and new ROMs).

Micro-Ed

\$7.95 (cassette)

RE-1

THERE/THEIR/THEY'RE

This tape provides drill and practice using troublesome homonyms. Problems are randomly sequenced and drawn from a larger bank of problems. Student's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Any PET (old and new ROMs).

Micro-Ed

\$7.95 (cassette)

WD-2



VERBAL SKILLS & SOCIAL STUDIES

TO/TOO/TWO

This tape provides drill and practice using troublesome homonyms. Problems are randomly sequenced and drawn from a larger bank of problems. Student's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Any PET (old and new ROMs).

Micro-Ed

\$7.95 (cassette)

WD-1

TROUBLESOME PRONOUNS

Most errors in using pronouns have to do with sentences that use a pronoun along with a noun, a proper noun, or another pronoun. Using a game format, twenty problems are given to the student to solve. Learner's performance is summarized. Elementary and up.

HARDWARE REQUIREMENTS: Any PET (old and new ROMs).

Micro-Ed

\$7.95 (cassette)

US-3

USAGE BONERS

This drill and practice series focuses on common mistakes in usage, such as lack of agreement between subject and verb, double negatives, etc. For each problem, the computer not only states whether the student's response is right or wrong, but also shows how the mistake in English usage presented in the problem should be corrected. There are ten problems in each lesson. Student's performance is summarized. Elementary and up.

HARDWARE REQUIREMENTS: Any PET (old and new ROMs).

Micro-Ed

\$99.00 (15 tapes)

US-1

THE VERB

Action verbs, linking verbs, and verb phrases. Subject matter is defined and taught through examples. Learner is tested and performance is summarized. Elementary and up.

HARDWARE REQUIREMENTS: Any PET (old and new ROMs).

Micro-Ed

\$7.95 (tapes)

GR-3

**VOCABULARY SERIES**

This program consists of seventy-two lessons dealing with words commonly found in daily newspapers and weekly news magazines. Each problem presents a definition and sample sentence. The learner then chooses the vocabulary word that best fits. Words that gave trouble are listed. Learner's performance is summarized. Upper elementary and high school.

HARDWARE REQUIREMENTS: Any PET (old and new ROMs).

Micro-Ed

\$168.00 (24 tapes) VO-2

WORD SEARCH

Ten words are entered one at a time by the student. The computer then hides these words within a grid of scrambled letters. Where is each word located? Student's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (tapes) RE-11

MATCH GAME PROGRAM

This program is useful for memory building and for putting lesson reviews into a game format. The game can be played with either exact matches or paired matches (e.g., synonyms or translations). Users can choose from the many options built into the program (including shape matching, math, math problems and answers, and synonyms) or enter their own items. The size of the game board can be varied. One to four players can participate, and single players can play against the computer.

HARDWARE REQUIREMENTS: 8K PET.

Teaching Tools

\$20.00

DICTIONARY GUIDE WORDS

At the top of each page in a dictionary are two words called guide words. The first guide word is the same as the first entry word on that page. The second guide word is the same as the last entry word on that page. The student is to



VERBAL SKILLS & SOCIAL STUDIES

match a word with the pair of guide words that represent the dictionary page on which it would be found. Computer lists the words that were not matched correctly. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **RS-1**

LIBRARY TERM

The student is given sixteen library terms and a series of statements. The student is to match each statement with the term that best fits it. If the student does not know the answer, pressing the question mark key will cause the answer to be revealed. Student's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **RS-2**

MAKING AN OUTLINE

The computer presents an article for the student to read. The student must then finish a partly completed outline by selecting subtopics in the order in which they appear in the article. Student's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **RS-3**

PUTTING FICTION BOOKS IN ALPHABETICAL ORDER

The rules for arranging fiction books alphabetically on library shelves are explained. Then two groups of fiction books are presented in sequence. The student is to list the books in each group in the order in which they would appear on library shelves. Student's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **RS-4**

**HIGHER, SAME, LOWER**

Each lesson consists of ten problems in which two notes are played. Is the second note higher than, lower than, or the same as the first note? Each pair of notes is randomly selected from a bank of sixty-seven pairs. Learner's performance is summarized. This program uses sound. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (tape)

MU-2

LINE AND SPACES OF THE TREBLE CLEF

Using whole notes, the computer teaches the student the names of the lines and spaces that make up the treble clef. As each note is displayed, it is sounded. A test is given in which notes are randomly displayed and sounded. This program uses sound. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (tape)

MU-1

MATCHING RHYTHMS

The computer elects one of ten rhythmic patterns and plays while displaying matching quarter notes and eighth notes on the screen. The learner attempts to match the rhythm by pressing the space bar. Ten rhythms in all are presented. This program uses sound. Intermediate, Junior.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (tape)

MU-3

DIRECTION AND DISTANCE

This program uses a game format to teach primary grade children the eight directions of north, south, east, west, northeast, southeast, southwest, and northwest. Students must also estimate the distance between two objects on the screen. Primary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (cassette)

OT-2



VERBAL SKILLS & SOCIAL STUDIES

HAT IN THE RING *A PRESIDENTIAL ELECTION GAME*

Hat in the Ring is a two-player exercise designed to acquaint students with some of the political considerations involved in running a presidential candidate—one for the Republicans, the other for the Democrats. Throughout the exercise, each candidate makes decisions intended to result in a successful campaign. At the outset, each candidate has 9 units of priority resources that can be assigned, as needed, in order to bolster the campaign in any of the states. The overall campaign ends after each candidate has made, in alternating turns, 10 decisions. Within each state, the outcome of the campaign hinges upon four factors: Media Exposure, Personal Campaigning, Domestic Issues, and International Issues. Although the weight of these four factors is randomly determined by the computer, the probabilities are that Media Exposure and Domestic Issues will prove to be substantially more powerful in their impact, than will the factors of Personal Campaigning and International Issues. The political situation in each state keeps changing as the game progresses. As the campaign begins, the computer randomly chooses the candidate who will have the first turn. The computer may be commanded to do one of six things: (1) Raise funds (increase resources), (2) List the states in which the Republican candidate leads, (3) List the states in which the Democratic candidate leads, (4) List the current probable electoral count for each candidate, (5) List each candidate's remaining resources, and (6) Get ready to display the political situation in a state. The 9 resource units that each candidate has at the beginning of the game are the maximum allowed. So there is no point in asking the computer to raise more funds (resources) until some of these units have been used up. However, when the computer does try to raise funds, it will yield a result of from 0 to 3 additional resource units. Let us say that the candidate chooses Command Number 6. The computer now asks the candidate for the name of a state, and then displays the political situation in that state. The number immediately following the name of a state represents the number of electoral votes that the state can cast for a presidential candidate. The candidate can affect the political situation in any state by committing some resource units to that state. When resources are committed, they have a multiplier effect on the category to which they are committed. For example, if the strength of Media Exposure in a given state is 15, and if 3 resource units are then committed to that category in this state, then the new Media Exposure strength in the state becomes 15×3 , or 45. If a candidate commits more resources than the candidate has, this blunder automatically results in the election of the opponent. The fifty states, plus the District of Columbia (abbreviated D.C.), have 538 electoral votes in all. At the end of the game, the candidate with the majority of these electoral votes (270 or more) wins the game. Elementary and up.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$9.95

OT-9

STATES AND CAPITALS

This program randomly selects either the name of a state (in which case the learner is to supply the name of its capital), or the name of its capital (in

VERBAL SKILLS & SOCIAL STUDIES



which case the learner is to supply the name of the state). Intermediate, Elementary and up.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **OT-7**

TIME ZONES

The student will tell time from one zone to another. Zones use: Alaska, Hawaii, Pacific, Mountain, Central, and Eastern. Elementary and up.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **OT-6**

TRAIL WEST

This is a game of options and events. The player tries to get to the gold fields of California, two thousand miles away. At the outset, some units of food, ammunition, clothes and supplies are available. Reserve units are also on hand. Reserve units can be transferred to other categories as needed. In order to win, the player must reach the gold field before running out of units in any category. Elementary through adult.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **OT-1**

THE ADJECTIVE

Program uses a game playing format to teach its subject matter. Each time the student answers a problem, the upper lefthand corner of the screen reveals whether the answer is right or wrong. If student does not know the answer to a problem, typing the question mark will cause the answer to be revealed. Student's performance is summarized. Elementary and up.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **GR-5**



VERBAL SKILLS & SOCIAL STUDIES

THE ADVERB

Subject matter is defined and taught. Student is tested on what has been presented. If student does not know the answer to a problem, the question mark can be typed and the computer will give the answer. Student's performance is summarized. Elementary and up.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (cassette)

GR-4

AGREEMENT OF SUBJECT AND VERB

Problems consist of sentences with missing words. Choices (singular or plural) are provided for each problem. The learner types the answer. Learner and computer have a steam engine race. Getting the answers right will help the learner win. Learner's performance is summarized. Elementary and up.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$7.95 (cassette)

GR-1

ANTONYM MACHINE

The computer randomly selects a pair of words with opposite meanings. One of the words is displayed flashing on and off in the upper left corner of the screen. What is the other word or antonym? After the learner responds, the antonym machine processes the first word so that it becomes its antonym. Learner's performance will be summarized. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

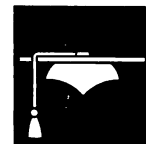
Micro-Ed

\$7.95 (cassette)

VO-3

THE APOSTROPHE

This program teaches the use of the apostrophe. First, the subject matter is presented in an instructional format. Then, the learner is tested on his/her



understanding of the material. Learner's performance is summarized. Elementary and up.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **PU-2**

DROPPING THE FINAL E

Each problem begins with a base word. The first job of the student is to type the base word plus an "ed" or "ing" ending. Finally, working from an "ed" or "ing" ending, the student must type the base word. Each problem word has been randomly drawn from a bank of fifty words. Each lesson consists of ten problems. Student's performance is summarized. Elementary.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **SP-10**

END PUNCTUATION

This program teaches the use of the three different kinds of punctuation marks that end sentences: the period, the question mark, and the exclamation point. The learner's performance is summarized.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95** **PU-3**

HAIKU

Haiku is a Japanese form of poetry. It calls for seventeen syllables in three lines. These lines have syllable counts of five, seven, and five. This unusual program can be used to encourage students to write creatively. Individual lines can be copied down on paper by the student for use in other poetry. The ability of the computer to revise its own poem, line by line, gives the student a chance to become a critical recognizer of good haiku. In a classroom setting, students explain why one group of syllables is acceptable while another misses the mark. Elementary and up.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed **\$7.95 (cassette)** **OT-3**



VERBAL SKILLS & SOCIAL STUDIES

SYNONYMS

This program series consists of fifteen lessons dealing with a total of 450 words. Each lesson works with thirty words divided into columns A and B. Words must be matched with the synonymous expressions. Synonyms that gave the learner trouble are listed. 3 tapes. High school and adult.

HARDWARE REQUIREMENTS: Contact dealer.

Micro-Ed

\$21.00

VO-1

MAPS AND GLOBES

This series is designed to be used with the booklet **Skills for Understanding Maps and Globes**. Each program in the series works as follows: The student brings the booklet to the computer, loads the program, and begins the lesson. The computer now poses questions to the student concerning the subject matter in the booklet. The student is free to use the booklet, in order to respond to the questions from the computer. For example, the computer may refer the learner to a map on a particular page, and ask questions about the specific symbols being used. The computer thus becomes a sophisticated response device, providing immediate feedback to the student, keeping track of student progress, and so on. Each tape covers one chapter in the booklet. Elementary and up.

1. A Map Is Made.
2. Finding Our Way.
3. Finding Other Directions.
4. The Metric System.
5. How Far Is It?
6. Finding Cities and Countries.
7. Water, Water, Everywhere.
8. The Earth's Land Masses.
9. The New World.
10. The Old World.
11. Guidelines on the Earth.
12. Using the Earth's Guidelines.
13. Flat Maps of a Round Earth.
14. High Lands and Low.
15. What's the Weather?
16. The World's Climates.
17. What Grows on the Land.
18. People and Products.
19. Trade and Travel.

HARDWARE REQUIREMENTS: 8K CPU.

Micro-Ed

\$136.00

MP-1

\$ 2.97 ea addn'l booklet.



MAP DIRECTIONS 1

Determine which of four or eight directions the designated arrow is pointing. Choice of level. Level 1—four directions, eight problems; or Level 2—eight directions, sixteen problems. Summarized results at end of run.

HARDWARE REQUIREMENTS: Contact dealer.

Microcomputers in Education	\$9.95 tape	CC30
	\$7.50 disk (min. of 10 programs)	

MAP DIRECTIONS 2

Determine which of four or eight directions correctly answers the given question. Level one is four directions, eight problems. Level two is eight directions, sixteen problems. Summarized results are given at end of run. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC31
	\$7.50 disk (min. of 10 programs)	

WHICH LETTER COMES NEXT?

A large capital letter appears on the screen, followed by a box with a question mark on it. What letter is hidden by the box? It is the letter that should come next in alphabetical order. At the bottom of the screen, two little rectangles of light have a race. One belongs to the computer. The other belongs to the student. Which one will win? It all depends on how well the student supplies the missing letters asked for during the lesson. (If the student does not know the answer, and types the question mark, the computer will give the answer.)

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed	\$14.95	RE-5
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TYPE TO READ

These four sets of tapes are designed for students who have yet to master the basic word attack patterns essential to the business of learning to read. It is based on the principle that there is usually a dependable relationship



VERBAL SKILLS & SOCIAL STUDIES

between the sounds of the English language and the ways these sounds are represented in writing. Of the more than one thousand words taught in this series, only three do not have a regular correspondence between symbol and sound: of, to, and the. These three words first appear in Lessons 71 and 72 of Set B. In all other instances, once the students have linked certain letter arrangements with their corresponding patterns of sound, they can rely on this association as they proceed. There are no tricks, exceptions, or surprises to undermine the student's growing confidence in his/her ability to learn to read. Each lesson begins with a sentence printed on the screen. The learner types this sentence at the keyboard, as indicated by an arrow that appears in turn under each letter or space of the problem sentence. As the student types, only correct responses are reproduced on the screen. In this way the learner's performance is shaped in a positive manner so as to produce results that are always correct. As each word is typed, the learner should pronounce it. For this reason it is recommended that the learner be accompanied by a partner, who monitors the learner's reading of each word. When the learner finishes typing a sentence, the screen clears and the sentence re-appears, but with a word missing. This sequence repeats with a different word missing each time until the learner can type the sentence from memory. At the end of each lesson the learner's performance is summarized, and if the student did not ask for help from the computer by pressing the = sign, the screen will display two space warriors as a reward. The series consists of four sets of programs.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed	\$105.00	RE-13 (A)
	\$119.00	RE-14 (B)
	\$147.00	RE-15 (C)
	\$168.00	RE-16 (D)

COMPOUND WORDS

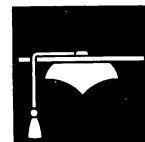
A compound word is made up of two smaller words. Each problem in the program consists of a compound word drawn at random from a bank of 25 words. The student's job is to type the two smaller words that make up the compound word being presented. At the end of ten problems, the student's performance is summarized.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed	\$7.95	SP-7
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CONTRACTIONS

For each problem, the computer will randomly display either a contraction or an uncontracted expression. If a contraction is presented, the student should



type in the uncontracted expression and vice-versa. There are ten problems to a lesson. If the student makes no mistakes, two space warriors will honor the student.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$7.95

SP-11

EXTRA SPELLING PRACTICE

This series is designed for students who need extra practice, and lots of it, in order to develop their spelling skills. The patterns into which the words are grouped for practice are the same as the patterns listed for the regular drill and practice series, SP-2 to SP-6. However, the instructional format is different. Each lesson works as follows: A word appears on the screen and remains visible while the student tries to type it on the keyboard. The student makes as many attempts as necessary to accomplish this. When the word has been typed correctly, the screen is cleared and the student is asked to type in the word from memory. If this is not done successfully, the word reappears and the process starts over again. When the student types in the word from memory correctly, a new word is presented and the cycle starts over. The words are selected at random from a bank of 30 to 50 words per lesson. The lesson may be terminated at any time and the student's performance is summarized with a list of words that caused trouble. If the student works with at least 10 words without making any mistakes, the computer displays two space warriors to honor the student's achievement. The total program is geared to grades 2 through 6, and includes a total of over 7,000 spelling words. There are 36 lessons per grade level and a total of 180 lessons in all. Each grade level may be purchased separately.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$49.95

SP-12 (Gr 2)

\$49.95

SP-13 (Gr 3)

\$49.95

SP-14 (Gr 4)

\$49.95

SP-15 (Gr 5)

\$49.95

SP-16 (Gr 6)

PREFIXES

The problems in this program consist of incomplete words and suggested prefixes. The student must pick the right prefix. The problems are randomly selected by the computer, and there are ten problems in a lesson. At the end of a lesson the student's performance is summarized. The prefixes treated in this program are RE, CON, COM, EX, IM, and IN.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$7.95

SP-17



VERBAL SKILLS & SOCIAL STUDIES

MORE PREFIXES

The format of this program is the same as SP-17, but the prefixes treated in this program are PRE, PRO, DE, DIS, and UN.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$7.95

SP-18

SUFFIXES

The problems in this program consist of incomplete words and suggested suffixes. The student must pick the right suffix. The problems are randomly selected by the computer, and there are ten problems in a lesson. At the end of a lesson the student's performance is summarized. The suffixes treated in this program are NESS, MENT, TION, SION, ANCE, and ENCE.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$7.95

SP-19

MORE SUFFIXES

The format of this program is the same as SP-19, but the suffixes treated in this program are FUL, LESS, ANT, ENT, ABLE, IBLE, and OUS.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed

\$7.95

SP-20

SOCIAL STUDIES WORD LIST REGIONS

This initial set of programs marks the beginning of a series designed to increase a student's vocabulary in the area of social studies. **REGIONS** presents basic drill and practice social studies word list lessons for the following regions: FOREST, DESERT, FARMING, OCEAN, MANUFACTURING, TRADING, and POLITICAL. Each program works with a vocabulary commonly used when discussing a particular region. At the end of each lesson, the student's performance is summarized. If the student does all the problems in a lesson without having to review the wordlist, a special

VERBAL SKILLS & SOCIAL STUDIES



visual sequence will be presented on the screen. If the computer is equipped for sound there will also be sound effects for this visual sequence.

HARDWARE REQUIREMENTS: 8K PET.

Micro-Ed **\$49.95 (7 tapes)** **VO-5**

STATES & CAPITALS

Practice is provided in associating a state with its capital, as well as a capital with its state. You're given the choice of filling in the blanks, or multiple choice. Incorrectly answered questions are automatically repeated until correctly answered. It is not necessary to answer for all 50 states or capitals—typing a '5' takes you out of the multiple choice program, and typing any letter takes you out of the fill-in-the-blanks program. Intermediate, Adult.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education **\$9.95 tape** **CC4**
\$7.50 disk (min. of 10 programs)

PLURALS

Determine if the word displayed by the computer is singular or plural. The stop is disabled. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education **\$9.95 tape** **CC7**
\$7.50 disk (min. of 10 programs)

SPELLING 100

Practice in spelling words from the list of 100 words most often misspelled by children in the elementary grades (Journal of Education, October 1950). Graphics are used. Stop is disabled. You are allowed to look at a word briefly and then are required to type in a correct spelling. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education **\$9.95 tape** **CC11**
\$7.50 disk (min. of 10 programs)



VERBAL SKILLS & SOCIAL STUDIES

HANGMAN 100

A version of the standard hangman game. This program uses words from the list of 100 words most often misspelled by children at elementary level (Journal of Education, October 1950). Graphics are used. Stop is disabled. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC13
	\$7.50 disk (min. of 10 programs)	

NOUNS

Practice in selecting the noun in a given sentence. You decide how many sentences you'd like to do—up to 25. Intermediate, Junior.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC17
	\$7.50 disk (min. of 10 programs)	

VERBS 1

Practice selection of is/are, and was/were, within a sentence. You determine the number of sentences to be tried. Stop is disabled. A summary is given at the end of the run. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

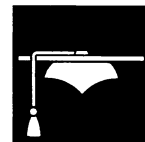
Microcomputers in Education	\$9.95 tape	CC20
	\$7.50 disk (min. of 10 programs)	

ADJECTIVES

Practice in selecting an adjective in a given sentence. You determine how many sentences, up to 35, will be tried. Summary given at end of run. Intermediate, Junior.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC21
	\$7.50 disk (min. of 10 programs)	

**IST-SIND**

You are given a German sentence and must use either "Ist or Sind" to correctly complete the sentence. Up to 25 sentences may be selected. Summary given at end of run. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC22
	\$7.50 disk (min. of 10 programs)	

LEMONADE

A computer simulation where you will make decisions that are similar to those you might make in running a real lemonade stand. Program ends after 10 working cycles. Program may be used by one or more people, at a time. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC24
	\$7.50 disk (min. of 10 programs)	

SYNONYMS

A version of the game "Concentration" matching synonyms. A game for one or two players. Score is kept for each player. Stop is disabled. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC34
	\$7.50 disk (min. of 10 programs)	

ALPHABETIZING

Arrange 3, 5, 7, or 9 words in alphabetical order. The program has two levels, primary and intermediate. Stop is disabled. Summary at end of run.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC36
	\$7.50 disk (min. of 10 programs)	



VERBAL SKILLS & SOCIAL STUDIES

CAREERS

Decide which of three given careers or skills would most likely use the tool shown. You decide how many problems are to be tried. A summary of results are given at end of run. Helpful hints are given each time a wrong answer is given until the correct choice is made.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC40
	\$7.50 disk (min. of 10 programs)	

BOOK SHELF

Shelve the given book correctly on the library book shelf. Progress report given after each set of 10 problems. Two level choice. Graphics used. Primary, Intermediate.

HARDWARE REQUIREMENTS: Contact dealer.

Microcomputers in Education	\$9.95 tape	CC49
	\$7.50 disk (min. of 10 programs)	

CALENDAR

Practice in learning the days of the week, and/or months of the year. Run of 10 problems with summary at end. Choice of "multiple choice" or "type in" answers. Primary.

HARDWARE REQUIREMENTS: 8K PET (both old and new ROMs)

Microcomputers in Education	\$9.95 tape	CC51
	\$7.50 disk (min. of 10 programs)	

NUMBER WORDS

A version of the game "Concentration" matching numbers with their number-word. A game for one or two people. Score is kept for each player. Stop is disabled. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K Pet (both old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC32
	\$7.50 disk (min. of 10 programs)	



ANAGRAM

Series of game format programs for a recreational or educational setting. Points are awarded and clues are given when difficulty is experienced. One tries to interpret as many anagrams as possible in the allotted time which is displayed on the screen. Match play may be established as the computer can be directed to generate the same sequence of anagrams for two or more players. The time limit may be changed to adjust for differences in intelligence level or age. The programs are available in five level-of-difficulty categories. These programs reinforce vocabulary, reading and spelling skills. Available individually or as a set.

HARDWARE REQUIREMENTS: 8K CPU and 4040 Disk Drive.

PC340 Anagrams I Recreation 1
 PC341 Anagrams II Recreation 2
 PC340 Anagrams III College 1
 PC340 Anagrams IV College 2
 PC340 Anagrams V High School 1
 PC340 Anagrams VI High School 2
 PC340 Anagrams VII Junior HS 1
 PC340 Anagrams VIII Junior HS 2
 PC340 Anagrams IX Elementary 1
 PC340 Anagrams X Elementary 2

Microphys	\$ 15.00 ea
	\$180.00 set

WORD GAMES

A series of word games providing virtually hours of challenging fun for all age groups. Players try to fill in missing letters in a randomly chosen title or phrase and earn points according to the graphic display on a "Wheel of Fortune." Scores are recorded for 2—4 players and 1000 points are required to win.

HARDWARE REQUIREMENTS: 8K CPU

Microphys	\$15.00	PC375 Song Title
	\$15.00	PC376 Famous Place
	\$15.00	PC377 Entertainer
	\$15.00	PC378 Statesmen
	\$15.00	PC379 Scientists
	\$15.00	PC380 Sports Fig.

CRYPTO

The user enters various lines of text and the computer creates cryptograms. The cryptogram is then displayed along with a unique code number. User #1



VERBAL SKILLS & SOCIAL STUDIES

creates an encoded message which is transmitted to user #2 along with the code number. If user #2 cannot decipher the code his computer will do it for him.

HARDWARE REQUIREMENTS: 8K CPU and C2N.

Microphys

\$15.00

PC350

FLASH SPELL—HELICOPTER

This spelling program, designed for any grade level, gives the learner practice in spelling with an interesting graphics twist. The spelling words (any amount) may be entered by the teacher by replacing or adding data lines. Written instructions will accompany each order. The learner is given words to spell, picked at random from the data list. Each word is flashed on the screen for one-half second. If the word is spelled incorrectly, it is flashed on the screen for an additional one-half second. This procedure continues until the word is spelled correctly. Each word that is spelled correctly the first time earns the learner 10 seconds of helicopter game for the number of seconds earned. The object of the game is to control a helicopter to pick up a cargo and drop it into a loading chute. (K-12)

HARDWARE REQUIREMENTS: 16K PET

Microcomputer Workshops

\$20.00

GERMAN NOUNS

Practice in finding German nouns on the gender of the subject noun. All positive responses are in German. The user is locked into the program for ten sentences. A summary is given at the end. Intermediate, Junior, Senior.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education

\$9.95 tape

CC73

\$7.50 disk (min. of 5 programs)

WORD SCRAMBLER

Practice in unscrambling a given word before it reaches the bottom of the screen. Can be used with or without sound. For one or two students. Choice



of long or short words. The student is locked into the program. Intermediate, Junior, Senior.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC74
	\$7.50 disk (min. of 5 programs)	

SCRAMBLE SPELL

You are asked to unscramble the given word within an allotted amount of time. Some help is given. Can be for one or two people. Score is kept for each player. Five words in a run, with a summary following.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC76
	\$7.50 disk (min. of 5 programs)	

GERMAN NOUNS 2

Determining the appropriate pronoun—ER, SIE, ES—for the given singular subject noun. A summary is given after 10 problems. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

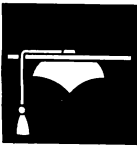
Microcomputers in Education	\$9.95 tape	CC92
	\$7.50 disk	

GERMAN NOUNS 3

Determining whether or not the subject noun is singular or plural, and then completing the given German sentence correctly. A summary is given after 10 sentences. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC93
	\$7.50 disk (min. of 5 programs)	



VERBAL SKILLS & SOCIAL STUDIES

FRENCH ANTONYMS

A version of the game "concentration" matching French antonyms. Program is for one or two people. The score of each player is kept. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC97
	\$7.50 disk (min. of 5 programs)	

NOUNS 2

Determining the noun (s) within a given sentence. Different levels of tutorial help are given after incorrect answers. Ten sentences to a run. A summary follows the run. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC97
	\$7.50 disk (min. of 5 programs)	

VERBS—BEING

Determining the being verb(s) within a given sentence. Summary is given after 10 sentences input. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

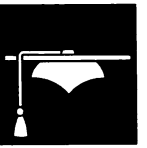
Microcomputers in Education	\$9.95 tape	CC98
	\$7.50 disk (min. of 5 programs)	

VERBS—ACTION

Determining the action verb within a given sentence. Tutorial help is given after incorrect input. Summary is given after 10 sentences. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs)

Microcomputers in Education	\$9.95 tape	CC99
	\$7.50 disk (min. of 5 programs)	

**VERBS—REVIEW**

Review practice in determining the verb in a sentence, and whether it is an action, helper, or being verb. Summary follows ten sentences. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC102
	\$7.50 disk (min. of 5 programs)	

N—V PATTERNS

Determining the noun and verb phrases within a given sentence. A summary is given after 10 sentences. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC103
	\$7.50 disk (min. of 5 programs)	

VERBS—HELPER 1

Determining which is the main verb and the helping verb in a given sentence. Help is given after incorrect input has been given. There are 10 problems to a run, with a summary following each run. The program has to be completed before the user can get out of the program. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

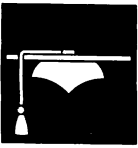
Microcomputers in Education	\$9.95 tape	CC100
	\$7.50 disk (min. of 5 programs)	

VERBS—HELPER 2

Determining the main verb(s) and helping verb(s) in the given sentence. Help is given after incorrect input. Ten sentences to a run. A summary is given at the end of the run. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC101
	\$7.50 disk (min. of 5 programs)	



VERBAL SKILLS & SOCIAL STUDIES

N—V—N PATTERN

Determining the verb, first noun phrase, and second noun phrase within a given sentence. A summary is given after five sentences. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC104
	\$7.50 disk (min. of 5 programs)	

N—LV—N PATTERN

Determining the first and second noun phrase, and linking verb phrase within a given sentence. A summary is given after 10 sentences. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC105
	\$7.50 disk (min. of 5 programs)	

N—LV—ADJ PATTERN

Determining the noun phrase, linking verb, and adjective within a given sentence. A summary is given after 10 sentences. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC106
	\$7.50 disk (min. of 5 programs)	

SENTENCE PATTERNS

Determining the correct sentence pattern used in the given sentence. Help is given after incorrect input. A summary is given after 10 sentences. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC107
	\$7.50 disk (min. of 5 programs)	



CAPITALIZATION SERIES

Each lesson in this series has two parts. The first one (Part A) is a tutorial. The second (Part B) features drill and practice on the material covered in Part A. Part B uses a standardized achievement test format in order to help students become familiar with this sort of testing. The series also includes a 50-item pre-test which concludes with a recommendation concerning student placement within the series, and a 50-item post-test that suggests which lessons ought to be reviewed.

HARDWARE REQUIREMENTS: Any PET (new ROMs only) and C2N.

Micro-Ed

\$140.00

CP-1

RE-17 TO RE-20 READING COMPREHENSION SERIES

This Reading Comprehension series is designed to be used in connection with the Type to Read series. Whereas Type to Read is intended to help students upgrade their beginning word attack skills, these Reading Comprehension programs give students practice in understanding what they read. To serve this purpose, the Comprehension series uses a variation of the popular Cloze method—an approach which uses words in context as a means of assessing understanding. Each lesson begins with four lines of text printed on the screen. Each line has a missing word. Near the bottom of the screen are five numbered words. Four of these words belong in the four “blanks” or “holes” in the text. The fifth does not belong anywhere. The problem for the student is to identify which words belong where. It is strongly recommended that the various Comprehension exercises be used only after certain exercises have been successfully completed for the Type to Read series. For example, Tape 1, Set A, of the Comprehension series should be used after Tapes 1 through 3, Set A of the Type to Read series have been completed. The reason for this is that the words used in the Comprehension series are the words used in the Type to Read series. Both series are based on a step-by-step progression that has been carefully worked out to cover a substantial sequence of lessons. Specifically, the correlation is as follows:

RE-17 READING COMPREHENSION, SET A

Tape 1 of RC (Reading Comprehension) should be used after Tape 3 of TR (Type to Read).

Tape 2 of RC should be used after Tape 6 of TR.

Tape 3 of RC should be used after Tape 9 of TR.

Tape 4 of RC should be used after Tape 12 of TR.

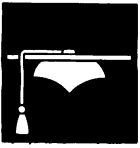
Tape 5 of RC should be used after Tape 15 of TR.

RE-18 READING COMPREHENSION, SET B

Use Tape 1 of RC after Tape 4 of TR.

Use Tape 2 of RC after Tape 7 of TR.

Use Tape 3 of RC after Tape 9 of TR.



VERBAL SKILLS & SOCIAL STUDIES

Use Tape 4 of RC after Tape 11 of TR.
Use Tape 5 of RC after Tape 13 of TR.
Use Tape 6 of RC after Tape 17 of TR.

RE-19 READING COMPREHENSION, SET C

Use Tape 1 of RC after Tape 3 of TR.
Use Tape 2 of RC after Tape 5 of TR.
Use Tape 3 of RC after Tape 7 of TR.
Use Tape 4 of RC after Tape 8 of TR.
Use Tape 5 of RC after Tape 9 of TR.
Use Tape 6 of RC after Tape 10 of TR.
Use Tape 7 of RC after Tape 12 of TR.
Use Tape 8 of RC after Tape 13 of TR.
Use Tape 9 of RC after Tape 17 of TR.
Use Tape 10 of RC after Tape 20 of TR.
Use Tape 11 of RC after Tape 21 of TR.

RE-20 READING COMPREHENSION, SET D

Use Tape 1 of RC after Tape 4 of TR.
Use Tape 2 of RC after Tape 5 of TR.
Use Tape 3 of RC after Tape 8 of TR.
Use Tape 4 of RC after Tape 10 of TR.
Use Tape 5 of RC after Tape 12 of TR.
Use Tape 6 of RC after Tape 14 of TR.
Use Tape 7 of RC after Tape 16 of TR.
Use Tape 8 of RC after Tape 18 of TR.
Use Tape 9 of RC after Tape 20 of TR.
Use Tape 10 of RC after Tape 21 of TR.
Use Tape 11 of RC after Tape 22 of TR.
Use Tape 12 of RC after Tape 24 of TR.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed	\$35.00	RE-17
	\$42.00	RE-18
	\$77.00	RE-19
	\$84.00	RE-20

GUESS THAT WORD

This instructional tape makes it easy for you (or your students) to create spelling lessons using words of your choice. You simply type in the words on the appropriate data lines. The needed data lines are so easy to create that even elementary school students (grades four and up) should be able to do the job. Lines 7000-7999 should be used for entering spelling words as data. Multiple spelling lists can be entered. Each list should be preceded by a number identifying the list. An arrow pointing up concludes each list. All data entries should be separated by commas. The tape, as purchased, already



has five lists of words sometimes identified as spelling demons. These lists can be changed simply by changing the data line entries. The program works like this:

As requested by the computer, the student types in the number of the desired word list. Then the computer randomly selects a word from the list and, near the top of the screen, prints a row of gray boxes equivalent in length to the length of the chosen word. The student now has three choices. He/she can try to guess the entire word, guess a single letter, or ask the computer to reveal a letter of the word. If the student tries to guess the word, 100 points are won if the guess is wrong. If the student tries to guess a letter, the cost of the guess (regardless of its accuracy) is 1 point. If the student guesses correctly, all such letters in the word are revealed. If the student's guess is wrong, no letters are revealed. If the student asks the computer to show a letter, only one letter is revealed, even though more than one such letter may be in the word. The cost of this option is always 2 points. When the student finally guesses the word, the computer summarizes the results on an ongoing basis. This includes the average score per word, plus a list of the specific words presented by the computer.

HARDWARE REQUIREMENTS: 8K PET (old or new ROMs) and C2N.

Micro-Ed

\$7.95

SP-1

GERMAN

Drill and practice programs intended as a vocabulary building tool. The user may choose passive or active mode of operation. Noun drills include gender and plural forms. Verb conjugation drills will be included.

HARDWARE REQUIREMENTS: Any PET/CBM (any ROM) and C2N.

Tycom Associates

\$19.95

SPANISH

Drill and practice programs intended as a noun and verb vocabulary building tool. The user may choose passive or active mode of operation. Verb conjugation drills will be included.

HARDWARE REQUIREMENTS: Any PET/CBM (any ROM) and C2N.

Tycom Associates

\$19.95



VERBAL SKILLS & SOCIAL STUDIES

HIGH SCHOOL SAMPLER

A set of handy drills for any needed re-enforcement. Especially helpful in checking homework. Choose type of problem and give your answer. Can be set for a range of answers (a near miss is as good as a hit) in three modes, TEST, DRILL and ANSWER ONLY.

HARDWARE REQUIREMENTS: 8-32K CPU (2.0 or 3.0 ROMs).

Briley Software

\$15.00

LIMITS

LIMITS contains a model of the world that is built of five subsystems (population, pollution, food supply, industrial output, and resource usage) linked together by six variables: birth rate, death rate, pollution generation, resource usage rate, industrial output growth rate, and food production rate. LIMITS is an interactive unit that allows students to investigate the five subsystems by changing the variables linking the subsystems together. LIMITS examines the direction that world trends will move over the next century, based on an extrapolation of present trends in growth. LIMITS will produce a graph that traces the interaction of the five major world subsystems over a 125-year period. Their interaction is determined by the changes that the user makes in the six variables that control the subsystems between the years 1975-2100.

USPOP

USPOP allows you to study many aspects of the United States' human demography, including population growth, age and sex distribution. It allows you to make population projections and to investigate the consequences of many different demographic changes. The factors that USPOP allows you to study are: 1. Fertility, 2. Birth Distribution, 3. Sex Ratio of Offspring, 4. Mortality Rate, 5. USPOP allows you to alter population. USPOP's computer program contains all the mathematical formulas necessary to carry out your projections. It also contains the latest census data.

MARKET

This allows two people or two groups to play the roles of 2 companies competing for the market with a particular product: e.g. racing bicycles. At the start of the game, the computer informs the players of the fixed and variable production costs involved in marketing the product and the number of items that will be sold, with no advertising, at a specific price. The computer then assigns to each company initial values for inventory, cash on hand, and total assets. Each player is allowed to make marketing decisions quarterly and can specify the production level, the advertising budget, and the unit price of the product for his/her company. After these decisions have been made for a given quarter, the computer reports the results of these decisions by way of a marketing summary. For each company the report lists:



(1) profit; (2) percentage share of the market; (3) cash on hand; (4) number of units sold; (5) number of units in stock (inventory); and (6) total assets. All dollar amounts are printed in thousands of dollars. Players make their decisions for the following quarter on the basis of these reports.

HARDWARE REQUIREMENTS: 16K PET.

Creative Computing **\$24.95 + \$2.00 shipping**

STREETS OF THE CITY & TRUCKER

Streets of the City

This simulation is modeled on Grand Rapids, Michigan, a metropolitan area with a population of 550,000. The budgeting, cost and work standard bases are derived from actual experiences of the city over the past five years. The objective of the simulation is to complete a ten-year plan of street and transit improvements while retaining the support of a majority of the City Commission. During your tenure, you must construct streets and interstate highways, repair existing streets, and improve traffic safety. For the Transit Authority you have to upgrade and replace a delapidated bus fleet, increase ridership, reduce maintenance downtime and improve on-schedule performance. Other factors to be considered are operating tax levies, construction bonding and labor negotiations. The simulation provides a substantial challenge and it is both educational and entertaining.

Trucker

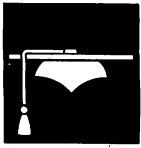
This program simulates coast-to-coast trips by an independent trucker hauling various cargos. The user may haul oranges, freight or U.S. mail. All have different risks and rewards. Maximum profit comes from prudent risk-taking. If all goes well, you can obey the speed limits, stop for eight hours of sleep each night and still meet the schedule. Bad weather, road construction or flat tires may put you behind schedule. You may try to increase your profit by skimping on sleep, driving fast or carrying an overweight load. Other factors are choice of routes, truck payments, fuel, food tolls and fines. The simulation is engrossing and informative.

HARDWARE REQUIREMENTS: 32K system.

Creative Computing **\$24.95 + \$2.00 shipping**

HISTORY AND GEOGRAPHY PACKAGE

Revolutionary War Quiz: Two players compete. User can easily change questions to suit any subject if desired. (PT 108)



VERBAL SKILLS & SOCIAL STUDIES

Regions of the U.S.: Player is asked questions as to what region various states are located in. (PT 404)

States and Capitals: If user is unable to give correct answer, computer gives clues. (PT 406)

Presidents: Drill and practice session on presidents of the U.S. (PT 407)

HARDWARE REQUIREMENTS: 8K PET, CBM

Micro Learningware	\$24.95	PT005
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OUR WEIRD AND WACKY WORLD

A series of short stories written on a third to fourth grade level that provide simple reading fun. Ten stories in each program followed by word meanings and cloze practice.

HARDWARE REQUIREMENTS: 8K CPU (any ROM). Specify equipment configuration.

Educational Activities, Inc.	\$34.95	(CP)-157D1/2
	\$39.95	(DK)-157D1/2

O'BRIEN VOCABULARY PLACEMENT TEST

A graduated vocabulary test that will find a student's reading level quickly. Validated on over 7000 students, it is culturally unbiased, discounts guessing, and has a placement range of readiness through a 7th grade level. Scores are stored for display to teacher only.

HARDWARE REQUIREMENTS: 8K CPU (any ROM). Specify equipment configuration.

Educational Activities, Inc.	\$14.95	(CP)-20100
	\$19.95	(DK)-20100

SCRAMBLED LETTERS

The computer presents spelling words with the letters scrambled. Two students compete to unscramble the letters keying in the correctly spelled word. Student who correctly spells the word is "rewarded." All words are

VERBAL SKILLS & SOCIAL STUDIES



displayed at end of program, and teachers may add their own words to the program.

HARDWARE REQUIREMENTS: 8K CPU (any ROM). Specify equipment configuration.

Educational Activities, Inc.	\$14.95	(CP)-20132
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FLASH SPELLING

Spelling words are flashed on the screen one by one and the student can attempt to type in the correctly spelled word. A correct response is rewarded. An incorrect response will flash the word on the screen for a longer period of time. Teachers may add their own words.

HARDWARE REQUIREMENTS: 8K CPU (any ROM). Specify equipment configuration.

Educational Activities, Inc.	\$14.95	(CP)-20133
	\$28.50	(CP)-SPELL
	\$33.50	(DK)-SPELL

CRYPTO

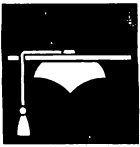
For this challenging game, students will use skills of logic to decode cryptograms. By using single and double letter words and punctuation as clues, they can figure out the meanings of the sentences. Teachers may add their own sentences to the program.

HARDWARE REQUIREMENTS: 8K CPU (any ROM). Specify equipment configuration.

Educational Activities, Inc.	\$11.95	(CP)-20150
	\$15.95	(DK)-20150

ENGLISH BASICS

The English skills below are reviewed and reinforced with student interaction. Each program focuses on a single problem experienced by students. The programs first display text material and then highlight examples. The student is then quizzed on the skill presented and reward messages are displayed for correct answers. On an incorrect answer, the



VERBAL SKILLS & SOCIAL STUDIES

student is encouraged to try again and, if incorrect answers are given repeatedly, the answer is displayed.

HARDWARE REQUIREMENTS: 8K CPU (any ROM). Specify equipment configuration.

Educational Activities, Inc.

CP/DK-20100 NOUNS

CP/DK-20102 PRONOUNS

CP/DK-20104 VERBS

CP/DK-20106 ADJECTIVES

CP/DK-20108 ADVERBS

\$145.00

CP-ENG#1 (10 tapes)

\$170.00

DK-ENG#1 (5 disks)

\$ 34.95

ea. unit of 2 tapes

\$ 39.95

ea. unit of 1 disk

CP/DK-20110 HOMONYMS

CP/DK-20112 SYN & ANT

CP/DK-20114 CONTRACTIONS

\$ 85.00

CP-ENG#2 (6 tapes)

\$ 99.95

DK-ENG#2 (3 disks)

\$ 34.95

ea. unit of 2 tapes

\$ 39.95

ea. unit of 1 disk

ABC'S

The two options in this program provide practice in supplying the missing letter in a sequence of consecutive letters or matching upper case letters to the displayed lower case letters. A tutorial format with several levels of help is used.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH107

ALPHABETIZE

Choose among three levels of difficulty for practice in alphabetizing word lists. Level 1: Recognize a sorted list. Level 2: Sort with first letter different. Level 3: Sort with some first letters alike. Tutorial help provided at each level and summary at conclusion of lesson.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH108

VERBAL SKILLS & SOCIAL STUDIES



DICTIONARY USE

The program will adjust to 4 levels of difficulty according to student proficiency. The student may begin at any level and exit with a summary at any time. Tutorial help provided.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH109

BOOKSHELF

Three levels of difficulty in correctly shelving library books. Tutorial help provided. Summary given at end for each lesson.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

JMH Software of Minnesota Inc. \$9.95

JMH110

CALENDAR

Three levels of difficulty in learning calendar skills (days of the week and months of the year). Level 1 concentrates on correct spelling. Level 2 requires multiple choice answers. At level 3, the student fills in the blank. Tutorial help is provided and a progress report is given at the end of the lesson.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH111

SPELL

The 100 most commonly misspelled words at the elementary level are grouped into 10 groups. After you choose a group, the computer randomly selects a word, and displays it for a short period of time before the student is required to spell it correctly. A summary is provided at the completion of each group of words.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH116



VERBAL SKILLS & SOCIAL STUDIES

TICTACTOE SPELL

The 100 most commonly misspelled words at the elementary level are grouped into 10 groups. The computer generates spelling practice in a tic tac toe game format. The program requires two students to interact at the computer.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH117

SCRAMBLE SPELL

The 100 most commonly misspelled words at the elementary level are grouped into 10 groups. After you choose a group, the computer requires that the student unscramble the word before it reaches the bottom of the screen. Practice for one or two students.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH118

SCRAMBLE LETTERS

The 100 most commonly misspelled words at the elementary level are grouped into 10 groups. After you choose a group, a word with the letters scrambled is shown and help is given until the word is unscrambled. Practice for one or two students.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH119

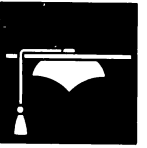
ROCKET SPELL

The 100 most commonly misspelled words at the elementary level are grouped into 10 groups. After selecting a group, the student attempts to uncover the letters of a hidden word. If the word is spelled correctly with fewer than 8 incorrect guesses, a rocket ship is built and then launched.

HARDWARE REQUIREMENTS: 16K CBM (any ROM). Also on disk.

J M H Software of Minnesota Inc. \$9.95

JMH120

**THE STATES GAME**

This land is yours—Blueberries in Maine, cranberries in Massachusetts, peaches in Georgia, tacos in Texas. Each of our fifty states has its own personality, history and mystique. In these five different Brain Box games, 1 to 4 players can learn hard facts as they guess the states from descriptive clues. Grades 4 and up.

HARDWARE REQUIREMENTS: 16K CPU. Specify disk or tape when ordering.

Brain Box

\$50.00

BASIC SKILLS PRACTICES

Reading is rewarding. Reading is for reasoning, researching and relaxing. Reading can be all this, and more—but only if you know how! The first “R” is revitalized with Brain Box Computer Tutor Programs. Animated graphics, informative stories and guided questions provide practice. Grades 5 and up. These four basic reading skills can be developed with any or all of the many clever basic skills practice programs in this unit.

Practices:

(A) A bicycle trip, Fish for the Queen, Rent a cow, Asparagus, and People bites.

(B) A fisherman’s catch, Dieting, Toadstools, prehistoric life, and the face of the moon.

(C) Tiny nibbling rabbits, Sleep without snoring, A pretty fancy fur, An insect sense, and a lost ocean liner.

(D) A most popular pet, A little glitter, The old globe, The longest day, and right things.

HARDWARE REQUIREMENTS: 16K CPU. Specify disk or tape when ordering.

Brain Box

\$50.00

**AMERICAN HISTORY: THE DECADES
GAME-SERIES**

An historical dating game. Those who don’t know when the War of 1812 took place can become history buffs. Players learn historical data as they determine the dates of events in America’s politics, economics, technology, science and art. There are five different games in each series. For 1 to 4 players. Grades 9 and up.
Series



VERBAL SKILLS & SOCIAL STUDIES

- (1) Games 1 through 5
- (2) Games 6 through 10
- (3) Games 11 through 15

HARDWARE REQUIREMENTS: 16K CPU. Specify disk or tape when ordering.

Brain Box **\$50.00 ea.**

A & AN

A sentence with a blank before a noun is presented. "A" or "AN" goes on the blank. The FONZ rewards a correct answer. After two mistakes, the student is given the rule for correct use. Grades 4-7.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0 or 4.0 ROMs, 2040 and 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	10A
	\$14.00 set	(10A & B)

PARTS OF SPEECH

A table of parts of speech is shown, followed by a word. What part of speech is the word? After two incorrect tries, examples appear in the table, and after a third attempt, the answer is given to enter. Grades 5-8.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040 and 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	10B
	\$14.00 set	(10A & B)

CAPITALS

One word in a sentence is lit up. Should it be capitalized? The first word and two others may need capitalization. Reviews capitalization rules after a second mistake. Sentences are easy to change. Grades 3-7.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040 and 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	11A
	\$14.00 set	(11A & B)



COMMAS

One word in a sentence is lit up. Should a comma follow that word? There may be 1 or 2 commas in the sentence given. Rules are reviewed after a second attempt; score is kept for 1 to 4 students. Grades 3-7.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040, and 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	11B
	\$14.00 set	(11A & B)

NOUNS

A sentence is presented. Press the space bar until the lit-up word is a noun. Then press return. Illustrated helps are given after a second try. One or 2 words in a sentence may be nouns; sentences are easy to change. One to 4 users. Grades 2-5

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040 and 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	12A
	\$14.00 set	(12A & B)

VERBS

Find the verb; similar to NOUNS.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040 and 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	12B
	\$14.00 set	(12A & B)

ADJECTIVES

A sentence is presented. Type in the adjective. After a second try, hints are given. After a third try, the student is given the word to type in. Scoring for 1 to 4 users. Sentences are easy to change. Grades 4-8.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040 and 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	13A
	\$14.00 set	(13A & B)



VERBAL SKILLS & SOCIAL STUDIES

ADVERBS

One word in a sentence is lit up. Is it an adverb? Some clues to adverbs are presented after a second try. Score is kept. Sentences are easy to change, and can contain only one adverb. Grades 4-8.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040 and 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	13B
	\$14.00 set	(13A & B)

PRONOUNS

A sentence is presented. Type in the pronoun. After a second try, hints on recognizing pronouns are given. After a third try, the student is given the pronoun to type in. 1-4 users. Sentences are easily changed. Grades 4-8.

HARDWARE REQUIREMENTS: 8K, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040 and 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	14A
	\$14.00 set	(14A & B)

SPELLING BEE

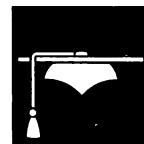
A word is flashed on the screen, and you are to type it. You set the length of time the word is on the screen. There are provisions to create and use tape files of words, or words in data statements can be used. Extensive instructions are supplied. Grades 2-adult.

HARDWARE REQUIREMENTS: 8K CPU, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040 and 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	42A
	\$14.00 set	(42A & B)

SYNONYMS

The computer randomly chooses a word out of a list of 7 similar words. Can you enter a synonym of the chosen word? The computer will give you a



synonym if you type "help." Accompanying instructions tell how to enter new synonym lists. Grade 4.

HARDWARE REQUIREMENTS: 8K CPU, 2000 or 4000 Series CBM, 2.0, 3.0, or 4.0 ROMs, 2040 and 4040 Disk Drive, or C2N Cassette.

Teachers Pet Software	\$ 7.95	42B
	\$14.00 set	(42A & B)

READING PROGRAM FOR PET MICROCOMPUTERS

This series was developed by the Reading Teachers of the Hempstead Public Schools. It is a disk-based learning system of 104 lessons. Most are cloze-style reading passages with choices for the appropriate responses, and with error explanations. Grades 3-6.

HARDWARE REQUIREMENTS: 16K PET with disk drive.

American Peripherals	\$995.00 pkg.
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PHONOGRAMS

Practice in completing the list of words ending in the same letter, by adding one or two letters. The program is for one or two students and can be used with or without sound. Help is given and the amount of time is recorded. A summary is also provided. Primary, Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputer in Education	\$9.95 tapes	CC79
	\$7.50 disk (min. of 5 programs)	

MALA

Microcomputer Assisted Learning Aids is a subscription of educational programs on cassette. There are four programs per month for a period of eight months (Sept. through May, excluding December). These programs are geared for K-6.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.	\$48.00/year	CDE000
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VERBAL SKILLS & SOCIAL STUDIES

TIC-TAC STATES

This is a capitals program with a different twist. It divides the United States into seven sections for easier comprehension. When a section is selected, the student is given the choice of three cities. The three cities that are displayed are all from the state in question. Grades 3-6.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.	\$4.95	CDE011
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MISSPELL

This program is designed to help students with spelling errors while reading an enjoyable story. The errors created are randomly generated and will not necessarily be the same each time it is run.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.	\$4.95	CDE018
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ENGLISH

Silly sentences are compiled by the computer and the students asked to pick up a particular part of speech (noun, verb, adverb, adjective). If a wrong answer is given, the computer will give the student the definition and a second chance.

HARDWARE REQUIREMENTS: Any PET, and C2N.

Comm*Data Systems Inc.	\$4.95	CDE005
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CLOCK

The student must determine what time is shown on the clock. Two levels are available in the program. Level one is hours and half hours. Level two is hours, quarter, and half hours. This program can be used with or without sound. Primary.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC67
	\$7.50 disk (min. of 5 programs)	

**NOTES-TREBLE**

This program provides instruction and practice of notes on the treble clef. The program provides help for incorrect answers. Graphics are used. At the end of the ten problems, a summary is given. This program can be used with or without sound. Primary, Intermediate, Junior.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs).

Microcomputers in Education	\$9.95 tape	CC67
	\$7.50 disk (min. of 5 programs)	

EDUCATIONAL PACKAGE

Thirty Separate programs—directed toward the pre-school and elementary level.

Topics:

Pattern recognition—shapes, capital and small letters, numbers, simple words, simple addition and subtraction with 39 light pen.

Programs for grades 2—5: math, capitals, solar system, flash cards, long division tutorial, word and spelling bee.

HARDWARE REQUIREMENTS: 3G Light Pen (optional).

Logic Design. Inc.	\$250.00 (19.95 ea)
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STEP BY STEP

Thirty-two programs and a 64-page workbook teaches programming in BASIC for the beginner. Introduces all important BASIC commands and programming logic, including simple string logic and one-dimensional arrays. Lessons are interactive, and are presented in a question and answer format on the computer screen. The workbook adds extra information. Through instruction, structured practice and frequent skills testing, the user learns how to write BASIC programs.

HARDWARE REQUIREMENTS: Contact dealer.

Program Design, Inc.	\$49.95
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VERBAL SKILLS & SOCIAL STUDIES

LATITUDE/LONGITUDE

The program provides practice in determining latitude and longitude on a grid. Help is given for incorrect answers. The student is locked into the program until ten problems have been completed. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs)

Microcomputers in Education	\$9.95 tape	CC65
	\$7.50 disk (min. of 5 programs)	

MINNESOTA MAP

The program asks the player to determine the locations of certain American cities and states, Canadian provinces, or bodies of waters, on a given map simulation of Minnesota and surrounding regions. Tutorial levels of help are given after incorrect input. Incorrect answers are eliminated from choices on question repeats. A summary follows a ten problem run. Intermediate.

HARDWARE REQUIREMENTS: 8K PET (old and new ROMs)

Microcomputers in Education	\$9.95 tape	CC75
	\$7.50 disk (min. of 5 programs)	

EUROPE-CAPITALS

The program develops skill in matching European countries and capitals. There is a choice of filling in the answers or multiple choice. There is a choice of answering with countries or capitals. A summary is given at the end of the program. The student is locked into the program. Intermediate, Junior, Senior.

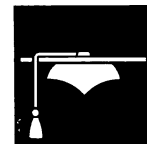
HARDWARE REQUIREMENTS: 8K PET (old and new ROMs)

Microcomputers in Education	\$9.95 tape	CC76
	\$7.50 disk (min. of 5 programs)	

C—V—C (CONSONANT—VOWEL—CONSONANT)

For elementary school reading classes. Excellent use of graphics. Seven steps are shown on the screen. At the bottom of each step is a square, a vowel, and a consonant. The learner types in the beginning consonant in order to make a

VERBAL SKILLS & SOCIAL STUDIES



word. If the word is correct, a happy face is flashed on the screen and the learner moves up one step to the next word. An incorrect answer causes a sad face to be flashed on the screen and the learner tries again until a correct answer is given. When the learner gets to the top step, a huge happy face fills the screen. The learner may then continue with a new set of steps. Elementary.

HARDWARE REQUIREMENTS: 16K PET.

Microcomputer Workshops **\$20.00**

STATES OF THE UNITED STATES

This program provides basic, background information on the United States. How many states exist, how many we started with, largest, smallest, states famous for certain famous things, and more. Series of matching questions creates a game the student enjoys playing and is challenging enough to make student want to "keep trying" until he/she gets all the correct answers. Grade 5.

HARDWARE REQUIREMENTS: 8K PET, any ROM.

Right On Programs **\$10.00 + \$1.50 per order** **E22**

EARLY CIVILIZATION

The student is introduced to basic concepts in the early Greek and Roman civilization. Famous names and faces are given with information about each.

HARDWARE REQUIREMENTS: 8K PET, any ROM.

Right On Programs **\$10.00 + \$1.50 per order** **E22**

COMMUNICATIONS

From the simplest beat of the tom-tom to the most sophisticated laser beam communications system, the student is taken on a trip through time. Basic facts about communication, how it is used, its importance, and how its speed has changed our lives are covered. Grade 6.

HARDWARE REQUIREMENTS: 8K PET (any ROM).

Right On Programs **\$10.00 + \$1.50 per order** **E28**



VERBAL SKILLS & SOCIAL STUDIES

ALPHABET

This program is designed to aid the pre-reader in learning the alphabet. The program can be set to show the letters with a prompt letter, or to allow the more able student to find the next letter on his own. You will be able to select either capital or lower case, amount of time allowable, and number of times the child will go through the alphabet. Performance summarized. Grades K-1.

HARDWARE REQUIREMENTS: Any PET and C2N.

Comm*Data Systems Inc.

\$4.95

CDE012

AIRPORT

This program is designed to simulate the Air Canada Terminal booking system to familiarize Travel Counselling students with the procedures involved in computerized flight booking/confirmation. Community college or university level teaching Travel Counselling. Reference Guide provided.

HARDWARE REQUIREMENTS: 16K PET and 2040 Disk Drive.

Sheridan College

\$150.00 + shipping

VENDORS

VERBAL SKILLS & SOCIAL STUDIES

AB Computers
252 Bethlehem Pike
Colmar, PA 18915
(215) 822-7727

Abacus Software
PO Box 7211
Grand Rapids, MI 49510
(616) 241-5510

Access
PO Box 8726
West Covind, CA 91790-0726

Applications Research Co.
13460 Robleda Rd.
Los Altos Hills, CA 94022
(415) 941-3589

Automated Simulations
1988 Leghorn
Mountain View, CA 94043
(415) 946-8021

Marion Beaver
Rt. 2 Box 2419
Grandview, WA 98930

Bits & Bytes
Fenner Block, 33 Church St.
Fredonia, NY 14063
(716) 673-1515

BPI Systems Inc.
1600 West 38th #444
Austin, TX 78731
(512) 454-2801

Brain Box
601 West 26 St.
New York, NY 10001
(212) 989-3537

Briley Software
PO Box 2913
Livermore, CA 94550
(415) 455-9139

Business Enhancement
Compuservice
1711 East Valley Parkway #109
Escondido, CA 92027
(714) 741-6335

Dr. William Butler
University of Michigan
Dept. of Chemistry
Ann Arbor, MI 48109
(313) 763-2009

"Byte Me" Computer Shoppe
327 Captain's Walk
New London, CT 06320
(203) 444-1188

Canadian Micro Distributors Ltd.
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INDEX

Index entries printed in bold face type indicate that they are programs which are either Commodore products or Commodore Approved products.

INDEX

A & AN—384
 ABC'S—380
 ACCELERATION DUE TO GRAVITY—285
 ACCOUNTING—29
 ACCOUNTING III AND IV—BEC—35
 ACCOUNTING ASSISTANT—80
 ACCOUNTS—22
 ACCOUNTS PAYABLE—25 CMSS
 ACCOUNTS PAYABLE—24 CS
 ACCOUNTS RECEIVABLE AND INVENTORY SYSTEM—19 EBS
 ACCOUNTS RECEIVABLE—25 CMSS
 ACCOUNTS RECEIVABLE—20 CS
 ACCOUNTS RECEIVABLE—24 CS
 ACID BASE CHEMISTRY—304
 ACIDS AND BASES, DENSITY, ORGANIC ID, THERMOCHEMISTRY—242
 ADD—44
 ADDITION FACTS 0-20—231
 ADDITION FACTS 0-5—228
 ADD FRACTION 1—296
 ADD FRACTION 2—297
 ADD FRACTION 3—297
 ADD FRACTION 4—297
 ADDING BLOCKS—282
 ADDING OR SUBTRACTING TWO AND THREE PLACE NUMBERS IN COLUMNS—246
 ADDING WITH OBJECTS—247
 ADDITION AND SUBTRACTION PROGRAMS—251
 ADDITION FACTS 0-10—230
 ADDITION TABLE—283
 ADDITION WITH CARRY—307 MW
 ADDITION WITH CARRY—252 ME
 ADJECTIVE, THE—355
 ADJECTIVES—385 MIE
 ADMINISTRATIVE PACKAGE—209
 ADVERB, THE—356
 ADVERBS—386
 AGREEMENT OF SUBJECT AND VERB—356
 AGRICULTURE—311
 AIRPORT—392
 ALGEBRA—229
 ALIEN I.Q./TANK—110
 ALIEN RAIDERS—137
 ALPHABET—340 MIE
 ALPHABET—339 CD
 ALPHABET—392
 ALPHABETIZE—380
 ALPHABETIZING—365
 ANAGRAM—367
 ANALOGIES—341
 ANALOG INPUT MODULE—165
 ANATOMY OF A REACTOR—220
 ANIMATED REACTOR—220
 ANNUAL REPORT ANALYZER—80
 ANSWER BOX—22
 ANTONYM MACHINE—356
 AP/AR, JOB COST & ESTIMATING—28
 APOSTROPHE, THE—356
 ARCADE I—98
 ARCADE II—98
 ARCHIVE BOWL—86
 AREA AND PERIMETER—250
 ARITHMETIC—282
 ASERT—27
 ASSEMBLER DEVELOPMENT PACKAGE—53
 ATOM, THE—292
 ATOMIC STRUCTURE—304
 ATOMS—250
 ATTENDANCE REPORT—178
 ATTENDANCE SYSTEM—212
 AUDIO VIDEO ADAPTER—173
 AUTO-BOOT—157
 AVERAGE SPEED—285
 AVERAGE VELOCITY—286
 AVIATION SCIENCE, HIGH SCHOOL—316

BACKGAMMON—118
 BAR CODE READER—198
 BAR GRAPH—252 ME
 BAR GRAPH—216 SC
 BASEBALL—223 MIE
 BASEBALL—112 USA
 BASEBALL MANAGER—99
 BASIC FIRST AID—236
 BASIC HANDBOOK, THE—148
 BASIC IN A NUTSHELL—314
 BASIC MATH COMPETENCY SKILL DRILLS—300
 BASIC SCIENTIFIC SUBROUTINES—327
 BASIC SKILLS PRACTICES—383
 BASIC UTILITIES—156
 BATTER UP!!—117
 BATTLE TREK—115
 BATTLESHIP—106
 BE YOUR OWN ASTROLOGER—83
 BEAMS—73
 BEYOND GAMES—150
 BIG MEM—163
 BILLBOARD—32
 BILLING MANAGER—30
 BINGO—113
 BINGO—281
 BIOLOGY 1—236
 BIOLOGY 2—237
 BIOLOGY LESSONS, HIGH SCHOOL—315
 BLACKJACK—136
 BOLT CIRCLE—73
 BOMBS AWAY—137
 BOOK SHELF—366
 BOOKS ON THE SHELF, LEARNING TO LOCATE—330
 BOOKSHELF—381
 BOUNCE—107
 BOUNCEOUT—95
 BREAKOUT—136
 BRIDGE 2.0—119
 BUSINESS CORNER—37
 BUSINESS PACKAGE—294
 BUSINESS PACKAGE II—294
 BUSINESS RESEARCHER—20
 CALENDAR—366 MIE
 CALENDAR—381 JMH
 CALENDAR—23 TIS
 CALORIMETRY—256
 CALORIMETRY ANALYSIS—268
 CALCULUS PROGRAMS, INTRODUCTORY—280
 CAPITALIZATION SERIES—373
 CAPITALS—384
 CAPTURE—139
 CARD CATALOG, LEARNING TO UNDERSTAND—330
 CAREER SKILLS—213
 CAREERS—366
 CASHBOOK—186
 CASINO 1—97
 CASINO 2—97
 CATALOGUE—88
 CATALOG CARDS, LEARNING ABOUT—329
 CATCH THE RHYMIN FISH—343
 CATERPILLAR 500—244
 CBM FLOPPY DISK MANUAL—145
 CBM PRINTER MANUAL 4022—145
 CBM USER GUIDE—145
 CE-1000—28
 CENTRIPETAL FORCE—269
 CHANGE—313
 CHECKBOOK—79 USA
 CHECKBOOK—81 TIS
 CHECKER KING™—94
 CHEMICAL EQUILIBRIUM—306
 CHEMICAL NOMENCLATURE SERIES—260
 CHEMIST—313
 CHEMISTRY ANALYSIS I—269
 CHEMISTRY ANALYSIS II—269

CHEMISTRY LABORATORY SIMULATIONS—284
 CHEMISTRY LESSONS, HIGH SCHOOL—314
 CHEMISTRY WITH A COMPUTER—305
 CHEMISTRY WITH A COMPUTER—306
 CHEQUE CHECK—88
 CHIEF—313
 CHIMERA—99
 CHOMP—312
 CHROMADAPTOR—200
 CLASS MANAGER—218
 CLASS MARK TRACKING—215
 CLASS ROLL MANAGEMENT—176
 CLASSIFIER, THE—217
 CLASSLIST—174
 CLASSROOM MANAGEMENT—209
 CLOCK—388 MIE
 CLOCK—252 ME
 CMC WORD PROCESSING—48
 CMD "DOUBLE-MUPET" MODULE—181
 CMD "MUPET" MULTIUSER DISK SYSTEM—181
 CODE BREAKER—342
 CODE NAME CIPHER—98
 COEXIST—283
 COLUMN ADD—301
 COMACCOUNTS—MICRO 30/40, 80—195
 COMBIS—196
 COMINV—196
 COMMAND O—158
 COMMAS—385
 COMMODORE CLUB NEWS—152
 COMMODORE, THE MICROCOMPUTER MAGAZINE—149
 COMMON DENOMINATOR—296
 COMMUNICATIONS—321
 COMMUNICATIONS—391
 COMPARE FRACTIONS—232
 COMPARISON SHOPPING—176
 COMPEC COSTING—185
 COMPETE—283
 COMPILER, INTEGER BASIC—53
 COMPOSE—174
 COMPOUND WORDS—360
 COMPUTER DERBY—106
 COMPUTER GAMES—147
 COMPUTER SCIENCE SERIES—317
 COMPUTOR TUTOR, THE—147
 COMSTOCK—197
 CONSTELLATIONS—177
 CONSTELLATIONS—251
 CONTRACTIONS—360
 COORDINATE—308 MW
 COORDINATE—246 ME
 COUNT 'EM—253
 COUNT 'EM—131
 COUNT MULTIPLES—300
 COUNTING—302
 COUNTING 1—226
 COUNTING TENS—226
 CREAM COMPUTER SHOP—191
 CREATE-A-BASE—32
 CROSSBOW—118
 CRYPTO—367 M
 CRYPTO—379 EA
 CURSOR MAGAZINE—104
 C-V-C (CONSONANT-VOWEL -CONSONANT)—390
 CYBER FARMER—26
 DATA ANALYSIS SERIES (3 PROGRAMS)—286
 DATA MANAGEMENT SYSTEM—191
 DATA SMOOTHER—324
 DATESTONES OF RYN—102
 DECADES GAME: AMERICAN HISTORY, SERIES—383
 DECADES GAME: AMERICAN HISTORY, SERIES ONE—108
 DECIMAL %—309

- DECIMAL + & -—310
- DECIMAL EQUIVALENTS OF FRACTIONS—265
- DECIMAL X—309
- DECIMALS—249
- DECIMALS ON THE COMPUTER, INTRODUCTION—298
- DECORATOR'S ASSISTANT—79
- DELUXE ADDRESSER—85
- DESCRIPTIVE STATISTICS—239
- DICTIONARY—330
- DICTIONARY GUIDE WORDS—351
- DICTIONARY USE—381
- DIGIT MULTIPLICATION, 123—307 MW
- DIGIT MULTIPLICATION, 1-2-3—254 ME
- DIGITAL CLOCK—88
- DIGITAL FILTER—326
- DIGITAL HARMONY—150
- DINNERS ON!—86
- DIRECTION AND DISTANCE—353
- DISASSEMBLER AND PEEK A BOO, 6502—60
- DISASTER AT THREE MILE ISLAND—220
- DISK LIBRARIAN—62
- DISK-O-PRO—158
- DIVISION DRILL—309
- DIVISION FACTS 0-25—229
- DIVISION FACTS 0-81—231
- DIVISIONAL BUDGET—215
- DOCU-PRINT—56
- DOW JONES PORTFOLIO MANAGEMENT SYSTEM—17
- DRAGON'S EYE—103
- DRAGSTRIP MATH—223
- DRAW POKER—127
- DRILL—250
- DROPPING THE FINAL E—357
- EARL FOR PET—64
- EARLY CIVILIZATION—391
- EARTH AND ITS COMPOSITION—318
- EASYFILE 2—179
- ECHO—116
- ECOLOGICAL MODELING—287
- ECOLOGY 1—237
- EDUCATIONAL PACKAGE—389
- EDUCATIONAL PACKAGE II—242
- ELECTRIC BILL—82
- ELECTRIC FIELD ANALYSIS—270
- ELECTRONIC BALANCE INTERFACE—202
- ELECTRONIC CALCULATIONS—74
- ELEMENTARY I—338
- ELEMENTARY II—339
- ELEMENTARY MATH PACKAGE I—293
- ELEMENTARY MATH PACKAGE II—294
- EMF OF ELECTROCHEMICAL CELLS—270
- END IT—331
- END PUNCTUATION—357
- ENGLISH—388
- ENGLISH BASICS—379
- ENROLLMENT—218
- ENZKIN—288
- EPROM PROCESSING SYSTEM—168
- ETCH A PET—211
- EUROPE CAPITALS—390
- EVOLUT—284
- EXTRA PRACTICE SPELLING—135
- EXTRA SPELLING PRACTICE—361
- FABULOUS L-C-M MACHINE AND GENEROUS JACKPOT MINE—271
- FARADAY'S LAW—270
- FARMER'S WORKBOOK—26
- FARROW FILER—26
- FAT CHANCE—244
- FILE—84
- FILEPROG—193
- FINANCE—79
- FINANCE CALC—33
- FIND THE FACTORS—312
- FINDING A PERCENT AS A NUMBER—299
- FLASH SPELL-HELICOPTER—368
- FLASH SPELLING—379
- FLEX FILE—36
- FLIGHT SIMULATOR—120
- FOOTBALL—104
- FOREIGN LANGUAGE ROM—159
- FORMULAS OF COMPOUNDS DRILL—270
- FORTH FOR PET—65
- FORTH +—63
- FOUR VOICE MUSIC SOFTWARE, SIMPLE—68
- FOURIER ANALYZER—325
- FRACTION + & -—310
- FRACTION CONCEPT—236
- FRACTION EQUIVALENT—233
- FRACTION EQUIVALENT 2—296
- FRACTION SYMBOLS 1—256
- FRACTION SYMBOLS 2—296
- FRACTION X—310
- FRACTIONS 1—227
- FRACTIONS 2—227
- FRACTIONS AS A PERCENT—299
- FRENCH—332
- FRENCH ANTONYMS—370
- FUNDAMENTAL SKILLS FOR GENERAL CHEMISTRY—305
- FUR TRAPPER—114
- GALAXY ONE—93
- GAMES PACK I—121
- GAMES PACK II—121
- GAMES PACKAGE—115
- GAMES PACKAGE—295
- GAMMON GAMBLER™—94
- GAS LAW ANALYSIS—271
- GAS LAWS AND KINETIC MOLECULAR THEORY—261
- GASOLINE STATIONS ACCOUNT—192
- GENERAL ACCOUNTING SYSTEM—28
- GENERAL GAS LAW—271
- GENERAL LEDGER—19 BPI
- GENERAL LEDGER—21 CS
- GENERAL LEDGER—23 CS
- GENERAL LEDGER—25 CMSS
- GENETICS—235 MW
- GENETICS—293 ME
- GEOMETRIC FIGURE—319
- GERMAN—375
- GERMAN NOUNS—368
- GERMAN NOUNS 2—369
- GERMAN NOUNS 3—369
- GOLD—194
- GOLF—339
- GRADE AVERAGE—217
- GRADE STORAGE DISKETTE—217
- GRADES—217
- GRAM-MOLECULAR MASS—271
- GRAMMAR: NOUNS-SERIES ONE—338
- GREAT TIMES HOTEL—266
- GREATER THAN/LESS THAN—264
- GROCERY MART—85
- GUESS THAT WORD—374
- GUEST BILLING SYSTEM—187
- GUEST REGISTER—211
- GUESTIMATOR—267
- GUESTIMATOR B—268
- GUZINTA HOTEL—266
- HABER—284
- HAIKU—357
- HANDS ON BASIC WITH A PET—150
- HANGMAN 100—364
- HARD AND SOFT C—343
- HARD AND SOFT G—344
- HARMONIC ANALYZER—324
- HAT IN THE RING—354
- HAUNTED HOUSE—121
- HAY SALARY CALCULATION—216
- HEADMASTER—213
- HEARTS 1.5—119
- HEATS OF FUSION/VAPORIZATION—274
- HELLFIRE WARRIOR—102
- HEXDEC—58
- HIGH RESOLUTION COLOR PRINTER—199
- HIGH SCHOOL SAMPLER—376
- HIGH SEAS—114
- HIGHER, SAME, LOWER—353
- HISTORY AND GEOGRAPHY PACKAGE—377
- HOME ADDRESSER—84
- HOME CALCULATION 6 PACK A—129
- HOME FINANCE—138
- HOME INVENTORY (2 programs on 1 cassette)—140
- HOME UTILITIES—82
- HOMONYM MACHINE—344
- HOMOPHONES—381
- HORSE / DIVISION—251
- HORSERACE—105
- HOTEL GB2—187
- HOTEL RESERVATION TRACKING SYSTEM, HRTS—179
- HOTEL SF—188
- HOUSEHOLD FINANCE PACKAGE (4 programs on 2 cassettes)—141
- HOW TO PROGRAM IN THE BASIC LANGUAGE—208
- HUMAN BODY, THE—237
- IDENTIFYING COMPLETE SENTENCES—132
- IDENTIFYING COMPLETE SENTENCES—344
- IEEE-488 COMPATIBLE 16 CHANNEL RELAY UNIT—203
- IEEE-488 COMPATIBLE 8 CHANNEL 8 BIT DIGITAL-TO-ANALOG CONVERTER UNIT—203
- IEEE-488 COMPATIBLE 16-CHANNEL RELAY UNIT—203
- IEEE-488 COMPATIBLE 16 CHANNEL 8 BIT ANALOG TO DIGITAL CONVERTOR UNIT—203
- IEEE-488 INTERFACE FOR X-Y PLOTTER—202
- INDEX, LEARNING TO USE AN—330
- INELASTIC COLLISIONS—275
- INEQUALITIES—232
- INFO-2001 ACCOUNTS PAYABLE SYSTEM—391D
- INFO-2001 ACCOUNTS RECEIVABLE BILLING SYSTEM—391D
- INFO-2001 GENERAL LEDGER SYSTEM—391D
- INFO-2001 INVENTORY MANAGEMENT SYSTEM—38
- INFO-2001 ORDER ENTRY SYSTEM—38
- INFO-2001 TIME MANAGEMENT/CLIENT BILLING SYSTEM—40
- INFORMATION RETRIEVAL & MANAGEMENT AID (IRMA)—18
- INSECTS—319
- INSPECTION DRILL—176
- INSTRUMENT MUSIC SOFTWARE—68
- INSTRUMENT MUSIC SONG PACK IK-1003-1D—118
- INTEGRATED VISIBLE MEMORY BOARD—164
- INTERP—288
- INVASION ORION—101
- INVENTORY—177 C
- INVENTORY—29 CH
- INVENTORY—21 CS
- INVENTORY—85 BS
- INVENTORY—24 CS
- INVENTORY CONTROL PACKAGE—23
- ISAM—59
- IST SIND—365
- ITEM—189
- ITS / IT'S-YOUR / YOU'RE—344

INDEX

JINSAM DATA MANAGER—22
JINSAM NEWSLETTER—147
JUKEBOX SERIES—104
JURY/HOSTAGE—110

KC NETKIT—199
KENTUCKY DERBY/ROULETTE—110
KEYWORD GRAPHICS—69
KMMM PASCAL FOR PET—54
KNITTING DIRECTIONS—83
KOPYKAT—106
KRAM & SUPERKRAM—30

LARGE KEYBOARD—201
LASER TANK BATTLE—112
LAST OF THE NINTH—245
LATITUDE/LONGITUDE—390
LAY/LIE—345
LEAGUE BOWL 24—86
LEGAL ACCOUNTING—30
LEGAL ACCOUNTING DEMO—30
LEMONADE—365
LETTERS & NUMBERS PROGRAM—251
LIBRARY OF PET SUBROUTINES, THE—146
LIBRARY TERM—352
LIFE—108
LIGHT BULBS 1—223
LIGHT PEN, 3G—170
LIGHT PEN ALPHATRONIC, THE—204
LIMITS—376
LINE & VARIABLE CROSS-REFERENCE GENERATOR—59
LINEAR AIR TRACK—MOMENTUM IN ELASTIC COLLISIONS—289
LINEAR KINEMATICS—272
LINKOVER—287
LIST MANAGER—63
LOCOMOTIVE—263
LOGIC GAMES PACKAGE (2 programs on 1 cassette)—140
LONGITUDINAL WAVE DEMONSTRATOR—260
LONG DIVISION—308 MW
LONG DIVISION—264 ME
LONG MULTIPLY—232
LONGITUDINAL STANDING WAVES—272
LTA LEGAL TIME ACCOUNTING—18
LUNAR LANDER—135

MACHINE LANGUAGE CONCEPTS, 6502—241
MACHINE LANGUAGE UTILITY PAC—156
MACHINE LANGUAGE UTILITY PACK—60
MACHINE PART QUOTING (8 machines)—74
MAD LIBS—106
MAGIS (Retail/Wholesale Firms) 5th Generation—34
MAGIS (Service) 5th Generation—33
MAIL LIST—81 PSSH
MAIL ORDER CONTROL—185
MAILB MAILING LIST PROGRAM—87
MAILING LIST—29 CH
MAILING LIST—81 CMSS
MAILING LIST—87 OD
MAILING LIST/TELEPHONE DIRECTORY—212
MAKE A SENTENCE—351
MAKING AN OUTLINE—352
MALA—387
MANAGER, THE—37
MANSION!—113
MAP DIRECTIONS 1—359
MAP DIRECTIONS 2—359
MAPS AND GLOBES—358
MARINE BIOLOGY, HIGH SCHOOL—317
MARK SENSE CARD READER—198
MARKS—175
MASTER MAIL 2.0—178
MATCH GAME PROGRAM—351
MATCHING CAPITAL LETTERS—131

MATCHING CAPITAL LETTERS 1—345
MATCHING CAPITAL LETTERS 2—345
MATCHING RHYTHMS—353
MATCHING SMALL WITH CAPITAL LETTERS—132
MATCHING WORDS 1—346
MATCHING WORDS 2—346
MATH BID—131
MATH BID—253
MATH-CALC—84
MATH DIVING—301
MATH DRILL—222 MIE
MATH DRILL—236 B&B
MATH FACTS—302
MATH GOLF—268
MATH ROM—159
MATH SAFARI—265
MATH SEQUENCE—253
MATH SHOOTOUT—253
MATH SPIN—266
MATH SPORTS PACKAGE—246
MATH SWIM—226
MATH TUTOR—230
MATHEMATICS ON THE COMPUTER, INTRODUCTION—298
MATHEMATICS FOR SCIENCE SERIES, SERIES 1: MEASUREMENT—260
MATHEMATICS FOR SCIENCE SERIES, SERIES 2: BASIC MATH TECHNIQUES—260
MATHEMATICS FOR SCIENCE SERIES, SERIES 3: EXPONENTIAL NOTATION—261
MATHEMATICS FOR SCIENCE SERIES, SERIES 4: MISCELLANEOUS—262
MATHEMATICS 1—237
MATHMADNESS—174
MATHRACE—175
MATRIX ALGEBRA—288
MAX—105
MAXI CALC—33
MCTERM—67
MEDAL WINNER—265
MECHANICS DRILL PACKAGE, INTRODUCTORY—289
MEDICAL TECHNOLOGY, HIGH SCHOOL—316
MEM EXPLORER—62
MEMORY BUILDER—342
MESSAGE LABELS—213
METRIC-CALC—75
MICRO CHESS™—94
MICRO PROCESSOR ISOLATION—169
MICRO TEXT EDITOR—58
MICROCLERK—186
MICROCOMPUTER PRINTOUT—152
MICROMATH—239
MICROMATH (Geometry)—239
MICROSCOPE DOCUMENTATION—281
MIDNIGHT DRIVE—127
MIDWAY—111
MIKRO—158
MILLIKEN'S EXPERIMENT—289
MIMIC—100
MINI-COUNT—74
MINNESOTA MAP—390
MIRRORS AND LENSES—272
MISPLACED OR DANGLING MODIFIERS—346
MISSING MATH FACTS—299
MISSPELL—388
MODEM-WARE I, II, III and IV—66
MOLARITY CONCEPT, THE—273
MOLE CONCEPT, THE—273
MOMENTUM AND ENERGY—273
MONADAPTOR—200
MONEY—319
MONITOR—189
MORE ALGEBRA—286
MORLOC'S TOWER—102
MORSE CODE KEYS—82

MORTAR—107
MORTGAGE—80
MORTGAGE/FINANCIER—80
MOS HARDWARE MANUAL—145
MOS PROGRAMMING MANUAL—146
MOUSE MAZE—117
MULTILINEAR REGRESSION—323
MULTIPLICATION AND DIVISION—319
MULTIPLICATION FACTS 0-100—231
MULTIPLICATION TABLE—252
MULTIPLY—248
MULTIPLICATION FACTS 0-25—228
MUSCULAR SYSTEM, THE—234
MUSEUM!—114
MUSIC BOARD—165

N-V PATTERNS—371
NAMING COMPOUNDS DRILL—274
NATURE OF SYSTEMS—241
NERVOUS SYSTEM, THE—235
NEWSBOY—193
NEWTON—289
NICOMACHUS—314
N-LV-ADJ PATTERN—372
N-LV-N PATTERN—372
NORMALITY CONCEPT, THE—274
NOTES-TREBLE—389
NOUN—346
NOUNS—364 MIE
NOUNS—385 TP
NOUNS 2—370
NUMBER JUMPER—243
NUMBER SEQ 1—224
NUMBER SEQ 2—225
NUMBER SEQUENCE—303
NUMBER SERIES—240
NUMBER WORDS—366
NUMBER WORDS—224
NUMBERAMA—108
NUMBERS I—248
NUMBERS II—248
NUMBERS III—249
NUMBOWL—267
NUMERAL NAMES—303
N-V-N PATTERN—372

O'BRIEN VOCABULARY PLACEMENT TEST—378
OBSTACLE COURSE—116
OCEANOGRAPHY, HIGH SCHOOL—317
OIL WELL—242
ON LINE—58
OPTICS ANALYSIS—285
OTHELLO—138
OUR WEIRD AND WACKY WORLD—378
OUTSIDE SERVICES—185
OZZ—THE INFORMATION WIZARD—17

PAPERMATE WORD PROCESSOR—48
PARALLEL CIRCUIT ANALYSIS I—274
PARALLEL CIRCUIT ANALYSIS II—274
PARALLEL PRINTER ADAPTER—166
PARALLEL PRINTER ADAPTER FOR CENTRONICS—167
PARTING SHOTS—267
PARTRAC—41
PARTS OF SPEECH—384
PAYROLL—26
PAYROLL—197
PENNY ARCADE—96
PENTAGON—114
PERCENT CONCENTRATION—275
PERCENT, INTRODUCTION—299
PERIODIC MOTION—290
PERIODIC WAVES: BASIC CONCEPTS—290
PERIODIC WAVES: INTERFERENCE AND STANDING WAVES—293
PERMISSION FORMS—177
PET BASIC 1—146
PET/CBM PERSONAL COMPUTER GUIDE—149

- PET CBM STUDY MADE EASY—218
- PET COMMUNICATION SYSTEM—214
- PET COUNSELOR—214
- PET DEMO 1—101
- PET GAMES AND RECREATION—119
- PET GAMES AND RECREATIONS—151
- PET GRAPHICS—148
- PET INTERFACING—149
- PET PREDICTS—211
- PET PROFESSOR—321
- PET REVEALED, THE—146
- PETAID—190
- PETPLAN—197
- PETSOUND—173
- PETWORD—49
- PETZEE—105
- PH CONCEPT—275
- PHONOGRAMS—387
- PHOTOELECTRIC EFFECT—275
- PHOTOGRAPHY—328
- PHOTON INTERFERENCE—290
- PHYSICS 1—235
- PHYSICS LESSONS, HIGH SCHOOL—314
- PIC CHIP—159
- PILOT AND FIVE PILOT—215
- PINBALL IQ—243
- PIZZA—313
- PLACE VALUE—303
- PLACE VALUE 1—223
- PLACE VALUE 2—225
- PLURALS—363
- POKER—281
- POKER—183
- PONS—137
- POTPOURRI—238
- POW1—165
- POWER—156
- PRACTICE MONITOR—200
- PREFIXES—301
- PREFIXES MORE—362
- PRESCHOOL IQ BUILDER—341
- PRIMARY ARCS—83
- PRIME FISHIN'—243
- PRIME NUMBER—245
- PRO-CAL 1—238
- PRO-GRESS—211
- PROBLEM SOLVING—320
- PROCTOR—213
- PROCTOR + 80 PROCTOR + 40—214
- PROCTOR + FILES—214
- PROGRAMMERS AID CARTRIDGE—125
- PROGRAMMERS TOOLKIT™—155
- PROJECT ATTEND—208
- PROJECT BASIC—207
- PROJECT IEP—208
- PROJECT TIME—207
- PROJECTILE ANALYSIS—275
- PROJECTILE MOTION—276
- PRONOUNS—386
- PULLEY SYSTEM MACHINES—276
- PUNCTUATION SERIES—347
- PUTTING FICTION BOOKS IN ALPHABETICAL ORDER—352
- QUEST AND DRAW—95
- QUOTIENT QUIZ—312
- RACE CAR—107
- RACE CAR FACTS—301
- RADIOACTIVITY-HALF LIFE—291
- RAT RACE—127
- READING COMPREHENSION—341
- READING COMPREHENSION SERIES—133
- READING COMPREHENSION SERIES, RE-17 TO RE-20—373
- READING PROGRAM FOR PET MICROCOMPUTERS—387
- READING RACER ONE—347
- READING SKILLS, INTRODUCTION TO THE FOUR BASIC—133
- REAL ESTATE (MATE)—34
- REAL ESTATE LISTING—20
- REAL-TIME AUDIO SPECTRUM ANALYZER—163
- RECREATIONAL/EDUCATIONAL PACKAGE II—140
- RECREATION 6 PACK A—128
- REDUCING FRACTIONS—249
- REFRACTION OF LIGHT—285
- REGRESSION I—322
- REGRESSION II—323
- REQUEST™—42
- RESCUE AT RIGEL—103
- REVIEW MANAGER—216
- RKINET—284
- RNAV3 NAVIGATOR—87
- ROAD RACE—96
- ROAD RACE—109
- ROCKET SPELL—382
- ROMAN NUMERALS—250
- ROOTS—321
- ROUNDING—225
- RULER CM—225
- RULER FRACTION—227
- RULER FRACTION 2—301
- RULER INCHES—221
- RULER OBJECTS CENTIMETERS—233
- RULER OBJECTS INCHES—232
- RUN-ON SENTENCES—347
- SADI—167
- SANTA PARAVIA AND FIUMACCIO—100
- SARGON II CHESS—128
- SATELLITE TRACKING—82
- SCATTER—291
- SCBP-PET CASSETTE—84
- SCBP-PET DISK—84
- SCHEDULING UPDATE SYSTEM—212
- SCHOOLPAC-1—210
- SCIENCE PACKAGE—295
- SCOTT ADVENTURE GAMES—128
- SCRAMBLE LETTERS—382
- SCRAMBLE SPELL—369 MIE
- SCRAMBLE SPELL—382 JMH
- SCRAMBLED LETTERS—378
- SCREEN DUMP/REPEAT—56
- SCRUNCH PLUS—57
- SEAWOLF—95
- SECTOR 3—209
- SECTOR FIVE—245
- SENTENCE PATTERNS—372
- SERIAL PRINTER ADAPTERS—166
- SERIES CIRCUIT ANALYSIS—276
- SERIES/PARALLEL CIRCUIT ANALYSIS—276
- SETS—320
- SHOOTING GALLERY—138
- SHOPPER—85
- SIMPLE FOUR VOICE MUSIC SOFTWARE—68
- SIT/SET—347
- SKELETAL SYSTEM, THE—234
- SKETCHPAD AND MAZE—109
- SKILLPRACTICE TWO—333
- SKILLPRACTICE THREE—334
- SKILLPRACTICE FOUR—334
- SKILLPRACTICE FIVE—334
- SKILLPRACTICE SIX—334
- SLAM DUNK—245
- SM KIT—155
- SOCIAL STUDIES WORD LIST REGIONS—362
- Sof-BKUP—55
- SOFT ROM—180
- SOFTPAC 1—57
- SOLICITOR'S BOOK-KEEPING—192
- SORT—157
- SORTER—57
- SOUND—320
- SOUNDWARE MUSIC BOX—169
- SPACER EATER—64
- SPACE INTRUDER—110
- SPACE WAR II—96
- SPANISH—375
- SPECIFIC GAS LAWS—277
- SPECIFIC HEAT CAPACITY—277
- SPEED FACTS—303
- SPELL—381
- SPELLING 100—363
- SPELLING BEE—386
- SPELLING LEVEL A (SECOND GRADE)—348
- SPELLING LEVEL B (THIRD GRADE)—348
- SPELLING LEVEL C (FOURTH GRADE)—348
- SPELLING LEVEL D (FIFTH GRADE)—348
- SPELLING LEVEL E (SIXTH GRADE)—349
- SPELLING PACKAGE—240
- SPORTSTAT—175
- SPUR GEARS—74
- STARFLEET ORION—103
- STARS—222
- STARTREK—107
- STARTREK 3.2—120
- STAR WARS—96
- STATES AND CAPITALS—332 PSSH
- STATES AND CAPITALS—354 ME
- STATES AND CAPITALS—363 MIE
- STATES GAME, THE—383
- STATES OF THE UNITED STATES—391
- STATISTICS PROGRAMS—318
- STEP BY STEP—389
- STOCK MARKET DECISIONS—40
- STOCK OPTIONS—79
- STOICHIOMETRIC ANALYSIS—277
- STOICHIOMETRY:GENERAL—277
- STOICHIOMETRY:MASS/MASS—278
- STOICHIOMETRY: MASS/VOLUME—278
- STOICHIOMETRY: VOLUME/VOLUME—278
- STORY PROBLEMS IN ADDITION & SUBTRACTION—254
- STORY BUILDER—342
- STORYWRITER AND STORYTELLER—174
- STREETS OF THE CITY—181
- SUBDIVISION ANALYSIS—32
- SUBJECT AND PREDICATE—349
- SUBMARINE ATTACK—111
- SUBTRACTING WITH OBJECTS—254
- SUBTRACTION—307 MW
- SUBTRACTION—243 ME
- SUBTRACTION FACTS 0-10—230
- SUBTRACTION FACTS 0-20—231
- SUBTRACTION FACTS 0-5—228
- SUBTRACTION FRACTION 3—298
- SUFFIXES—362
- SUFFIXES, MORE—362
- SUM-IT MOUNTAIN—244
- SUPER EXPANDER—125
- SUPER GOMOKU—112
- SUPER GRAPHICS—65
- SUPER LANDER—127
- SUPER-RAM—56
- SUPER STARTREK—110
- SUPERBUS—66
- SUPERPOSITION PACKAGE—291
- SUPERSLOT—126
- SURVEY PACK #1—75
- SWARM—112
- SX-100 IEEE-488 MODEM SOFTWARE—66
- SX-200 IEEE-488 MODEM SOFTWARE WITH PARITY—67
- SYMBOLS AND VALENCES DRILL—278
- SYNONYMS—358 ME
- SYNONYMS—365 MIE
- SYNONYMS—386 TP
- TABLE OF CONTENTS, LEARNING TO USE THE—329
- TACHISTOSCOPE—349
- TAG—93
- TANGLE/SUPERTRAP—99

INDEX

TAPEPREP AND TELEXPREP—201
 TARGET MATH—255
 TARGET MOON—138
 TARGET PRACTICE—291
 TAX PREPARATION SYSTEM—20
 TCL PASCAL DEVELOPMENT SYSTEM—54
 TEACHING TOOLS—180
 TEMPLE OF APSHAI—101
 TEMPSENS—165
 TERMINATOR, 75 OHM—173
 TEXTCAST 2—49
 THERE / THEIR / THEY'RE—148
 THERMODYNAMICS I—279
 THERMODYNAMICS II—279
 THINKER™—41
 THREE MILE ISLAND TIMELINE—220
 TIC-TAC MATH—247
 TIC-TAC SPELL—331
 TIC-TAC STATES—388
 TICTACTOE FACTS—302
 TICTACTOE SPELL—382
 TIME RECORDS COSTING—194
 TIME TREK™—94
 TIME ZONES—355
 TIMED DIVISION FACTS—255
 TIMES—309
 TINY PASCAL—54
 TINY PASCAL PLUS—55
 TITLE PAGE, LEARNING TO
 UNDERSTAND THE—329
 TITRATION, KINETICS, BOHR ATOM
 REDOX—324
 TO / TOO / TWO—350
 TOOLKIT MOVER—60
 TOTAL INTERNAL REFLECTION—279
 TOURNAMENT BOWL—87
 TRACE PRINT—57
 TRADER—188
 TRAIL WEST—139
 TRAIL WEST—355
 TRANSACTOR, THE—152
 TRANSFER FUNCTION ANALYZER—326
 TRANSVERSE STANDING WAVES—279
 TRAVEL COUNSELLING—340
 TREBLE CLEF, LINES AND SPACES OF
 THE—353
 TREK-X—97
 TRICKY SQUARE—116
 TRIG / CIRCLE TANGENT—73

TRIGONOMETRY—229
 TROUBLESOME PRONOUNS—350
 TURF AND TARGET—100
 TWO-MINUTE WARNING—245
 TYPE TO READ—359
 TYPE TO READ—133
 TYPING—340

 ULTRA-MON —61
 UNDERSTANDING YOUR PET/CBM, PET
 VOL 1—148
 USAGE—340
 USAGE BONERS—340
 USERS' REFERENCE MANUAL, BASIC
 4.0—145

 VALDEZ—120
 VAR-DICT / XREF—62
 VARI-PRINT—56
 VATMAN—195
 VECTOR ANALYSIS I—277
 VECTOR ANALYSIS II—277
 VERB, THE—350
 VERBS—385
 VERBS-I—364
 VERBS-ACTION—370
 VERBS-BEING—370
 VERBS-HELPER 1—371
 VERBS-HELPER 2—371
 VERBS-REVIEW—371
 VIC AVENGER—126
 VIC GAMES—141
 VIC PROGRAMMERS REFERENCE
 GUIDE—151
 VIC SUPER ALIEN—126
 VICMON MACHINE LANGUAGE
 MONITOR—126
 VICTERM I-TERMINAL EMULATOR—131
 VIDEO CABLE—173
 VIGIL—155
 VIGIL—58
 VISIBLE MEMORY ROUTINES—63
 VISIBLE MUSIC MONITOR—69
 VISICALC™—31
 VITAFACTS SERIES—233
 VOCAB—332
 VOCABULARY—341
 VOCABULARY BUILDER 2—342
 VOCABULARY SERIES—351

VOLTAGE REGULATOR—199

 WAVE DEMONSTRATIONS—292
 WAVES IN A LINEAR MEDIUM:
 SUPERPOSITION—292
 WHAT NUMBER IS MISSING—255
 WHICH LETTER COMES NEXT—359
 WHICH LETTER IS MISSING—132
 WHICH NUMBER COMES NEXT—256
 WORDCHECK—49
 WORD ELEMENTS SERIES ONE—335
 WORD ELEMENTS SERIES TWO—335
 WORD ELEMENTS SERIES THREE—335
 WORD ELEMENTS SERIES FOUR—336
 WORD ELEMENTS SERIES FIVE—336
 WORD ELEMENTS SERIES SIX—336
 WORD ELEMENTS SERIES SEVEN—337
 WORD ELEMENTS SERIES EIGHT—337
 WORD ELEMENTS SERIES
 NINE—337
 WORD FUNCTIONS—338
 WORD GAMES—367
 WORD GUESS SPELLING SERIES—134
 WORD PROBLEMS—287
 WORD PROCESSOR—49
 WORD SCRAMBLER—368
 WORD SEARCH—351
 WORDCRAFT 80—45
 WORDPRO 1—45
 WORDPRO 2 PLUS—46
 WORDPRO 3—46
 WORDPRO 3 PLUS—47
 WORDPRO 4—47
 WORDPRO 4 PLUS—47
 WORKING WITH BASIC ADDITION
 FACTS—263
 WORKING WITH BASIC MULTIPLICATION
 FACTS—263
 WORLD OF NUCLEAR REACTORS—219
 WRAP—136
 WSNF, LEMON, KALEIDOSCOPE,
 REMEMBER—241

 XPANDRI—166

 ZAP—222
 ZAP ADD—224
 ZAP ADD 5-9—283
 ZAP MULTIPLICATION 5-9—282

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