How To Type COMPUTE!'s Programs

Many of the programs which are listed in **COMPUTE!** contain special control characters (cursor control, color keys, inverse video, etc.). To make it easy to tell exactly what to type when entering one of these programs into your computer, we have established the following listing conventions. There is a separate key for each computer. Refer to the appropriate tables when you come across an unusual symbol in a program listing. If you are unsure how to actually enter a control character, consult your computer's manuals.

Atari 400/800

Characters in inverse video will appear like: Excess: VIDEO Enter these characters with the Atari logo key, {\mathbb{A}}.

when you see	Type	See	
(CLEAR)	ESC SHIFT <	K	Clear Screen
(UP)	ESC CTRL -	+	Cursor Up
(DOWN)	ESC CTRL =	+	Cursor Down
(LEFT)	ESC CTRL +	+	Cursor Left
(RIGHT)	ESC CTRL #	+	Cursor Right
{BACK S}	ESC DELETE	4	Backspace
(DELETE)	ESC CTRL DELETE	C)	Delete character
(INSERT)	ESC CTRL INSERT		Insert character
(DEL LINE)	ESC SHIFT DELETE	0	Delete line
(INS LINE)	ESC SHIFT INSERT	-	Insert line
(TAB)	ESC TAB	-	TAB key
(CLR TAB)	ESC CTRL TAB	G	Clear tab
(SET TAB)	ESC SHIFT TAB	•	Set tab stop
(BELL)	ESC CTRL 2	3	Ring buzzer
(ESC)	ESC ESC	Ę.	ESCape key

Graphics characters, such as CTRL-T, the ball character • will appear as the "normal" letter enclosed in braces, e.g. {T}.

Commodore PET/CBM/VIC/64

Generally, any PET/CBM/VIC/64 program listings will contain words within braces which spell out any special characters: { DOWN } would mean to press the cursor down key. { 5 SPACES } would mean to press the space bar five times.

To indicate that a key should be *shifted* (hold down the SHIFT key while pressing the other key), the key would be underlined in our listings. For example, \underline{S} would mean to type the S key while holding the shift key. If you find an underlined key enclosed in braces (e.g., $\{10 \, \underline{N}\}\)$, you should type the key as many times as indicated (in our example, you would enter ten shifted N's). Some graphics characters are inaccessible from the keyboard on CBM Business models (32N, 8032)

For the VIC and 64, if a key is enclosed in special brackets, \(\), you should hold down the Commodore key while pressing the key inside the special brackets. (The Commodore key is the key in the lower left corner of the keyboard.) Again, if the key is preceded by a number, you should press the key as many times as indicated.

Rarely, you'll see in a Commodore 64 program a solitary letter of the alphabet enclosed in braces. These characters can be entered by holding down the CTRL key while typing the letter in the braces. For example, {A} would indicate that you should press CTRL-A.

About the *quote mode*: you know that you can move the cursor around the screen with the CRSR keys. Sometimes a programmer will want to move the cursor under program control. That's why you see all the {LEFT}'s, {HOME}'s, and {BLU}'s in our programs. The only way the computer

can tell the difference between direct and programmed cursor control is the quote mode.

Once you press the quote (the double quote, SHIFT-2), you are in the quote mode. If you type something and then try to change it by moving the cursor left, you'll only get a bunch of reverse-video lines. These are the symbols for cursor left. The only editing key that isn't programmable is the DEL key; you can still use DEL to back up and edit the line. Once you type another quote, you are out of quote mode.

You also go into quote mode when you INSerT spaces into a line. In any case, the easiest way to get out of quote mode is to just press RETURN. You'll then be out of quote mode and you can cursor up to the mistyped line and fix it.

Use the following tables when entering special characters:

When You	1			When Y			
Read:	Pre	SS:	See:	Read:	Pres	s:	See:
(CLEAR)	SHIFT	CLR/HOME		[GRN]	CTRL	6	
{HOME}		CLR/HOME		{BLU}	CTRL	7	+
{UP}	SHIFT	CRSR		[YEL]	CTRL	8	
[DOWN]		A CRSR		{F1}	f1		
{LEFT}	SHIFT	CRSR -		[F2]	f2		
{RIGHT}		CRSR -		{F3}	f3		
[RVS]	CTRL	9		{F4}	f4		
{OFF}	CTRL	0		{F5}	f5		
{BLK}	CTRL	1		[F6]	f6		
[WHT]	CTRL	2		[F7]	f7		
{RED}	CTRL	3	1	{F8}	f8		
[CYN]	CTRL	4	N.	4	•		*
[PUR]	CTRL	5		1	SHIFT	•	TT

All Commodore Machines

Clear Screen {CLR}	Cursor Left { LEFT
Home Cursor { HOME }	Insert Character [INST]
Cursor Up {UP}	Delete Character { DEL}
Cursor Down [DOWN]	Reverse Field On [RVS]
Cursor Right [RIGHT]	Reverse Field Off (OFF)

Apple II / Apple II Plus

All programs are in Applesoft BASIC, unless otherwise stated. Control characters are printed as the "normal" character enclosed in brackets, such as {D} for CTRL-D. Hold down CTRL while pressing the control key. You will not see the special character on the screen.

Texas Instruments 99/4

The only special characters used are in PRINT statements to indicate where two or more spaces should be left between words. For example, ENERGY {10 SPACES} MANAGE-MENT means that ten spaces should be left between the words ENERGY and MANAGEMENT. Do not type in the braces or the words 10 SPACES. Enter all programs with the ALPHA LOCK on (in the down position). Release the ALPHA LOCK to enter lowercase text.

COMPUTE! Back Issues

Here are some of the applications, tutorials, and games from available back issues of COMPUTE!. Each issue contains much, much more than there's space here to list, but here are some highlights:

Home and Educational COM-PUTING! (Fall 1981 and Summer 1981 — count as one back issue): Exploring The Rainbow Machine, VIC As Super Calculator, Custom Characters On The VIC, Alternative Screens, Automatic VIC Line Numbers, Using The Joystick (Spacewar Game), Fast VIC Tape Locater, Window, VIC Memory Map.

May 1981: Named GOSUB/ GOTO in Applesoft, Generating Lower Case Text on Apple II, Copy Atari Screens to the Printer, Disk Directory Printer for Atari, Realtime Clock on Atari, PET BASIC Delete Utility, PET Calculated Bar Graphs, Running 40 Column Programs on a CBM 8032, A Fast Visible Memory Dump, Cassette Filing System, Getting To A Machine Language Program, Epidemic Simulation.

June 1981: Computer Using Educators (CUE) on Software Pricing, Apple II Hires Character Generator, Ever Expanding Apple Power, Color Burst for Atari, Mixing Atari Graphics Modes 0 and 8, Relocating PET BASIC Programs, An Assembler In BASIC for PET, Quadra PET: Multitasking?, Mapping Unknown Machine Language, RAM/ROM Memory, Keeping TABs on a Printer.

July 1981: Home Heating and Cooling, Animating Integer BASIC Lores Graphics, The Apple Hires Shape Writer, Adding a Voice Track to Atari Programs, Machine Language Atari Joystick Driver, Four Screen Utilities for the PET, Saving Machine Language Programs on PET Tape Headers, Commodore ROM Systems, Using TAB, SPC, And LEN.

August 1981: Minimize Code and Maximize Speed, Apple Disk Motor Control, A Cassette Tape Monitor for the Apple, Easy Reading of the Atari Joystick, Blockade Game for the Atari, Atari Sound Utility, The CBM "Fat 40," Keyword for PET, CBM/PET Loading, Chaining, and Overlaying, Adding A Programmable Sound Generator, Converting PET BASIC Programs To ASCII Files.

October 1981: Automatic DATA Statements for CBM and Atari, VIC News, Undeletable Lines on Apple, PET, and VIC; Budgeting on the Apple, Atari Cassette Boot-tapes, Atari Variable Name Utility, Atari Program Library, Train Your PET to Run VIC Programs, Interface a BSR Remote Control System to PET, A General Purpose BCD to Binary Routine, Converting to Fat-40 PET.

December 1981: Saving Fuel \$\$ (multiple computers), Unscramble Game (multiple computers), Maze Generator (multiple computers), Animating Applesoft Graphics, A Simple Atari Word Processor, Adding High Speed Vertical Positioning to Atari P/M Graphics, OSI Supercursor, A Look At SuperPET, Supermon for PET/CBM, PET Mine Maze Game, Replacing The INPUT # Command, Foreign Language Text on The Commodore Printer, File Recovery.

January 1982: Invest (multiple computers), Developing a Business Algorithm (multiple computers), Apple Addresses, Lowercase with Unmodified Apple, Cryptrogram Game for Atari, Superfont: Design Special Character Sets on Atari, PET Repairs for the Amateur, Micromon for PET, Self-modifying Programs in PET BASIC, Tinymon: a VIC Monitor, VIC Color Tips, VIC Memory Map, ZAP: A VIC Game.

May 1982: VIC Meteor Maze Game, Atari Disk Drive Speed Check, Modifying Apple's Floating Point BASIC, Fast Sort For PET/CBM, Extra Atari Colors Through Artifacting, Life Insurance Estimator (multiple computers), PET Screen Input, Getting The Most Out Of VIC's 5000 Bytes.

August 1982: The New Wave Of Personal Computers, Household Budget Manager (multiple computers), Word Games (multiple computers), Color Computer Home Energy Monitor, A VIC Light Pen For Under \$10, Guess That Animal (multiple computers), PET/CBM Inner BASIC, VIC Communications, Keyprint Compendium, Animation With Atari, VIC Curiosities, Atari Substring Search, PET and VIC Electric Eraser.

September 1982: Apple and Atari and the Sounds of TRON, Commodore Automatic Disk Boot, VIC Joysticks, Three Atari GTIA Articles, Commodore Disk Fixes, The Apple Pilot Language, Sprites and Sound on the Commodore 64, Peripheral Vision Exerciser (multiple computers), Banish INPUT Statements (multiple computers),

COMPUTE! Back Issues

Charades (multiple computers), PET Pointer Sort, VIC Pause, Mapping Machine Language, Commodore User-defined Functions Defined, A VIC Bug.

January 1983: Sound Synthesis And The Personal Computer, Juggler And Thunderbird Games (multiple computers), Music And Sound Programs (multiple computers), Writing Transportable BASIC, Home Energy Calculator (multiple computers), All About Commodore WAIT, Supermon 64, Perfect Commodore INPUTs, VIC Sound Generator, Copy VIC Disk Files, Commodore 64 Architecture.

March 1983: An Introduction To Data Storage (multiple computers), Mass Memory Now And In The Future, Games: Closeout, Boggler, Fighter Aces, Letter And Number Play (all for multiple computers), VIC Music, Direct Atari Disk Access, Automatic Commodore Program Selector, PET Quickplot, A Commodore Gotcha, VIC and Atari Memory Management, Friendly VIC INPUTs.

April 1983: Selecting The Right Word Processor, Air Defense (multiple computers), Commodore Structure BASIC, Retirement Planner (multiple computers), Dr. Video For Commodore, Atari Filefixer, Video 80:80 Columns For The Atari, VICword, Magic Commodore BASIC, A BASIC Hex Editor For VIC, VIC Music Theory.

May 1983: The New Low Cost Printer/Plotters, Jumping Jack (multiple computers), Deflector (multiple computers), VIC Kaleidoscope, Graphics on the Sinclair/Timex, Bootmaker For VIC, PET and 64, VICSTATION: A "Paperless Office," The Atari Musician, Puzzle Generator (multiple computers), Instant 64 Art, 64 Odds And Ends, Versatile VIC Data Acquisition, POP For Commodore.

June 1983: How To Buy The Right Printer, The New, Low-cost Printers, Astrostorm (multiple computers), The Hawkmen Of Dindrin (multiple computers), MusicMaster For The Commodore 64, Commodore Data Searcher, Atari Player/Missile Graphics Simplified, VIC Power Spirals, Un NEW For The VIC and 64, Atari Fast Shuffle, VIC Contractor, Commodore Supermon Q & A.

July 1983: Constructing The Ideal Computer Game, Techniques For Writing Your Own Adventure Game, SpeedSki And Time Bomb (VIC), Castle Quest And Roadblock (Atari), RATS! And Goblin (64), How To Create A Data Filing System (multiple computers), How To Back Up Disks For VIC And 64, Atari Artifacting, All About The Commodore USR Command, TI Mailing List.

August 1983: Weather Forecaster (multiple computers), First Math And Clues (multiple computers), Converting VIC And 64 Programs To PET, Atari Verify, Apple Bytechanger, VIC And 64 Escape Key, Banish Atari INPUT Statements, Mixing Graphics Modes On The 64, VICplot, VIC/64 Translations: Reading The Keyboard, Musical Atari Keyboard, VIC Display Messages.

September 1983: Games That Teach, Caves Of Ice, Diamond Drop, Mystery Spell, and Dots (multiple computers), VIC Pilot, Ultrasort (VIC, 64, PET), Easy Atari Page Flipping, Computer Aided Design On The TI, Relative Files On the VIC/64, Atari Fontbyter, TI Sprite Editor, All About Interrupts (multiple computers), Cracking The 64 Kernal, Making Change On The Timex/Sinclair, Build Your Own Random File Manager (multiple computers).

October 1983: Computer Games By Phone, Coupon File (multiple computers), Dragon Master And Moving Maze (multiple computers), Merging Programs From Commodore Disks, Atari Master Disk Directory, Sprites In TI Extended BASIC, Commodore EXEC, Multicolor Atari Character Editor, High Speed Commodore Mazer, Apple Sounds, Extra Instructions (multiple computers), Commodore DOS Wedges, Invisible Disk Directory For VIC And 64.

Back issues are \$3 each or six for \$15. Price includes freight in the US. Outside the US add \$1 per magazine ordered for surface postage, \$4 per magazine for air mail postage. All back issues subject to availability.

In the Continental US call TOLL FREE 800-334-0868 (919-275-9809 in NC)

Or write to:

COMPUTE! Back Issues P.O. Box 5406 Greensboro, NC 27403 USA

Prepayment required in US funds.
MasterCard, VISA, and American Express accepted.
NC residents add 4% sales tax.

A Beginner's Guide To Typing In Programs

What Is A Program?

A computer cannot perform any task by itself. Like a car without gas, a computer has *potential*, but without a program, it isn't going anywhere. Most of the programs published in **COMPUTE!** are written in a computer language called BASIC. BASIC is easy to learn and is built into most computers (on some computers, you have to purchase an optional BASIC cartridge).

BASIC Programs

Each month, **COMPUTE!** publishes programs for many machines. To start out, type in only programs written for your machine, e.g., "TI Version" if you have a TI-99/4. Later, when you gain experience with your computer's BASIC, you can try typing in and converting certain programs

from one computer to yours.

Computers can be picky. Unlike the English language, which is full of ambiguities, BASIC usually has only one "right way" of stating something. Every letter, character, or number is significant. A common mistake is substituting a letter such as "O" for the numeral "0", a lowercase "I" for the numeral "1", or an uppercase "B" for the numeral "8". Also, you must enter all punctuation such as colons and commas just as they appear in the magazine. Spacing can be important. To be safe, type in the listings *exactly* as they appear.

Brackets And Special Characters

The exception to this typing rule is when you see the curved bracket, such as "{DOWN}". Anything within a set of brackets is a special character or characters that cannot easily be listed on a printer. When you come across such a special statement, refer to the appropriate key for your computer. For example, if you have an Atari, refer to the "Atari" section in "How to Type COMPUTE!'s Programs"

About DATA Statements

Some programs contain a section or sections of DATA statements. These lines provide information needed by the program. Some DATA statements contain actual programs (called machine language); others contain graphics codes. These lines are especially sensitive to errors.

If a single number in any one DATA statement is mistyped, your machine could "lock up," or "crash." The keyboard, break key, and RESET (or STOP) keys may all seem "dead," and the screen

may go blank. Don't panic – no damage is done. To regain control, you have to turn off your computer, then turn it back on. This will erase whatever program was in memory, so always SAVE a copy of your program before you RUN it. If your computer crashes, you can LOAD the program and look for your mistake.

Sometimes a mistyped DATA statement will cause an error message when the program is RUN. The error message may refer to the program line that READs the data. The error is still in the DATA statements, though.

Get To Know Your Machine

You should familiarize yourself with your computer before attempting to type in a program. Learn the statements you use to store and retrieve programs from tape or disk. You'll want to save a copy of your program, so that you won't have to type it in every time you want to use it. Learn to use your machine's editing functions. How do you change a line if you made a mistake? You can always retype the line, but you at least need to know how to backspace. Do you know how to enter inverse video, lowercase, and control characters? It's all explained in your computer's manuals.

A Quick Review

- 1) Type in the program a line at a time, in order. Press RETURN or ENTER at the end of each line. Use backspace or the back arrow to correct mistakes.
- 2) Check the line you've typed against the line in the magazine. You can check the entire program again if you get an error when you RUN the program.
- 3) Make sure you've entered statements in brackets as the appropriate control key (see "How To Type COMPUTE!'s Programs" elsewhere in the magazine.)

We regret that we are no longer able to respond to individual inquiries about programs, products, or services appearing in **COMPUTE!** due to increasing publication activity. On those infrequent occasions when a published program contains a typo, the correction will appear on the CAPUTE! page, usually within eight weeks. If you have specific questions about items or programs which you've seen in **COMPUTE!**, please send them to Readers Feedback, P.O. Box 5406, Greensboro, NC 27403.

NEWS&PRODUCTS

Terminal Emulator For VIC And 64

Versaterm, a terminal emulator package for the VIC-20 and Commodore 64, is available from Electrosharp Technologies.

The program features UP-LOAD, DOWNLOAD, PRINTER DUMP, SAVE, and CONVERT commands. Data can be SAVEd on tape or disk to reduce connect time. Data is stored in a receive buffer which holds 36K on the Commodore 64 and up to 26K on the VIC-20.

The PROGRAM mode searches through the receive buffer for a program file and automatically converts it into program form so it can be SAVEd and RUN normally.

Versaterm is available on tape for \$24.95 or disk for \$27.95. The VIC version requires at least 8K memory expansion.

Electrosharp Technologies 1981 Sandalwood Drive Santa Maria, CA 93455 (805) 922-4095

Atari Printer Interface

Microbits has developed a printer interface that is compatible with all Atari computers and serves as a replacement for the Atari 850 Interface Module.

The MPP-1150 Printer Interface, which connects to the computer's serial bus and daisychains with other Atari peripherals, is compatible with all existing software. It includes a three-foot cable with a Centronics plug.



The Microbits MPP-1150 Parallel Printer Interface is compatible with all Atari computers.

The interface sells for \$99.95. *Microbits Peripheral Products* 225 West Third St. *Albany, OR 97321* (503) 967-9075

On The Road With The Apple

Columbia Software has introduced *Roadsearch-Plus*, a computerized road atlas for the Apple II and Apple IIe computers.

The program contains a data base of 406 cities and road intersections and about 70,000 miles of major highways throughout the United States and Canada. With the companion Roadmap Development System, users can customize the data base with up to 50 additional cities and 100 additional road segments, including local roads, favorite shortcuts, and new destinations.

When run, the program determines and prints the shortest practical route between any cities in the data base. If desired, the program can choose routes that avoid toll roads. Printed output from the program

includes driving route, distances, travel times, and estimated fuel usage.

Roadsearch-Plus with the Roadmap Development System is available for \$74.95. A version without the Roadmap Development System is available for \$34.95.

Columbia Software P.O. Box 2235A 5461 Marsh Hawk Columbia, MD 21045 (301) 997-3100

Joysticks For Atari, Commodore, TI

Coin Controls has developed the Competition Pro 3000 joystick, a new game controller for Atari, Commodore, and TI computers.

The Competition Pro 3000 includes a trigger atop the joystick and a "fire-bar" on the controller's base. The joystick incorporates arcade-style, eightway directional leaf switches,



The TI version of the Competition Pro 3000 joystick includes an adapter for the TI-99/4A computer.

and is backed by a two-year warranty.

Atari and Commodore models are available for \$16.95. The TI version is available for \$18.95.

Coin Controls, Inc. 2609 Greenleaf Ave. Elk Grove Village, IL 60007 (800) 323-8174

Pascal For The 64

Zoom Pascal 64, from Abacus Software, is a fast-running Pascal package for the Commodore 64.

The program includes an editor to create, save, or modify Pascal source statements, a compiler to translate source statements into intermediate code, and a translator to translate the intermediate code into 6502 machine language.

The package, which sells for \$39.95, also includes several

sample programs.

Other new programs available from Abacus include: Chartpak-64, which allows construction of charts and graphs in high-resolution graphics without programming, \$42.95; Assembler/Monitor 64, a utility for the development of machine language programs, \$32.95; and Graphics Designer 64, which lets you design architectural, engineering, or artistic graphics, \$34.95.

Abacus Software P.O. Box 7211 Grand Rapids, MI 49510

Grammar Tutorial For Apple And Atari

English Grammar is a program designed to teach the parts of speech to students at any grade or age level. The two-disk Apple or Atari program, produced by T.H.E.S.I.S., can create specialized exercises for use in a variety of settings.

Drills on individual parts of speech, or any combination of parts of speech, are available.

The material in the drills is easily modified to match the reading level of the student.

The program is available for \$45 plus \$3 for shipping and handling.

Another new offering from T.H.E.S.I.S. is *Weights and Measures*, a two-program package for the Atari, designed for children ages 4 to 10.

Weights teaches children how to read a scale in pounds and ounces, and includes exercises for converting pounds to ounces and ounces to pounds.

Linear Measures teaches children how to measure with a ruler and how to make conversions among inches, feet, and yards.

Weights and Measures is available for \$20 on tape or \$25 on disk.

T.H.E.S.I.S. P.O. Box 147 Garden City, MI 48135 (800) 354-0550

Color Computer Games And Graphics

Radio Shack has released two new games and a disk graphics package for the TRS-80 Color Computer.

The games, Color Baseball and Star Blaze, are both available in Program Paks for computers with at least 16K. In Color Baseball, you can play a human opponent or the computer. Features include user selectable batting averages, base stealing, and control of all defensive players. The game sells for \$24.95.

Star Blaze is a space exploration adventure. The player must defend the 64 sectors of the galaxy against a fleet of aliens. Star Blaze is available for \$19.95.

Color Disk Graphics includes formats to plot vertical or horizontal bar charts, pie charts, and line charts. Charts produced by the program can be saved on disk, displayed on either a highor low-resolution computer screen, or printed out on a dotmatrix printer that has graphics capabilities.

Color Disk Graphics sells for \$49.95.

Tandy Corporation/Radio Shack 1800 One Tandy Center Fort Worth, TX 76102

TI Cartridge Software

Texas Instruments has released five new cartridge games for the TI-99/4A home computer. The games sell for \$29.95 each and can be played from the keyboard, though some games may perform better with joysticks.

The games are:

BurgerTime, a single-player chase game in which Peter Pepper has to avoid the nasty pickles and hot dogs.

Treasure Island, in which the player must gather treasure before rising waters engulf the island.

Return to Pirate's Isle, a Scott Adams adventure with multiple screens.

Hopper, a ten-level chase game for one or two players. The action takes place in the cargo hold of an ocean liner.

Slymoids, a single-player game in which you control a sharpshooting cowboy who uses scanners and laser fireballs to eliminate the alien Slymoids.

Texas Instruments Consumer Relations P.O. Box 53 Lubbock, TX 79408 (800)842-2737

Thinking Game For Commodore 64

Omnipotus is a Commodore 64 game in which the player assumes the role of a computer

We'll back you up





Apple owners

Commodore 64 owners

The Clone Machine - Now you can take control of your 1541 and backup software easily. A complete users manual comes with this package that allows: 1 and 2 drive copy; investigate and back-up many "copy protected" disks; view and edit track/block; easy initialization; display and print directory contents; change program names; add, delete files with single keystrokes; supports up to 4 drives.

Inquiries Invited

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and the computer assumes the role of Professor Omnipotus, the computer's creator.

The scenario is this: The professor sent you out into the world to "compare and categorize." You have returned from your task and the professor is questioning you about what you have observed. Your dialogue with the professor introduces you to the basics of philosophical thinking.

The program, produced by The Wizards, is available on tape or disk for \$13.95.

Also available from The Wizards is a computer aided instruction program titled Course I: How to Make Good Investments. The course covers material traditionally covered in business schools, with some practical street techniques added in. The program, which comes with a 75-page text, is available on tape for \$39.95 or disk for \$44.95.

The Wizards P.O. Box 7118 The Woodlands, TX 77387

CALENDAR

January 14-15, Northland Mall, Sterling, IL. Fourth Annual Computer Fair. Sponsored by the Sauk Valley Computer Club. For more information, contact Vinus Williams, Rt. 1, Milledgeville, IL 61051.

January 19-21, Pasadena Convention Center, 300 E. Green St., Pasadena, CA. Data West. This computer conference and exposition will offer a series of workshops and seminars, and will present an array of computer hardware and software for personal and business use. For more information, contact Cliff and Doug Mitchell, Information Processing Group, (213) 792-5111.

January 23-25, Hacienda Resort Hotel and Casino, Las Vegas, NV. Teaching Math With Microcomputers. Sponsored by the National Council of Teachers of Mathematics. A two-day program designed for introducing microcomputers to teachers and supervisors of mathematics education at the elementary, intermediate, and secondary school levels. Seminar topics include software, programming, hardware selection, and computers in the future. For more information, contact NCTM Seminar Series, 1906 Association Dr., Reston, VA 22091, (703) 620-9840.

New Product releases are selected from submissions for reasons of timeliness, available space, and general interest to our readers. We regret that we are unable to select all new product submissions for publication. Readers should be aware that we present here some edited version of material submitted by vendors and are unable to vouch for its accuracy at time of publication.

COMPUTE! welcomes notices of upcoming events and requests that the sponsors send a short description, their name and phone number, and an address to which interested readers may write for further information. Please send notices at least three months before the date of the event, to: Calendar, P.O. Box 5406, Greensboro, NC 27403.





FLIGHT SIMULATOR GAMES

Sky Pilot (8K VIC-20) \$18.00 Runway 20 (16K VIC-20) \$25.00 Runway 64 (Commodore 64) \$18.00 Cockpit 64 (Commodore 64) \$25.00

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SUSIE SOFTWARE

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Solve

3(x-5) - 3x + 7 = 2(x+4) - x - 3? You can after you've worked with the

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5732 Holmes (The answer is x = -13!)

CRAZY CONVEYORS COMMODORE 64TM

Crazy Conveyors 64 with disk trive to provide an exching action-packed game which challenges you to race against time, climbing ladders, siding down tre poles, and traversing unpredictable moving conveyors. To score points you must gather ammo which you use to fend off a variety of conting evil-doers. The faster you clear the screen the more bonus points you win Crazy Conveyors will entertain and challenge all players just as it is; but as Crazy Conveyors will entertain and challenge all players just as it is, but as you master more and more of the exciting screens provided you won't have to buy another game. You can use Crazy Conveyors' built in Screen Creator to modify the existing screens or build entirely new ones. It's easy and fruly tasonating and if you're sharing Crazy Conveyors with tamily you may have to compete for a turn. Some of the many features include. Crazy Conveyor Action. As the here or opponents encounter the crazy conveyors whirming pullelys and belts they will be whisked along or slowed to a small's pace. But watch your step, if you count on a conveyor for your escape you may be disappointed as the conveyors unexpectedly reverse direction.

direction

Screen Creator — expand your game disk to 128 screens, and use adothonal disks for virtually unlimited screens. Choose any of 11 colors for each shape before or after a screen is built.

Custom Characters in 11 different colors are used for building blocks, ladders, fire poles, rotating pulleys, moving convevors and bonus boxes. Multi-Color Sprites for a viariety of smooth moving characters.

Three Part Harmony Music and a variety of action sounds. High Score History saved with full names of 10 champions. Action Pause in case you get an urgent phone call or other urge. Start Play at any screen of your choice.

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Machine Language assures fast paced action of sprite graphics and sound effects.

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COMMODORE

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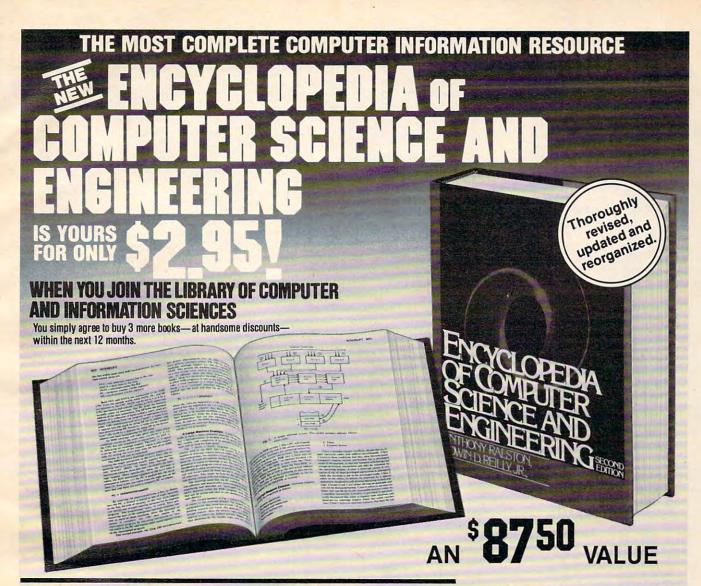




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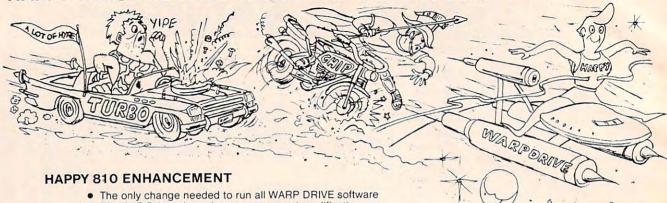
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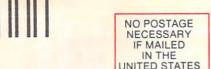
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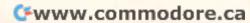
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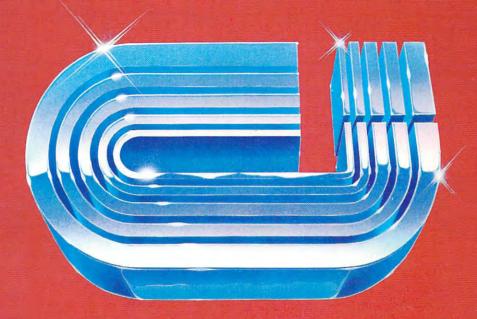
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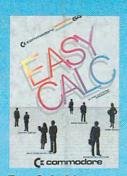
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