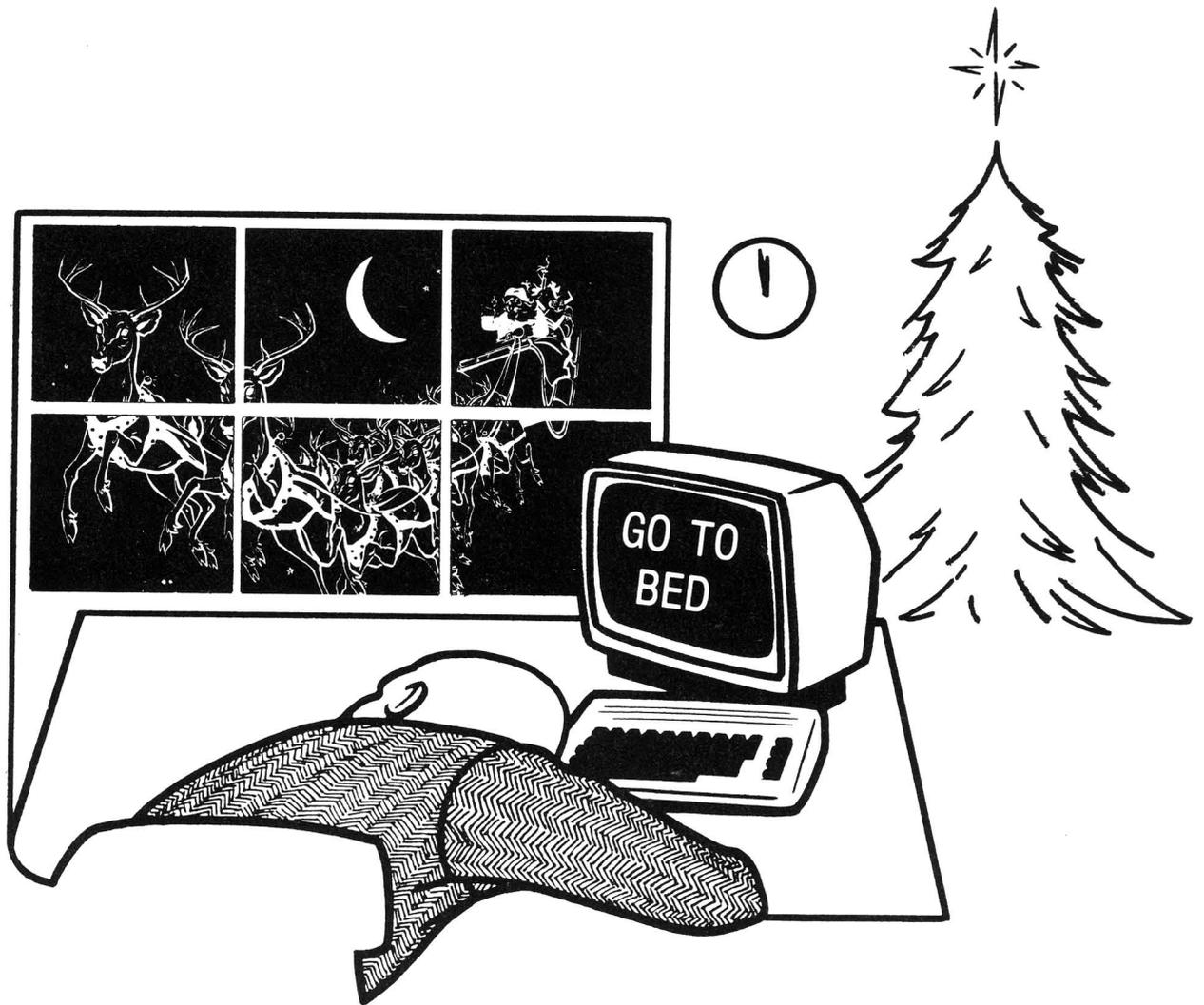


ISSUE 29

NOVEMBER-DECEMBER 1985

# Midnite Software Gazette

The First Independent U.S. Magazine for users of Commodore brand computers.



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**Copycalc:** An electronic spreadsheet. Turns your Commodore into a visible balance sheet; includes screen editor. "Excellent program for budgeting, estimating, or any math-oriented use... well, worth the money. Highly recommended." — Midnite Software Gazette.

Also included: **ReportGen, ReportMerge** (interface W/P with Database to create form letters, statements, invoices, mailing labels, other reports.); **Baseball Statistician** (compiles batting statistics for a baseball league); several W/P utilities, including **Index** (indexes W/P's text files); several Database utilities, including **DBmerge** (facilitates multi-file database applications.), and **DBStat** (analyzes D/B files); a programming utility, **ASCII**, which converts text files (program listings) into program files; also **Checkbook, Inventory, Paper Route, Loan Analysis, Breakeven Analysis, Depreciation, Labeler, File Copier**; more.

Versions of the package are available for every Commodore computer having a minimum of 10k RAM. All programs will support tape, disk, and printer. Price includes documentation and shipping; Calif. residents add 6%. Add \$3 for credit card, COD, 8050 disk, or cassette orders (cassette not available for Plus4™ and 16™.) No personal checks from outside USA. This ad is the catalog; a sampling of program output is available for \$2.

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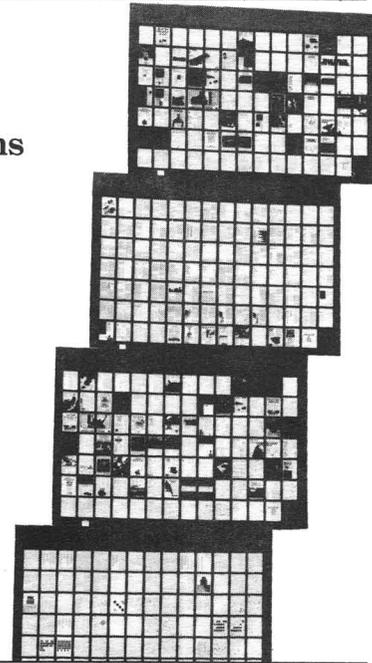
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Welcome back to the Midnite Software Gazette. As many astute readers will notice, the cover says November/December 1985, Issue 29. For the purpose of retail sanity we had to call this issue Nov/Dec. It seems that there's a difference for retailers receiving our Oct. issue in November and receiving the OTHER GUYS January issues in November. Don't panic though. We have always done things differently at Midnite Software Gazette and this is no exception. We have always done subscriptions based on the issue number and not the date. So; if your subscription is up with issue 30 (old Dec.), it's still up with issue 30, but it's now January. Onward and always forward!

This has been one helluva year! Commodore's 128 monstro eight bit machine became available, Amiga's introduction shocked and delighted the computer press world. Commodore Business Machines dealer policy was changed AGAIN. (Those who don't know, Commodore Business Machines saw fit to disregard ALL stores who specialize almost exclusively as Commodore dealers--including mpc!--and earnestly pursued Apple/IBM dealers to carry the Amiga....) CBM and Apple actually LOST money for the first time; another house cleaning occurred at CBM headquarters; Compuserve and CBM split up; two more CBM related magazines thrust forward vieing for your consumer dollar; and two big names in computer publishing call it quits. By the time you've received this issue you'll have read a few editorials about these two leaving. For my two cents, PERSONAL COMPUTING was just a generic pc magazine that never really found much of a niche in the market. But I'm saddened with the departing of David Ahl's work in

CREATIVE COMPUTING. I remember CC fondly. They were the first computer magazine I purchased, and also first in selling me software for my PET 2001. I remember I had to drive forty five miles just to find a computer magazine: I always bought CC. They didn't have much in CBM coverage but did have good stuff for a rookie learning about home computing. I honestly feel CC helped mold some of the philosophies I've carried over into the Midnite Software Gazette. I'm sure David Ahl will be around; if Adam Osbourne can, so can David Ahl. I'll miss one of the old guys. Good luck Mr. Ahl.

Obvisously the changing of the guard at Midnite Software Gazette was a biggie this year. Though chronicled here and there in the Midnite Software Gazette, few know the signifcance of it. Through the years and all the quirks and controversy you have come accustomed to, we've survived. Thanks to the individuals and user groups we have gained a reputation few magazines can lay claim to. Thanks people, you make doing the Midnite Software Gazette worthwhile.

Although not quite as controversial as of late, the trend at Midnite has been leaning towards pointing out bad products from companys who you expect good things from and small companys that produce excellent products that normally don't get the exposure. Either way, I'm sure we'll surprise you!

Reviews are coming in, but slowly. Did you know that if just three of your reviews get printed you've actually made money with your subscription to the Midnite Software Gazette? Thanks to

all for the reviews you've sent. And to those who haven't, we need you! Check the last page of this issue for a review form. Copy it or tear it out and use it to send in your reviews or better yet, call our BBS.

We're VERY proud of our BBS at mpc. It's running on a C-64 with Punter's board and supports both old and new Punter protocol, supports Midwestern and is in living color! Fiscal Information's ten meg. drive completes the arrangement and it's fast! There are 33 databases to play in-- only a select few CBM boards in the country are bigger. And, JUST FOR MIDNITE READERS, if you type 'MIDNITE' at any command prompt, you'll be put into ANOTHER base of files for up/down loading text and listings you see in the Midnite Software Gazette as well as material not published here or anywhere else pertaining to CBM computers. Even though you see a user group (they help run the board) name on the opening bulletin, the BBS is FREE to anyone and OPEN as well. I HIGHLY recommend downloading the color-term program for your C-64, it brings out the best in our board. The FI hard drive really allows alot of neat things to be done on the BBS. Please call 1-217-356-8056 anytime (it's a 24 hour board) and look around. You can leave me or one of the staff here questions and such and up/down load REVIEWS and programs to your heart's content (although there is a 35 min. time limit, you can call back anytime). Lest I forget, mpc would like to thank Art Lewis Kimball for being SYSOP ONE on the board. NO ONE would believe the hours it takes to run a BBS of this size! Thank you Art, keep up the

superior work!

While we are on the subject of telecommunications, elsewhere in this issue Mike Stout (president of CIPUG) talks about Quantim Link. Q-Link is CBM's newest way of telecomputing. Since the CBM and CompuServe contract ran out, with neither re-newing, CBM went with Q-Link as their official network system. It's not a bad system for C-64 users And, if you check in around December, I'm to be a forum speaker. Also, if you haven't yet discovered, Delphi has been busily working for some of your computing time as well. Midnite Software Gazette will be on-line in part with this system in December. John Easton and a few other CBM'ers are busting their buns on providing a good service to you on Delphi. Another telecommunication service called Viewtron is in the arena as well and you'll probably see Midnite splattered amongst the menus in there soon. So, whether you're calling Starship MPC BBS (it's free) or one of the telecommunication networks, Midnite Software Gazette will be there!

A few weeks ago I called Lyco Computer Company for information pertaining to the availability of two programs that were listed in their magazine ad. They are 'Silent Service' and 'Gunship', both by Microprose Simulation Software. I was informed at that time that they did have 'Silent Service,' but did not have 'Gunship' yet, as it had not been released yet.

On the 21 of October, I called again to order the 'Silent Service' program. Once on the phone with them, I also asked about the availability of 'Gunship'. I was informed that they DID have it, and that it was in stock at that time. Since I was interested in both programs, I ordered them both. I was told that delivery would be about 1 week.

Once I received my order, I tried out the 'Silent Service' program. I immediately found out that I had a Read Error on the directory track, so that rendered the disk useless. But that is not my complaint with the company. This sort of thing happens no matter what company you deal with. However, along with the program, I also received three pieces of paper dealing with my order. They were:

1. An order slip for both programs along with shipping charges and the total charge. Dated the 21 of October.
2. A back order slip for the 'Gunship' program dated the 22 of October.
3. A Memo Letter dated the 24 of October.

I used my credit card for the purchase of the programs. I found that on the order slip I had been charged for BOTH programs, even though I received only one of them. I was also charged for the shipping on both programs.

The Memo Letter stated, and I

quote:

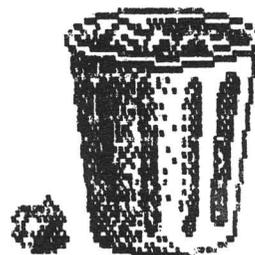
"We regret to inform you that to item which you have orderd is no longer available. However, if you would like to use the payment for another item of the same price you can. Please call or write to change or cancel your order. Please have your invoice number above handy.

Thank you!

Customer Service

I am extremely upset with this company in the fact that I was told that they had the program 'Gunship' in stock. That they charged me for it along with shipping, when they didn't even have it. And that they sent me a Memo stating that the program is no longer available. That's ridiculous!! The program isn't even out yet according to every other source that I have contacted.

Well there you have it. Make your own decision as to whether or not you will deal with this company. As for me.....FORGET IT!! Eric F. Martin.



## Reader Comments

**KIDS AMERICA**, produced by WNYC/New York Public Radio, can now be heard on these American Public Radio Network Stations, Mondays-Fridays, 6:30-8 pm EST:

CA: San Mateo	KCSM	91.1
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IL: Macomb	WIUM	91.3
MA: Boston	WBUR	90.9
MN: Minneapolis	KSJN(AM)	1330
NY: Buffalo	WBFO	88.7
New York	WNYC	94
Rochester	WXXI	91.5
OH: Cincinnati	WVXU	91.7
WI: Milwaukee	WYMS	88.9

On Mondays, from 7:30-8pm EST, kids can tune in to SAM'S COMPUTER CLUB, hosted by Tom Trocco. Calls are taken live by Tom, or by SAM, our talking Commodore 128 computer which uses the Voice Messenger voice synthesizer. In addition, software for children is reviewed by Meredith Jones Frummer, age 11, and other children.

**NEEDED:** A versatile printing program for the C64

One of the top selling programs from the Commodore is Broderbund's PRINT SHOP: it offers many good features, but is, nonetheless, more a fun-program to make greeting cards and banners than one for serious use. Apple and IBM computers have several programs offering multiple fonts in various sizes, such as EASY DRAW by Sirius. I suppose none has been translated for the 64 because it is still considered by many companies to be a quasi-toy, though mine, and those of many of my colleagues, certainly are used primarily for work.

In particular, I need a program with a choice of readable fonts, such as Bodoni or Futura,

rather than PRINT SHOP's fancy ones, and also fonts that come in several sizes. I make many posters, but they must include more information than PRINT SHOP's 23 letter maximum per line allows. And I must get my overhead transparencies typed on the college's IBM Selectric with Orator type. I tried DOODLE, but though I could get print the right size, there were too many other drawbacks to make it useful. So please, Broderbund, put out still another disk with fonts of different sizes for PRINT SHOP. Or Sirius, please realize that there are many serious Commodore users, and translate EASY DRAW for the Commodore. Elizabeth A Kaspar

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**MAPS USA** \$00.00 Educational Game on diskette for C64 from Radarsoft, Inc., The Netherlands

**Maps U.S.A.** is a geography game which should be of interest and use to children in grammar school. There are several different features within the package which are extremely easy to use and make learning fun.

In the Heligame, you pilot a helicopter around a map of either the entire United States or enlarged maps of sections of the country. The maps have no city names on them, and for more advanced players, the names of the states can be removed as well.

The name of a city is flashed on the screen and you pilot your helicopter to that city. When your helicopter is fairly close to the right location a red circle appears at the exact site of the city; as soon as you pilot your helicopter over the dot, a new name is displayed. If you haven't found the right place within 15 seconds, the name of the right state is flashed on the screen to help you. You can disable this option for more advanced play.

The game starts out usually with capitol cities and major cities and then moves on to more obscure cities in the second round. A score is displayed and recorded at the end of each round.

In the information section of the game, the player uses a joystick to choose from a list of states. Information about that state, including nickname, flower, and population from the 1980 census is displayed on the screen. This is a great help in learning facts about the various states.

This is the first product we've reviewed from Radarsoft, and we hope that they will produce many more programs of this type. This

game makes learning geography painless and a lot of fun for younger children. It is interesting enough to keep them occupied for hours and at the end of the session, they will have LEARNED something....instead of just having killed off a bunch of alien invaders! (Maps World, and Maps Europe also available.) Highly recommended. -Art Lewis Kimball

**BANK STREET STORY BOOK** from Pixelwerks from Mindscape.

Until I saw this program and its mate (next review), I had concluded that none of the programs available to encourage children's writing and reading was worth purchaing. This one, however, deserves an "A" for graphics, originality and motivational potential. "For ages 8 and everafter," according to the box, it will enthrall for hours on end with its many choices of scenery and characters from monsters to maidens. Or the student may draw her own characters and even animate them. Each story may include as many as seven background screens and 850 words. A bar graph even shows how much file space is left to use. In addition, the 65 page manual is easy to follow and attractively laid out. The disk also includes animated stories written by children that demonstrate the great capabilities of the program. I urge teachers and parents to order this one; they won't be disappointed. Highly Recommended. Elizabeth A. Kaspar.

**SHOW DIRECTOR** from Pixelworks by Mindscape

This program, like the one above, includes terrific graphics and will motivate students to write. Not only are there choices of background and characters, but

also music and sound effects such as ghost, ocean sounds, and chirps to provide the right mood. The student writes the script and directs the play, moving the characters through the scenes she has selected or those she has drawn. The program "remembers" and replays it as written and directed. Also, the script can be printed. The 17 page manual could be more complete (I was spoiled by the story writer above). this program allows fewer words than story writer, though it does add sound. **Show Director** gets an "A-." Had I not seen story writer which is better, it might have gotten an "A". Students, however, may prefer this one for its sound. I still recommend it more highly than the other attempts at reading programs on the market, including the interactive stories. Recommended. Elizabeth A. Kaspar.

**STICKY BEAR ABC** Educational letter/word, keyboard tutorial for the C-64. Disk & poster from Weekly Reader Software. For ages 3 to 6. No statement of warranty.

**Stick Bear ABC** is an adequate first computer game for young children. It offers three different games: ABC, MATCH, and ORDER. The first simply allows a child to touch any letter key and responds by showing one of two pictures of some object that begins with that letter. The second shows the alphabet on the screen with one of the letters in a different color. When the child touches the correct key, one of the same two pictures comes to the screen. The last game simply requires the child to enter the alphabet in order, to show again one of the same two pictures.

If your child has used other alphabet games and has some working familiarity with the keyboard then

this game will not do much. Its entertainment value is limited. Disk access is frequent and no faster than normal (i.e. slow). For the narrow target of children first learning to use a computer **Sticky Bear** is quite adequate, maybe even good. But it won't be good for more than several weeks. AVERAGE.

Tim

**ASTRO POSITIONS** \$??? disk from King Microware. Positional astronomy/astrology utility with 98 pp. manual. DOS protected. Disclaimer of warranty. Printer optional

**Astro Positions** might be good for an amateur astronomer who knows the jargon, a person interested in an overview of the jargon and in finding the major stars, or an aspiring astrologer too lazy to cast horoscopes by hand. I am fairly well educated and widely read, but the way technical terms were bandied about in the program and the manual were almost enough to discourage me from trying too hard with this program. All terms are explained somewhere in the manual, to some degree or another, but never fully enough. Outside references are very desirable.

It will let you use almost any kind of information when setting up, e.g. for time it allows Ephemeris, Universal, Local Mean, or Sundial, but is set up for a standard. If your time and location are not entered in standard form, more information must be entered to calculate the correction. It is not really hard to use, just not easy.

Once you have entered all the information, **Astro Positions** calculates fairly quickly and comes back with a bunch of numbers indicating absolute and relative positions. The accuracy is a respectable one arc second for the

fixed stars and most planets. These results can be printed (dot matrix only) which makes it useful for field trips, or saved to disk.

The Astrology option is similar. It takes the same kind of information and does the standard calculations, resulting in the positions of the relevant bodies and their relationships in terms of cusps, trines, ascendants, etc.

This package would be good for somebody just beginning in astronomy or astrology and curious to find out what it is all about. It does enough to be rewarding and useful, but requires enough to give an indication of just how much work is involved in mastering positional astronomy. ABOVE AVERAGE. Tim

**WIZARD OF ID'S WIZ TYPE** Typing tutorial from Sierra On-Line for the C-64 (et. al.) on disk (and cartridge?)

**WizType** has different tutorial games to allow your child to work on hard to reach keys, on more frequently used keys, and to practice keystroke sequence and rhythm. **WizType** even allows you, or your child's teacher, to create special paragraphs or collections of words to practice. The idea with this program is to make learning fun. And with **WizType**, learning is fun.

In the main game, the famous Wizard of Id appears on the left side of the screen with the sad-eyed spirit of the wine vat on the right. The spirit evolves into a fire spitting dragon as letters or words appear on the screen. The child's task is to type the letters as they appear, causing the wizard to zap the letter with a bolt of lightning. If the child is not quick enough, the spirit will complete its transformation and blast the wizard into a pile of

grey ashes.

To help teach smooth typing rhythm, another segment prompts the player to type in passages from literature. First, the child chooses the speed he hopes to type. Then, while the child types the sentences, the court jester Bung jumps along the top of the words at the selected speed. If Bung outjumps the typer, he will impatiently wait at the end of the line watching his wristwatch.

**WizType** comes with a six page manual which briefly describes the games and options, and suggests some good typing habits. Even young readers should have no trouble understanding the instructions. Illustrations show the proper posture and hand placement that a child should assume while typing, and a quick reference card tells how to load and run **WizType**.

When the child tires of typing the paragraphs and word pre-packaged on the program disk, they can easily create their own word and paragraph files. The ability to add words or paragraphs is a valuable and powerful feature. This option makes adding and practicing spelling lists, poetry, the lines in a school play, or Bible verses possible. RECOMMENDED.

Gary Fields

**ASTRO-GROVER** Educational disk and keyboard overlay for the C-64 (et. al.) from CBS Software. Basic arithmetic for ages 3 to 7.

The blue monster, Grover, from every small child's favorite neighborhood, is the teacher in **ASTRO-GROVER**. He cleverly teaches children between three and seven how to count, add, subtract, and recognize number patterns. Its graphics and sound quality are excellent; its teaching methods are gentle and never boring. The game

cheerfully rewards correct answers without punishing wrong. My three year old son is just beginning to understand numbers, so the true test of the game was not how well I liked it, but what he thought. I was amazed how quickly he took to the game. Once the game was loaded, **ASTRO-GROVER** was simple enough for him to select levels and play unattended. But, best of all, between all his squeals of delight, he was actually learning.

Along with the disk comes a keyboard overlay which is blank except for the number keys and five other keys which allow him to select levels, play, or change the game.

The game contains five levels of play. Level one teaches the child to count friendly aliens from outer space. Level two drills the child in recognizing number patterns. The next two levels gently introduce addition and subtraction. The final, most difficult, level shows the child how different numbers can be combined in different sequences to arrive at the same answer. So a three-year-old can start with the basics while older children can go directly to more demanding levels.

That may all sound like pretty heavy material for a three-year-old to absorb, but the game's teaching is so cleverly disguised, and the rewards so addictive, my three-year-old was trying and beginning to understand levels one through three within the first hour of play.

If you have young children ready to be introduced to math, I **HIGHLY RECOMMEND ASTRO-GROVER.**

Gary Fields (& son).

**BUBBLE BURST** Educational cartridge & book from Spinnaker Software. Prediction and pattern recognition.

For 1 or two players, ages 4 to 8. Non-violent.

It is difficult to design a game which is both educational and fun to play; **BUBBLE BURST** is both. Parents will be happy to know the program, although challenging, is non-violent. The closest thing to violence is quick bird-like creatures popping soap bubbles.

The included 35 page storybook/manual gives the story of Soapie, a young serpent that moved to America from Scotland with its parents. In America, Soapie develops an unusual ability to blow long lasting, oddly shaped soap bubbles. She becomes so famous as a bubble blower that she is invited by the BBC (Better Bubble Company) to test their new bubble bath formula. The problem is with Zeboingers--small birdlike creatures that dislike bubbles (and probably baths) which try to pop Soapie's bubbles. The player(s) help Soapie by telling her where to blow a bubble that will capture the Zeboinger and float it safely out of the bath.

The animation and detail of Soapie are good. She wiggles her tail and turns and smiles each time the child helps her. She seems to be an even tempered creature and show no sign of anger or resentment even when she loses. Most parents and teachers will be delighted at Soapie's safe and caring solution to the invasion of Zeboingers.

The educational value of this game lies in its ability to help develop a child's pattern-recognition powers. The Zeboingers are of different colors and each color always flies the same pattern. Thus the child can recognize these patterns and increase their score by having Soapie blow bubbles more accurately. **RECOMMENDED.** G. Fields

**The Argos Expedition** Game with two disks, manual, & cards from CBS Software

I was terribly interested in this game that relied totally on cooperation for winning. Each of the two to four players must work together, not only by pressing buttons, but also by talking to each other and balancing the needs of the group with personal aggrandizement. The goals are "to allow children to experiment and explore, to think and solve problems, and to practice skills while they have fun." I wholeheartedly approve of this and believe that **The Argos Expedition** incorporates these goals. The high resolution graphics, sound and format are very nice, and there is plenty of challenge to keep the players interest.

The manual, written on a reading level of five to seven, is sometimes ambiguous. One direction states that the controller must tap the one and nine keys lightly to "make the tone 'smooth'". I hear is a series of random staccato notes that no amount of tapping makes "smooth." Other directions about matching tones and pressing buttons are beyond the understanding of myself or the dozen or so kids who have tried to actually read the directions. The game requires a high level of verbal skills and cooperation from the players.

One aspect of the "secret goals" in the advanced level of play is very interesting. Kids like secrets, but several times in the game I have seen them openly divulge their secret goal, and the other players then try to work out a compromise that will allow both the individual and the group to win. This type of learning experience is one of the most valuable to children today, and one

that really fosters harmony and understanding rather than cutthroat competition. Buy this game for you and your children. Recommended. Review By Sr. Cecily, CHS

**JOT-A-WORD** disk from Micro-W Dist. Inc., P.O.Box 113, Pompton Plains, NJ,07444.

Jot-a-Word is an educational game for ages twelve to adult. The object of Jot-A-Word is to guess the five letter word the genie has chosen. The genie will help by telling you how many letters you have right, but you must guess where the letters go. Jot-A-Word makes good use of sound and graphics and is easy and convenient to use because it does not require peripherals. The one problem with the game is that if you are having difficulty guessing the word and you give up, the genie will not tell you what the word was. The game does not have a warranty, but for ten dollars it is very reasonable. Average. Noah LeFevre, sixth grade

**The Adventures of Mimi the Ant** from Logidisque, C.P. 485, Succ. Place D'Armes, Montreal, QU, Canada, H2Y 3H3

Mimi is an ant. For each letter that you press, she will go to a different place. For example, if you press K, Mimi will paddle in her kayak. If you press T, there will be a thunder storm. If you press Y, Mimi will play with her yo-yo. This is a great game for kids 2-5. The game will help kids learn sounds and letters, and put together different things to make a story. I made one with Mimi going all over the place. There is no shooting or fighting in this game. Above average. Megan Jones Frummer

**VIZASTAR**, \$120 integrated business package for the 64 from Solid State Software. On disk and cart, with backup. Money back guarantee. Disk not protected?

**VizaStar** is an integrated business package containing three programs: a spreadsheet, database and graphics simulator. These three are targeted for the business world, so if you don't intend to get serious with your Commodore 64, pass this one by. But if you need a professional spreadsheet, read on.

The three programs are all stored on the same disk along with some example files and a copying utility program used to backup files. While each can perform alone, their ability to interact triples **VizaStar's** appeal and power. (The spreadsheet and database will also merge with most popular word processors.)

I found the spreadsheet easy to master. **VizaStar** can manage a spreadsheet size as large as 64 columns wide and 1000 rows deep. But in actual use, I was only able to create a sheet containing 600 cells (filled with data and formulas) before running out of memory. However, a sheet of this size should serve the needs of most small business owners, executives, or home users.

Although the program allows the definition of up to nine windows, I found using more than two confusing, especially on the Commodore 64's 40 column screen. But one very nice feature is **VisaStar's** ability to 'protect' cells so their content cannot be accidentally altered. If you've ever edited or overwritten a formula by mistake, you'll appreciate this feature. One other feature I appreciated was the constant status display as the cursor was moved from cell to cell. The contents of

each cell is identified as formula, value, text, general, integer, currency, date or scientific as the cursor passes over each cell.

In using the spreadsheet, I couldn't find a single feature, function, or command I wanted which had not been included. If you want a good, easy to use, professional spreadsheet for your Commodore 64, this is it.

**VizaStar's** data manager program is almost as well designed. It lets you include formulas in your design so you can do things like have the base alert you to deadlines, product expiration dates, money certificate maturity dates, etc.

But the program has one problem: when you need to add a file to an existing base, you must first select 'LAST' to position the disk write to an open sector on the disk. Then select 'NEXT' which will present an empty screen. Trying to add without these two steps causes the program to either refuse to take the data. This requirement was not mentioned in the otherwise easy to understand user's manual.

The Graphic simulator creates graphs, bars and pies by using numbers generated by the spreadsheet or data manager which can be dumped to a printer.

**VizaStar's** two flaws are caused by the Commodore 64's limited memory and 40 column display. A program as powerful as this, deserves an 80 column display and at least another 16K of free memory. Because the program is huge (it takes up 200 blocks of disk space) only 10K of useable memory, is left for your sheets and files.

I don't think you'll find a more capable integrated package for the C64. **Visastar** does cost more than others, but is worth the price. Its only shortcoming is its

size. In making it friendly and powerful, the programmers used up most of the 64's memory. If you can live within the program's size, you will never regret buying it. In fact Solid State Software, which distributes **VisaStar**, is so sure you'll like the program their warranty says they'll give you your money back if you are not delighted.

(NOTE: The version used to for this review was **VisaStar 'XL4'**. A larger version, 'XL8', is also available which includes a ROM cartridge freeing about 40% more useable memory. I highly recommend spending the difference for the larger version, if you decide to buy **VisaStar**. [Visastar 128 is to be available shortly.]) **Highly recommended.** Gary Fields.

**WordWriter 128:** \$70 wordprocessor for the 128 on disk from Timeworks. Compatible with Swiftcalc & Datamanager from Timeworks. 90 warranty, plus updates. Dos protected.

If you are a Commodore 128 owner and need a professional quality, yet easy to use, word processor, take a look at Timework's **Word Writer 128**. Its pull down menus and help screens will have even novice computer users up and writing in no time flat. On screen help in addition to one of the best written user's manual I've read, makes **Word Writer 128** perfect for those who want to write without learning a lot of cryptic keystroke commands.

**Word Writer 128** features most of the editing aids a writer will want in a word processor including search, search and replace, copy, insert, merge, delete, etc., and all are easily activated via pull down menus. Plus the program offers

an on screen calculator which can be summoned at anytime with a single keystroke. The results of the calculation are automatically transferred into the text.

'Spell Checker', an 85,000 word dictionary, is also part of the package and stored on the reverse side of program disk. ('Spell Checker' is not copy protected, so you can duplicate it on a seperate disk if you wish.) Unlike some spellers I've used, this one not only flags suspected spelling errors, but allows the user to scroll through an on screen dictionary in search of the correctly spelled word. When the correct word is found, a simple press of the RETURN key corrects the misspelled word.

Since the program works on the Commodore 128, in 80 column mode, the screen display shows exactly where pages will break and lines will wrap when printing is done with single line spacing. This display works well as long as you don't mix single spaced text with multiple spaced text. Unfortunately if you do mix spacing the video displayed page breaks will not be accurate.

During my first session with **Word Writer 128** I had some misgivings about the wisdom of using pull down menus. All the word processors I write with use a combination of keystrokes to activate their features, a process which takes a little time to learn, but pays off in speed. Thus, I expected **Word Writer's** pull down menu's to slow me down. But with just a little practice the keystrokes required to call up the menu, select the feature, and complete the editing felt comfortable and took no more time than the special keystroke method of my traditional word processor.

In fact, I saved time by not having to memorize commands or search through a user's manual.

One welcome feature is Timeworks' 800 support line. They maintain a toll free telephone number to offer help anytime you have a problem using any of their products. I tried the number and got friendly help on just the third ring. So if you need a professional quality word processing program as well as after purchase support **Word Writer 128** is an excellent product at an affordable price. **Recommended.** Gary Fields

**NEWSROOM** \$60 wordprocessor/graphics package from Springboard. For the 64, DOS protected. Money Back guarantee.

I for one am impressed beyond belief with The Newsroom. The Newsroom is a program that will allow you to print newspapers, newsletters, flyers, or whatever else you can think up. A journalist or editors dream, this new program now available for the C64, has the ability to format and print text AND graphics, in two columns, on one sheet of paper.

The program comes with two disks. The master program disk and a clip art disk. The clip art disk is used for all the graphics that you will be printing. Quite an impressive collection too!

There are six sections to the program. The Banner, Press, Photo Lab, Copy Desk, Layout, and Wire Service. The Banner section is used to create the title and major headlines for your newsletter. The Photo Lab is used to create the pictures that you will use in your newsletter. The Copy Desk is a basic word processor to create your text. The Layout section is where you put everything together to form

a page. The Press section is used to print out your newsletter. The Wire Service is provided so that you may send any of your created text or photos to either an IBM, Apple, or a C64. Provided they are using The Newsroom also.

I liked the ability of the program to combine text and graphics in the same area, and the ability to print it out in two columns. Many different printer configurations are available.

There are three things that I don't like about the program. One is the amount of disk access that is required for each phase of the program. Two is that fact that you cannot load sequential text files. Everything needs to be entered into The Newsroom individually. There appears to be no way to use text written with other word processors. The final problem that I can see with the program is the fact that you cannot change the size of any of the graphics that are supplied with the program. I attempted to use a 'soap box speaker' graphic for my banner, but it would not fit into the Banner area.

Highly recommended for editors, journalists, and writers. Recommended for anyone else who would just like to have some fun!  
Eric F. Martin

**WORDPRO 128: Update** \$99.95  
Wordprocessor from Pro-line. (#27)

We have run into a few bugs/defects with the 13 August 1985 compiled version of Steve Punter's **WordPro 128**, as follows:

- 1) Large text files cannot be accurately saved. When saving a large file, everything is ok until the 82nd (83?) disk block. Everything after that is garbage.
- 2) When concatenating multiple

files using the INSERT option, after some point the screen characters are altered. We have not yet found that this has any effect on operation, but it is rather disconcerting.

- 3) Various operations, such as Search & Replace (logo @) occasionally cause odd characters to appear at various locations on the screen.
- 4) Various oddities occur while in the INSERT (logo I) mode. When recalling a non-standard file while in this mode, the file is read from the disk at about 5 characters per second. The load can be aborted, INSERT turned off, and the file loaded at its normal rate. Also, as a word wraps to the next line when entering text, the first character of the new line is left in reverse field. This can be changed back to forward field by simply moving the cursor over the character and continuing. The reverse field character will follow the real cursor, by line, until it is taken out by use of the cursor, and the INSERT mode turned off.
- 5) **WordPro 128** files are not transportable to **WordPro 64**. The beginning of the WP 128 file is lost. WP 64 files will load acceptably into WP 128, but slowly (as per sequential file loading). Not everybody has a 128 yet. Downward compatibility is really needed.
- 6) Finally, the documentation. While it is fairly accurate and complete, it is not sufficient for a novice user. Nor is it easy to use. We

would really like to see better documentation for **WordPro 128** (and for **WordPro 64**).

The most disturbing of these flaws is the first, the limitations on file size. This must be corrected if **WordPro** is to retain its reputation as the best wordprocessing program for Commodore computers.

Two features not implemented in **WordPro** that would make it a more attractive package are decimal tabs and column manipulation. We look forward also to provisions for use of the upcoming RAMdisk memory expansion and more extensive use of the additional function keys on the Commodore 128. These features are not absolutely necessary to the product's success, but, along with the correction of the defects listed above, would make **WordPro** the best for all applications, with no qualifications. [We have lately heard from ProLine that the bugs are being resolved, and should be removed before the next production run.]

As it stands, I still believe **WordPro** to be the best professional level wordprocessor for the 128. The power of its text formatting, the support of a wide range of printers, its support of sequential files, and the suitability of its command structure for continuous use are unrivaled. For regular professional use, **WordPro 128** is Highly Recommended. Tim

**RADARBASIC 50K \$00.00** Memory Expansion Cartridge for C64 from Radarsoft, Inc., The Netherlands

**Radarbasic 50K** is a plug in cartridge that works on the 64 or the C128 in 64 mode. It frees up an additional 12,200 bytes of memory which allows you to run programs with more arrays and more variables than normally allowed.

Resident within the cartridge are some handy DOS commands which allow you to load directories, save, load, load and run, rename, scratch and renumber all with one-letter commands. The cartridge also speeds up loading and saving from cassette.

The cartridge is compatible with Basic 2.0. Since it adds no new commands, there is no problem transporting programs to other C64s (that don't have the cartridge)...as long as you haven't used too much memory.

**Radarbasic 50k** performed exactly as advertised and would be a useful for anyone who simply wants a little additional memory and the convenience of one-letter DOS commands. Recommended -Art Lewis Kimball

**Nevada FORTRAN: \$39.95** disk & book for the C64. Requires CP/M cartridge. Unprotected, 90 day warranty. From Ellis Computing, 3917 Noriegast, San Francisco, CA 94122

This FORTRAN compiler requires strong familiarity with CP/M, especially the editor, in producing the source code. The manual, although big, gives no examples, and assumes familiarity with the operating system. It is extremely slow as well. The only redeeming feature is its reasonable \$39.95 price tag. Unless you have mastered CP/M, Nevada Fortran is Not

Recommended. Harry Merz

**SPEEDLOAD for Your 64**  
Fast load package for the 1541 drive. ??00

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Speedload for your 64 is an interesting fast loading utility for your 1541 disk drive. It is a menu driven utility that will load in a BASIC or ML program into memory and subsequently save that program to another unformatted disk in a special "fast loading" format. It will allow multiple program saves on a single disk but recommends no more than two large programs be saved on any one disk.

According to the documentation sequential files can also be handled, however, I was unable to get my drive to do so with any reliability. The documentation also claims that "with practice you will discover that certain relative (REL) files can be used with SPEEDLOAD". I must not have practiced enough because I was unable to get any of mine to work with the package.

The specs in the documentation are as follows: 1)Speed - 6.25 kilobytes per second 2)Buffer - 191 blocks maximum 3) Start up - 2 to 3 seconds. My benchmark for all fast loading routines in the 99 block public domain program MONOPOLE. After preparation by this package the program loads in 6.8 seconds. As a comparison, the FASTBOOT routine in Fast Hack'em will load MONOPOLE in 10 seconds. All tests were made immediately after saving the versions to disk.

The data exchange routines are

the fastest I've seen so far for the Commodore 64/1541 drive system, but they have severe limitations in my mind. If all you want to do is have your strictly BASIC non-interactive program load very fast, then this program is for you. I was even unable to get a normal BASIC program to load a ML program residing at \$C000 after using the package. There is a possibility that my ML routine interfered with the software, but the documentation gives no specifics on where the utility lies. It does modify both the operating systems of the drive and the computer.

When the modified programs are saved to disk they are saved in a protected format that is not save/load compatible with normal 64 programs.

In my mind, the poor documentation and loss of interactivness are not acceptable trade offs for speed. Not recommended.

Stephen R. Gast

### 1541 RESET SWITCH

For the serious programmer debugging a machine routine that resides in the 1541 RAM, a reset switch really would come in handy when the program bombs and the drive locks up. The smallest mistake may cause an error requiring a system power-down or reset. I HATE TO TURN OFF MY COMPUTER! I wouldn't have to had COMMODORE, in their infinite wisdom, provided a way around powering down and losing memory, not to mention the abuse given to my expensive power supply (which is another story...).

Fortunately, the 6502 micro-processor has a built-in circuit, as do nearly all of MOS Technology's 65XX-series LSI

(Large-Scale Integrated) chips, called RESET. This circuit is connected to a timer which sends a one-shot negative-going pulse and latches the circuit high whenever power is applied to the system. Because this circuit is normally held high, any low signal will set the processor's registers to look at location \$FFFC which contains the the initialization jump vector (\$EAA0 in the 1541) and execute the reset routine held in ROM.

On the 6502 chip, the RESET pin is #40. For those not familiar with IC pin numbering, pin #1 is located left of the indentation at the "top" end of the chip. Pin #40 will be directly opposite of pin #1, or on the right side of the pin #1 identifier mark or notch. The next step in installing a reset is to find a location to "grab a ground" and connect it through a momentary switch to a convenient location that ties with pin #40 on the 6502. "Tack-soldering" a wire to pin #40 of the 6502 may burn and destroy that delicate chip, so another location must be found.

At the latest count, there are six different versions of the 1541 PCB (Printed Circuit Board). Don't let that discourage you. All of the reset circuits in every board tie to the serial ports through a ferrite coil (L-14) before going to pin #6 of the serial ports. This is a wonderful location to install a reset switch since this area is wide open on most boards. Either side of the ferrite bead (as Commodore calls that thing) is a good location to "tack-solder" a wire for one leg of the reset switch. As for the ground, "tack-soldering" a wire to the negative leg of one of the two big power supply capacitors, C-17 (most preferable) and C-16 is relatively painless and simple. Once the two

wires have been soldered in place, the next thing to consider is where on the drive you want your momentary-on, normally-open, reset switch (the only of switch recommended). This location is purely aesthetic and will be left for the user to decide.

One final note, if the disk drive is connected to any other peripherals or the computer at the time the reset switch is pressed, everything on the serial bus will reset also! If this is what is wanted then everything would be peachy; if resetting ONLY the drive is needed, then the serial cable must be disconnected from the computer (or drive) BEFORE pressing the reset switch.

LBA



### C64 Program Tracing.

The C64 has a built in trace that can be used in debugging your programs. Anytime your program has an error in it, BASIC jumps out to an error routine that prints the error number and then the words "IN ###." The subroutine that prints the "IN ### is located at 48578 (\$BDC2). Anytime in your program, if you want to know if a particular line has been executed, just add ":SYS48578" to the end of that line. Then everytime the line is executed, the phrase "IN ###," where ### is the current line number, will print on your screen. No carriage return prints, so if you want each one on a separate line, then add a :PRINT to the end of the syscall. To avoid the "IN," SYS to 48585 instead. This can be moe useful than some trace routine that prints out every line number. You can select only the range of line numbers you are interested in. If you wish to leave this code in your program permanently then you need a means of turning it on or off. To do this, set DB=0 to not trace, and DB=1 to trace at the start of your program and add "IF DB THEN SYS 48575:PRINT" to your lines. [Courtesy Ron Schmars, Fox Valley 64 User's Group Newsletter.]

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**Exploding Fists** by uxb.. Disk for the C64. Joystick(s) required. DOS protected.

The company is unknown; with this sports simulation they're going to make a name for themselves. Exploding Fists is a martial arts game of skill and strategy. It differs from others in a few key respects. Graphics are excellent and FAST. The music played in the background (oriental) is very good, as are the sounds of the striking blow. Easy for one or two players with joysticks. No blood and guts here...good wholesome game. You fight for points rather than the kill. It would be like comparing the 'KARATE KID' film with films from 'BRUCE LEE'. For all of you aspiring Kung Fu fighters I Highly Recommend this game. jo

**Star Rank Boxing** from Gamestar. Disk for the C64. Joysticks required. DOS protected. One or two players.

This one differs from the other boxing game from Sierra in that you control your fighter by the joysticks. It's fun to watch the flash blubs go when some one is knocked down. Sounds are made when you hit or miss your opponent..You must train prior to any fight with roadwork and weight lifting for endurance, sparring for experience, etc; You decide how. I consider this boxing simulation closer to the real thing. Can only fight by rank--like in real boxing doesn't allow you to fight more than two ranks above yourself. I'm not sure why but my kids still prefer 'Championship Boxing.' Still I **Recommend** this sports simulation (boxing) over Sierra's. JO

**Karateka** by Borderbund. Disk for the C64. DOS protected.

Martial arts game with the theme of rescuing the princess. The graphics depicting the fights between your fighter and the (guys name) warriors are very good though slow at times. After a couple of games, it does get a little boring. After my fourth try of the game I beat it (with the help of Bob Wolter's son). If you can get it on sale, buy it. Otherwise, look at some of the other karate games. Average. JO

**World's Greatest Football Game** from EPYX for the C-64. DOS protected.

Nope, it's not.

WGFG is the most realistic of any of the football games on the market for an 8-bit computer. Graphics are excellent with up to three split screens at once displayed.

The chalk board option allows you to create your own plays. One play mode, and you still have to do things to the other side

Graphics are slow, Access to the 1541 drive alot. good game but it's a hard game for kids to play. Above Average. JO

**Tapper:** who from?

As a bartender from the Gay '90s, your job is to keep the patrons of your bar happy. Six plus screens of action as you tap your mugs and slide them down the four bar tables to music (and sometimes dancing ladys). If you falter, the patrons (dressed from factory workers to Star Wars type charactors) will slide you into the end of the bar or make you drop a glass.

Very close to the arcade version in many ways, in this light hearted arcade game you don't need

to kill, stomp, mutilate or destroy anything. Great fun for all you kids out there. My favorite arcade game this week. Recommended. JO

### **SuperBowl Sunday** Avalon Hill, c-64

During football season I lie in front of the tube. Yes, I am a football fanatic. I first saw this game demonstrated at Jan. CES and from that moment on I NEEDED this game.

Choose from 20 Superbowl teams up to 1984 and match them up in head to head combat. You can play the computer (with a team of your choice ) or another player. There's an option to watch a complete game from the press box and give advice to the teams from there. (Hello Walsh? Ronnie here..try a bootleg right down back on the flat on two)

Choose plays (list offenses) and defenses--either run, pass or normal; and you can direct all eleven of the defensive players.

I wish you could construct your own teams via a draft (similar to Computer Quarterback from SSI) Many factors are involved for me, the football fanatic, to recommend this game. Ease of play, style of play, authenticity and truism to the teams tendencies. I **Highly** Recommend this football simulation. JO

### **Hard Ball**; Accolade, c-64, Baseball arcade/strategy game.

Don't think of this game as ANOTHER baseball game. This game, by Bob Whitehead of Activision/Atari programmer fame, has the BEST graphics and PLAYING style of any of it's predecessors.

At least two different screens are shown at the same time; always. Great 3-d graphics for pitching and hitting--overhead view and dugout

view of players scrambling for the ball to sliding into the bases. This is the BEST in arcade/strategy baseball. Plays MUCH better than any one else's. **HIGHLY** recommended. JO

**Championship Boxing**, Sierra. \$24.95 disk. 1 or 2 players, solitaire, strategy arcade game. DOS protected, 90 warranty.

The main menu of the prg. you can go to the gym (delete or create new boxers), go to a fight (pick two boxers to battle it out) or a third option that I haven't figured out. There are 3 modes during fights: simulation--the computer controls both boxers and trys to simulate what the fight probably would be like; Strategy, same as above but you have an opportunity to be the manager of one or both of the boxers and hopefully give good advice (list options like taking a dive); and Arcade mode: you control the boxer using the keyboard to throw (list punches and movements). The playing screen shows two boxers, the score, time remaining in the round and what round you are in.

Rounds can be 1 or 3 min. depending on your choices. The graphics and animation are very well done.

Depending on your view point, you hear the punches, the bell, and can watch your boxer crumble to the canvas. No blood and guts though, this is a family game.

I'd say for a sports simulation it ranks in my top 10 of the best. Highly recommended. JO

**Championship Boxing** combines arcade action, strategy and true life simulation to give you the feel of really being ringside. The simulation lets you fight, or

manage, many of the legendary greats such as John Sullivan, Marciano, Patterson, Ali, Foreman, etc. Or, if you want, you can create your own fighter. The three modes of play are: (1) watch a fight controlled by the computer (2) fight against a computer controlled boxer (3) compete with a friend.

You can view the different boxers available and compare their stats & records then pick the two you want in the ring. **Championship Boxing** lets you recreate great matches of the past or simulate fights between great boxers of different eras.

When the FIGHT option is selected, you can either (1) fight as the boxer (2) manage one of the boxers or (3) just sit back and watch the action and bet on who will win.

The game's graphics were better than I had expected. Boxers look like real men throwing real punches. When a boxer is stunned by a punch, he will hesitate for a split second and drop his guard. Unfortunately, there are no roaring crowds, no grunts and no thuds when a boxer collapse on the canvas.

All game commands are issued via keyboard input. Since the fight is fought in real-time you have to be swift with your fingers to punch out a TKO. I found keyboard control confusing at first, but with a little practice it became second nature. However, sharing the keyboard while fighting a boxer controlled by another human is neither natural or comfortable.

The many options, true to life action and excellent graphics heavily outweigh **Championship Boxing's** few flaws. Anyone the least bit interested in boxing, will like this offering from Sierra On-Line. Recommended. Gary Fields.

**MUSIC VIDEO HITS:** \$14.95 disk for the C64 from Sight & Sound, New Berlin WI. Protected, 90 day warranty.

This computer video jukebox plays music while displaying the notes and text on the monitor screen. While this is one of the better audio/visual programs, I have seen classier arrangements. It would be nice if there were another way to display several measures, and to highlight the current note. MVH is fairly attractive, and requires no computer knowledge. Average. Harry Merz.

**COLONIAL CONQUEST:** \$59.95 strategy game disk from Strategic Simulations. DOS protected, 30 day warranty, \$10 replacement after. 1 to 6 players. Joystick required.

This is a strategic game of world conquest similar to the popular board game "RISK". Players accumulate victory point by winning battles to control territories. There are three scenarios: The standard game in which each of six major countries control only their own territory, with army strength and net worth randomly set; the 1880 scenario, in which the major countries control the same territories as they did a century ago; and the 1918 scenario, in which Germany is at war with France, Russia, and England. The screen displays a partial map which can be scrolled to show any particular area. Various markers indicate fleets, ports, and supply centers. Countries take turns building armies, moving troops and ships, and making financial, espionage, and subversive action decisions. The game is broken down into phases, and may be saved. An excellent game. Recommended. Mark Lofland.

**ON-TRACK RACING:** \$24.95 arcade game disk from Gamestar/Activision. DOS protected, \$10 backup, 90 day warranty. Requires joystick.

This game allows one or two players to configure their own cars to race against each other or one of three computer controlled cars. Cars can have different quality speed, brakes, acceleration, handling, and other options. The track can be designed with shape, paved or dirt, # laps for the race, and two different levels. When everything is set up, the track and cars are displayed and the starting lights count down. A time clock displays elapsed time, # of laps, and hi/low gear. Acceleration is automatic with the players controlling braking, and left/right steering. Driving off the track makes for a rather slow, bumpy ride. Staying on the track is hard at first, but tips in the manual help in getting the feel of the cars and give hints on how to win. Considering the large number and quality of racing games on the market, this one rates an Average. Mark Lofland.

**HOTWHEELS** Game disk, from Epyx. Ages 10+. DOS protected, no backup. Joystick required.

In this game you drive a car around town to the carwash and the pit, or across the expressway to the gas station to check the oil and to park.

There is a also house that sometimes catches fire. When you see the fire you go to the fire station and take out the fire engine. It feels like you are really driving the car.

There are no points given in Hotwheels, and you don't have to reload the game to start again. You

just go in where it says New Cars.

The sound is OK and the graphics are great, but once you've learned how to play this game you get tired of it. No back up is available. Average. Joanna Korman, sixth grade.

**ROCKET ROGER \$5 Arcade game on disk from Alligata Software Limited, 1 Orange St. Sheffield S1 4DW. Joystick optional.**

S. Evens **Rocket Roger** is an extremely hard and yet exciting game recommended for ages nine and up. This action game can be played with or without a joystick. It uses many graphics, but has very little sound.

You play Rocket Roger, stranded in the Crystalline Caves without fuel for your ship. You must collect ninety-nine crystals which are scattered in the different caves and bring them back to your aircraft. The price is five dollars. But a warning: only get this game if you are into very complicated ones. Average. Lisa Kavanaugh, sixth grade.

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#### 1525 PRINTER RIBBON TIP

If you are having trouble finding a 1525 ribbon then you may use the Radio Shack #26-1424. Also, all 1525 ribbons are of the re-inking type, and can be re-inked with the following program:

```
10 open4,4
20 print#4,chr$(15)"[38 spaces]";
30 print#4,chr$(15)"[38
spaces]";goto20
```

Let this run for about 2 minutes then press RUN/STOP. This should greatly improve the appearance of your print. [Courtesy of **Sprite 64**, East Detroit 64 User's Group.

## **SUMMER GAMES II, EPYX, Olympics Part II.**

The most striking feature of this sports game is the graphics. The graphics are almost like watching saturday morning cartoons. They're that good. As in Summer Games, there is the opening ceremony in all it's splendor. The list of events are: Triple jump (with a stadium screen showing instant replay no less!), Rowing (My specialty), Javelin, Equestrian (thank goodness that horse isn't real!), High Jump, Fencing, Cycling, Kayaking (GREAT white water rapids simulation!). The kids will enjoy this game thouroughly, although we older ones may want to do a few wrist exercises prior to taking them on. Highly recommended. JO (Side note: If you purchase either of these games, BE SURE you have invested in a QUALITY joystick. If you don't, you and your family are going to spend alot of time going out and buying lesser sticks to abuse. Take it from an expert, buy WICO!)

## **WINTER GAMES, EPYX**

It's winter and the Olympic Games continue! Again, as in Summer Games & Summer Games II, the graphics are outstanding. More music in this version though, which is nice. The events include: Hot Dog (acrobatics jumping with flips and daffys), Biathlon (a LONG distance to ski and also tests your marksmanship), Figure Skating (For all you Peggy Flemmings out there), Ski Jump (My favorite, that jump is a MONSTER!), Speed Skating, Free Skating (As in Figure Skating but free style), and Bobsled (This one has three screens displayed at once).

Be aware as in the others that these games work your wrist AND your joystick. Theses games make

nice Christmas gifts but before you buy make sure they load at the store before you take them home. Highly recommended. JO

## **GREAT AMERICAN FIREWORKS DISPLAY: Activision.**

I'm not sure how you can clasify this game. Maybe educational? This program allows you to construct fireworks displays on your c-64. Many, MANY options such as music, timing, fireworks, scenery, etc. to make your own outstanding displays. I think most kids would like to play this thing but after two or three episodes with it my kids soon tired of it. JO



## **LAWS OF COMPUTER PROGRAMMING**

Any given program, when running, is obsolete.

If a program is useless, it will have to be documented.

If a program is useful, it wiwill have to be changed.

Any program wiwill expand to fill all available memory.

The value of a program is directly proportional to the weight of its output.

Program complexity grows until it exceeds the capability of the programmer to maintain it.

make it possible for programmers to write in English, and you will find that programmers cannot write in English.

[Courtesy Fox Valley 64 User's Group.]

TELECOMPUTING  
by Mike Stout

A new telecomputing service called Quantum Link or Q-Link recently came online with an innovative fee system: a flat \$9.95 a month that includes access to several features within the system. Sections labeled with a '+' have surcharges of 6 cents a minute. Each user receives 1 hour in these areas each month at no charge. Q-Link has NO extra telecommunications fees and no extra charges for 1200 bps.

Access to the Q-Link is available only through special software that the company provides. Once your Q-Link disk is setup, signing on to the system is easy. This disk contains your id & password, and handles autodial to the main system. Once on, your vital information will be read and the disk validated. This validation is very important, as Q-Link writes to it. This disk must be used every time you call. A copy of this disk will not work, so handle it with care.

Q-Link is accessed via Telenet, Tymnet or Uninet numbers. This opens the system to several areas in the country that don't have the luxury of direct access to systems like CompuServe, a big asset as far as I'm concerned. This one feature alone should boost the number of active callers to the system.

After validation, the user receives a very colorful screen that let's the user choose what section he/she would like to enter. This screen is very similar to the first screen on Playnet with one major exception; once in the system, a user never needs to load off of the system disk. This is contrary to Playnet and very little

time (ANY??? ed.) is wasted waiting for a disk load. Users pay for these loads on Playnet, but not on the Q-Link.

Once here, a user has eight areas to choose from:

Commodore Software Showcase: both public domain and commercial software, previews & more;

People Connection: chat, messages, games & conferences;

News & Information: USA Today Update, forums & more;

Learning Center: Academic American Encyclopedia, Electronic University & more;

Commodore Information Network: SIGs, reviews, Commodore Hotline, Ask Lou Sander, public domain library & much more;

Shopping Center: software orderings, Comp-UStore & other stores;

Customer Service Center: News, suggestion box, account information, current and pricing;

Just For Fun: Pro Picks, Trivia, Entertainment News and much more.

Now, about what several users (including myself) consider the best section on any system like this, the PUBLIC DOMAIN LIBRARY. These sections are available in both the Software Showcase and the Commodore Information Network (CIN). They are very similar to what use to be the data libraries in the CIN on CompuServe and contain several nice programs for both the 64 and 128. Although currently limited, the volume increases weekly and as time goes on should turn into a large collection.

128 owners will be happy to know that Q-Link has a special download section just for their computer. Within this section are sub-sections for utilities,

telecommunications, sound & graphics, and information.

Downloading on the Q-Link is very easy with the cursor and function keys used. When in the download section, choose which area of interest and then get a list of its contents. Once you see a file that looks good, place your cursor by it and hit your F1 key. A description of that file will follow and now hit your F7 to decide your course of action. Here, you can use your cursor to select download or something else. If you decide to download this program, be sure to change your system disk to a disk with ample blocks free.

Another asset Q-Link users will enjoy is the helpful staff of Quantum employees. I've found everyone there to be very friendly and concerned with any problem I've encountered. A telecomputing service can be good, but all is lost if the company operating it doesn't care about it's customers. The quality of Q-Link Customer Service is the best I've dealt with and I'm sure we'll have a very good relationship over the years.

In closing, I've been a CompuServe user for almost three years and have always enjoyed their system, but not their arrogant attitude. It will do them good to have a little serious competition and hopefully will prompt them to better their service. I will not get my hopes up too high, as CIS tends to be more concerned with their executive accounts than with the home computerist, but who cares? We now have an alternative and I plan on being a regular Q-Link user and hope you will be too.

For more information about Q-Link call 1-800-392-8200 or write to:  
QuantumLink

8620 Westwood Center Drive  
Vienna,VA 22180

The local Commodore user's group, CUCUG, attended a demonstration of the AMIGA 1000 personal computer in Springfield the evening of Friday 25 October 1985. Mike Stout, Central Illinois Pet User's Group president hosted the two hour presentation, given by Commodore User Group Liaison, Pete Baczor.

The machine itself is impressive. We saw some, not all, of the demonstration programs over which everybody raves. The actual presentation was weak.

After very short introductions, Pete began the demonstration with an fifty minute edited videotape of the New York premier. While the clips were a little bit informative, they were not sufficiently so; nor were they entertaining. I did not learn anything that I had not read.

The actual demonstration of the AMIGA was just a showing of the Workbench user interface with a bit of graphics and music thrown in. The graphics and the music were impressive. The presentation thereof was not.

I do not wish to fault Mr. Baczor.

I would like to say, however, that Commodore certainly made no new sales. I am willing to believe that Pete has been on the road almost constantly for at least several weeks and has not had the opportunity to sit down and master all the material for the machine.

I wish he had. Thank you Mr. Baczor for coming, and thank you Mike for inviting us.

## THE AGE OF THE TRULY INTERACTIVE COMPUTER

by Thomas F. Trocco

I had the pleasure of attending a Schreiner Associates press conference announcing Welwyn Currah's new HEARSAY. For under \$100 you can now control your C64 or Apple ][ by voice. This add-on unit combines voice recognition and high quality speech synthesis for use with a new line of software to be launched by Helwyn Currah as well as most pre-existing software.

Before using Hearsay, the user must train the unit by speaking the word twice. Up to 64 utterances of up to 1 1/2 seconds can be stored at once. Recognition is 95% or better.

Hearsay could be used with a terminal program, database, etc., but the real value is with its use in educational programs for preschoolers. No longer must young children hunt for keys--taking their eyes off the screen and missing the computer's response. Now their full attention can be directed at the screen, while they carry on a two-way conversation with their computer. Obviously, the vision-impaired will also benefit from Hearsay.

For those interested in the specifications: Hearsay's chip includes N-channel silicon gate construction, single 5-volt supply, on-chip oscillator and is TTL compatible. It is designed to interface with most 8-bit microprocessors, including the 6502 and 6510. Internal hardware design is composed of an 8-stage LPC lattice analyzer in the recognition mode that is switched to a 10-stage lattice analyzer in the synthesis mode. In the linear mode, linear predictive coding analysis of digitized speech data is performed,

stored, and used later for recognition matching. This, and another new digital speech synthesizer to be released by Welwyn Currah, promise to open more new doors for home & school computers.

### I LOVE MY 128 BUT...

by Thomas F. Trocco

My 128 arrived last month, and it's fantastic! I've been using PaperClip 128 and The Consultant 128, and the speed of the 1571 combined with the crystal-clear 80 columns on my Tandy RGB CM-2 monitor creates a professional-looking and professional-working system. However, as in all new systems, there are bugs:

1. In the DOS SHELL, when you choose COPY A DISK (with one drive) the blank disk must be unformatted. If you insert a formatted disk, you'll receive a 'WRONG DISK-TRY AGAIN' message. If you then insert an unformatted disk, you'll still get that same message. Maybe the program doesn't initialize the drive? Whatever the reason, you'll have to start over.

2. The manual errata sheet suggests that you use the COPY FILES function of the DOS SHELL if you don't have an unformatted disk. However, this won't copy an autoboot sector onto the new disk.

3. The solution is simple: take the disk you want to copy to and 'unformat' it by running a magnet near its surface. I've used a bulk tape eraser, but any magnet will do (e.g. a kitchen magnetic hook).

4. After a disk is copied, you'll want to check its directory. Too bad there's no directory function within the DOS SHELL. You

must exit the SHELL (F1), then hit F3 for directory. Now something strange happens. You'll see all the files copied, but you'll also see all 1328 blocks free! To see the correct number of blocks free, simply initialize the drive: OPEN 15,8,15,"I":CLOSE15:<F3>

5. If you have an autobooted disk and you want to re-format it, include an ID number, or the autoboot sector will remain.

6. Using FAST HACK'em with a 1571 in 64 mode causes the drive to lock up before the error messages can be displayed. Simply turn the drive off, then on again.

7. In PaperClip 128, the left shift-v combination doesn't work, whereas the right shift-v does.

#### THE EASE OF THE C64 WEDGE by Thomas F. Trocco

As you all know, your C64/1541 system can be made easier to use by booting the wedge which comes with your 1541 disk. By Typing '@', you can read the error channel. By typing '@' with various commands, you can SAVE, LOAD, RUN, RENAME, ALIDATE, INITIALIZE, etc. However, something happened last week which makes me wonder if it has become too easy to use the C64.

I had left my system on for an hour while occupied in another room. Upon my return, I found Rowena, my calico cat, perched on the computer. She does this often, because the heat that the C64 produces is perfect to warm a kitty. One thing was strange, though: On the screen was the message:

```
<left arrow>PRPRPRP  
SAVING PRPRPRP  
READY.
```

I knew I hadn't saved such a file, and I was alone in the house. So I

loaded and listed the file, but there was nothing there. The only conclusion: that Ro had somehow 'accidentally' walked across the keyboard, stepping on <left arrow>, then PRPRPRP, then RETURN. Or was it an accident?



#### CALL WAITING WOES

Does call waiting disconnect you when you're using your modem? Here's your answer: After loading your terminal program, dial 9, then click the switch hook to receive the dial tone of your second line. Then you can switch your modem to dial. Hang up the receiver and use the programs autodial feature to dial. Anyone calling will get a busy signal and your connections cannot be broken by an incoming call. [Laura Clements, MCCC News, courtesy CCCT Newsletter, Toledo, Ohio.]

Language Speeds on the Commodore 64  
by Brian Junker

Recently a survey of sorts has been reported in the "commodor" notesfile of the University of Illinois' PLATO system concerning the speeds of various programming languages for Commodore computers. The U of I PLATO system is a large computer system used for computer assisted instruction. It is linked to other PLATO systems in several other cities across the country. Notesfiles are single - issue electronic bulletin boards on the PLATO system which are available to PLATO users.

The fellow who started the survey, Anton Treuenfels of Minneapolis, put it like this:

Everyone knows that it's not possible to compare computer languages directly. This is because different computer languages are intended to do different things and so emphasize different abilities, etc. [But] here are some cheerfully unscientific results from a survey ... to see how long it takes to find the first 1000 primes [using the Commodore 64]."

A prime number is a positive whole number which can't be evenly divided by any smaller whole number besides 1. The first few primes are 2, 3, 5, 7, 11, 13, 17, 19, 23, etc. There are infinitely many of them. The algorithm used to find the primes on the '64 was this:

- (1) Keep a list of all the primes you already know in an array, say  $P(K)$  is the  $K$ -th prime. Start off with  $P(1)=2$ . Start the "test number"  $T$  at  $T=3$ ;
- (2) If  $T$  can't be evenly divided by any prime already in the list, then  $T$  must be a prime (every number that is not a prime can be evenly divided by some prime smaller than it); actually it is enough to check only those primes whose square is smaller than (or equal to)  $T$ ;
- (3) If  $T$  is prime, add it to the list;
- (4) Let  $T = T + 2$  and go back to step (2) (no even number besides 2 is prime); quit when the list contains 1000 primes.

The program takes a little longer if, in step (3), you print each prime you find. So in each language tried, the program was timed once without printing and once with printing.

Two types of programming languages were tested: "interpreted languages" and "compiled languages". When you execute a program in an interpreted language, the statements are read character - by - character by the computer and the action of the statement is taken as soon as the computer knows what the statement wants.

Before a program in a compiled language can be executed, it must be converted by a utility program called a "compiler" into a more elementary language whose statements are easier for the computer to figure out.

Sometimes the simpler language is the computer's own machine language, and sometimes it is a language called "p-code" which is not quite machine

language, but usually very close to it.

The programming languages compared were: BASIC, compiled BASIC, FORTH, Pascal, C, LOGO and 6502 machine language. BASIC, FORTH and LOGO are all interpreted languages. Compiled BASIC and some of the Pascals and C's tried are compiled to p-code and then the p-code is interpreted (the p-code is different for different languages). The remaining C and Pascal programs were compiled to machine language.

Most of the programs were written by Treuenfels and by Donald Piven of Chicago. Brian Junker contributed the KYAN Pascal and LOGO programs. Here are the results (all times in minutes and seconds):

LANGUAGE	VENDOR	print	no print	diff	rmks
BASIC 2.0	Commodore	8:29	8:10	0:19	(1)
BASIC 7.0	Commodore	11:36	10:34	0:53	(1)(2)
BASIC 7.0	Commodore	5:28	5:04	0:24	(1)(3)
SpeedWriter	CodeWriter	3:55	--	--	(4)(5)
SpeedWriter	CodeWriter	3:15	2:56	0:19	(4)(6)
SIMON'S BASIC	Commodore	7:07	--	--	(1)(7)
Super C	Abacus	3:18	2:58	0:20	(4)?
C Power	Pro-Line	0:49	0:37	0:12	(8)
C64 FORTH	Abacus	4:06	3:22	0:44	(1)
HES FORTH	HES	5:12	--	--	(1)
Commodore LOGO	Commodore	75:03	74:27	0:36	(10)
machine lang.	MOS Technol.	0:32	0:26	0:06	
KYAN Pascal	KYAN Software	5:42	5:30	0:12	(4)
KYAN Pascal	KYAN Software	1:33	1:26	0:07	(8)(9)
Oxford Pascal	Precision	2:16	2:02	0:14	(4)
Super Pascal	Abacus	1:40	1:33	0:13	(4)

REMARKS:

- (1) This is an interpreted language.
- (2) BASIC 7.0 running at 1 MHz on a Commodore 128.
- (3) BASIC 7.0 running at 2 MHz on a Commodore 128.
- (4) This is compiled to p-code.
- (5) SpeedWriter is a BASIC 2.0 compiler. This run was a "straight compile" -- no special options.
- (6) SpeedWriter is a BASIC 2.0 compiler. This run used SpeedWriter's "speed-up" compiler options.
- (7) This used some special SIMON'S BASIC enhancements such as WHILE - WEND etc.
- (8) This is compiled to machine language.
- (9) Available only in the KYAN ADVANCED package.
- (10) Estimates only. LOGO ran out of memory at the 306th prime. These estimates are based on time for finding 300 primes: 22:31 with printing, 22:20 without.

Some interesting observations can be made.

First, as can be expected, the machine language program ran the fastest. You pay for this speed by having to write in a language which,

while best for the computer, is somewhat tedious for most people.

Second, the computer languages which were compiled in some way generally ran second-fastest, with times around one to four minutes. Again, languages that were compiled to machine code ran much faster than languages compiled to p-code. You pay for speed here by taking an extra step in preparing the program: After you finish writing a C or Pascal program, you must save it to disk, load another program (the compiler) and run it. The compiled version can then be loaded and run as many times as you like (assuming it has no bugs).

Let's compare these compiled languages for a minute. Why doesn't everybody who needs fast programs run out and buy C Power, which runs nearly as fast as m.l. (machine language)? And why would anyone use SpeedWriter, which is slothful by comparison?

Convenience is one answer. If you already have a program which doesn't run quite fast enough for you in BASIC, it is far easier to go out and buy SpeedWriter for \$20 to speed your BASIC program up than to rewrite the program in C (especially if you must learn C from scratch to do so!).

On the other hand, choosing between Pascal and C is largely a matter of taste. The particular styles of the two languages appeal to different sorts of people, and the languages are useful for somewhat different tasks.

Third, let's look at the interpreted languages: BASIC, FORTH and LOGO. Since the "compiler" step is gone, it is easier to ferret out mistakes in a program (by running it to see what happens). That means it is generally easier to learn interpreted languages, and it is also easier to develop programs with them. The typical pattern of a BASIC or FORTH programmer, code a little - test a little - code a little - test a little, etc., is pretty hard to reproduce with a language in which you must wait several minutes before testing each new bit of code (this wait is typical of developing even small programs with a compiled language).

Why would one even consider LOGO, which couldn't complete the task of finding 1000 primes, and took over 20 minutes to find 300 of them (compare with m.l.'s speed of 32 seconds)? Again, LOGO is interpreted, which makes it easier to learn and easier to write programs in. Also, LOGO has graphics capabilities surpassing most of the other languages tested, and list-processing capabilities surpassing them all. It just depends on what you want to do; if finding primes is your bag, LOGO isn't your language.

Finally, notice the column labelled "diff". The times here are the differences between the time it took to run the program with a PRINT statement (or WRITELN or JSR \$FFD2 or ...) printing each prime as it was found, and the time the program took without the PRINT. The "diff" times effectively measure the speed of each language's PRINT statement. Because they measure something every language should be able to do well (printing) these times conceivably make for a fairer comparison between the languages tested.

Languages like C Power or KYAN Pascal have "diff" times near the m.l. time of 6 seconds, whereas FORTH and LOGO have "diff" times approaching a full minute. One conclusion might be that these implementations of C and Pascal have much less "fat" in them than the LOGO or FORTH implementations.

Comparing total running times for different implementations of the same language -- BASIC 2.0 vs. SIMON'S BASIC, or C Power vs. Super C -- can be more important. When there is only a little difference, as in the two

BASICs for the '64, you can't say too much: a good programmer might be able to overcome the small difference. But when the difference is as much as a factor of six, as in the two C's, you are seeing a real difference in the way the languages have been implemented. There may (or may not) still be good reasons to buy Super C -- better subroutine libraries, better program editor, etc. -- rather than C Power. But on the basis of speed alone, C Power is a better implementation of C.

Again, speed comparisons between languages may not be very meaningful.

After all, the task you are doing should really determine the language you use. M.L., FORTH and C are all good at "getting close to the machine".

Pascal and BASIC are both good for processing information humans are accustomed to (such as adventure game programs, spelling quizzes, etc).

LOGO has very easy and very powerful graphics, and some say it is the easiest computer language of all to learn.

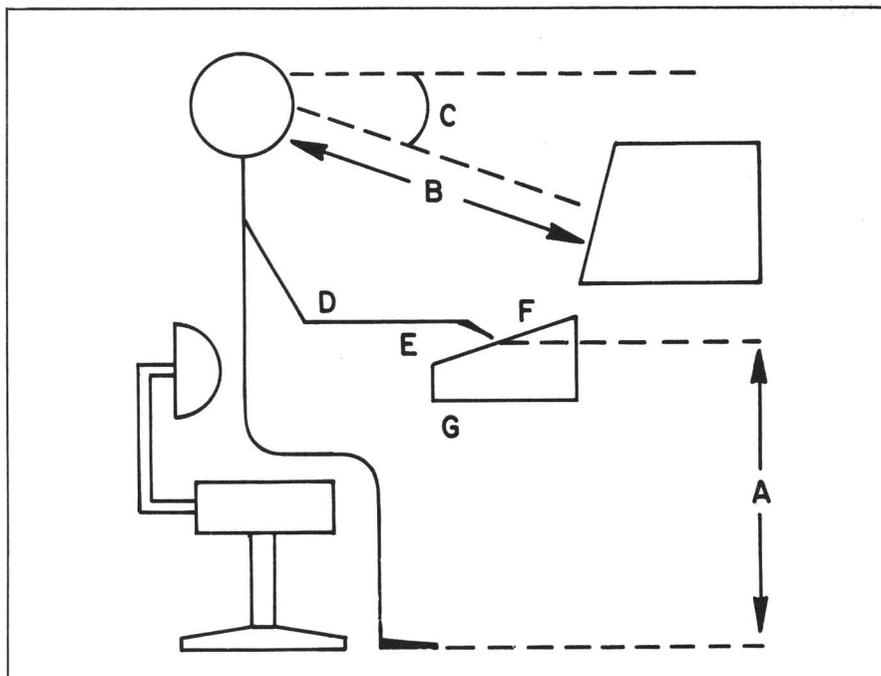


Fig. 1. These recommended work station specifications are taken from the National Institute for Occupational Safety and Health's San Francisco report:

a. The European recommendation for the height of the home row keys is 28-1/4 to 29-1/2 inches. The U.S. military standard is 29-1/4 to 31 inches.

b. The viewing distance should be between 17-1/4 and 19-3/4 inches, with a maximum of 27-1/2 inches.

c. Generally, the center of the screen should be at a position between 10 and 20 degrees below the horizontal plane at the operator's eye height. One researcher recommends that the top of the screen be below eye height, another that the top line of the display be 10-15 degrees below the horizontal with no portion of the screen at an angle greater than 40 degrees below the horizontal.

d. One researcher recommends that the angle between the upper and lower arms be between 80 and 120 degrees.

e. The angle of the wrist should be no greater than 10 degrees.

f. The keyboard should be at or below elbow height.

g. Don't forget enough room for your legs.

## C-128 REVIEW

The national publication USA Today picked Commodore's C-128 as the best personal computer on the market in the under \$500 range. They also went on to say that "It sets a new minimum performance level for entry level home computers." On the other hand, they also picked the Apple IIc as the second best personal in the under \$1500 range (the Amiga was rated first in this category.) It's unfortunate that the Apple's retail list price is \$1195...if it were at a more reasonable price, it would have to be compared with the lower costing 128, and the 128 would outrate it.

### **C128 MANUALS**

You have probably already heard that the two manuals (the Introductory Guide and the System Guide) that come with the new Commodore 128 are CBM's best efforts at documenting one of their machines for the end user. This was really not that difficult of a task; just about all of their past work in this area has been pretty bad (with the exception of the Plus/4.) While these manuals for the 128 are good, there are some very important errors and omissions.

Perhaps the most predicable error in the 128's documentation was the inclusion of a phone number for Commodore's Toll-Free Hotline. If you've been involved in Commodore computing for any real length of time, you've seen these help lines come and go like the seasons. Despite the fact that this company has unofficially billed itself as "the New Commodore" (shades of the 1968 presidential campaign), they did something very "Old Commodore"...disconnected the

toll-free line after only a few short weeks of operation! So now if you still have a problem after following all of the instructions for connecting your 128 in the Introductory Guide and call Commodore for help, a very nice but mechanical sounding employee of AT&T will inform you that the line has been disconnected and that no further information is available.

There is a bit of humor in the introductory guide in reference to "entering CP/M mode from C-64 mode". They tell you to turn the computer OFF then ON with the CP/M disk in the drive. They then state that "This is essentially the same as entering CP/M with the computer off." REALLY!

The ESCape key functions available in 128 mode are very powerful and make using Commodore's screen editor quite pleasant. One thing that was sorely missing from the C-64 was a sane way to get out of quote mode while editing a line. The System Guide states (in at least three places) to hit the ESC key followed by the letter "C". This simply does not work, as the correct sequence is ESC "O". ESC "C" will get you out of the automatic insert mode. These two commands are switched around consistantly throughout the System Guide.

Pages 355 and 356 of the System Guide contain the familiar CHR\$/ASCII code table showing all CBM character codes. The trouble is, this code table is for the Commodore 64 and VIC 20! In fact, the quality of some of the printed characters in the chart leads one to believe that this chart was lifted right out of an off-the-shelf copy of a C-64 User's Guide...they didn't even use the original! See page 365 in the System Guide for some of the (C-128

mode) missing codes.

Appendix K (page 379) is a chart of all Basic 7.0 keywords. But, for no extra charge, Commodore has added five keywords NOT EVEN PRESENT in Basic 7.0! Don't try to use the following in your next program: COLINT, MOVESHAPE, RLUM, RREG and RSPR. (Note: RREG is included in the BASIC ROM keyword table, however no mention is given to it anywhere else in the System Guide and this writer was unable to figure out exactly what it does on the 128.)

The Basic 7.0 Encyclopedia (starting on page 235) is a very complete and helpful listing of all keywords. Since Basic 2.0 (used in C-64 mode) is a subset of Basic 7.0, Commodore lists those keywords specific to Basic 7.0 in blue ink...in other words, keywords listed in blue are not available in C-64 mode. Well, someone was asleep when they laid this section out for the printer. The following keywords were printed in black but should have been blue, as they are only available in Basic 7.0: BUMP, DEC, ERR\$, GSHAPE, PEN, SCALE, SCNCLR, SCRATCH, SLEEP, SLOW, SPRITE, SPRSAV and SSHAPE. Another very big problem that plagues this section is that many keywords in Basic 7.0 that are shared with Basic 2.0 now have optional parameters or slightly different syntax depending on how they are used. All of the definitions given in this section assume that Basic 7.0 is being used. Usually no explanation is given about the limitations of 2.0 with respect to these commands and functions. Some of the affected keywords include: ASC(, FRE(, RESTORE, RUN and SYS.

The section of the System Guide pertaining to CP/M mode on the 128 is just about useless for the beginning 128 owner. Important

information and concepts about using CP/M are sometimes just glossed over and the use of advanced terminology gets confusing. Other outright errors plague this section but these could be due to the fact that perhaps the 128 CP/M program was not finished before the text was written. For instance, just about a whole page is dedicated to using the COPYSYS utility but the CP/M disk only contains a file that suggests using the PIP command, since COPYSYS is not even implemented on the 128! C-128 CP/M does not include the TYPE command as it must be loaded and executed from disk. The System Guide is not aware of this and states that it is built-in. The System Guide also tells one to use the DEVICE utility to assign a modem to work with CP/M, but never tells how. This writer has yet to figure this one out! There is an offer in the middle of this section for "additional documentation", but the cost is \$19.95.

Don't get me wrong, the two guides that come with the 128 are a vast improvement from Commodore and usually are quite well done. They just could have been a bit better.

### C128 ANOMALIES

The 128 does have a few interesting "quirks" that aren't mentioned very often. Let's say that you are busily entering data into your new Basic program and all of a sudden it craps out and reports a syntax error. You type LIST, find the offending line, key the correction and suddenly realize that as soon as you hit RETURN all of your variables will disappear. NOT ON THE 128, THEY WON'T! You see, the 128 stores program text in one bank of memory, and variables (strings, numbers, arrays, etc.) in a different bank. So, editing the

program does not affect the variables! How many times did you wish you could do this on your 64?

Because of the intense power of Basic 7.0, it usually runs a bit slower than other Commodore Basics. Two new commands, FAST and SLOW allow some flexibility to get around this. The FAST command makes the computer run roughly twice the normal speed. This makes Basic 7.0 the fastest Commodore Basic. But since the VIC chip can't handle the extra speed, the screen blanks if you are in 40 column mode. When working in 40 column mode, you can issue the FAST command to do some quick calculations, print a hi-res screen, or output a text file. As long as the user doesn't mind if the screen is blank momentarily, you can speed up selected parts of your program. Just be sure to use the SLOW command to get back to normal--otherwise your user may fall asleep staring at a blank monitor.

Working with strings has always been a my passion. I have always wondered why there was never an easy way to insert one string into another. Well, string fans, I am happy to announce that in Basic 7.0, MID\$ can now be used to do just that. Our old pal MID\$ used to just be able to just tell us which characters were inside of a certain string; now it can actually assign characters into that string. For example, this is the standard use:

```
A$=MID$("COMMODORE",4,3)
PRINTA$
MOD
```

Now you can do this:

```
A$="COM ORE"
MID$(A$,4,3)="MOD":PRINTA$
COMMODORE
```

By the way, this little ditty is not documented in the 128 System Guide.

The Reset button on the 128 works in all modes of operation. Sometimes things do go haywire and the computer will lock up; the reset button can get you out of this kind of mess. One drawback when using it with a Basic program is that it performs a NEW and your program vanishes. Here is a hint: when in 128 mode, hold down the RUN/STOP key, then hit reset. The system should reset and immediately place you in the monitor. Type "X" to return to Basic and your program (cross your fingers) should still be there!

One unrelated anomaly I feel compelled to report involves a very small section of the BASIC ROM. On my 128, if I enter the monitor and type "M F63F4" I find three men's names permanently etched into my computer's BASIC interpreter. WHO ARE THESE GUYS?!? Are they the programmers who toiled with the heart of this new machine for endless hours, or just three fellas who sneaked into Commodore headquarters, whipped out a copy of "Disk Doctor" and had fun with the developer's disk collection? Whichever the case, they most likely are laughing about the whole thing.

If you find any other neat "sleeper" features about this great, new machine drop me a line in care of the MIDNITE. -Kevin Hisel

## C128 NOTES

By: Robert W. Baker

Even with the expanded memory capacity of the C128, Basic programs are still limited to 64K. However, you now have 64K for the program and another 64K for data, both less whatever space is needed by the system. In actuality, you'll find a little more than 58,000 bytes free in program space and 64,000 bytes free in data space when you first power on or reset the system.

The program limitations exist due to the internal format of Basic programs. Remember that each Basic line is stored as a two byte link, a two byte program line number, the tokenized program line, and a single byte of zero that acts as an end of line flag. The two byte link is an address pointer that indicates the start of the next program line which has not been changed from previous versions of Basic. Since it remains as a two byte value, this limits program space to 64K, the maximum address a two byte value can specify.

When a Basic program line is tokenized, each Basic reserved word is converted to a special one or two byte value referred to as it's token. Note that I said one or TWO byte value. In Basic 7.0 many of the new keywords get converted to two byte values, unlike previous versions of Basic that used all one byte tokens. Two special token values, 206 and 254 decimal, indicate two byte tokens with the next byte indicating the exact keyword they represent together.

Anyone that's used Basic 4.0 on the older PET and CBM systems is in for a surprise. The familiar Basic 4.0 disk commands from those systems are now included in Basic 7.0, but the internal tokens used for these

commands are different. You cannot load a program written on a Basic 4.0 machine that uses these commands and expect it to run on the C128. It just will not work. The commands will appear as different Basic 7.0 commands and normally result in syntax errors when executed.

Other items to watch out for when transferring older Basic programs (including those for the C64 or C64 mode on the C128) to the C128:

- 1) PEEKs, POKEs, SYS and WAIT commands will usually not work for obvious reasons.
- 2) The subroutine address used by the USR command is now moved to 4633 and 4634 decimal, but then even the subroutine being called by this command will also have to be moved or fixed as well.
- 3) The FRE command now uses the parameter from the bank command, with zero used to find the free program space and one used to find the free data space. Older programs that used the FRE(0) command to check free memory space will probably have to be changed to FRE(1) to check data space on the C128.
- 4) LIST now lists the program lines and the program resumes operation instead of stopping and returning to immediate mode as with older Basics.
- 5) In addition to TI, TI\$ and ST; the following reserved variables have been added and cannot be used as normal variables: DS, DS\$, ER, EL. You may have to change some variable names in older programs to get them to operate properly.

As with any new machine, exercise caution when writing new

programs. There are bound to be a few bugs in the new Basic. Therefore, use common sense and make frequent backups when working on a new program. A word to the wise, a few seconds trouble may save hours of work.

I have found one problem in Basic so far: The RENUMBER command has a serious problem that could wipe out an entire program in memory. If an ON.-GOTO... or ON..GOSUB... command has a line number that doesn't exist in the program, the remainder of the program following that line will be destroyed when the program is renumbered. To protect yourself against disaster, save a copy of the program on disk before renumbering the program lines.

If you come across any other problems in the new Basic or even the new 1571 drive, drop me a note with as much detail as possible about the problem. If you can make a short example that illustrates the problem, so much the better. I'm willing to act as a clearing house to document known problems in the new systems if they begin to show up. In that way we can let everyone know about problem areas as they are found and how to work around them.

### C128/1571 HINTS

By: Robert W. Baker

Here are a few quick programming hints on how you can determine the kind of system you're running on (C64 vs C128), the disk drive type (1541 vs 1571), and what mode the drive is operating in (if a 1571).

To find the system type you can try the following:

```
10 POKE 981,15 : REM Default
```

```
Bank Select
20 POKE 65280,0
30 IF PEEK(65280)<>0 THEN
  SY=64: GOTO 100 : REM C64
  System
40 IF PEEK(215)=128 THEN SZ=80
  : REM 80 Column C128
100 REM ... main program ...
```

The poke in line 10 insures the C128 bank select is properly set for other peeks and pokes to work as expected without using the Basic 7.0 BANK command (since it won't work on a C64). This insures the program runs on all systems in any mode. The C128 does not set the BANK selection to the default value when a program is started--the program must set it before doing any peeks, pokes, etc.

The poke and peek in lines 20-30 then determine if the system is a C128 in 128 mode by modifying an unused location in upper RAM on a C128. On a C64, this location holds a non-zero value within the ROMs and cannot be modified.

If the system is a C128, then the peek in line 40 can be used to see if 40 or 80 column mode is being used. This test can be deleted if you really don't care. Otherwise, this test should be used instead of testing the 40/80 column switch directly. The switch position could have been changed since the system was powered on or reset, thus returning a false value. Basic only checks the switch once whenever the system is reset. If the switch is changed after that, it will not have any effect on the display size.

To easily find the disk drive type and mode of operation, you can try the following:

```
10 OPEN 15,8,15
```

```

20 DM=0: PRINT#15,"UO>M9"
30 INPUT#15,EN
40 IF EN<>31 THEN DT=0: GOTO
  100 : REM 1541 Drive
50 DT=1: PRINT#15,"UO>H0"
60 INPUT#15,EN
70 IF EN=31 THEN DM=1 : REM
  1571 Drive in DS Mode
100 REM ... main program ...

```

All drives but the 1571 ignore the "UO>M9" command in line 20 and return a zero error code, while the 1571 drive returns an error code of 31. Remember that the 1571 uses the "UO>Mx" mode select commands, so the nine is seen as an invalid parameter.

If the drive is found to be a 1571, the "UO>H0" head select command in line 50 can then be used to see if the drive is in single sided mode. This command is invalid when the drive is in double sided mode and an error code of 31 would be returned. In single sided mode, the normal head is selected and a zero error code is returned.

After this short routine runs, the variables DT and DM can be tested to determine the Drive Type and Drive Mode:

- DT = 0 for 1541
- = 1 for 1571
- DM = 0 for single sided mode
- = 1 for double sided mode

Of course these routines can be compacted by combining lines and you can use only what you need, they're only given as examples of what can be done. The commands will work with or without a diskette installed in the drive and will not change the current mode on a 1571 drive. Once the current drive type and mode are determined, the UO commands can be used to change

the drive as needed

1571 NOTES

By: Robert W. Baker

The 1571 drive has a long list of new features that make it extremely flexible but possibly confusing. From Basic, in C64 or C128 mode on the C128 system, the 1571 drive can be in either single or double sided mode. Single sided mode is identical in format to the 1541, while the double sided mode is somewhat compatible. We'll talk more about the double sided format some other time.

When the C128 is in C128 mode, the 1571 drive will normally be in double sided mode unless placed in single sided mode under software control. When the C128 is in C64 mode, the 1571 drive can be in either mode -

When powered up in C128 mode and GO 64 is entered, the drive stays in double sided mode.

When powered up while holding the Commodore key, the drive goes into single sided mode when the computer goes to C64 mode.

When the 1571 drive is used with a real C64, VIC-20, etc. the drive will normally operate in double sided mode.

In all cases, however, the mode of the 1571 drive can be changed under software control.

The UO command for the Commodore disk drives has been expanded to include several new features:

- "UO>M0" - selects 1541, single

sided mode  
"UO>M1" - selects 1571, double sided mode  
"UO>H0" - selects head 0 in 1541 mode (normal)  
"UO>H1" - selects head 1 in 1541 mode (special)  
"UO>"+CHR\$(x) - changes the device number to x where x = 8 to 32

These commands are sent via the drive command and error channel, secondary channel 15:

```
OPEN15,8,15  
PRINT#15,"UO>M0"
```

Additional burst commands are also supported via the UO command structure but should be avoided unless you really know what you're doing. These commands allow changing the number of retries on disk operations, numerous non-standard disk format selections, plus the new high speed transfers and additional status information about the drive and disk formats.

Besides the software command to change the device number, there's now two tiny switches accessible through an opening in the rear panel of the 1571 that allow easy selection of the desired device number. There's no need to open the case and cut traces for permanent device number changes.

In both of the normal modes of operation, the 1571 drive can usually only store a maximum of 144 files per disk. The disk directory and internal buffers have not been expanded over and beyond the 1541, only the overall storage capacity has been increased from 664 to 1328 blocks free. Since the internal buffer space is unchanged, you still can only open two sequential or one

relative file at the same time without getting into trouble. Also, relative files are still limited to 167,132 bytes or 65,535 records maximum per file.

The "UO>H1" command, mentioned earlier, allows selecting the second side of a normal single sided disk, and then formatting and using that side like another single sided disk on the 1571. In effect you'll have two disks in one, there will be two directories and you could store 288 files on one disk instead of only 144. However: a disk formatted like this can only be used on a 1571; there's no indication that the second side is being used; the disk cannot be used if flipped in a drive; and a 1541 cannot use the second side in any way.

#### 1571 DOUBLE SIDED FORMAT

By: Robert W. Baker

When the 1571 disk drive is operating in the single sided mode, the drive will format diskettes with the exact same format, Block Availability Map (BAM), and directory as used on the 1541. When operating in double sided mode, the 1571 will format BOTH SIDES of the diskette using a similar format but with a few new entries in the BAM and an alternate BAM block on the second side of the disk. The second side is a mirror image of the first, with the same number of tracks and the same number of sectors within each relative track. The accompanying tables give more details on the new layout.

The state of byte three of the usual BAM in track 18, sector 0 indicates the format of the diskette. If this byte is zero, it

indicates a single sided disk. When this byte is one, the disk is a double sided disk formatted on the 1571. On either format disk, the remainder of the BAM is identical except for the last 35 bytes. Also, the directory is unchanged, starting at track 18, sector 1, with the same format and size.

On a double sided disk, the additional block availability information for the second side of the disk is stored in the last 35 bytes of the BAM. Each byte indicates the number of free blocks in each corresponding track on the second side. The information on the exact blocks that are free on the second side is stored in a new table located in track 53, sector 0. Be careful, the new table starts in the very first byte of the block. Since this block is not linked to any other block on the disk, there's no need for the pointer usually found in the first two bytes.

Note that the original block availability information was stored in a contiguous area with four bytes per track. The added information for the second side of the disk is split with the first byte of the original format placed in a table at the end of the old BAM. There are 35 bytes representing the 35 tracks on the second side of the disk. The remaining three bytes of the original format are then placed in the new table in track 53, sector 0. With three bytes per track, this table takes up the first 105 bytes of the block.

With the compatible formats, the older single sided drives can still read and display the disk and directory information from a double sided disk. The flag in byte three of the BAM is ignored by these

drives, and the remaining information is identical in format plus all on the first side of the disk. However, since the single sided disk doesn't know anything about the added block availability information at the end of the BAM, the number of blocks free will be incorrect when it's displayed. Always remember that the older single sided drives will treat all disks as single sided disks.

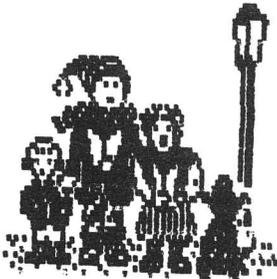
Programs and files from the first side of a double sided disk can be loaded or read on a single sided drive, as long as the file doesn't cross over to the second side of the disk. If you attempt to access any file that utilizes tracks 36 to 70, you'll receive a DOS error #66, illegal track and sector. Unfortunately, displaying the directory will not give you any indication as to what side a file uses. Until new utilities are available you'll have to access the file to find out.

When the 1571 drive is operating in double sided mode, it uses the flag in byte three of the BAM to know how to handle a particular disk. Single and double sided disks are each handled correctly and directories indicate the proper number of free blocks. However, if the 1571 drive is in the 1541 single sided mode, it will behave just like the 1541 and ignore the second side of double sided disks.

The above facts are important to keep in mind. If you format a disk and save files when the drive is in double sided mode, and then go to C64 mode on the C128 system, you may have problems. The drive will switch to single sided mode if you reset the system and hold the

Commodore key instead of typing GO 64. With the drive now in single sided mode you'll no longer be able to access the second side of the disk. Watch what you're doing!

One other parting comment concerns something I've noted on my prototype 1571 drive that I haven't been able to verify on the final production units. It has to do with the allocation of the control blocks. Track 18, sectors 0 and 1 are always allocated while the remainder of track 18 is only allocated as it is needed for the directory. For some apparent reason, the entire track 53 is allocated even though only the first sector is needed for the expanded BAM. The other 18 sectors in that track are normally wasted and unavailable. I still have to check this one out on the final version of the drive, but I've been told by Commodore that the format has not been changed.



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1571 BLOCK AVAILABILITY MAP (BAM) FORMAT

Track 18, Sector 0

Byte	Contents	Definition
0-1	18,01	Track/sector of first directory block
2	65	ASCII 'A' indicating 4040/1541 format
3	0	Indicates single sided format
	1	Indicates double sided format
4-143		Bit map of available blocks on first side, tracks 1-35 Entries are 4 bytes per track: byte 0 = #avail sectors in track byte 1 = bit map for sectors 0-7 byte 2 = bit map for sectors 8-15 byte 3 = bit map for sectors 16-20 in bit maps, 1 = available (unused) 0 = unavailable (used)
144-159		Diskette name padded with shifted spaces
160-161	160	Shifted spaces
162-163		Diskette ID
164	160	Shifted space
165-166	50-65	ASCII '2A' representing DOS version (2) and format type (A=4040/1541)
167-170	160	Shifted spaces
171-220	0	Nulls
221-255		Number of available blocks on second side, tracks 36-70 (1571 mode only) Entries are 1 byte per track, indicating the number of availble sectors in each track

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ALTERNATE 1571 BLOCK AVAILABILITY MAP (BAM) FORMAT

Track 53, Sector 0

Byte	Contents	Definition
0-104		Bit map of available blocks on second side, tracks 36-70 Entries are 3 bytes per track: byte 0 = bit map for sectors 0-7 byte 1 = bit map for sectors 8-15 byte 2 = bit map for sectors 16-20 in bit map, 1 = available (unused) 0 = unavailable (used)
105-255		unused

1571 BLOCK DISTRIBUTION BY TRACK

Track#	Sector Range	Total# Sectors	
1 to 17	0 to 20	17 * 21 = 357	(side one)
18 to 24	0 to 18	7 * 19 = 133	
25 to 30	0 to 17	6 * 18 = 108	
31 to 35	0 to 16	5 * 17 = 85	
36 to 52	0 to 20	17 * 21 = 357	(side two)
53 to 59	0 to 18	7 * 19 = 133	
60 to 65	0 to 17	6 * 18 = 108	
66 to 70	0 to 16	5 * 17 = 85	
		----- 1366 Total	

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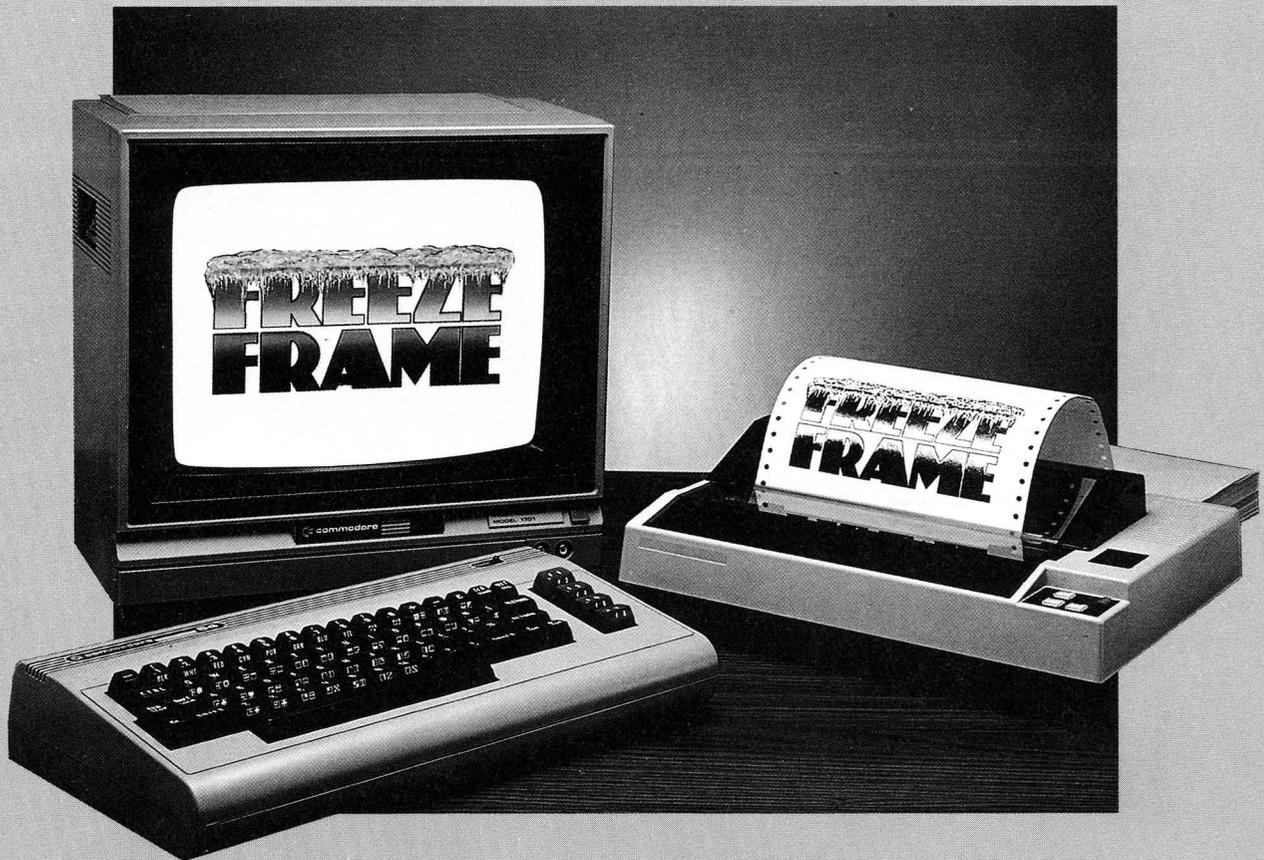
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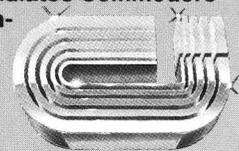
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