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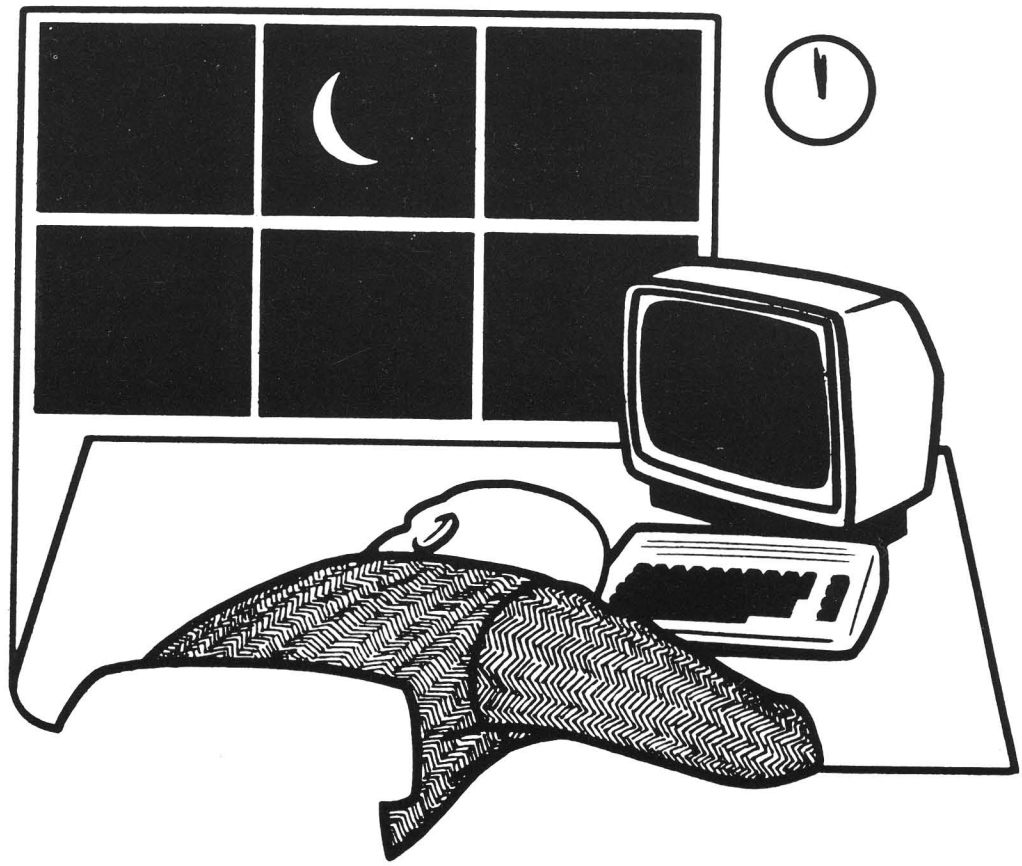
Midnite Software Gazette

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



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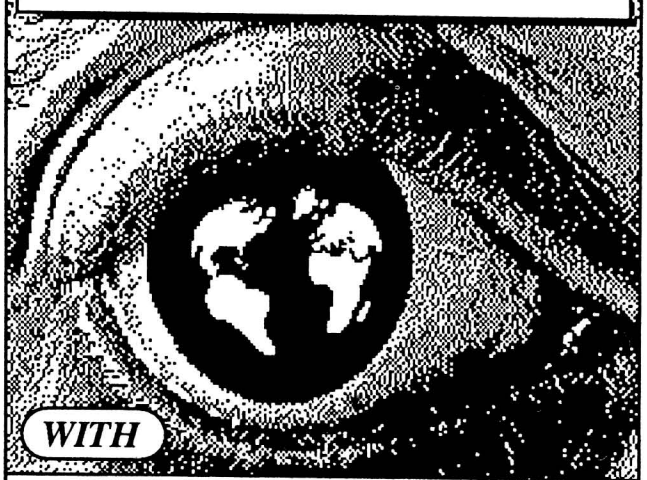

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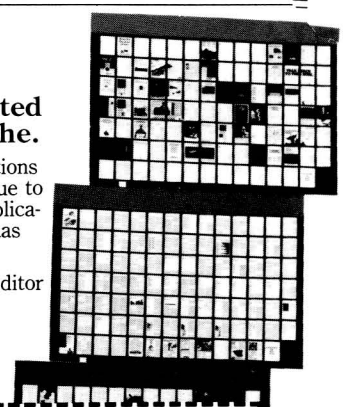

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Midnite Meanderings

Welcome back to the Midnite Software Gazette. Yes, we are late with this issue. It is a constant struggle to maintain a monthly publishing schedule along with all our other activities. And so the question: Would you the readers rather that we stay monthly, or would you rather that we return to a bi-monthly schedule? Neither option is perfect, but both have advantages. The monthly schedule makes for smaller, but more frequent issues; a bi-monthly schedule would make for substantially larger (in the range of 68 to 84 page) issues. We would appreciate your opinions on this.

Every now and then we get a phone call from a user wondering if Midnite is still publishing, or where he can find a copy on a newsstand. Although the Midnite is the oldest, and most tenacious, Commodore specific magazine, it seems that many Commodore users are not familiar with us. Other than an occasional advertisement in the Transactor, TPUG, or COMAL Today, we rely on our readers to inform other users about Midnite. We still do not have national distribution, although we have subscribers world wide. Commodore users are a cohesive group, and news travels fast and far by word of mouth (and modem). Thus our circulation reflects our usefulness, our readers response to our work, rather than the effectiveness of our marketing strategy or cover art.

We at the Midnite are proud of our work. Though we don't have the numbers to match the big four, we have our place in the market. It's always fun to watch someone's face when we ask if they've heard of the Midnite. They look briefly puzzled and, more times than not, say 'Oh yeah, I've heard of Midnite.' If they're saying it just to be nice, thank you.

The Midnite is published by MicroPACE Computers, Inc., a company with publishing, manufacturing, advertising, and wholesaling arms. Perspectives II, Flexi-Aided Design, Syntech BBS, Gnome Speed are just some of Micro-PACE's products. Midnite Press/The Midnite Software Gazette/The Paper is publishing a very good book titled Getting the Most Out of GEOS (TM)'; in the works (but very quietly) is another book dedicated to the best of Midnite including reviews, articles, and a comprehensive index of resources (manufacturers, etc.) for your reference.

The Midnite Gazette will soon appear on Q-Link, and also join Transactor on Compuserve. My SYSOP ID is 76703,4033. I enjoy seeing all on the CBMCOM and CBMPRG SIGs. You can find Tim S. on Delphi, working in the TPUG SIG, and wandering around the Flagship SIG - both very good sources for CBM information.

We (Midnite, Micro-PACE, & Co.) had the pleasure of attending the West Coast Commodore Association (WCCA) Show at the Los Angeles Airport Hilton the weekend of September 19 and 20. Many thanks to all the Midnite readers who stopped by to say hello.

The WCCA show featured seminars presented by such eminent notables as Jim Butterfield, Dr. Richard Immers, Len Lindsay, Louis Sanders, Louis Wallace, Brian Doherty, Don Vandervender, Bill Volk, and R.J. Mical. Over fifty-five vendors displayed their products for the C64, C128, and the Amiga. There were no revolutionary new products, but some nice refinements and new applications of the existing technology.

Attendance was pegged at about 3500 for the two day show - not as large as the WCCA show in San Francisco last February, but still worthwhile. If you EVER have a chance to attend a WCCA, or other, Commodore show, do it. These shows give a bit more perspective on the Commodore market and offer an opportunity to listen to the experts in the Commodore world. The shows promote comradery, friendships, and the sharing of knowledge. Knowledge not shared is wasted. The WCCA is very professional and I vouch for their attention to the details that make the difference between a good show and a disaster.

Most vendors reported that their sales

were not as good as they had hoped, but that the exposure was good. Companies showing their products included: Midnite Press, Skyles, Abacus, the Transactor, Jason-Ranheim Co. (Promenade fame), S.O.G.W.A.P. Software (Big Blue Reader), Prism Software (SuperKit), Mimic Systems (Apple Emulator for the 64), Solid State Software, Unison World (showing Amiga Print Master), Xetec (the interface people), Anakin Research, Comspec, Berkeley Softworks (GEOS), BobCo (World Geography), Brown-Wagh Publishing (Scribble, plus an Amiga desktop publishing program coming soon.), Central Coast Software (Amiga DOS to MS-DOS format), as well as a few retail outlets.

A number of user groups were present in the booths, including: CACTUS, C128 West User's Group, C64 West Computer Club, First Amiga User's Group, Orange Co. Tech. User's Group, Plus 4 User's Group (POB 1001, Monterey, CA 93942), San Fernando CBM User's Group, San Luis Osbispo CBM Computer Club and even FOG (First Osborne Group, POB 3474, Daly City, CA. 94015).

Jim Gracely and the indefatigable Pete Baczor were the only attendees from CBM corporate. We were all disappointed that Commodore did not have a booth. Although Commodore's attendance is not necessary for the success of a show, success and high attendance are almost certain when Commodore does officially exhibit. But Jim and Pete were speakers, so all went well.

Some noteworthy information was passed along at the show: CBM announced (via USA Today) a price cut and 120 day same-as-cash financing program for Amiga systems. Also, the CBM PC workalikes (no one likes to be called a clone) will be introduced before the year is out. Two models will be available: CBM PC Type I and CBM PC Type II. The PC I will be available with 512K (expandable to 640K on the motherboard), four open slots, RS-232 and parallel interfaces, and a color graphics card. It will be selling through normal channels for under $1000.

What dealers will sell the PC's? Believe it or not, I think within the next 3-6 months you'll be able to buy them discounted at small and medium sized regional chain stores. Why will these stores take on CBM's PCs when they got burned before? Margins. Retailing from 995 to 725 there's a margin in there larger than ten dollars. How well CBM's machine will be received is anyone's guess right now. Given corporate policies these days, the introduction of these machines will barely be noticed, and the computer press will likely ignore at as Commodore's quiet attempt to enter the high-end computer market.

That about covers the news for this season. The Los Angeles show about wrapped up the summer - a traditionally slow time for the computer market. We can now look forward to new announcements and incentives, like Commodore's deal for the Amiga system, as we all too quickly approach the Christmas marketing season.

We hope you enjoy the Midnite, and we always look forward to, and appreciate, your comments.

Books

HOW_TO_GET_STARTED_WITH_CP/M: $19.95 CP/M tutorial book by Carl Townsend. From Tab Books. Copyright 1982. 127 pp.

When I first started with CP/M, I had difficulty understanding some of the material in the Digital Research manual. This book helped me get CP/M up and running. Its careful explanation of how to start CP/M on a computer is quite detailed and very easy to understand.

The book covers your 'First Session, 'Files, Records, and Disks,' 'Using Utilities,' 'Backup Procedures,' 'The Editor,' and much more. For novice CP/Mer's, Recommended. Auston B. Cron

Educational

SKY_TRAVEL: [update 23:37] $20 astronomy software on disk for the C64. From Commodore and Deltron. DOS protected, disclaimer of warranty.

I have long been interested in the night sky, and in 1984 I wanted to buy a good telescope to look at Halley's Comet. Instead, I bought Sky Travel. I am not sorry that I did.

Sky Travel shows the sky as it would appear from anywhere, at any time, on Earth. If that is not enough, it gives additional information on all planets, major stars, and constellations. For most of these it will also give the name, mass, and velocity relative to earth.

Sky Travel has limitations. It cannot show every star in the galaxy, but it shows the best known ones. A 400 block database contains the information. Sky Travel is a bit slow, but with all the text and visual information that it gives, for once I am not complaining.

In the year that I have had Sky Travel, I have enjoyed it and learned much more than I could have with a telescope. Highly Recommended. W.H. Lambdin.

THE_HALLEY_PROJECT: $39.95 space travel strategy/simulation for the C64 and the Amiga, from Mindscape.

Although THE HALLEY PROJECT is not billed as educational software, there is no way to complete this program without picking up some knowledge of our solar system. In fact, my ONLY complaint about this program is that Mindscape should have included a notice that extra reference materials would be REQUIRED to finish the game.

Play consists of ten training missions, each one a little longer and more complicated than the last. You must complete one level before you can attempt the next; however, you can complete each level as many times as you want.

When you complete the training missions and attain Starbird status, you are given a secret code word. Send this code word to Mindscape, and they will send you a certificate and instructions on how to access the final mission, which is hidden on the disk. After completing the final mission, you again receive a code word (which has your playing time encoded in it). Originally, the final mission was a contest in which the three players with the best time would receive prizes. Although the contest is now over, there is a report that Mindscape may send those who complete the final mission the instructions on how to access yet ANOTHER hidden mission on the disk.

Completing the missions is no simple task. Destinations are not given in simple English. Instead you are told something like, "Land on any moon with a retrograde orbit." You will HAVE to get some reference materials (and make sure the reference books you use are current).

When you are orbiting planets, the realism is phenomenal. Movement of the planets, stars, and moons must all be taken into account, and finding some of the smaller moons is really, even when you know what to look for! Play is controlled with the keyboard and joystick.

The Amiga version, released this year, has been considerably revised. The controls are more realistic, and can be operated with joystick or mouse. And, unlike a lot of other games re-released for the Amiga, even the lo-res graphics have been redone to take advantage of the Amiga's capabilities.

This is a very challenging and enjoyable piece of software (it's not really fair to call it a game because it is so much more.) HIGHLY RECOMMENDED for ALL ages! --Art Lewis Kimball

FAX: $9.99 educational game on disk for the C64, from EPYX. DOS protected. 90 day warranty.

This video quiz game contains over 3,700 questions grouped into four categories: Sports, Entertainment, History, and Grab Bag. Players are asked to choose from novice, expert, or genius within each category.

Every session is timed by a game clock and each question is timed by a score clock. Prior to the game's beginning, a bonus point plateau is stated. If either player's score exceeds this value, extra time is added to the game clock.

The screen is well designed. Players' scores and the score clock are displayed on the bottom, with the category, level of play, and game clock on the top. The center is retained for the important information - questions are presented in the upper center, and the multiple choice answers are given in the lower center.

You may choose to have cartoon characters displayed after each question, along with a short jingle. The cartoon student receives a graduation cap or a dunce cap, depending on whether or not his answer is correct. These cartoon characters are also displayed at game's end. This is a nice feature for the younger players, and serves also to provide a bit more time between questions. The single player uses the numeric keys 1 through 4. A second player uses the numeric 6 through 9. In the two player version, if one players answers incorrectly, the other can try to answer the question - until the clock runs out.

The object of the game, as is apparent by now, is to quickly give the correct answers. A wrong answer by all the players will stop the clock with no points awarded. In any event, the correct answer is momentarily displayed before the next question is given.

The program and two of the categories are on one side of the disk, with the other two categories on the flip side. This is not much of a problem, as only one category is used for each round.

Interesting, educational, and fun for everyone from eight years up. If you are caught in the trivia craze, then this one is for you. RECOMMENDED. Dan A. Sieben.

ROAD RALLY U.S.A.: $39.95 action/education game on disk for C64 (Ages 10 and up), from Bantam Software.

Although there ARE a few road hazards in this game, it is NOT your typical crash'em up package. This one is sneaky! If you aren't careful, you're going to learn some geography, reasoning and logic skills while you're having a LOT of fun.

The object of the game is to get from point A to points B, C, D, E, etc. in the shortest amount of time. This doesn't mean you have to speed...just find the best route and avoid some minor hazards.

There are various skill levels. In the lowest level, you are told what city to drive to next, and you look at the map to find the best route. In the more advanced levels, you are given only a hint as to what city is your goal; you have to find it yourself.

Road hazards include falling boulders, trees, etc. which will cost you points if you don't stop in time. A nice little touch is that you are REWARDED with points if you stop for a flagman! You must stop for gas from time to time or you'll find yourself stranded.

The program uses real locations and U.S. highway maps. There are thousands of combinations available so no two games are ever alike. The game includes map cards of the U.S., and the back of the cards contain facts which will be helpful in deciphering the hints given in the

advanced version.

Game play is extremely smooth and the graphics are extremely well done. This one is HIGHLY RECOMMENDED for grammar school children (and grammar school children's PARENTS too!) --Art Lewis Kimball

I_AM__THE_C128: $34.95 computer tutorial on disk for the C128. From Personal Choice Software (Activision).

I AM THE C128 is a tutorial in the same vein as I AM THE C64, from Creative Software. Activision acquired Creative and is releasing several of Creative's products, some of them updated and improved, as Personal Choice Software.

I AM THE C128 is designed to relieve some of the frustration felt by novice computer users. The tutorial is divided into nine chapters with easy step-by-step instructions. Attractive graphics illustrate key points and dozens of hands-on exercises ease the novice into using his computer almost before he realizes it.

Starting with a basic familiarization trip around the physical computer to identify its parts, I AM A C128 then takes the user through BASIC, Advanced BASIC, Disk Usage, Screen Graphics, Sprite Graphics, then Sound and Programming Hints. The package also includes three BASIC programs - Screen, Sprite, and Sound - which the user can list, modify, and run to help the user put his new-found skills to work.

The tutorial is very well done. It does not talk down to the new user, and is an almost painless way to become familiar with your C128.

My only real complaint about the program is a minor one. If the computer happens to be in 80-column mode when the program is booted, there is no clue whatsoever that anything is going on. Since it is so simple for a program to check which mode is being used, and since this program IS designed for novices, it would have been nice to include a "switch to 40-column mode" prompt in the 80 column screen.

A worthwhile program for anyone just starting out with the C128. Recommended. --Art Lewis Kimball

Applications

FILE__WRITER: $39.95 database program generator on disk for the C64, from Codewriter. DOS protected, 30 day warranty.

File Writer will write a customized BASIC database program. You have to create the screen layout, save the screen to disk, then create the application. You can make it as easy or as complex as you want. It takes about an hour to create a program, but when you are finished you have a stand alone program that will work as you designed it. I used it to create a database with fifteen fields to keep track of the local users group. The program takes 96 blocks, leaving room for 169 entries on disk. I used a cruncher program to bring the size down to 76 blocks. It works the same, but loads faster, works faster, and takes up less disk space. The only big problem is that File Writer allows you to search only one field. The documentation is well written. Average. W.H. Lambdin.

PERSONAL__ANCESTRAL__FILE: $35 genealogy program on Kaypro 2 disk for the C128. From the Church of Jesus Christ of Latter-day Saints. Two 1571s, 80 column monitor, and CP/M system disk required. Not protected. No statement of warranty.

The Personal Ancestral File (PAF) is a new genealogy program for any CP/M computer that can handle Kaypro 2 disk format. Published by the Genealogical Department of the Church of Jesus Christ of Latter Day Saints, the package contains four disks, a 331 page manual, and a three ring binder that folds in the middle to stand up like a music stand. The instructions are clear, concise, and detailed. It also includes lessons to lead you through the use of the various elements of the program. The PAF consists of four modules:

1. Family Records (FR);
2. Research Data Filer (RDF);
3. Genealogical Data Communications (GEDCOM); and
4. Configuration (CONFIG).

The first two programs are self explanatory. The GEDCOM program converts Family Record data into files that can be easily transferred to another user via modem, and vice versa. The CONFIG program configures the PAF package to run on your particular computer and printer.

To use the PAF package on the C128, you also need two 1571 disk drives, an 80 column monitor, a printer, and a transparent interface.

On the C128, the Kaypro 2 disks may be used as is, transferred to Commodore GCR disks, or transferred into a Kaypro 4 DSDD formatted disks. This last format is preferred as it allows the maximum data storage capability.

The PAF disks and manual are an excellent buy at only $35, and the package has been receiving very favorable reviews in genealogical magazines and by users. It provides an easy way to keep track of your family records and notes. PAF, Version 2.0, is also available for MS-DOS and Apple computers.

I have successfully used this program to enter over three hundred family records, and will be entering another three hundred records. It has worked with no difficulty. Highly Recommended. Charles Dorian.

THE ACCOUNTANT 64/THE BANKER 64: $9.99 budgeting program on disk for the C64. From King Microware, Ltd. DOS protected, no statement of warranty.

This dual program package is designed for recording and budgeting household finances. Both programs are small enough to fit on one disk, but they do not interface with each other.

The Banker is a bank accounting program that allows you to record deposits, withdrawals, and cheques. It allows displayed or printed inquiries on some or all of the transactions. Access is possible by date, number, amount, name, or category. It essentially duplicates your cheque record book, and takes a fair bit of time to maintain. It is worth the effort, however, since selection by category allows you to summarize amounts spent on food, autos, etc. There is also a provision to put comments on every transaction.

The Accountant is a simplified, restrictive spreadsheet program. Its main purpose is to aid in developing a budget. The size is limited to 48 rows, with 20 rows displayed on the screen at any one time. The arithmetic is done by coded formulas that are rather hard to get used to. The program will calculate interest on loans when given the percentage rate. After the budget has been established, the spreadsheet can be updated with actuals to provide rolling projections.

Working with either program will have you constantly referring to the manual. These are not the easiest nor the fanciest of programs, but they do the job they were designed for. If the need is there, these are a good value for the money. Average. Dan A. Sieben.

LOAD AND GO PERSONAL SPREADSHEET: $4.99 spreadsheet on disk for the C64. From Green Valley Publishing. Not protected.

This program has no instructions, is not large enough for a yearly budget, and does not allow labels in the cells. I could not find how to use math functions or to save data to the disk.

The nice things are the low price, the absence of copy protection, and the classy graphics as you load. A substandard piece of code, L&G Personal Spreadsheet is a waste of money and disk space. Not Recommended. W.H. Lambdin.

RUN SCRIPT 64: $21.47 word processor on disk for the C64. From RUN magazine, unprotected.

This excellent word processor offers over seventy functions, many of them similar to those found on commercial programs. Text is easy to enter and edit, wordwrap prevents broken text at the edges of the screen, and the cursor keys, rather than complicated control codes, control your position within the text.

Among the most useful features are two different insert modes. The standard insert mode moves everything to the right as you go. This is the easiest way to edit existing material, but since the screen is updated for each keystroke it can be slow if a lot of text follows the point of insertion. If you want to insert large amounts of new material you can use the other insert mode. Simply press the <RUN/STOP> key to insert two hundred blank spaces and type at normal speed. Any extra spaces remaining can be removed with a <SHIFT>ed <RUN/STOP>.

You can delete text by character or by range (the range feature works more rapidly than many commercial programs - now you see it, now you don't), and you can recall what you have deleted if you change your mind. Material can be copied or transferred, you can search for a word or phrase, and you can search and replace a phrase with new material. The search and replace feature can work automatically or query before each replacement.

Run Script saves its text in either program or sequential files, and can send your formatted material to a disk file to be uploaded to a bulletin board or telecommunications service.

Almost any printer can be used since text can be transmitted as Commodore or true ASCII; you can also change the secondary address if your interface needs something different. A number of page formatting commands provide additional punch to your work.

This is not a commercial quality program; if you need complex formats or more advanced features you will want to look at PaperClip or a similar program. There are also a few basic features that are strangely missing - there is no tab key, for example, and you cannot use capital letters when you send disk commands. That means that you can save a file with capital letters but you cannot erase it from within the program. The special insert mode is disconcerting at first: when you enter new words they appear on a new line, then jump to the previous line when you hit the <SPACE> or <RETURN>. These are minor irritations. More serious is the inability to recover from a 'LOAD' command. You can abort the load before you give the file name, but you still lose whatever text was in memory.

If you need a decent word processor for letters and term papers, this may be all you need. Recommended. Charles W. Lewis, Jr.

SPEEDSCRIPT: $12.95 word processor on disk for the C64. By Charles Brannon, from Compute. Not protected.

This fine little word processor is only six Kilobytes long, but don't let the small size fool you. Speedscript has most features that commercial word processors have. Of the four word processors I have - Easy Script, Text Pro, Magic Desk, and Speedscript - Speedscript is the only one I use. What's more, I got it for the price of a magazine and the time it took to type it in.

In the year that I have been using Speedscript, I have typed in additional programs that allow me to preview the document in 80 columns, a spelling checker, and a program to alphabetize the dictionary.

Speedscript provides page formatting commands for top, bottom, and side margins; line spacing; centering; page numbering; text enhancement; search and replace; PETSCII and ASCII storage; and disk and tape file handling commands.

On top of all this, Speedscript has 40 Kilobytes of storage for your text. Highly Recommend. W.H. Lambdin.

NEWSROOM: $49.95 graphics printing program on disk for the C64. From Springboard Software. Auxiliary clip art disks available. DOS protected.

NEWSROOM is the little printing press you dreamed of as a child. Unfortunately, it is still more like a creative toy than an adult's efficient tool.

The package provides six modules: Banner, Photo Lab, Copy Desk, Layout Table, Wire Service, and Printing Press. Clip art graphics are on a separate disk, and you must have a data disk to store work in progress. A joystick, sketchpad, or the keyboard controls the input. Starting to sound like a juggling act? It is!

Two drives would reduce some of the physical exercise, but your hands are tied when working text. The Copy Desk mode has only three fonts - two of them are small - and a slow and limited text editor that does not allow you to import text from other word processors. You construct small panels that are not linked, and each panel must be saved before you move on to the next. Since an 8 1/2" x 11" page contains up to eight panels, continuity is difficult to maintain. It is further complicated when you try to add graphics, headlines, subheadings, etc. Corrections and editing can be painful as each affected panel must be loaded, edited, and then resaved. Scissors and paste seem more efficient.

The problems are aggravated by the lack of a preview function - you cannot see the completed page until you print it. You can, however, print banners, panels, or graphics individually.

Each module features icons, and the Banner, Copy Desk, and Photo Lab have a toolbox with familiar graphics utilities. Editing is slow because the toolbox must be loaded every time you wish to change tools. Creating a custom drawing is tedious, and with the Koala Pad there a good bit of scatter to clean up.

The Banner mode does not allow custom graphics and is hampered by fonts that are too large. You may, however, produce a pleasing banner using minimal text and simple geometric images or the sometimes too cute clip art. The Layout program is easy to use but not very flexible. Using either supported page size - 8 1/2" x 11" or 8 1/2" x 14" - you are allowed a two column page, with or without a banner, in two print sizes, with unjustified right margins. The Printing Press produces an exceptionally clear and fast printout [on many printer/interface combinations].

Using the clip art in the Photo Lab you can customize drawings, combining them into cartoons and illustrations, and add text.

The Wire Service is a terminal program that allows you to exchange NEWSROOM data with other users via modem.

The manual is thoughtfully organized well illustrated, and gives helpful advice on journalism.

As it stands, NEWSROOM is a very low end desktop printing utility that demands too much sweat. Not Recommended. Sue Albert.

PRINTMASTER: $34.95 graphics program on disk for the C64. By Unison World. Auxiliary graphics and color paper available. DOS protected, limited warranty.

This fairly recent release adds those features you always longed for when using the almost flawless best seller, Print Shop. It includes twice as many graphics and is $10 cheaper. The catch? Some of the essentials and the elegant simplicity of Print Shop are lost.

First, check out the goodies. Most notable is a preview option which lets you see your layout on screen before you print it. This saves the time and paper wasted in printing an unacceptable design. You can choose to see all one hundred and eleven graphics and eleven texture patterns included on the master disk, plus the one hundred and forty additional graphics offered on PrintMaster's Art Gallery I ($24.95). The images may be reversed before printing, and design layouts can be saved for future use. Sadly, the charming PrintMaster graphics are not compatible with Print Shop.

The eight fonts hold several surprises. You can toggle both upper and lower case, combine any of the eight

fonts on a page, change size, vary the position, and choose between solid, outline, and 3-D fonts, all without leaving the text entry page.

The setup screen, which configures the program, can be set for use with different printers, provides a printer test, screen color change, and a disk formatting option.

With the Calendar option, you can create correctly dated monthly or weekly calendars for years from 1900 to the 2000 and enter brief notes on special days. This feature is a trade-off for Print Shop's Screen Magic, and may be the more practical of the two.

On the down side, PrintMaster contains one serious flaw and a few inconveniences. When using some Star Micronics printers, it does not print equal margins in the sign, stationery, or calendar mode. I was told that this would soon be corrected in an update for Star users. The suggestion was that it would either be free or equal to the minimal price of a backup, $5. A general update is promised in six months.

The Graphic Editor offers handy gimmicks to invert and flip pictures horizontally or vertically. Otherwise, editing or drawing a new graphic is the same tedious chore that it is in Print Shop.

Other inconveniences are a toss up. PrintMaster seems to get down to printing faster, but you do not get the option of calling a graphic by name or number; you must page through until you find the desired image. The Stationery mode is skimpy, with no large fonts, no line available at the bottom, and always a line at the top. Missing and missed features are the paper position test, audio reminders to change disks, automatic centering from top to bottom on page layouts, and multiple printouts.

The manual is fair, but short on technical details. I was startled that the setup options fail and the program crashes when the disk is write protected.

My recommendation after using both programs: If you already own Print Shop then wait for the Print Shop Companion which will offer many of the same new features. If you are looking for just one graphic printer program, and cost is a factor, think about the trade offs and try out both programs if you can. Recommended. Sue Albert.

Telecommunications

PUNTERNET BBS64: $100 bulletin board system on disk for the C64 from Steve Punter. IEEE drive and modem required.

The Punter BBS has been around since the early days of the PET, but we haven't reviewed it in quite awhile and some new features make it worth another look.

With exceptions, it seems that most of the bulletin boards around the country that last more than a few months are Punter Boards. The reason can probably be traced to two main factors. First, if someone is willing to spend $100 for a BBS program they are probably serious about running it. Second, the Punter system is reliable, packed with features, and easy to modify.

Within the past few months ANOTHER reason has cropped up; PunterNet. Now Commodore users all over the continent have a BBS system which allows them easy, inexpensive access to each other.

If there is a PunterNet board in your area, you can leave a message to a user of any other PunterNet Board ANYWHERE for a few cents. The reason for the relatively low expense is a very clever system by which PunterNet boards contact each other during the early morning hours and the messages are automatically passed back and forth. A feeling of camaraderie is developing among PunterNet users- within a two days of going online, STARSHIP MPC received several messages from SYSOPs of boards all over the US and Canada, welcoming us to the PunterNet.

The latest version of Punter's BBS is Blitzed, which makes it much faster, although the larger program does result in more garbage collection. But for the first time, information is available to the modem FASTER than it can use it, even at 1200 baud.

The stock program supports 10 up/

download bases, private messages, bulletins, the most versatile message reading protocol available, and macro commands - you can log on and read your mail by entering ONE string of commands at the first prompt.

Editing mode for the SYSOPs is very powerful and allows access to virtually any function from remote. Most SYSOPs have customized their boards, which is relatively simple since all revisions of Punter's program have closely followed the structure of his original code. If a SYSOP sticks to the stock program, it is easy for him to upgrade to future revisions. Punter always includes a program that will change the structure of files, etc., automatically. Of course, if a board is heavily modified, the SYSOP will need to do the work himself, and Punter has maintained a policy of not discussing alterations to his board with anyone. In all fairness, considering the number of Punter Boards in use, it would be a VERY time-consuming process for him to do otherwise.

All that is needed to run a Punter BBS (besides the computer) is a disk drive that will operate through the IEEE interface and a modem. The board will NOT operate on a serial drive. (It WILL operate on an MSD Dual drive in with IEEE interface). A Hayes modem is strongly recommended, but 1650, 1670, and Hayes compatible modems are supported.

Rumors persist that Punter is working on a C128 version of the Bulletin Board. We hope this is true, as it would allow many new features. There is no doubt that there WILL be future improvements to the Punter BBS.

Having run a Punter BBS for several years, and having looked at most of the other BBS programs available, I'm sold on Punter. For one thing, you KNOW when you contact a Punter BBS that it will cater to Commodore Users! HIGHLY RECOMMENDED for the serious SYSOP. --Art Lewis Kimball

Games

PSI 5 TRADING COMPANY: $29.95 game on disk for the C64, from Accolade. DOS protected.

Accolade, known for superb graphics in Hardball! and Law of the West, have kept up their tradition of producing quality games.

As captain for the Psi 5 Trading Company, your mission is to carry perishable cargo through the Parvin Frontier, presently blockaded by space pirates, to distant colonies. Three levels of play offer a variety of difficulty, risk, and reward.

Before you pilot your ship to the outer reaches of the galaxy you need to hire your crew. There are five departments to fill: Weapons, Scanning, Navigation, Engineering, and Repair, and thirty applicants - six for each department. You must examine each candidate's resume and try to pick the best crew. Nobody is perfect, so you must weigh the candidates' skills, training and previous experience, how they will interact with each other, how they will act under stress, etc.

Once you have your crew in place, you command the ship through a communications console. The left screen displays a view of space; the right screen shows the crew member you are presently interacting with, and below these two windows are indicators and command lines. Finally, the bottom of your screen displays data and crew messages.

As Captain, you simply give orders to your crew. The great thing is that once you give orders you can do something else while crew members do the work. For instance, you can ask Scanning to examine an enemy, get Navigation to stop the ship, tell Repair to fix the thermal disintegrator and aft shield, then finally give firing orders to Weapons. Each member works independently and sends you status reports. In addition to pirates, there are friendly ships in

space - they won't shoot at you unless you make them angry.

All commands are entered via the menu. Simply use the joystick to highlight the command and press the fire button to activate it, or press the first letter of any command. The former method is easier for beginners while the latter is much quicker. A single keystroke will return you to the main menu, and there is a pause button to let you rest. The only thing that is missing is a save game feature. Recommended. Neil Phillips.

LAW OF THE WEST: $29.95 game on disk for the C64, from Accolade. DOS protected.

Imagine being sheriff of Gold Gulch, a town in the Wild West, and all the decisions you must make to survive.

Game play is a cross between adventure and arcade games. Characters will speak to you, maybe sarcastically, maybe romantically. You use the joystick to choose your response from a similar range of moods; or you can draw your gun. What happens next depends on how you handled the situation. You might get caught in a gunfight, become enemies with the doctor (not wise), or arrest a criminal.

You must think to play this game, but the joystick relieves you of the need to type your responses. You must be authoritative, but not pushy. If you manage to reach sunset, you are rated according to how many criminals you jailed or shot, how well you kept your authority, how many crimes were committed, and other factors. The graphics are excellent.

But how many times can you play it? Once you know how to react to someone, that's it. The first impressions are great, but Law of the West will quickly bore the experienced gamer. Younger players (up to the early teens) seem to enjoy the game without becoming too tired of it. Average. Neil Phillips.

FIGHT NIGHT: $29.95 game on disk for the C64, from Accolade. DOS protected.

This game lets you fight another player or one of the computer's five opponents. Each computer boxer is harder than the last, but I still found it quite easy to get through them quickly. Your options include an upper jab, a body blow, or a fake of each. You can also put your guard up or down and move left and right. The construction arena lets you choose the various parts of a boxer for later matches - but only against another player, not the computer. The Training mode lets you work on your moves, but is incredibly boring. You can Spar or play in the Tournament option. These are really both the same - fight your opponent. The latter lets you do it round-robin style.

This game is well-packaged, but nothing more. I got bored with it very quickly, especially without a friend to play with, as the computer opponents are useless. Much better combat games are out, most notably Way of the Exploding Fist. Not Recommended. Neil Phillips

KANE & HUMAN RACE: $6.99 disk with two games for the C64. From Mastertronic. Not protected.

These two very professional looking games have terrific sound and several screens of excellent graphics that top features found in several $30 games. At $6.99 for two games on one disk, sans copy protection, you cannot beat this deal. Unfortunately, they are slow loading and occasionally crash. The play is difficult, but I do like the challenge. Recommended. W.H. Lambdin

SQUIRM: $9.99 one player game on disk for the C64. From Mastertronic. No protection, no warranty.

In this worm chase game, you earn points each time you eat an egg left by the Queen Squirm. After eating 255 eggs, you have a chance to eat a few more while everything else remains stationary. Then you advance to a new maze.

Your worm is either keyboard or joystick controlled. Sound plays small part in the special effects, replaced by changes in the screen color.

The hazards are few. Queen's guards march around the maze collecting eggs, just like you do. Touching a guard will cost you one of your three lives.

The graphics (just dots) could be better, but the biggest drawback is the lack of changing patterns. The Queen Squirm and her guards follow the same routine game after game. The maze patterns, however, are good.

Squirm will not do well, and many department stores are trying to unload it. NOT RECOMMENDED. Dan A. Sieben.

FIVE_A_SIDE_SOCCER: $12.99 arcade game on disk for the C64, from Mastertronic. Unprotected, no statement of warranty.

This animated version of indoor soccer has similarities to SLAPSHOT and INTERNATIONAL HOCKEY from ARTWORX. It offers head to head competition against the computer or another player.

Against the computer, there are three levels of play. Even the novice level provides good competition. Playing against a second player provides more variety and excitement. You control the players one at a time, and control moves from one player to another. Kicking high, kicking low, passing, and checking are all very well mimicked by this software.

The playing field is slightly longer than three screen widths. The game lasts for two five minute halves, with the time and score displayed at the bottom of the screen at all times. A horn sounds to end each half.

Sound is used throughout, with effects for ball impact, an announcer who shouts "penalty kick," or "fight!" and shouts from the crowd for every goal (which makes it difficult to tell which is the home team).

The goal tender moves right, left, and can jump to block the high shots. The penalty kick gives you a close up view of the net and the shot.

The only thing that I feel is really weak is that the players are much too small compared to the playing field. However, FIVE A SIDE does provide indoor soccer for us C64 gamers. Average. Dan A. Sieben.

LITTLE_COMPUTER_PEOPLE: $49.95 game(?) for the Amiga (reviewed here; also available for the C64 and other computers), from Activision.

The LITTLE COMPUTER PEOPLE DISCOVERY KIT for the Amiga has the same features as the C64 version, with a few added goodies for the more powerful machine.

In case you are one of the few who has never seen a LITTLE COMPUTER PERSON (perish the thought), a bit of background:

When the disk is booted for the first time, you will be presented with a cross-section of a completely furnished two-and-one-half story house. No one is home. After a few minutes the doorbell will ring, and a little person will enter the house and begin to explore. The exploration may take two to ten minutes as The Little Computer Person pries into EVERYTHING. He'll try out the chairs, look in the closets, turn on the TV, check out the refrigerator, and generally give the place a thorough going over. If he likes what he sees (I've never heard of one who didn't), he'll leave and come back a minute later with his luggage (and usually a pet).

He then packs, puts his things away, and makes himself at home. THAT'S ABOUT IT, FOLKS! From here on, all you do is watch him live in your computer. Well, not quite. You have to keep him happy. He enjoys playing games with you (he'll tap on the glass of your monitor and ask you to play a game with him). He enjoys getting new records for his stereo, enjoys receiving phone calls, and REALLY gets a kick out of being patted on the head! He (and his pet, if he has one) must also be fed.

You'll have to watch him carefully to make sure he doesn't get sick, which will happen if he's not fed or if you neglect him for too long. Other than that, he goes about his own business of playing the piano (organ in the Amiga version), playing records on his stereo, using his computer, typing you letters, eating meals, and getting wood for the fire. (In case you're interested, he goes to bed at about the same time every night, and will sleep about eight hours if you

leave your computer on!) There are obviously a finite number of LITTLE COMPUTER PEOPLE; however, I've seen four individuals and each has a different personality. Some will spend hours at the computer, others will listen to the stereo most of the day, watch TV, or just sit in front of the fire and smile.

Enhancements to the Amiga version are a little disappointing. There is, as mentioned, the addition of an organ. The house has been redecorated, and the rooms contain more detail than the C64 version. A couple of games have been added to the LCP's repertoire. Unfortunately, the graphics and animation are not much better than those on the C64. They are good (except for the dog, which seemed to go up and down the stairs sideways without moving its legs), but they do not take advantage of Amiga's more powerful memory and higher resolution graphics.

Although it sounds dumb, you may find yourself fascinated by the LCP once it moves into your computer. I've yet to find anyone who could resist booting it up every couple of days just to see how the little guy is doing! Recommended. --Art Lewis Kimball

Strategy

CHESS CHAMPION: $7.99 strategy game on disk for the C64, from Green Valley Publishing. For 1 or 2 players. Unprotected, no statement of warranty.

Like the other members of the Load'n'Go series, this disk comes with a cover sheet in a clear plastic case, and no written instructions. The instructions within the software are adequate.

The program provides three options: play against another person, play against the computer (the chess champion), or quit. It does not allow illegal moves by any piece. In the one player option, you can choose the level (0 through 6) at which the computer will play.

The sound and graphics are well done. A small jingle begins the program, along with a sample of the playing board and the pieces. Then a twister type title page appears just prior to the instructions. After giving credit to the copyright holders, it is suggested that a copy of the disk be made, and the original stored away as a backup.

The game board is large, consuming 24 of the 25 screen lines. All the pieces are easily distinguishable. The pieces are moved by entering alphanumeric coordinates. The <RESTORE> key will end the current game and start a new one.

Other options include choosing your color and setting up the board to begin from the middle of a game.

The function keys are used during the game to list previous moves, go to the last menu, or list the x coordinates. The latter is required because the only line not used by the playing board must be used during the game to input the moves. Thus, the x coordinates can be listed upon request.

One of the other Commodore magazines published a program which was essentially the same as CHESS CHAMPION, except that it would not audit the players moves. As the other program is joystick controlled, I would prefer it over CHESS CHAMPION.

This package will provide you with a good opponent - even at level 0, the Chess Champion is hard to beat. The keyboard control is awkward, but I would still rate this one as AVERAGE. Dan A. Sieben.

THE CRIMSON CROWN: $17.95 (C64) 29.95 (Amiga) fantasy text/graphic adventure from Polarware (Penguin).

THE CRIMSON CROWN is the sequel to TRANSYLVANIA (Midnite 22:41). Prince Erik and Princess Sabrina are in trouble! After a brief period of bliss, it seems that the Vampyr has returned and stolen the Crimson Crown; Erik cannot be proclaimed King without it. To make matters worse, the Crown has magical powers. If the Vampyr learns how to use these powers the whole kingdom is doomed. Erik and Sabrina will accompany you on your journey, and will help you with their magical powers - if you can figure out when and

where to use them.

The riddles are neither too easy nor too hard, which makes the game all the more enjoyable. If you seem to be lost, a mysterious specter will appear, bearing rather cryptic advice.

In the three years between Transylvania and Crimson Crown, the author, Antonio Antiochia, has come a long way. The over-use of confusing exits which plagued Transylvania are gone. The puzzles are more clever and a lot more thought has gone into this game. The Amiga version has spectacular graphics and is extremely fast.

I look forward to more from Polarware and Mr. Antiochia. Recommended --Art Lewis Kimball

TRINITY: $39.95 standard level fantasy adventure for C128 and Amiga, from Infocom.

TRINITY is the second in Infocom's new Interactive Fiction Plus series (adventures available for machines with 128k or more of memory), the first Infocom adventure based on historical fact, and the first adventure available for the C128.

What starts out as a peaceful walk in Kensington Gardens turns into a nightmare as your long-awaited English vacation is cut short by World War III. If you are quick and clever enough, you can escape the fate of the rest of the world, but is that enough?

Once you escape the bomb, you begin a journey through time. You may discover how to control time itself. Travelling through history, you'll realize that several nuclear explosions are somehow linked together. Your journey will eventually take you to a desert in New Mexico where the very first nuclear detonation is about to take place. If you've done everything right before you get here, and CONTINUE to do everything right, you MAY be able to prevent the successful use of nuclear energy as a weapon! But SHOULD you?

The puzzles in this Infocom game (by Brian Moriarty of Wishbringer fame), are a little different than those in most Infocom games. There's no magic, although some of the solutions will stretch your imagination. It is absolutely necessary to pay attention to what is going on; some of the clues are so subtle that they're very easy to miss. The first, and toughest, puzzle to solve is finding out what you are supposed to accomplish. The author did a LOT of research to put this together.

As mentioned earlier, this is the first Infocom Adventure available for the C128. It autoboots into 80 column mode. Due to the size of the game, it does NOT all load into memory, and so still uses frequent disk access.

Loading is PAINFULLY slow, as is saving or restoring a game. Disk accesses are only slightly faster than in the C64 games, but much more information is being loaded in the same time. The Amiga version is a joy to play, with faster loading, and save/restores taking only 5-10 seconds.

As usual, the packaging is half the fun of the game. Several people who can, if they wish, copy virtually any software STILL purchase Infocom games to encourage Infocom to keep producing and because they want the packaging! This one contains a comic book which tells the basics of what is going on, a sun dial you can build yourself, a map which is absolutely essential to the game, and the diabolical instructions for creating an origami crane (which is not necessary to completion of the game, but will turn you into a blithering idiot in less than an hour, nevertheless.)

The ending of the game is almost universally described as "disturbing" or "a downer" by those who have played it. I agree with both verdicts, but the ending is the only one possible. I'm sure the reaction is exactly what the author intended. You can expect to spend time thinking AFTER the game is over.

Another feather in the cap of Infocom. My only complaint is that Infocom needs about two dozen more authors so they can release a new game every other week! Highly Recommended! --Art Lewis Kimball

TRACER SANCTION: $34.95 graphic adventure from Activision.

I'm not quite sure where the title comes from, because the game has nothing whatsoever to do with the book or the movie of the same name...but it IS a nice adventure game.

As a secret agent, your assignment is to find a character called Wing and return him to his home. One of your big problems is that you don't even know the name of the mysterious planet that Wing calls home!

The game amounts to a rather large trading game. Almost everything you find is something you can trade or sell for something else. There are only about three or four objects that you have to keep throughout the game. One complication is that you have to continually buy fuel for your spaceship, and since you're not really sure how far you must go, you're not always sure how much fuel you'll need!

There are lots of characters around to get in your way; a comfortable number of red herring, and lots of interesting places to visit along the way. You'll even find an ally to help you with your quest...if you know where to look!

The ending, as with a few other Activision adventures, is a little weak (after all that work I want more of a hero's welcome) but the game is very enjoyable and the graphics are well done. Hints are available for those who get bogged down along the way. Recommended. --Art Lewis Kimball

THE PAWN: $49.95 graphic/text adventure for Amiga, from Rainbird International.

Those of you who follow my reviews are aware that I am unashamedly prejudiced in favor of Infocom. I make no apologies for this. A lot of companies have come out with promises that their parser would be bigger and better, but so far no one has come close. Until now.

The parser in THE PAWN is a joy to use. It can accept commands nested several layers deep in sentences like, "Put the rice in the pouch in the pot under the bench." That's GOOD.

THE PAWN is VERY clever and well-written. The story line is just a bit complicated - it requires a 30-page book to set the background, complete with evil magicians, greasy-haired princesses, etc. The gist of the problem is that you must find and kill an evil magician, solving a host of other problems in the process.

The puzzles in THE PAWN are clever and logical, although sometimes based on British logic rather than American. Some of the humor will be lost on most Americans, but there are a LOT of hilarious moments in the game. There is only one maze in the game, and you are warned about it beforehand.

My only complaint about the game is that, in several places (and it seems as if they are always the most crucial moves), EXACT phrasing is required; sometimes the phrasing is not the way an American would talk. It is infuriating to know what you are trying to do is the correct thing, but not be able to do it because your syntax is not acceptable.

Rainbird added a number of clever gimmicks with this great game. When you complete the game you are given access to the actual programming code. You can then wander around the game trying all sorts of dangerous and/or stupid things without being killed or having to start over. Protection is in the form of having to type in a word from the book that accompanies the game. Unlike Synapse/Broderbund's irritating habit of having to do this every time you load a saved game, you will only have to do this ONCE. Game play, and game saves, are extremely fast on the Amiga, and I did not find a flaw anywhere.

The graphics are also well done. I have come to expect beautiful graphics during game load - a lot of companies are doing this - but ALL the graphics are hi-res in this game! The graphics are full-screen (if you choose to use them), but they are windows which roll down to show the scene, and then roll back up out of your way! They are also completely unnecessary. No-one is trying to trick you by putting some unrecognizable "thing" in a picture and not letting you get it unless you can figure out what the

blob is!

I am also impressed by prior advertising of this product. Although Rainbird did do a lot of advertising, and told us how great their game was going to be, they DIDN'T say they were going to put Infocom to shame or drive them into oblivion. Rainbird seems to know what Adventurers knew all along - there is room for another GREAT game producer and that Adventurers will support BOTH of them, not chose one over the other! I am VERY happy to say that I will at last have TWO companies to complain about...the complaint being that they don't produce new games FAST enough!

A "HIGHLY RECOMMENDED" hardly seems strong enough. TRY THIS GAME OR YOU WILL TURN INTO A NEWT! --Art Lewis Kimball

Disk Utilities

BIG_BLUE_READER: $31.95 file transfer utility for the C128 and 1571 drive, from S.O.G.W.A.P. Software. Not protected.

If you ever need to transfer data files between Commodore GCR disks and MS-DOS disks, this utility can make life a good bit easier.

After autobooting into 40 or 80 column mode of the C128, all you need to do is follow the instructions to set the time and date, swap disks, give filenames, and indicate whether or not you want the Big Blue Reader to translate the files between ASCII and PETSCII.

The program has only two minor weaknesses: Being designed for use with a single 1571 drive, all transfers are temporarily stored in a buffer in the computer. This buffer is about 52 Kbytes large. Larger files can be transferred with a little bit of juggling. Related to this, the Big Blue Reader can handle two drives very easily, as long as one is a 1571. The menu prompts, however, never indicate that the program knows the second drive is there. All you need to do is stick the source disk in device 8, the target disk in device 9, select the files you want to transfer, and ignore the prompts that tell you to swap disks. So the first weakness is really a hardware restriction that has been compensated for, the second weakness is purely cosmetic.

Other features allow you to format Commodore or MS-DOS disks, load files into the buffer, print files, and send other disk commands.

The Big Blue Reader is easy to use, and it works. I have transferred several text files back and forth between Commodore format and MS-DOS format disks without error. Highly Recommended. Tim

1541_MASH: $19.95 alignment disk for the 1541 (and C64). From Megasoft, Ltd. Unprotected.

This program has six utilities for spinning the disk, reading tracks, and rattling the head. Using 1541 MASH, you can adjust the speed and align your drive in forty-five minutes to an hour on the first try. I have aligned my 1541 twice and aligned 3 more drives for friends. Highly Recommended. W.H. Lambdin.

Hardware

LT_KERNAL: [update 28:12] $1295 hard disk drive for the Commodore 64. From Fiscal Information.

I would like to say that I enjoy reading the Midnite Gazette and look forward to each issue. However, I feel that your are being somewhat lax in reporting the shortcomings of the Fiscal Information hard drive. I have a 10 Mbyte (bought from you [MicroPACE]) which is a very good drive MECHANICALLY, but unacceptable in it's incompatibility with Commodore drives. There are precious few programs that work properly with the FI drive. I operate a Punter board (as you do) and must say that at what should be

an ideal job for the drive, the performance is lousy. I have every version of the Lt. Kernel DOS up to v4.0 and find that BBS64.4 works only with the older version DOS 3.8, and poorly at that. There are just too many changes to the BBS program that one must make to have the drive function properly. For the kind of money people are expected to (and I did) pay for this drive, this kind of performance is just inexcusable.

You need to publish a column explaining the problems...that one can expect from the FI hard drive. Joe Grossinger

QUADRAM_QUADLASER_1: $3895 printer. From Quadram. Centronics parallel or RS 232C serial. 90 warranty on parts and labor, extended warranty available for a fee.

This printer offers 1.5 Megabytes of RAM memory (expandable to 2 Megabytes) allowing a full page of 300 x 300 dot per inch graphics, and 389 Kilobytes for text fonts; Epson FX80 and Qume Sprint 5 emulation for compatibility; and a long life Ricoh print engine. Rated at 8 pages per minute for repeating the same page, actual throughput runs at about 2 1/2 to 3 pages per minute. Four fonts are built in, and additional fonts can be downloaded to the printer from disk (twelve fonts on disk are available for $175.) In addition to the built in Epson and Qume emulations, the Quadram allows custom emulations of other printers. An HP Laserjet emulation is included with the package; if you want to write your own you will have to be familiar with Z8001 machine language.

The printer is sharp, quiet, and reasonably fast. It does, however, have some shortcomings. You can only gain full control over the fonts while in the Qume Sprint 5 emulation mode. The Qume Sprint 5 went out of production some time ago and is not widely supported, making it a bit difficult to find printer drivers that will take full advantage of the printer. The biggest problem is in getting truly proportional text to justify on both the left and the right margins. The printer is, however, making a niche for itself, and software support for the printer is increasing. The printer does not support a page layout language such as Postscript.

The Epson FX80 emulation mode is fun. If you want to use the standard Courier font at 10 characters per inch, your text will come out looking as if it came off a daisywheel. If, however, you want to print in Elite type at 12 characters per inch, your text will look just like it came off an Epson, complete with the 9x9 dot matrix characters. The real advantage of the Epson emulation is that you can hook up the Quadlaser to your C64 and print the graphics from PrintShop, Doodle, or GEOS.

The printer has had a couple of other problems as well. A chip burned out after seventy-five pages. Two and one-half business days later, a Ricoh repairman showed up with an old version of the Quadram board that lacked the Qume emulation. Fortunately, the only difference between versions 1 and 2 was two socketed ROM chips, and a quick swap put it in good working order. The distributor and Quadram have both been quite courteous and helpful, have returned all calls within the day, and have done their best to see that we had no undue problems getting the printer to work to our satisfaction. Quadram was not fully aware that we would be reviewing the printer.

In general, we are very pleased. We looked at, and considered, almost every laser printer available on the market today and we are confident that we made the right choice for our needs. Unless your requirements dictate a specific laser printer, one with a page layout language, for example, the Quadram Quadlaser 1 is definitely a good product at a competitive price. Recommended. Tim

Editor's Aerie

Tim Sickbert

How quickly things change! Not long ago, there were rumors that Commodore would make amends for the Plus/4 fiasco with a new member of the C64 line; now we enjoy the greater memory, expanded BASIC, and faster disk access of the C128. For eighteen months, stories circulated about Commodore's new 16/32 bit machine; today we have the first true multitasking microcomputer, the Amiga 1000. The only thing that doesn't seem to change is Commodore's uncertain marketing tactics.

Changes have occurred quickly at Midnite as well. One and one-half years ago, the Midnite was in its prime as an (almost) bimonthly publication at the hands of Jim Strasma and Jim Oldfield. Jim Strasma moved on to continue his education, Midnite was purchased, and the magazine slipped in quality and content. This decline has been checked, and Midnite has begun to recover.

Part of this recovery involves some expansion into other areas, namely books. In addition to the compendium of reviews announced last month, the Midnite has another book in the works, HOW TO GET THE MOST OUT OF GEOS. This book will contain 300+ pages of documentation, memory maps, descriptions, and utilities covering the new operating system for the C64 from Berkeley Softworks. Look for it at the beginning of November.

As always, the Midnite works up from the low end. We keep our fingers in the pie by using Commodore machines for every part of the publishing process, including the printing of the master copy of the magazine, and now the books. In spite of our loyalty to Commodore machines, and to low end micro-computers in general, we have had to move up a bit in some respects. Unfortunately, the Commodore DPS 1101 20 cps daisy wheel, or even the CBM 6400 45 cps daisy wheel, is not quite up to meeting our needs for the magazine and the books. Thus, the Midnite is now printed with the Quadram Quadlaser.

No, it is not quite obvious, looking at this printed page, that we are using a laser printer. In fact, it looks quite a bit like the last issue. It seems that the makers of the Quadram did not design the Quadlaser with the C64 in mind, thus making it somewhat difficult to control all the fonts and features. So this issue we are doing it the easy way with a nice, simple, standard font. Next month, however....

LETTERS

Dear Sirs,

Thank you for printing my letter of 6/9/86 in your issue #35. Since that date I have found some answers to my questions about my Supergraphix interface.

At Xetec's suggestions, I use the Epson printer profile instead of the Star profile with my VizaWrite word processor. All fonts now work. I understand that they will soon have a program for sale allowing font use in the C128 mode. The use of the backspace escape code does not work when a font is used. They have more fonts available (FontMaster II) which include the French.

I am also now able to switch the fonts on and off within the document. Part of my problem may have been that my interface was dying. (Symptoms: my system often went off into never never land and had to be reset. Unplugging the interface power supply solved the problem.) In August I returned [the interface to Xetec] and got very good service (10 days). It was covered by its lifetime warranty: no questions asked. Also, the ROM was updated and a limiting resistor was added. I am impressed by the service I received from Xetec, both by UPS and by phone.

Now if somebody would tell me how to change the printer default values for the Route and Setup windows on my VizaWrite (by [Viza Software, from] Solid State Software). They have been great about sending updated versions, but say "The default values...cannot be changed due to proprietary information and world-wide copyright laws," in a recent letter.

Sincerely yours

J. Roquemore

I have a file from a word processor that is all garbage - can it be saved?

There is hope. If there was a version of the text on disk before it got corrupted, and you have saved nothing else on the disk since it got corrupted, your chances might be good. Many times, if you load a file into your word processor, make some changes, and then save the file back onto disk, the file that you loaded will still be there, but scratched. It is relatively simple to unscratch a file using either a dedicated "unscratch" utility or a sector editor; just change the file type byte from a null ($00) to the value appropriate (usually $81, sequential; or $82, program) to your word processor's files.

If this is not the case - if the corrupted file was not loaded from disk, or if other files have since been saved to the disk, the chances of recovering your file become slimmer. In these cases, you must use a sector editor to find the file data, find uncorrupted data and then manually build it into a file that the DOS can read. First, find the uncorrupted data, follow it until it ends, mark the last block of good data as the last block in the file, and then go to the directory and create a directory entry for your file, setting the track and sector pointer to the first uncorrupted data block. Then copy the file to another disk. You might then be able to read it back into your word processor.

I highly recommend that if you attempt this, you try it on a backup diskette, preferably nibbled. When working with the bytes on the disk, it is fairly easy to make matters worse, and even to mess up the whole disk. If you need more help, try to find somebody who has used a sector editor before. And Dr. Richard Immers's book, "Inside Commodore DOS," is an excellent technical reference that may help.

What kind of disk drive must I buy to put in my SX64 to make it a dual drive?

Stretching the imagination, it seems that it might be possible to remove the original single disk drive from the SX 64 and somehow fit an MSD SD2 into vacant space. That could get real tricky. Other than that, I doubt that it would be worth the effort to build your own dual disk drive.

I have talked to several users who have managed to fit a second floppy drive (device 9) into the SX64, often using an external power supply for the computer and both drives. Some who have done it have used a 1541, others have used Enhancer 2000s.

- * -

Has anyone found a way to make an archive copy of GEOS?

Any copy protection scheme can be broken, it is usually just a matter of time. There are numerous copy programs that will make a backup of GEOS by placing on the backup disk the same copy protection found on the original, and other utilities will that disable GEOS's protection scheme. I am a strong believer in backups for personal use, especially if the program claims to be an operating system. DON'T PIRATE!!!

- * -

What word processor works with letter quality printers that use Diablo 630 printer codes? I need to be able to imbed printer codes that allow me to pause the printout so I can change the daisy wheel.

Many of the newer word processors, or newer revisions of the older word processors, will allow you to pause the output - Pocket (Paperback) Writer, newer versions of WordPro, and Superscript. I believe, however, that none of these

allow you to pause during the middle of a line and continue printing on the same line with your new daisy wheel. The command to pause must be first on the line, last on the line, or both. This makes life hard if you want to italicize three words in the middle of a line.

- * -

Can you help in selecting programs for the Plus/4? Specifically, which C64 programs use the VIC chip and which use only the regular C64 calls?

Any programs that use only standard BASIC 2.0 commands will work without modification on the Plus/4. Any program that has SYS, PEEK, POKE, or other machine dependent calls is risky.

There are also a few commercial programs that will work with the Plus/4. Specifically, Precision Software released a version of Superbase 64 that had Superbase for the Plus/4 on the back side. There may still be some copies of this running around - try contacting Progressive Peripherals. Commodore released a few programs for the Plus/4, and may still have some in stock. A not too recent issue of "Commodore Microcomputers" had an ad with some forty-eight titles for the Plus/4 - lots of games and several applications packages ranging in price from $12 to $45. Finally, you can try PLUG (the Plus/4 Users Group, Box 1001, Monterey, CA 93942) and TriMicro.

- * -

"WARNING!! If it ain't broke, don't fix it!!

"I recently decided to experiment with my C64 by inserting a fuse in the main +5VDC line, and an over-voltage crowbar circuit...both of which were probably OK...but I also decided to remove the bottom shield cover (solder tabs), which I am guessing was my fatal mistake. When I turned on the computer the screen remained essentially blank and I heard some little squiggley humming sounds that I had not heard before. I am guessing that some wild oscillation occurred and took out an IC. I just shipped the pc board to Pennsylvania with a check for $38.95.

I just moved up from a C64 to a C128. Before I buy a new word processor, I want to know if I will be able to use my old text files in my new program. Are they compatible?

That depends on many things. The simplest thing to do would be to buy a C128 version of the same word processor - if it is available and has the features that you want. Most C128 word processors will accept text files from the C64 version of the same program - but be careful, it does not always work the other way.

If you buy a C128 word processor that is very different from the one you used on your C64, things can get a bit more tricky. Many of the newer word processors, and some of the older ones, have features that allow you to read just about any kind of text file. If the word processor you want allows this, the text may still require some massaging, such as removing file headers, changing control codes, and deleting carriage returns.

If none of this works, your C64 word processor might have a feature by which you can print to disk as if the disk drive was a printer, and the disk file the paper. Most C128 word processors will load text from standard sequential files. With this you will again have to do some massaging of the text once you get it into your new word processor, mostly removing extra carriage returns. If you do this, be sure to remove all text enhancements, such as underlining or bold face, before you print the file to disk.

- * -

Is there any way to make the C128 act like an IBM PC?

It is probably technically possible, but probably not worth the effort. The C128 already has two processors in it, an 8502 and a Z80. To make the C128 act like an IBM PC, to make it run MS DOS, you would somehow have to hook up an 8088 chip as well. Such a package would cost a pretty penny and PC clones are coming down in price to the $500 range, so it may not be worth it to try too hard.

It is, however, possible to transfer files directly between an MS DOS disk and a C128/1571 system. The Big Blue Reader (see review in this issue) does a good job of translating ASCII and PETSCII sequential files back and forth between an MS DOS disk and a Commodore disk.

- * -

I have GEOS. The screens are neat, with the pointers and icons and all, and I like the fonts in geoWrite, but it is a bit of a pain to use for lots of text. Is there any way I can use files from my regular word processor?

Not yet, but there will be. Midnite, and others, will probably be making such utilities available soon.

- * -

I call several of the local bulletin boards. Some use Xmodem, some use Punter. What's the difference?

Any time two computers communicate, they both have to know how to talk to each other. For typing messages back and forth, all you need worry about are things like baud rate, data bits, stop bits, and parity. It gets more complicated when the computers are supposed to transfer a great deal of information automatically, either a program or a long piece of text. To make it possible to transfer such files between computers, several "protocols" have been developed. The most popular, and implemented on the most computers, is Xmodem. It traces its roots back to CP/M or earlier. Using Xmodem, you can transfer files from your Commodore computer to an IBM, to an Atari, to an Amiga, and to many mainframes.

Punter protocol, on the other hand, was developed specifically for the old CBM business machines and then adapted to the newer C64 family of computers. It is very reliable and has been much enhanced since it was first implemented. However, I have not seen Punter protocol implemented on any computer other than a Commodore. For now, it is best to have a program that supports both Punter and Xmodem, but I imagine that within a few years some version of Xmodem will dominate and bulletin boards that support only Punter protocol will become more and more rare.

- * -

Why won't my C64 accept ?#4 for PRINT#4?

This has to do with the way that the Commodore BASIC interpreter reads, or parses, the text that is on the same line as the cursor when you hit <RETURN>. The BASIC interpreter takes the line from front to back looking for certain things. As soon as it finds a BASIC command, or the abbreviation for a BASIC command, it turns it into a one byte token (one or two bytes on the C128). When you enter a ?#4 and hit <RETURN>, the interpreter comes to the "?" and turns it into the token for the BASIC 'PRINT' command. It cannot do anything with, and so ignores, the #4, so you end up with the statement 'PRINT #4'. The interpreter accepts the command, but turns it into nonsense that cannot be executed. The same kind of thing happens if you try to enter a compacted line like 'IFTANDS.' While you want the computer to AND T with S, the computer finds the command word TAN before it finds the command word AND. So it thinks you want to compare the TAN of DS with something else. It will not let you, and you get a syntax error.

- * - * -

THE COMMODORE MARKET IN ARGENTINA

by Ruben Parasporo

To understand the Commodore market in Argentina, we first need some idea of the general computer scene here. Large companies have used computers for about ten years now, medium and small sized firms have used computers for maybe three to five years, and retailers have carried computers for home use for only the last year and one-half. The computer market in general, and the home computer market in particular, has grown very fast. This is very positive in itself, but some negative aspects remain with respect to

organization, support, and government regulation.

Getting now specifically to the home computer market, Commodore machines are the most popular computers in Argentina. There are three distinct sources of products for Commodore users: local production, legally imported machines, and the black market of illegally imported machines. Commodore has an agent in Argentina, Drean SA, which manufactures the C16 (the little brother of the Plus/4) and the C64, as well the 1541 disk drive and Datasette. There are plans for expansion which could include a production line for the C128.

Before giving prices, a bit of information on the Argentine economy. Let us say, for comparative purposes, that an average white collar employee in Argentina earns some $350 (all amounts are given in the U.S. Dollar equivalent) a month; a blue collar worker about $300; and the minimum salary is about $200. Considering the cost of living here, this is barely enough to cover basic needs. Thus the state of the economy limits the potential market. Nevertheless, the market is certainly expanding and the public interest in computers is large and growing. A number of financing plans are available to make it easier to buy a computer.

A locally manufactured C64, officially named the "Drean Commodore," costs $420, and the 1541 costs another $440. The only technical difference between the Drean and the imported units is in the video output - Argentine television uses the PAL standard rather than NTSC - so the locally produced C64s will work with our television sets. A C64 and 1541 system cost about $600 on the black market.

Legally imported, a C128 and one 1571 cost about $1300, with the same set going for $850 on the black market. Any warranty is usually given by the retailer himself, with service performed by private technicians. Import customs duties are about 80% of the legally imported machine's purchase price. The Commodore 128 is much sought after for commercial applications, and it is considered the logical step between a C64 (a game machine) and more powerful hardware. With the C128 becoming quite popular, sales of second hand C64s are brisk, giving many more people access to computers. A few Amiga machines have also come into the market, maybe about one hundred. Cost of the Amiga - with the expansion to 512 Kbytes, and a monitor - is about $3000.

In the printer market, the MPS 801/802/803 series is the most popular for home use, with the MPS 1000 most common in the business setting. The MPS 800 series sells for about $250 and the MPS 1000 goes for about $400. There are other printers available, such as the Epson, Okidata, and Texas Instruments, but the necessary interfaces are not available. Some local electronics manufacturers have started producing domestic versions of fast load cartridges, W RAP 128, external reset switches, and power supplies. These manufacturers will probably expand their lines as the computer market grows, and the next products will likely be printer interfaces and 80 column cables.

Almost no monitors are imported The original Commodore monitors, the 1702 and the 1902A, are found only on the black market at about $450 and $900, respectively. Locally manufactured monochrome monitors are legally available for no more than $300. Most C64 users work with a TV set anyway, and only about 20% of the C128 owners get to work in 80 columns. Many had difficulties trying to use the 80 column output on the machines that first arrived, which were manufactured between August and October.

Other accessories and peripherals, like the mouse or the memory expansion, are very difficult to find, and the only way to get one right now is to order one from abroad.

Software is a topic all its own - very few programs have been legally released in this country (perhaps 50 on

disk and 100 on tape), but there are thousands of illegal copies of the most famous, newest products. The latest programs appearing in the United States and Europe are sold in Argentina at less than 50% of their market value. These programs are often incomplete and lack documents and manuals. There are no legal restrictions covering software in Argentina, and copying programs is considered an artisan's work. When you consider the low prices that people here are accustomed to paying for software, it becomes obvious why software companies have no desire to market their products here, and why local companies don't bother to develop either. Two bills have been presented in Parliament to regulate software copying.

The main problem faced by Commodore users in Argentina is probably the lack of information. There are no users groups to assist and update machine owners, and the local manufacturer has no customer service department. There only Argentine magazine comes out quite irregularly and is of limited value. The most serious, accurate source of information is foreign literature and magazines. The following periodicals are available, usually one issue late (and at three times the cover price): Run, Ahoy, Compute's GAZETTE, Commodore Power/Play, and rather irregularly, The Transactor. There is also the language problem, as not everyone here speaks English. Some books in Spanish, mainly from Spain, are also available.

A growing number of users are turning to telecommunications, seduced by the idea of contacting other users and the whole world with a computer and a modem. Four BBSs are up and running in Buenos Aires, and a great national service, Delphi in Argentina, was launched by Siscotel in cooperation with General Videotext Corp. in the States. The services are the same as those provided by Delphi USA.

In Argentina we can also access foreign services. Our two international communications centers (CIBA and ARPAC) link us with Telenet or Tymnet. Costs are rather high for middle income people - $12 an hour, plus another $12 for each pack of transmitted data. Therefor, normal communications costs some $40 an hour, plus the normal service access costs. In spite of this, people are becoming more and more enthusiastic about telecommunications, and the numbers of subscribers is increasing. Merely getting a subscription is also a problem, as only Delphi has local representation. To subscribe to Compuserve, Plink, Source, or any other service,it is normally necessary to ask an American friend to do it for us.

From Argentina, international services can only be accessed at 300 baud, and the protocol follows the international CCITT X.28 norm. Modems made for use in the USA cannot be used, as they conform to the Bell norm. Fortunately, very good modems are made locally, although they are all RS232C rather than Commodore compatible. Direct connect modems, compatible with the 1650, were recently brought from Taiwan, giving us autodial/autoanswer capabilities as well.

Well, this is just a quick overview of the Commodore market in Argentina. It is growing ever larger, which makes us hope that shortcomings will be gradually solved, that we shall soon have access to more and better equipment and accessories, and that more information will be available to learn how to get from these great computers all the services already available to users elsewhere in the world. Ruben Parasporo.

- * - * -

KNOCKOUT

Knockout is a useful one line program that everyone should have. It can be used to stop that horrible rattling caused by copy protection, and as a simple, quick check of your drive's alignments.

If you have software that causes the

drive to knock, just add to Knockout a line to load the boot program. The Memory-Writes (M-W) direct the disk drive to read data one time instead of five times if an error is encountered.

You can also do a rudimentary check to see if your drive is going out of alignment. Run this oneliner and load a few programs from a known good disk that you are having trouble with. When loading, watch the red drive activity light. If the red light does not blink, then the drive is within allowable limits. If it blinks, there is either an error on the disk or the drive is starting to go out of alignment. Many thanks to the anonymous programmer who originally found this handy little line.

```
10  OPEN15,8,15,"M-W"+CHR$(106)+CHR$(0)+
CHR$(1)+CHR$(133): CLOSE 15
```

W.H. Lambdin.

- * - * -

HARD AND SOFT RESET AND TOGGLE WITH FASTLOAD CARTRIDGE

by Steve Boal

(The Midnite Software Gazette and Steve Boal disclaim any damage caused, directly or indirectly, by or in relation to the changes in hardware herein described. Any change in hardware voids the manufacturer's and retailers warranties, express or implied. Such changes are to be made at the sole risk of the user.)

If you use a Fastload cartridge to speed up your disk drive when loading, you have discovered by now that not all software is compatible with the cartridge. If you do not own an expansion board with additional cartridge connectors and switches, then you must send a number of commands to disable/enable your Fastload cartridge. Furthermore, if you do own an expansion board, you know how valuable the soft reset button is when you need to clear memory, or if the soft reset does not clear memory well enough for you, then you know how often you must turn your C64 off and then back on again (hardware reset). This way of performing a hard reset is bound to add wear and tear to your trusty machine.

If you would like to combine all these functions within your Fastload cartridge - toggle Fastload, perform a soft reset, or execute a hard reset - then read on!

1. The first step in liberating your computer is to unplug the cartridge. Now gather up the following tools:
   a small phillips head screwdriver;
   an xacto knife;
   soldering iron; and
   electrical rosin core solder.

You will need to buy two subminiature push button normally open momentary switches from Radio Shack or a competitor.

2. Next, use the xacto knife to cut a circle in the paper label just over the screw in the top of the cartridge, enough to expose the screw. Likewise, use the xacto knife to cut through the paper covering the seam at the far end of the cartridge, about halfway between the top and the bottom.

3. Remove the screw with the phillips head screw driver, and carefully remove the top of the cartridge. You may need to pry around with the edges with something flat and thin.

4. Facing the pin end of the cartridge toward you , the far lift pin is #1 while the far right pin is #22. Likewise, the far left underneath pin is "A" and the far right is "Z". (Letters G, I, O, and Q are not used.)

5. Using the xacto knife, cut three holes in the bottom far end of the cartridge case, deep enough to hold, from left to right, a momentary switch, a toggle switch, and another momentary switch. Set your switches in places to see that you have made the holes the right depth for clearance when the top of the cartridge is replaced.

6. Solder about a 3" piece of wire from pin #1 to the left end of the first momentary switch.

7. Sever the trace with the xacto knife at pin #2 and solder a wire from above the break point in the trace to the left side of the toggle switch. Then, solder a wire from below the trace to the right side of the toggle.

8. Solder a very short wire lead from the right side of the momentary switch to the right side of the toggle. You have now completed your hard reset switch and your Fastload toggle switch.

9. Take the printed circuit board out of the cartridge and turn it over so that the bottom side is face up with the pin end toward you.

10. Solder a wire from pin "Z" (now on the far left, looking at the bottom) to the left side of the remaining momentary switch. Then, solder a wire from pin "C", the third pin from the right, to the right side of the same momentary switch. You have just completed installing your soft reset button.

11. With your xacto knife, remove some of the plastic ridge toward the pin end (top and bottom) so that the cartridge top and bottom can be closed again, leaving room for the wires that cross this ridge.

12. Replace the circuit board, close the top and bottom of the cartridge case, and replace the screw which fastens the case together.

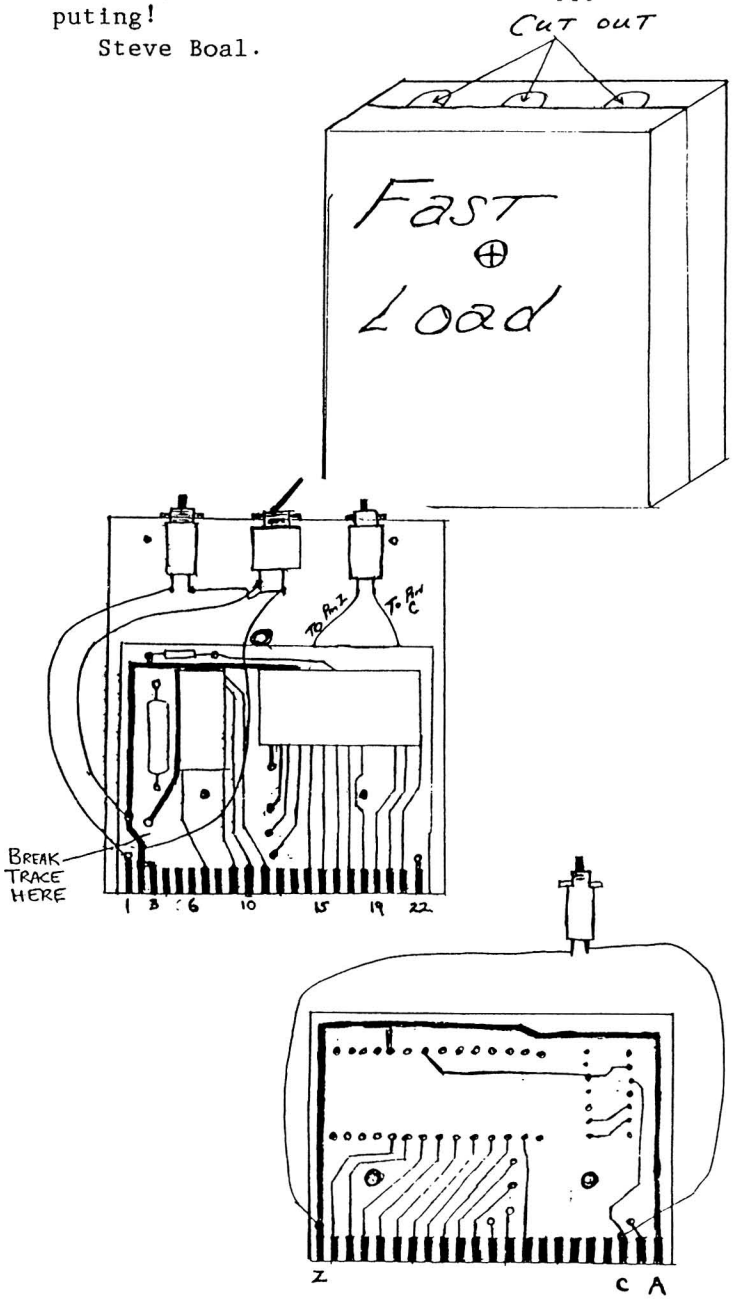
You are now ready to use your cartridge with the hard reset (left switch), Fastload on/off (toggle), and soft reset (right switch). When you toggle Fastload, you must then depress either of the reset switches to let the computer know you changed it.

If anything fails to work properly, disassemble the cartridge and check your wiring to be sure that it is correct, securely soldered, and that bare wire is not touching any other pins or connections. Do not attempt to take any short cuts, such as soldering to the top pins instead of the bottom.

One word of caution: if you own an expansion board and desire to plug your cartridge in that board, DO NOT ATTEMPT TO USE THE HARD RESET BUTTON as it will probably blow the expansion board fuse.

A similar approach, in regard to the reset switches, may be applicable to cartridges besides Fastload. Happy computing!

Steve Boal.



GETTING STARTED IN ASSEMBLY LANGUAGE PROGRAMMING

by Robert W. Baker

Many VIC-20 and Commodore-64 owners are newcomers to the world of computer programming. They've had enough trouble learning how to program in BASIC without being further confused with assembly or machine language programming. However, by not knowing how to enter and use prepared assembly language programs, they are missing out on a number of valuable utilities and useful routines published in magazines from time to time. I thought it might be valuable to provide a basic introduction to assembly language programming and describe how to enter and use an assembly language program.

The current and previous Commodore systems are based on the 6502 microprocessor or some newer member of the same family. The 6502, and all other processors, understand only the ones and zeroes that correspond to on or off states. Thus, all data and instructions are binary. Users find it hard to work with the binary number system, and therefore use a more convenient representation such as hexadecimal (base 16) or decimal. A typical 6502 instruction to load the value 21 (decimal) into the accumulator may be shown as:

10101001	00010101	in binary
A9	15	in hexadecimal
169	21	in decimal

The hexadecimal system is commonly used for machine language programming because it is the easiest to use when talking about addresses within the computer. For example, the BASIC text area begins at the decimal address 2048. The hexadecimal address $0800 specifies the same location, but is easier to work with since the hexadecimal number is round-ending in two zeros. This becomes more important when working with addresses like 56576 (decimal); it is usually easier to remember the same address as $DD00. Most assembly language programmers use hexadecimal, and most articles give programs in hex. I shall use it here as well.

Even with the convenience of hex, programmers find numeric representation of instructions tedious to work with. So a symbolic representation is commonly used. For example, the preceding instruction might be written as:

```
LDA     #21
```

In this case, LDA is the symbol for the instruction to load the accumulator. A computer program called an assembler is used to translate the symbolic form LDA to the numeric form $A9. The symbolic program is referred to as source code, and the numeric program generated by the assembler is called the object code. (The numeric code produced by the assembler is actually in binary but the assembler program shows it to you as hex so it will be easier for you to read.) Some assemblers also produce a listing which shows the correlation between the source code and the object code. Only the binary code can be executed on the computer, but a special loader program may be needed to load and run the object code.

Each machine instruction has a symbolic name, referred to as an operation code, op code, or mnemonic. Some op codes require an operand to specify the data on which the operation is to be performed. The operation portion of an instruction specifies either an address or a value, and may contain an expression such as L2+2 for computed values.

Additionally, any instruction may be labeled for reference by other instructions, as shown by:

```
Label2    LDA     #21
```

In this example, the label is Label2, the op code is LDA, and the operand is #21. Labels are used as targets by branch

instructions (the machine language equivalent of 'GOTO') and as the data elements (variables) within operands.

Most assemblers allow comments following the instruction operands. This provides a convenient way to document the program flow for later reference.

Assembler directives are another important feature of most assemblers. These are special instructions to the assembler to reserve storage space, generate data constants, or otherwise control the assembler operation.

Many different assemblers are available for the Commodore systems. Simple assemblers may assemble source code from BASIC DATA statements and POKE the object code directly into memory. Others may read the source code from tape or disk files and create an object file that must later be loaded by a special program (such as with the assembler offered by Commodore).

Assemblers written in BASIC are inexpensive and relatively slow, while those written in machine code run much faster and usually provide a number of features. Be aware of any limitations or requirements of an assembler before considering it for your particular needs.

Sample listing 1 shows an assembly listing for a very simple machine language routine. Let's disregard the actual function of the routine and just look at the listing and what it tells us. The first column of numbers indicates the hexadecimal memory locations where every instruction or data constant is located. The next three columns of two-digit hexadecimal values indicate the object code, starting at the corresponding location indicated on that line.

The next column shows the source code line numbers. These are generally shown merely for convenience They may, however, be used by a special editor for editing or creating the source code. The remainder of the line is the actual source code that was used to generate the object code shown on that line. There may be comments on the source code line to document the program operation.

To get this routine into your machine, if you have an assembler program, you might just have to type in the source code and assemble the program. At worst, you might have to convert the assembler syntax from that used in the article to the form used by your assembler.

However, if you don't have an assembler you can still enter and use the routine. If the magazine doesn't use some standard loader program for machine language programs, just use one of the available monitor programs to enter the object code directly into the memory locations specified in the assembly. If the program is short (like Sample listing 1), entering the object code should be fairly simple; entering larger programs may not be a very pleasant task.

To enter the object code directly, first activate the monitor program as normal. With most monitors you then have to display the memory area to be modified, entering the desired starting and ending addresses. You can get the hexadecimal addresses directly from the first column of the assembly listing.

If the program is long, choose a block of memory that will fit on the screen. Now enter the data in the appropriate locations, as indicated in the assembly listing. The data will normally be shown in hexadecimal in the listing, the form in which it will be accepted by most monitors. Figure 1 is a memory display showing how the sample program might be entered using a typical monitor.

When you've finished entering a machine language program into memory, it's always a good idea to first save it on tape or disk before doing anything else. If you make a mistake in entering the program, it could cause the entire system to hang when the program is run. If this were to happen, you could lose the program you just entered when you reset or power off the system to regain control.

Most monitor programs provide the necessary command to save an area of memory to tape or disk. You'll normally have to specify the starting and ending addresses, with the ending address possibly one higher than the last location to be saved.

There's one point that many Commodore owners are not aware of. You do not need to use the monitor to load a machine language program that was saved on tape or disk. The normal BASIC Load command will load either a BASIC or a machine language program. Both are saved as a simple memory dump between two locations with the same file header. Just be sure to use the secondary address of 1 in the LOAD command if you don't want the program to be relocated by the loader.

Once you've saved it, try the program for proper operation. If you have a problem, reload the program and check the values entered using the monitor. Also, be sure the proper starting address was used to execute the program or routine. The normal starting address should be given in the article.

Occasionally, there may be alternate starting addresses for different functions or options. Also, some programs may expect parameters at specific locations set by a BASIC program or certain variables defined in a specific order. Be sure to read the article for details what it the program expects.

Another way to double-check a machine language program entered by a monitor is to use a disassembler, which is a simple program that converts object code back into symbolic assembler form. For those interested, a simple BASIC disassembler program is included. This program requests a starting address and then asks if printed output is desired. It then produces a disassembly starting from the location specified.

This program can also be helpful in looking at routines in the BASIC or Kernel ROMs of the system itself, if the appropriate starting address is given. I should warn, however, that if the starting address is not the first byte of an instruction (if it's actually an instruction operand), the output may be unpredictable. You may have to experiment with the starting address to get desirable results.

Sample listing 3 shows the disassembler output. As you can see, the disassembly listing is much like the assembly listing except there are no labels. All addresses are shown as absolute addresses in hexadecimal notation. This disassembler provides the decimal as well as the hexadecimal location of each instruction for added convenience.

Also, on all branch instructions the actual target address, rather than the relative offset, is indicated. Thus, the disassembler can be used to verify that the correct instructions have been entered at the appropriate places.

When using the disassembler, it first takes a few seconds to set up an internal table that is later used to speed up the disassembly process. It then requests a starting address that can be entered as a decimal number or as a hexadecimal number with a leading dollar sign ($). If desired, the output can be printed or displayed.

When printing the disassembly output, press any key on the computer keyboard at any time to suspend printing. Printing will stop at the end of the current line. You then have the option of continuing the disassembly, terminating the printing and restarting another disassembly, or stopping the program and return to Basic. Enter the appropriate letter for the desired action as indicated.

When displaying the disassembly output, the same options are available at the prompt at the bottom of each display screen. This lets you easily page through memory as long as desired. Restarting a disassembly allows specifying a new starting address and re-directing the output to the printer or screen.

Sample listing 1 - Typical assembler output listing

```
                0010            .LS       ;TURN ON LISTING
                0020 ;*************************
                0030 ;
                0040 ;  SAMPLE ML PROGRAM SOURCE
                0050 ;
                0060 ;*************************
                0070
                0080 SPC        .DI $0020     ;DEFINE SPACE CHAR
                0090
                0100            .BA $0073     ;STARTING LOCATION
                0110
0073- E6 7A     0120 CHRGET     INC CHRGOT+1  ;INCREMENT
0075- D0 02     0130            BNE CHRGOT    ; ADDRESS &
0077- E6 7B     0140            INC CHRGOT+2  ;  BYTE IF CARRY
0079- AD 34 12  0150 CHRGOT     LDA $1234     ;GET BYTE (DUMMY ADR)
007C- C9 3A     0160            CMP #$3A      ;CHECK FOR COLON CHAR
007E- B0 0A     0170            BCS CHRX      ;EXIT IF COLON
0080- C9 20     0180            CMP #SPC      ;CHECK FOR SPACE CHAR
0082- F0 EF     0190            BEQ CHRGET    ;IF SPC, READ AGAIN
0084- 38        0200            SEC
0085- E9 30     0210            SBC #$30      ;CHECK CHAR NUM/LTR
0087- 38        0220            SEC
0088- E9 D0     0230            SBC #$D0
008A- 60        0240 CHRX       RTS       ;EXIT WHEN DONE
```

Sample listing 3 - Disassembler output

```
LOC-DEC/HEX OBJECT DISASSEMBLY

115  0073: E6 7A      INC $7A
117  0075: D0 02      BNE $0079
119  0077: E6 7B      INC $7B
121  0079: AD 34 12   LDA $1234
124  007C: C9 3A      CMP #$3A
126  007E: B0 0A      BCS $008A
128  0080: C9 20      CMP #$20
130  0082: F0 EF      BEQ $0073
132  0084: 38         SEC
133  0085: E9 30      SBC #$30
135  0087: 38         SEC
136  0088: E9 D0      SBC #$D0
138  008A: 60         RTS
```

Fig. 1 - Memory display showing sample routine using monitor

```
:  0073 E6 7A D0 02 E6 7B AD 34
:  007B 12 C9 3A B0 0A C9 20 F0
:  0083 EF 38 E9 30 38 E9 D0 60
```

```
100 rem machine language dis-assembler
110 rem       by: robert w. baker
120 :
130 print"[CLR]dis-assembler"
140 print"[DOWN][DOWN][DOWN]initializing ..
..."
150 dim m$(255): h$="0123456789abcdef"
160 for x=0 to 255: read a$: if a$="*" then
 a$="0*?*"
170 a$=left$(a$+"      .",6): m$(x)=a$: nex
t x: rem <-- 6 spaces
180 print"[CLR]enter decimal starting addre
ss[DOWN]"
190 print"or '$' followed by hex address[DO
WN]"
200 input a$: if left$(a$,1)="$" then 230
210 for x=1 to len(a$): c$=mid$(a$,x,1): if
 c$ < "0" or c$ > "9" then 180
220 next x: a=int(val(a$)/8)*8: goto 290
230 a=0: if len(a$)<2 then 180
240 for x=2 to len(a$): c$=mid$(a$,x,1): if
 c$ < "0" then 180
250 if c$<="9" then a=a*16+val(c$): goto 28
0
260 if c$<"a" or c$>"f" then 180
270 a=a*16+asc(c$)-55
280 next x
290 print"[DOWN]want printed copy": input"(
y/n)   n[LEFT][LEFT][LEFT]";c$
300 p=3:if left$(c$,1)="y" then p=4
310 open 4,p
320 print"[CLR]";: if p=3 then 340
330 print"depress any key to halt printer":
print#4
340 print#4,"[RVON]loc-dec/hex  object   di
ssassembly    ": print#4
350 if p=3 then for n=1 to 20: rem ***** ch
ange 20 to 8 for vic-20 *****
360 if a>65536 then a=a-65536
370 a$=str$(a): print#4,right$("      "+a$,
6);" ";  : rem <-- 6 spaces
380 y=a:gosub 690: print#4,": ";
390 v=peek(a): gosub 700: print#4," ";:  a=
a+1:  a$=m$(v)
400 if left$(a$,1)="0" then print#4,"";spc(
7);mid$(a$,2,3): goto 580
410 v=peek(a): gosub 700: print#4," ";: a=a
+1
420 if left$(a$,1)="2" then 510
430 print#4,"";spc(4);mid$(a$,2,3);" ";: if
 mid$(a$,5,1)<>"r" then 460
440 if v>127 then v=v-256
450 y=a+v: gosub 680: goto 570
460 if mid$(a$,5,1)="#" then print#4,"#$";:
 gosub 700: goto 570
470 if mid$(a$,6,1)=")" then print#4,"(";
480 print#4,"$";: gosub 700: if mid$(a$,5,1
)=" " then 570
490 if mid$(a$,5,2)="y)" then print#4,"),y"
: goto 580
500 print#4,",";mid$(a$,5,2): goto 580
510 v1=v: v=peek(a): gosub 700: a=a+1: prin
t#4,"  ";mid$(a$,2,3);" ";
520 y=v1+(256*v)
530 if mid$(a$,5,1)=")" then print#4,"(";:
gosub 680: print#4,")": goto 580
540 gosub 680
550 if mid$(a$,5,1)=" " then 570
560 print#4,",";mid$(a$,5,1);
570 print#4
580 if p=3 then next n: goto 600
590 get c$: if c$="" then 360
600 print"[DOWN][RVON]continue, restart, or
 stop (c,r,s) ?  [RVOF]";
610 get c$: if c$="c" then 320
620 if c$="r" then close 4: goto 180
630 if c$<>"s" then 610
640 close 4: end
650 :
660 rem subroutines
670 :
680 print#4,"$";
690 v=int(y/256): gosub 700: v=y-(v*256)
700 h=int(v/16): l=v-(h*16)
710 print#4,mid$(h$,h+1,1);mid$(h$,l+1,1);:
 return
720 :
730 rem ========================
740 rem 6502 instruction set data
750 rem ========================
760 :
770 data 0brk,1orax),*,*,*,1ora,1asl,*
780 data 0php,1ora#,0asl,*,*,2ora,2asl,*
790 data 1bplr,1oray),*,*,*,1oray,1aslx,*
800 data 0clc,2oray,*,*,*,2orax,2aslx,*
810 data 2jsr,1andx),*,*,1bit,1and,1rol,*
820 data 0plp,1and#,0rol,*,2bit,2and,2rol,*
830 data 1bmir,1andy),*,*,*,1andx,1rolx,*
840 data 0sec,2andy,*,*,*,2andx,2rolx,*
850 data 0rti,1eorx),*,*,*,1eor,1lsr,*
860 data 0pha,1eor#,0lsr,*,2jmp,2eor,2lsr,*
870 data 1bvcr,1eory),*,*,*,1eorx,1lsrx,*
880 data 0cli,2eory,*,*,*,2eorx,2lsrx,*
890 data 0rts,1adcx),*,*,*,1adc,1ror,*
900 data 0pla,1adc#,0ror,*,2jmp),2adc,2ror,
*
910 data 1bvsr,1adcy),*,*,*,1adcx,1rorx,*
920 data 0sei,2adcy,*,*,*,2adcx,2rorx,*
930 data *,1stax),*,*,1sty,1sta,1stx,*
940 data 0dey,*,0txa,*,2sty,2sta,2stx,0
950 data 1bccr,1stay),*,*,1styx,1stax,1stxy
,*
960 data 0tya,2stay,0txs,*,*,2stax,*,*
970 data 1ldy#,1ldax),1ldx#,*,1ldy,1lda,1ld
x,*
980 data 0tay,1lda#,0tax,*,2ldy,2lda,2ldx,*
990 data 1bcsr,1lday),*,*,1ldyx,1ldax,1ldxy
,*
1000 data 0clv,2lday,0tsx,*,2ldyx,2ldax,2ld
xy,*
1010 data 1cpy#,1cmpx),*,*,1cpy,1cmp,1dec,*
1020 data 0iny,1cmp#,0dex,*,2cpy,2cmp,2dec,
*
1030 data 1bner,1cmpy),*,*,*,1cmpx,1decx,*
1040 data 0cld,2cmpy,*,*,*,2cmpx,2decx,*
1050 data 1cpx#,1sbcx),*,*,1cpx,1sbc,1inc,*
1060 data 0inx,1sbc#,0nop,*,2cpx,2sbc,2inc,
*
1070 data 1beqr,1sbcy),*,*,*,1sbcx,1incx,*
1080 data 0sed,2sbcy,*,*,*,2sbcx,2incx,*
```


```
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 a$="0*?*"
170 a$=left$(a$+"      .",6): m$(x)=a$: nex
t x: rem <-- 6 spaces
180 print"[CLR]enter decimal starting addre
ss[DOWN]"
190 print"or '$' followed by hex address[DO
WN]"
200 input a$: if left$(a$,1)="$" then 230
210 for x=1 to len(a$): c$=mid$(a$,x,1): if
 c$ < "0" or c$ >
```

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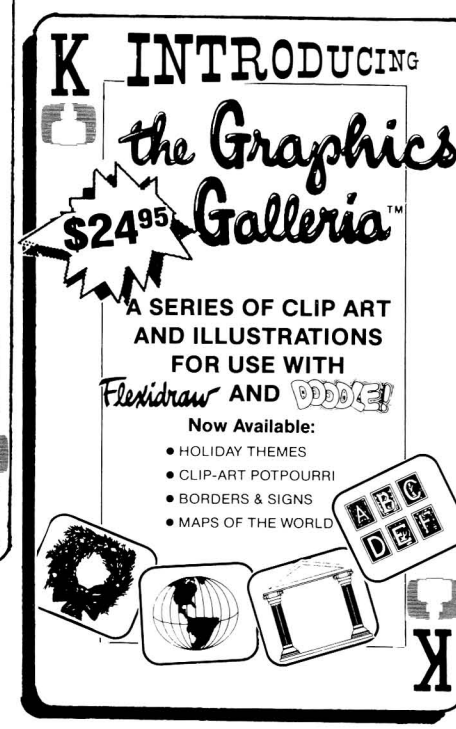

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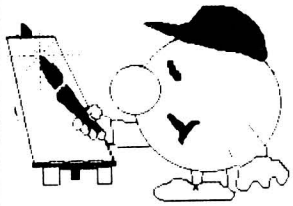

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