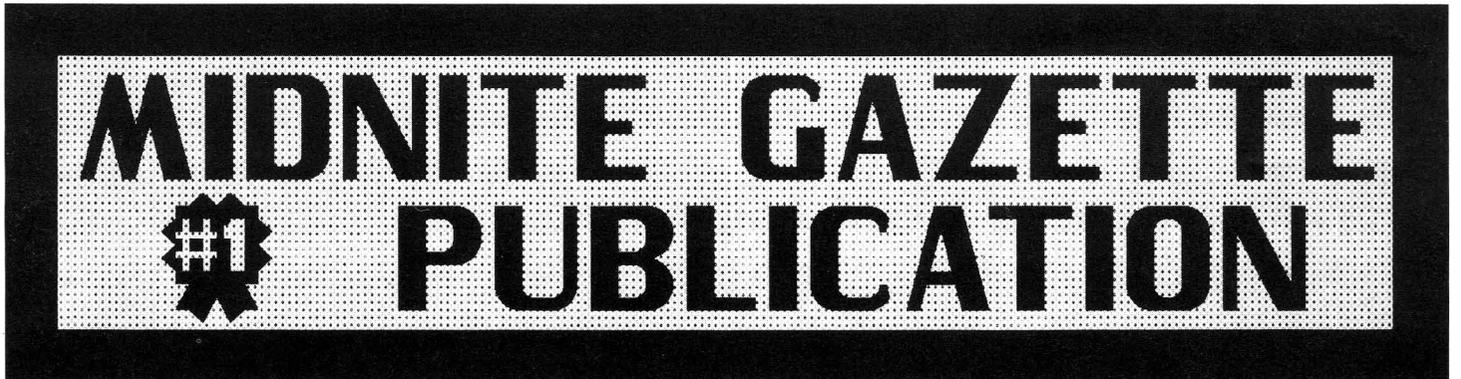


Now Monthly!

In this issue:

Jim Strasma reports on Summer Consumer Electronics Show -----	2
Max Maxwell returns! -----	6
Software publishers ask you about program copying -----	7
Still more book reviews -----	10
Animated Mimi appeals to all ages -----	12
New Commodore hardware -----	13
Who ya gonna call (to repair your computer?) -----	13
The Banner Machine...signs of the times -----	16



Produced by Banner-Machine

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

★ COMMODORE USERS ★

Join the largest, active Commodore users group.

Benefit from:

— Access to hundreds of public domain programs on tape and disk for your **Commodore 64, VIC 20 and PET/CBM.**

— Informative monthly club magazine
Send \$1.00 for Information Package.
(Free with membership).

TPUG yearly memberships:

Regular member (attends meetings)	-\$30.00 Cdn.
Student member (full-time, attends meetings)	-\$20.00 Cdn.
Associate (Canada)	-\$20.00 Cdn.
Associate (U.S.A.)	-\$20.00 U.S.
	-\$25.00 Cdn.
Associate (Overseas — sea mail)	-\$30.00 U.S.
Associate (Overseas — air mail)	-\$40.00 U.S.

TPUG Inc.

DEPARTMENT "N"

1912A Avenue Road, Suite 1
Toronto, Ontario, Canada M5M 4A1

* LET US KNOW WHICH MACHINE YOU USE *

100,000 CHOOSE COMAL
50,000 USERS †

(1) DISK BASED COMAL Version 0.14

• COMAL STARTER KIT—Commodore 64™ System Disk, Tutorial Disk (interactive book), Auto Run Demo Disk, Reference Card and COMAL FROM A TO Z book.
\$29.95 plus \$2 handling

(2) PROFESSIONAL COMAL Version 2.0

- Full 64K Commodore 64 Cartridge
Twice as Powerful, Twice as Fast
\$99.95 plus \$2 handling (no manual or disks)
- Deluxe Cartridge Package includes:
COMAL HANDBOOK 2nd Edition, Graphics and Sound Book, 2 Demo Disks and the cartridge (sells for over \$200 in Europe). This is what everyone is talking about.
\$128.90 plus \$3 handling (USA & Canada only)

CAPTAIN COMAL™ Recommends:

The COMAL STARTER KIT is ideal for a home programmer. It has sprite and graphics control (LOGO compatible). A real bargain—\$29.95 for 3 full disks and a user manual.

Serious programmers want the Deluxe Cartridge Package. For \$128.90 they get the best language on any 8 bit computer (the support materials are essential due to the immense power of Professional COMAL).

ORDER NOW:

Call TOLL-FREE: 1-800-356-5324 ext 1307 VISA or MasterCard ORDERS ONLY. Questions and information must call our Info Line: 608-222-4432. All orders prepaid only—no C.O.D. Send check or money order in US Dollars to:

COMAL USERS GROUP, U.S.A., LIMITED
5501 Groveland Ter., Madison, WI 53716

TRADEMARKS: Commodore 64 of Commodore Electronics Ltd, Captain COMAL of COMAL Users Group, U.S.A., Ltd
† estimated

Need help in locating Commodore magazine articles, program listings and product reviews?

This and other and widely read Commodore micro-computer magazines and journals are now indexed in **PcDex™ Magazine Resource Guide.**

PcDex™ is available either by subscription [4 quarterly issues including a bound annual cumulation] for \$26 [\$35.95 Canadian], or in these bound annual volumes:

PcDex Annual™—1985 Edition
[Apr'1984/Mar'85] for \$16.95 ppd.
[\$23.95 Canadian]

PcDex™—1984 Edition
[Jan'82/Mar'84] for \$16.95 ppd.
[\$23.95 Canadian]

To order † or for more information, please contact:

PcDex Publications
P.O. Box 563
Dayton, OH 45409

See reviews of **PcDex™** in:

RUN, December 1984
The Midnite Software Gazette, Issue 21, 1984

† Payment may be by check, money order, or VISA/MasterCard. Please include card #, expiration date, and signature.

What should you expect for \$35? Everything.

The Intelligent Software Package for **C-64™, VIC™, SX-64™, C-128™, LCD™, Plus 4™, 16™, B-128™, and PET/CBM™.** An integrated home/business/educational package of 25 programs [totaling over 51 pages of source code] that will put your Commodore to work right now, in your home or office; all on disk or tape at the ridiculous price of **\$35.** One customer writes: "... accolades for the authors. This is as slick a deal as I have seen and more than adequate for all except fancy presentations. The best thing is the ease of use..." The package includes:

Database: A complete multi-keyed fixed-record-length data base manager. Sort or select [using all relational operators: =, >, <, AND, OR, NOT, wild card] on any field, perform computations on numeric fields. Any operation can be performed on all, or only selected records. All fields completely user-definable. Can be used for any number of tasks, including accounting, mailing lists, inventory control, record, tape, or book cataloging, expense account maintenance, or as an electronic rolodex. Even if you use your Commodore for nothing else, this program alone might justify its expense.

Word Processor: A full-featured menu-driven word processor including: very fast file commands, screen editing, text locating and full control over margins, spacing, paging, indentation, and justification. "... well done and highly functional..." Provides an excellent alternative to the high priced word processors... this is an excellent buy. Highly recommended."—Midnite Software Gazette. "Provides good basic features."—Compute's Gazette.

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

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

Versions of the package are available for every Commodore computer having a minimum of 10k RAM. All programs will support tape, disk, and printer. Price includes documentation and shipping; Calif. residents add 6%. Add \$3 for credit card, COD, 8050 disk, or tape orders [disk only for Plus4™ and 16™.] No personal checks from outside USA. This ad is the catalog; a sampling of program output is available for \$2.

Intelligent Software
Quality Software since 1982

Box A Dept. M-4
San Anselmo, CA 94960
[415] 457-6153

THE MIDNITE XPRESS NOTES

Midnite Meanderings

by Jim Strasma

Welcome to Issue 25 of the new monthly Midnite. It seems like only last week I was writing Issue 24--probably because it was. Oh well, now is when we try to catch up on all things important...like the TPUG Fair, and the summer Consumer Electronic Show. For a full report, see this month's huge CES Report. Life in this industry is rarely dull!

Toronto is always one of the high points of our year. We've had dear friends among TPUGers since 1980, and even after all these years, I always feel like a kid in a candy store while we're there.

Some of you may be wondering what DBase III, and Unix (topics at this year's Fair) have to do with Commodore, but I assure you they are part of the family now, and will henceforth be fair game for discussion in Midnite, as witnessed by the return of Max Maxwell to these pages after a year's sabbatical in PC heaven. Many of you are now being forced to use PC's at work or school, and need to know about both hardware and software for them.

What really makes all these new toys legitimate parts of the Commodore world are three new computers Commodore is selling in other parts of the world, and may release in the States, namely the Commodore 900 Unix machine, and the PC-10 and 20 IBM PC-compatibles. After hearing Paul Higgenbottom of Commodore U.S. describe the 900 at TPUG, and spending a few minutes with both it and the PC's at CES myself, I can only say I'd be glad to have one of each, thank you.

You'll also heard more rumors about the demise of the Midnite, which are obviously exaggerated. We did explore all possibilities for Midnite in the next year, because of my new coursework, but so far as we know now today, we'll still be right here doing Midnite for the foreseeable future. And stay tuned, because next time we formally introduce Amiga! (Shhh!)



Ye Editor, as pictured by Cardco's new D161-CAM at CES.

```
*****
* To subscribe to Midnite, send $23 US *
* to: The Midnite Software Gazette *
*   Box 1747 *
*   Champaign, IL 61820 USA *
* *
* Back issues are often available from *
* the same address for half price. *
* *
* Subscription information is avail- *
* able from 6-8 AM CDT daily, by *
* calling 217/398-1706 *
* *
* Our address for other mail is: *
*   Midnite Software, Inc. *
*   Box 6100 *
*   Macomb, IL 61455-6100 USA *
*****
```

Visions of Christmas '85

The Consumer Electronics Show is only halfway through its semi-annual run today, but for a change I've already seen everything I wanted to, in one day this time. That's a big clue that things are quieting down in the home computer industry. As usual in recent shows, the dominant name in the Computer hall was Commodore, and most other claimants to the title were not even in attendance (Macs and PC's were shown running the products of several vendors, but neither attended.) Reportedly, at one conference session, a panelist seriously suggested now is the time for distributors to get rid of all software other than Commodore so it can be another good Commodore Christmas, and suggesting anyone who does otherwise should be prepared to lose their shirt in the process. Although the conference included all of the large distributors, many of whom are very fond of Apple and other vendors, no one objected.

Atari's big splash without water

My personal opinion about the "new" Atari can be summed up in an analogy: the Plus/4 was the last machine designed by Tramiel & co. when he was at Commodore, and the C-128 the first machine designed after he left. Although at least one other person claims otherwise, that opinion was confirmed for me by Commodore Chairman, Irving Gould yesterday, and should be remembered before becoming too excited about the "new" Atari's announcements below.

Only Atari made a serious attempt to outshine Commodore, with fairly good results, considering how little information they actually provided Showgoers. It now appears that Atari will sell a low end ST against the C-128 in mass market stores. However, being a Tramiel machine, don't look for any worthwhile software yet, and although interesting prices were quoted at the show, a third-party Atari vendor cautioned "but don't forget those are Atari prices", meaning they come and go like magic, like the products themselves. Atari also showed an optical disk, claiming they'd be offering an encyclopedia as an

add-on to the ST, with a total price (including computer) below that of existing encyclopedias.) Although someone obviously will do this during the next few years, I doubt if Atari is really serious about this yet. More likely it was another Tramiel trial balloon--something they've designed as a prototype, and could build if enough people get excited about it. Tramiel & co. do that often, as a casual re-reading of their announcements at the January CES made clear today.

I have to give Atari credit for creating a good deal of excitement with minimum effort and expense. Their booth (actually a made-over conference room) was always busy, and they generated enough talk that I began to worry about their impact on Commodore. However, a bit of reflection showed it's still all done with mirrors, and is simply another example of how good Jack Tramiel is at getting free publicity. The room looked more crowded than Commodore's booth both because it was vastly smaller and because they crammed the only products they offer that anyone wanted to see at the far end of the room along a narrow wall. At least a dozen 130 XLs stood empty and abandoned around the rest of the room, while everyone clustered around only two ST 512s and one ST 260 (the new el cheapo St for the mass market.) A promotional talk was repeated every half hour, but there was no press kit, only a few copies of a one-page handout on the ST they'd used at the January CES, and no one I recognized from Commodore days, (although Info 64 had a booth across the hall from Atari and reported seeing Jack Tramiel go in and out a couple of times.)

Antic, the independent Atari magazine felt the ST was a good product, and that it really will ship this summer as promised. Several Commodore engineers I checked with were totally unimpressed with the ST, pointing out that the operating system is still buggy, and that like the Apple Macintosh, it ties down its microprocessor with several functions handled by separate chips on Commodore machines. No one who had seen both the ST and the unreleased Commodore "Amiga" was willing to suggest they will even compete in the same market.

As one third party developer put it, "all they share is a processor" (the 68000 true 16-bit microprocessor, also used on the Mac.)

Commodore's Cornucopia

For the first time, Commodore's booth was large enough to accommodate the crowds that came to look, and the reason is simple. For the first time, they didn't use the Tramiel technique of squeezing everything into a tiny space to make it look busy. Instead, their huge booth was filled with the very best offering of both Commodore itself and third party vendors. Explorers found many treasures in plain view, and knowledgeable Commodore staffers to explain them. We will try to keep this brief, but there's a lot to cover.

C-128's Everywhere

Both in and out of the Commodore booth, C-128's were everywhere. By the time you read this, it should be widely available, and as popular as sin. Commodore's estimate is that it will sell at least 1/2 million to current 64 owners, (I'd guess twice that, myself), and already has firm orders for over 100,000. Expect the 1571 disk to arrive a couple of months after the system unit--they want to finalize the DOS on the 1572 dual drive before shipping the 1571, to assure complete compatibility with each other. As for the 1902 monitor, something has gone temporarily wrong in getting deliveries, but 1902's are coming. Expect them a bit after the 1571. (Commodore was even short on 1902's to use on its 128's at the show.) Of course you can always use the 128 with the Sears RGI+composite monitor too, or with a monochrome monitor via a special connector to pins 1 and 7 of the RGBI port. The 1670 MODEM was also on display, and works well. My review version came without a manual, but I also have a "Password" MODEM by the same maker (U.S. Robotics), and they work the same way. Both are fully Hayes-compatible, to work with such serious terminal software as Crosstalk. That's all I use now on my Corona PC, and it should also work well on the 128 in CP/M mode.

New for the 128 line at this CES was a different package that should be popular with first time computer buyers and independent dealers alike. Briefly, it is the keyboard of the 128, without the computer portion, connected by cable to a double-wide 1571 that also contains the main board for the 128. For those who don't already have a 1541 to use with the 128, the new design makes a dynamite package. Dealers will like it too, but for a different reason. Unlike the regular 128, the combined version won't be sold by mass merchants. It will be for computer dealers only, and will offer them a slightly higher margin than the mass merchants need (because it will cost Commodore less to build than the regular 128 and 1571.) The net result is that both are expected to retail at the same price, with all dealers happy. However, don't expect the combined version until after Christmas.

Those of you who wondered how safe the ledge on the back of the 128 would be for holding a monitor will be pleased to know Commodore has strengthened the ledge on production units. Better yet, they've developed a very slick monitor support to sit over the 128 and hold either a monitor or the dual drive 1572 disk, and a monitor on top of that. No word on cost or timing, but the stand was widely praised at the show.

If you've wondered about the memory expander for the 128, that was at the show too, looking much like a VIC cartridge except that the narrow side is the one inserted into the 128. It hadn't been finished long enough for the person demonstrating it to answer all my questions about using the various banks, but does exist, and should be out before Christmas.

The international display

Another highlight of the show was a full display of Commodore's European business computers. These include the PC-10 and PC-20 IBM-compatibles, and the new Commodore 900 Unix V-compatible. The PC-10 sells for the equivalent of \$1,600 in Germany, where Commodore chairman Irving Gould told me they are outselling IBM, and simply can't make them fast enough. For

\$1,000 more, the PC-20 adds a hard disk. If these prices don't sound low enough for the U.S. market, remember they include a main board able to hold 640K RAM, a serial and parallel port, a monochrome video port and monochrome monitor, and two disks. This means all the user who wants it all has to do is plug in some RAM chips at about a dollar each, an 8087 math chip if one is wanted, and a battery-powered clock for about \$75. The PC-10 can also handle a user-installed hard disk, making it very powerful. As for compatibility, the engineer in charge of the display says he's still looking for the first PC program that won't run on it.

The 900 is something else again. Unix isn't for everyone. As Keith Hope of Batteries Included explained, its commands often have no relationship to their function--typical example: "I have to lint my file." On the other hand, if you want a powerful multi-user operating system, Unix has a large and loyal following, and nobody else has a usable system for \$4,400 US. For that price, Commodore will offer a 28000-based 16-bit computer with 512K RAM, expandable on-board to 1 Meg, or 2 Meg with an add-on board. It will also include a 20 Meg hard disk, with up to a 67 Meg drive available as an option, and a 1 Meg floppy for backups (streaming tape optional.) The system also includes the keyboard and 15 inch monochrome monitor, with its own 128K of display RAM, custom video chip, and a mouse (rhodents everywhere these days!) As if all that weren't enough, there are also parallel, IEEE-488, and dual RS232 serial ports, and a battery-backed clock. For software, in addition to Unix itself (a huge collection of utilities, word processors, and such in its own right), the 900 will also come with BASIC, C, COBOL, and PASCAL compilers, an ethernet networking package, and sophisticated graphics and windowing capabilities.

Every Macintosh owner should be forced to view the 900's 1024 by 800 pixel graphics--just like a Mac, but vastly more detail in the drawings. Then when you're done playing, plug in the 8-way RS232 add-on card, and expand up to 10 users. All of this becomes available in Europe this August, and should be very popular, based

on reactions from those who saw the 900 at CES.

Although nothing was said, I also have to believe these machines were brought to the home computer atmosphere of CES as trial balloons for an eventual U.S. launch, after Commodore rebuilds its U.S. dealer network for the Amiga.

The ghost of Christmas present

Looming over CES with a very long shadow indeed was Commodore's unannounced "Amiga" machine. For once, Commodore is apparently going to do it right, and not announce until they are ready to ship. As a result, they are benefitting from the same avalanche of free advance publicity IBM got before the introduction of its jr and AT models. By the time you read this, I will reportedly have received an invitation to the official launch of the Amiga in New York, sometime in July (as reported to stockholders last month.) Meanwhile, here's what to expect. First, and most important, it is not, repeat not an alternative to the 128 for 64 owners. It is expected to retail for \$2,000, and have little or no compatibility with existing Commodore or other brand products. Instead, it may be the first truly high performance 68000-based personal computer. We've all heard about its wonderful graphics, but people who've seen it still can't stop talking about them. Thanks to several added hardware chips, it is expected to be as far beyond the Atari ST in speed and power as the ST is beyond early Atari products. Software developers are very enthusiastic about it, and expect to have some good products available for it immediately upon release. According to rumor, one developer even jumped the gun at CES, showing some incredible 3-dimensional graphics no existing personal computer can generate, and asking visitors to guess which unreleased computer was running under a box to generate them. Guess indeed!

However, I'll say it again. The Amiga is not an upgrade of any current Commodore product, and should not be seen in that light. Even Commodore isn't quite sure what computer it will compete against. The Apple Macintosh is an obvious comparison, but lacks many of the Amiga's capabil-

ities, and according to word on the show floor isn't doing well at all lately.

Anyone ready to buy 4,000 lap computers?

Although the lap computer wasn't on the show floor, it was readily available for special showing, and has been improved from the version Pete Baczor carried around the country this Spring. Contrary to rumors elsewhere, it is not dead, just waiting for a firm order large enough to put it into production. Meanwhile, Commodore's just about to vastly improve its display again with the revolutionary new LCD technology Irving Gould took Keith Peterson and me about at last summer's CES, and they are still thinking of adding support for a video monitor, so a brief delay in the lap's introduction won't hurt anything. Commodore is sure someone will eventually get rich off a lap computer, and wants it to be them, but after disappointing sales of every existing lap computer, caution is inevitable.

Party time

For the third CES in a row, Commodore's press conference was simply a great and elegant party at which all invitees could mingle freely with the top officers of Commodore. Brief speeches by Irving Gould, President Marshall Smith, and a newly-appointed president of U.S. operations politely chastized the computer press for writing only gloom and doom stories about the home market of late, and pointed out that if both business and educational computer markets are still growing, it's only reasonable to expect the home market to do the same. Despite the dire articles about the home market and Commodore's first loss last quarter, the speeches emphasized that Commodore could still afford to throw a lavish party, and would remain able to do so next year as well. I expect the same, based on high future profits from the 128 and Amiga, but Irving Gould pointed out that even without both of those products Commodore could still make money because of their world-wide marketing. (Imagine if you can, that there are some markets into which the Commodore 64 is only now being introduced!)

Third Party news

This was a quiet C.E.S., with few important new product introductions. However, there were not one but two \$1,595 hard disks for the 64 in attendance, with a well-founded rumor that Commodore will fairly soon announce its own hard disk for the C-128. Of the two drives already available, the one from Computer Specialties of Melbourne, FL is claimed to be fully Commodore serial and IEEE-488 bus compatible, which means more software will run with it, but also means that software is loaded no faster than it would be off a 1541 in serial mode. This is the drive first announced at the winter CES.

The other drive comes from Fiscal Information, of Daytona Beach FL, and is a parallel drive, with 43 times the speed of a 1541, but requires a special cartridge to operate at all, and only works on the 128 in 64 mode thus far (they plan to change that quickly.) The cartridge controller supports its own CP/M-like DOS commands. Fiscal's drive is also available in a 20 Meg version, and with streaming tape backup for safety (archives 10 Meg in 2 minutes.)

In software, Beach head II is newly available, and seems like fun, and Batteries Included released a new C-128 version of their famous Paperclip word processor. Naturally it works with 80 columns and uses the whole 128K of RAM, but it also allows such amenities as a legible 160 column video output display on the 1902 monitor, or a 300+ column block mode strangely-reminiscent of the one pioneered on Commodore by Steve Punter, who also announced a 128 version of Word Pro, although I haven't seen it yet.

Apart from that, I just had a good time chatting with survivors, like Arnie Lee of Abacus Software, and the good folks at Cardco, celebrating another year of life, plus a few pioneers just there to enjoy the show, like Jim Rothwell of now-defunct Midwest Micro Associates. Our competitors were out in force too, including Ben Dunnington and Mark Brown of Info 64 and Randy Chase and Grant Johnson of The Guide. On a grander scale, RUN sent Dennis Brisson and Guy Wright, new editor of Amigaworld (shhh!), and a good time was had by all.

The Adventures of Max Maxwell

Conversion

Biting the MS-DOS Bullet

Max turned on the switch with trembling trepidation. As power hit the bus, instinct told him to TURN IT OFF!!! After another hour with the manual, he determined that, incredibly, it was SUPPOSED to make that racket. After all, if God had wanted computers to have fans in them, he would have put it in the spec.....

All the different things

Yes, my children, most MS-DOS computers have fans in them. To those of us used to Commodore computers, who put our 9090 hard drives in the closet, this is a new adjustment.

It can get worse, though. I dare you to sit through 8 hours with a noisy static brush on a hard drive. Fingernails on the blackboard would be a welcome relief.

Anyway, there are a world of things to get used to when you get into MS-DOS, and especially (dare I say it?) computers by the Icky Blue Meanies, known as IBM.

Digital Re-programming

After the fan, and ignoring the 3 minute wait while the IBM RAM test counts its brains, your attention will be drawn to the keyboard, to put it nicely. For those of us who learned the Calculator Keyboard first, then graduated to the graphics, business, C-64 and B machine, the step to IBM should be a small one, right?

Not so. You will find yourself learning little details about the keyboard for several months. The shift is in the wrong place or missing, depending on if you cheat and look for it. Cursor controls come and go depending on the shift and shift lock (with current status not determinable), and most normal people will print the screen several times while trying to hit RETURN.

Where are my brains?

The next new experience is learning IBM stores its intelligence on disk. For only \$65 they will share a copy with you. Getting used to putting that diskette into the drive BEFORE you turn it on is your problem--non-trivial for those of us who were burned by 2040's when we did that. On the other hand, without the Disk Operating System (DOS), it comes up in BASIC. That, at least, is familiar. Of course, it's not the BASIC we all have grown fond of, but that's another story.

Barbie Meets Modern Times

Some of you may be familiar with the Barbie Doll principal: give away the dolls and clean up on the clothes.

For example, your base IBM PC is capable of many things, but not I/O to printers, modems and ETC, and not display on a monitor. It will just sit and hum BASIC to itself.

The Good News

I must admit, though that it is all worth it in the end. There's something about watching that 'system analysis' program run that soothes the soul. 640 K memory, 33 Meg hard drive, DMA Addressing active, Hi-Res color card installed, Clock rate Multi-Megahertz...say what you will, there's nothing like HORSEPOWER!!!

Max scanned the list of options and shuddered at the price tag. Then a gleam crept into his eyes as he prepared a random data file 10 Meg in length and set the new computer to sorting. 10 minutes later the insistent completion bell ringing in his ears, Max was startled to find the PC, sort complete, preparing itself to jump over a tall building.....

DEAR VENDORS

A March, 1985 open letter from the Software Publishers Association asked for user group responses to their concerns about software piracy. I submitted these:

1. Just thinking about my sleek Corona PC portable hard disk system with ADAPSO's proposed new copy-protection dongle hanging out of the back, makes me sure I will never buy a copy-protected piece of software. There's simply too much software available for anyone to realistically pretend you have to use hamstrung programs. I buy the programs I use on my Corona, and have long been an outspoken critic of software pirates. But when I need software, **I buy only from vendors whose products are freely copyable.** That way I can be sure my compatible will run the programs, and that no worm will attack my hard disk.

The one thing vendors are doing correctly in this matter, is suing the socks off large-scale copyright offenders. A few well-publicized trials should solve that problem.

2. There is only one software license I can support. It essentially reads, "I agree to make sure anyone else who wants this program buys their own copy." All other garbage, such as **claims that I didn't buy what I paid for, can't run it at the office, can't let an employee use it on my machine, can't let a friend borrow it overnight to try briefly before buying, and can't disassemble, list, fix, or change it in any way, will be treated with the same disregard I would offer a book or magazine publisher foolish enough to say the same things!**

3. **I do not buy programs that are not fully guaranteed by the maker or dealer.** All it takes is 25 honest words telling what you do for people with troubles. My dealer gives a full warranty on all software, including full refunds on request. He has prospered that way for several years, and you could too.

4. **Your copying woes will diminish with prices.** I always buy pre-recorded audio cassettes rather than copy records. For \$5-8 it isn't worth the time or trouble to steal. The same is true of Xeroxing a large manual. At a fair price, who will bother? Real piracy died out when tariffs came down. Software piracy will too. Copy protection schemes and anti-consumer warranties and licenses merely delay the inevitable solution.--Jim Strasma

Let me now add two more ideas, as a way of helping the vendors survive:

1. **First, forget about 50%+ margins to dealers.** Far too few dealers are able to give the extended help and support for which they pocket more dollars per sale than you. In a recent meeting on the subject, all 100 attendees agreed that since you can't get software support from dealers, it's best to buy from discount houses and by mail.

Second, and far more important, **agree on standards that allow programs to run on more machines unchanged.** Video stores have Beta vs. VHS; music stores worry about cassettes, LP's, 45's and CD's. But computer stores have hundreds of incompatible formats, many in the same brand! Without compromising new technology, a half dozen formats could handle all current needs.

You now have a unique opportunity to work on this--with sufficient pressure from users and vendors, Apple, Commodore and IBM could all agree on one double-sided 3-1/2 inch diskette format. If they did, prices could immediately drop 50% without hurting anyone. Mind you, this will happen anyway; I'm merely proposing that the standards come about in a civilized fashion as in other consumer industries. Your stake in this is immense, as **most consumers simply won't buy and use computers until a single format dominates.**

READER COMMENTS WILL BE WELCOMED BY:

The Software Publishers Association
1119-19th. St. NW, Suite 1200
Washington, DC 20036

Game Notes

GAME SCHEDULING PROGRAMS ANYONE?

Q: Do you know of software that can be used for creating game schedules? I am associated with a 15-member soccer league running approximately 150 games each spring. The players are grouped by age into 5 divisions. A division may have as few as 4 teams and as many as 12. Software to do this scheduling should run on a 64. -Robert F. Sutherland, 63 Jenkins Av., Whitman MA 02382

A: This can be done--it only took the NFL 5 software firms and 5 years to do it. Seriously, if anyone has such a program, please tell Robert and the Midnite.

WHO HAS JOYSTICK PROGRAMS FOR THE PET?

As listed in the Transactor, I ordered a **PET/CBM Joystick Interface** for my PET 4032 from J Systems Corporation, 1 Edmund Place, Ann Arbor MI. The machine routine that comes with the interface worked fine, but with my limited programming ability, I had a lot of trouble getting the program to work. I sent 2 printed copies of the programs **Wormy** and **Petman** to the company. They willingly made the necessary program changes and promptly sent them back. Both programs work fine using a 64 joystick. I would like to know of anyone who might have additional joystick programs I may either purchase or trade. I am also interested in obtaining a good Chess program for the PET 4032. -Jamie Fisk, Box 19, Tulare SD 57476 (605/596-4369 after 6 p.m.)

Hardware Notes

65C02 CHIPS

Q: The big advantage of substituting an NCR 65C02A for the 6502 in a VIC is that the CMOS version draws 8 mils of current versus 400 for the NMOS version, thus should cool off the VIC a bit. The Moses assembler sounds good, but I could be fooled! Its \$60 price includes the chip. If you find out how to reach its makers, Century Micro, formerly at 1832 Tribute Rd., Suite 213, Sacramento CA 916/920-3656, I'd sure like to know. Also, how can I obtain the NCR or Rockwell chip and data sheets?-Boyd W. Hinds, 903 Ottawa Dr., Claremont CA 91711.

A: Several of our subscribers work for Rockwell, so perhaps one of them will write you with the needed info on their chip. If not, check chip ads in Byte magazine. For a bit extra, most vendors will include a data sheet.

As for Century Micro, I don't know where they might have gone or how good their product was. Perhaps some reader can put you in touch with them.-JS

SX-64 HARDWARE FIX

Some SX-64 owners have problems when running certain programs. We believe this problem is associated with the fact that Commodore neglected to incorporate a pull-up resistor on the SRQ-IN (active low) line of the SX-64's serial port. To rectify this problem, we have connected a 3.3K ohm resistor between the SRQ-IN line and the 5 volt power supply. Convenient points between which to connect the resistor are Pin-2 of the user port and Pin-1 of the serial port connector. We have included this fix on two SX-64's and have had no problems in running any software, including **Speedscript**. -Jeffrey L. Hock and Richard M. Roffers, Milwaukee WI

Language Notes

BASIC 4 ASSEMBLER

I have a Basic 4 Assembler that writes a sequential file listing to disk in place of hardcopy to the printer. The file readily imports into **Superscript** (remember that anything over 764 lines will require subdivision) for quick editing for any use. Copies are available on request for whatever you think it's worth [remember the postage from Australia!]. -Paul Blair, 35 Calder Crescent, Holder ACT 2611 Australia

CP/M EDITOR FOR THE 64

I purchased a CP/M editor called **Editore**, from Micro-Design Systems (P.O. Box 128, Essington PA 19029). The company has several other packages on the market and I highly recommend their software. -Eugene Olsen, Trenton NJ

WAIT OPTIONS

Here are some uses for the little-used WAIT command:

- WAIT 198,1 Stops the program until any key is pressed.
- WAIT 653,1 Executes only if the SHIFT key is depressed.
- WAIT 653,2 Executes only if the C= key is depressed.
- WAIT 653,4,255 Won't execute if the CTRL key is depressed.
- WAIT 653,2,255 Won't execute if the C= key is depressed.
- WAIT 197,64 Stops program if a key is depressed at that point.
- WAIT 187,64,64 Stops the program until a key is pressed.
- Tom D'Angelo (Rockville Hardcopy)

Printer Notes

PANASONIC PRINTER HELP

Worth noting is the beautiful warm response I received from Panasonic's Paul S. Jaworski, Engineer--Systems Support when I phoned about our Panasonic KX-Pl090 printer and its use outside of **Easy Script**. We received a very thorough booklet with sample programs on all printing features and a new IC-chip that contained italic printing in place of graphics--all at NO COST to use and no hassle. They can be contacted at One Panasonic Way, P.O. Box 1502, Secaucus NJ 07094 (201/348-5336). Like the 64, not enough can be said about this fine piece of equipment. -Sunny Boudreau, Loveland CO

SO THAT'S WHY MY PRINTER DIDN'T WORK!

It is an obvious thing for those who know some electronics, but not for the rest of us. Most electronics equipment, like modems and printers and some terminals with option-setting switches must be turned off and on again, after making a change in the switch settings, before the changes take effect. -Atsushi Toshiba, Boulder CO

SUPERSCRIPTS ON A PROWRITER 8510

In the March issue of RUN, JS shows a method of printing sub and superscripts on a **Prowriter 8510**. There is an easier way to print superscript numbers. Sending ESC &, or CHR\$(27);CHR\$(38) puts this printer in the Greek alphabet mode, which also includes a set of small numbers that are printed on the upper half of the line. These provide a very acceptable substitute for true superscripts as demonstrated below. These small numbers can be printed using codes 207 through 216, which can be embedded within many word processors. NOTE: With some interfaces, such as CARD A, it is necessary to use "UPPER CASE ONLY" mode in sending these codes. Precede and follow the exponent with the proper codes for getting into and out of that mode. -J.R. Gulick, Titusville FL

EXAMPLE: X² + Y³ = Z⁵

COMMODORE REVIEWS

Book Reviews

ADDING POWER TO YOUR COMMODORE 64

by V. Guzelimian & S. Cates. 1984. 328p.
\$15 paperback for the 64 from Reston Pub.
Co., 11480 Sunset Hills Rd., Reston VA
22090. Matching diskette \$17.

Like so many other books, this volume takes a good shot at including everything needed to use the 64, from beginning to advanced levels. It is also quite readable, with lots of white space, good use of titles, pictures and drawings, plus several useful appendices, a glossary and a brief index. Personally, I'd call this a book for the person who's traded up to a 64 from another computer, rather than one for complete beginners. Its pace is too rapid for the truly uninitiated, but about right for someone changing brands or models. (For instance, we are given a 3-line program to fix screen pokes to Kernal 2 machines before being introduced to the keyboard, let alone BASIC.) Those able to keep up will enjoy such hints as how to properly mix chrominance and luminance signals for better results from some monitors. Skilled users will find enough hints to learn something, but it's not a complete reference. -JS

BASIC FUN FOR THE COMMODORE 64 BEGINNER

by Denzau, Forrest & Parks.
Paperback for the 64 from Spectrum books
(Prentice-Hall), Englewood Cliffs NJ 07632.

This book comes with a disk with all the programs in the book. First it shows how to use the wedge and tells about common errors programmers make. The book has many programs, but doesn't explain them well. Most are used only for subroutines. In the end, all the routines together create a game. Recommended if you can read a program and understand what it is doing, but this book is not for the beginner. -Doug Speta

COMMODORE'S HANDBOOK OF SIMONS' BASIC

by Jane Rey. 260p. 1985.
Programmer's aid paperback manual for the
64, from Brady Press, Bowie MD.

This book is a comprehensive guide to a very popular, if imperfect, program for the 64. Though it isn't the kind of book you'll want to sit down and read all at once, it guides its readers carefully around all the many traps and pitfalls in using this highly complex package, and makes a fine companion reference, especially for those willing to take the time to work through the many examples. Recommended to anyone who wants help using Simons' BASIC. -JS

COMPUTER WIMP, by John Bear. 1983.

Paperback for all computers from Ten Speed Press.

Bear takes a very practical, common-sense and quite entertaining look at computers, their manufacturers, their dealers and the people who use them. In some 10 years of experience with 5-6 different computers, he racked up a lot of experiences which he recounts. These are enlightening, sobering and amusing-sometimes almost hysterical. Highly recommended for all but those who feel positive they'll never be interested in another computer. -Mid-Missouri Commodore Club Newsletter

CONQUERING THE COMMODORE 64 KINGDOM

by Bill Behrendt.
\$15 book for the 64 from Prentice-Hall,
Englewood Cliffs NJ 07632. Disk available
at added cost.

Collection of 25 games. I really don't see much value to this book, as any good user group can supply better programs. Spend the \$15 on a membership in a users group. -Mike Stout

DIY ROBOTICS AND SENSORS ON THE COMMODORE COMPUTER, by John Billingsley. 1984.

\$15 book for all Commodore models from Sunshine Books. Distributed by Software Master, 6631 N. Talman, Chicago IL 60645.

This book, subtitled Practical projects for control applications, puts the emphasis on 64 and late model PETs, but VICs are mentioned frequently. Although most of the components in the projects are Radio Shack parts, they are U.K. codes. My electronic skills are almost nil, but I successfully detected output from and input to the users port with this book. I also experimented with a toy stepper motor constructed from a directional compass. Briefly, the book covers getting started, signal inputs, graphic design with a joystick, logic in and out, analog input for the PET and 64, stepper motors and their use, a simple turtle, interfacing a robot, analog output and position servos, and simple robot vision. -Brian Schott

EASY INTERFACING PROJECTS FOR THE COMMODORE 64, by Jim Downey et al. 202p. 1985.

\$11 paperback interface manual for the 64 from Spectrum/Prentice-Hall, Englewood Cliffs NJ 07632.

This is the third in a series of similar books that began with a book for the PET, and then one for the VIC. Like the others, it includes a wide variety of useful information about interfacing these computers to a variety of devices. Also like them, it includes a couple of projects too complex to be economically feasible--two speech boards and a serial bus printer interface (mislabelled IEEE--a holdover from the PET version of the book.) These can more easily and inexpensively be obtained from commercial suppliers. I intend to use this book as a reference in my⁴ intro hardware course at this summer's LC⁴ camp, and recommend it to anyone needing help getting started interfacing the 64 to something. -JS

EXPANDING YOUR COMMODORE 64 CAPABILITIES

by David Busch.

\$12 book for the 64 from Prentice-Hall, Englewood Cliffs NJ 07632.

Mr. Busch does a good job covering the world of the 64 in this informative book. While oldtimers may be bored, new 64 owners will benefit from this publication, because it covers many of the special interest sections in our hobby in a clear manner. A good value for the money. -Mike Stout

THE GRAPHICS BOOK FOR THE COMMODORE 64

Book for the 64 from Abacus Software, Grand Rapids MI 49510

As with most Abacus books, this one digs deep into the 64 and comes back with lots of valuable and useful information for the beginner and the advanced programmer. You always hear and read about how great the graphics are on the 64, but it's not easy to get an attractive screen out of your computer, especially using Basic. That's what this book is for. It includes program listings (in both Basic and assembler) to demonstrate all types of graphics. First, the book introduces you to some pretty heavy material on different numbering systems and logical operations. Next there is an explanation of how screen memory works, where it is located, and how it can be moved. Bit-mapped graphics are covered, both hi-res and multi-color. Sprites are covered next, with complete descriptions of the registers for color, size, collision detection and positioning. Next up are the different graphics modes while using text (normal, multi-color, extended-color) and custom character sets. This includes using a light pen and a description of screen raster lines. Chapter 4 contains instructions on graphics programming. Routines are included to save and load sprites, custom characters and bit-mapped graphics. There is even a section on interrupts. Chapter 5 has complete applications, including animation and scrolling. Chapter 6 is reference information from sprite design sheets to the VIC's register layouts. This book is full of some really technical information. If you are interested in the subject, you can't go wrong with this one. -Steve McNamara

MICROSUBTRACTION

\$18 diskette or cassette.
part of the micro math series from Hayden Software.

This program practices subtraction up through a 2-digit minus 2-digit number with regrouping. It also provides a tutorial option using pictures at the single-digit level. The formatting is easy for youngsters to understand, and correct answers are given after 3 incorrect tries. Motivation is provided through tunes which signal success, while failure is noted by non-threatening sad tones. The only questionable area is lack of adjustability.

Inputs are all single-key and the minimal (9-page) documentation tells exactly how the program will run. However, the on-screen and booklet instructions are of little use to pre-readers. For readers, the worst problem is how to return to the menu. My biggest gripe centers around "Calculator" mode. Since this is meant for 9-10 year olds, why not program it to run like a real calculator?

Two nice features are that the STOP key functions and the user has the option of turning off the sound. You can probably find programs which do the same things as **microSubtraction** for the price of a magazine or a user group diskette. Nevertheless, this is a respectable piece of software and the price is not exorbitant. -Larry Grimm (Sprite 64)

MIMI

by Anne & Eric Bergeron.

Diskette for the 64.

Picture story maker for age 2+ from Logidisque (order from Kobetek Systems Ltd., 1113 Commercial St., New Minas NS, B4N 3E6 CANADA (902/678-9800). Requires 1541 disk drive. DOS-protected. No stated warranty.

This is an unusually good childrens' program, honored with the "Prix Special du jury, Festival International du Logiciel

d'Avignon" in 1984. In it, children learn to press keys on the keyboard, most of which initiate a hi-res cartoon sequence, complete with multi-voice sound. This in itself is captivating, even to adults. Moreover, keys may be pressed in sequence to build up long stories. Stories may even be edited and stored for later replay, using speed and cursor controls, and even deleting characters. Once the program is well learned, it can also be run in French, for a painless introduction to a second language. After viewing the many animated sequences, it is obvious how **Mimi** won its award. This is the first program I've seen that is fully usable by toddlers, interesting to adults, and wholesome for all. Highly recommended. -JS

PLAYSCHOOL TAPES

Diskette for the 64.

Drills for ages 3-7 from Kidbit Software, 7001 Sunkist Dr., Oakland CA 94605 (415/638-1243). Requires CBM-compatible disk. 90 day free replacement warranty. Unprotected.

SAME/NOT SAME is a fairly typical shape recognition tester. However, it is surprisingly difficult to use, due to unusual and somewhat inconsistent keyboard control. You select which of 4 shapes differs from 3 others, or 0 if all match. The reward is always the same, with no scores or times.

ALPHA-BEE teaches children to type the letters of the alphabet in order, to the usual song, working up to pressing the correct letter corresponding to the note where the song stopped. I eventually got the program working properly, but none of several other reviewers could, even with the help of the brief manual.

Both programs have unacceptably slow keyboard response; I often had to press a key several times before it would register. Not recommended. -JS

Computer Repairs

KASARA COMMODORE COMPUTER REPAIRS

Repair service for all models from Kasara, 33 Murray Hill Drive, Spring Valley NY 10977 (914/425-2177)

Where can you send a Commodore computer these days for repairs, especially if it's an older or unusual one? Kasara (formerly C.S.I.), is one place you should consider. They have been doing so for years, and advertise their services here in the Midnite. I recently had an opportunity to test their service, and found it friendly, reasonably priced, and effective. I needed to adjust the motor speed on a Commodore SFD-1001 disk drive. Though I'm a graduate of Commodore's service school, I simply could not get the job done, and decided to send the unit to Kasara. They'd never seen a 1001, but agreed to have a go at it. A very few days later, back it came via UPS, properly adjusted. Their techs found the adjusting screw hidden on the bottom in a tiny hole I'd missed. Somehow, the drive power light got unplugged on the way back, but that I could easily remedy myself. It has worked flawlessly since. I'm impressed that they so quickly succeeded where I couldn't. JO reports MicroPACE also uses Kasara for some repairs and has been very pleased with their services. Recommended.
-JS

Computers

C-128 COMPUTER, \$300 from Commodore.

Do you want a C-128, 64 owners? You bet you do. It's your only logical next step, letting you keep all your programs and hardware, and upgrade only the pieces you really want to, at your own pace.

Over the month I've had my C-128, I've become steadily more attached to it, and willing to say goodbye to my last 8096/8250 CBM system. Unlike the 64, a properly-

equipped 128 really can match a CBM (except in disk capacity), yet does all the other wonderful things VIC and 64 owners have enjoyed for years. The key, however, is in being properly-equipped. You will eventually want a 1571, a 1902, and an add-on RAM cartridge, even though your 1541 and 1702 will work just fine for now in all modes. As for faults, I've not found any that aren't traceable to my prototype.

The C-128 manual is the first one written by Commodore that I can honestly praise in several years. Even its binding is the best yet from Commodore.

Finally, sending Pete Baczor around the country to introduce the 128 to user groups, and the \$30 user group rebate may be among the smartest moves Commodore has ever made. The only reason I can think of for a 64 owner who needs "more" not buying a 128, is to wait for the new all-in-one 128D. Both are highly recommended.-J9

Disk Drives and Accessories

1571 SINGLE DISK DRIVE, \$275? from Commodore.

If you buy a 128, you'll also want a 1572 (or 1572 dual) disk. If added speed doesn't make you want it, the added storage space and Kaypro-format CP/M capability will. A few may even buy it for the lack of track 0 thumping and the fast formatting. 64 owners will also be astounded at how coolly and quietly it runs, and everyone will love the new spin door, with cutouts for easy finger access. It even lives up to its claim of compatibility with the 1541, running most protected software as-is. Only 64 owners will find it limiting--added features are all off in 64 mode.

The 1571 could be the best drive Commodore offers this year. Those who only need a single disk should be entirely happy with it. Highly recommended.-JS

Printers and accessories

BROTHER TYPEWRITER/PRINTERS,

\$250-400 unit for all Commodore models.

Letter quality typewriter/printer from Brother, etc.

The Brother combination typewriter/-printers (CE-50, Correctronic 50, Compactronics 60 or Sears' Electronic Communicator 3) are a very good bargain. They have interchangeable daisy wheels with an automatic correction key, and are better than an IBM Selectric II. I've seen the CE-50's price dropping from about \$400 to \$250 in one year. I use a reusable cloth ribbon, because they are more economical. The ribbon cassettes are easy to change.
-Atsushi Yoshida

COMMODORE DPS 1101 DAISY WHEEL PRINTER

\$310 daisy wheel printer from Commodore, 1200 Wilson Dr., West Chester 19380.

The DPS 1101 hooks directly to the 64 serial port, eliminating the need for an interface. Any wheels for Juki or Adler printers and typewriters will fit the DPS 1101. Another point of great relief is the standard Selectric II film ribbon. Two sets of DIP switches are easily accessible inside the case. One set controls the device number from 4 to 11. The other set controls auto linefeed, strike pressure, character set, cut/continuous paper, paper length and line spacing. Controls on the top set 10, 12 or 15 pitch, proportional spacing and form feed. The printer responds to a large set of control and escape codes; the two most popular are probably underline and "shadow" print. There is also a "bold" print command. Physically, the DPS 1101 has a large 13 inch carriage. The case is charcoal gray and has a slightly futuristic look. The noise level is quite reasonable. The feed mechanism is friction, but the printer appears to be set up for a tractor. It has performed flawlessly so far. If you are looking for a full letter-quality printer, this is the one. -C.T. Christensen
(Fox Valley 64 Users Group newsletter)

OLYMPIA TYPEWRITER/PRINTER

Daisy wheel typewriter/printer by Olympia. Distributed by Protecto Enterprises.

REVIEW #1: I bought from Protecto because they guaranteed the typewriter, and my Cardco interface would work with the 64. That is true to a point. A problem is that the Olympia prints braces as 1/4 and 1/2, but an ASCII printwheel would solve that. Olympia brochures include an ASCII printwheel specifically for the Electronic Compact, which I was assured was available on special order. However, Mr. Ike Pump, Olympia's service manager explained U.S. keyboards have a #798 layout, while there is a #804 for international machines. The ASCII printwheel is available only for the #804. Eugene P. Koch, Director of Marketing, wrote in part, "The Electronic Compact 2, therefore, does not support the ASCII character set... We regret the Electronic Compact 2 may not meet the specific requirement of your application and hope you will be able to utilize the many other fine features this product offers."

I have called Protecto 3 times concerning this. Each time their "help" consisted of giving me Olympia's phone number. -Steven Schnedler

REVIEW #2: Steven's experience highlights my reluctance to recommend products from Protecto -- you rarely know exactly what you're getting. Schnedler is apparently stuck with a typewriter advertised as compatible with the 64, but useless when used with it for serious purposes. Though the words are so well put that anyone but their victim would find them humorous, Koch's response amounts to "tough luck, sucker." -JS

RITEMAN PRINTER

\$381 printer for the 64 or VIC?
from Inforunner.

The Riteman 120 cps printer is outstanding. It has good print quality, with expanded print, bold face, sub- and super-script, and graphics. It uses friction or tractor feed and has a special adapter for smaller than usual paper. It prints 80 columns pica, 132 columns compressed and 40 columns expanded. It can use either a parallel or serial interface. It is also bi-directional and logic seeking. As a truly a good printer, I would recommend it to anyone. -Rob Kennedy (WCUC News)

Modem Reviews

KEYFAX INFORMATION SERVICE

\$3/hour + premium service charge for the 64. Chicago-oriented information service from Keycom Electronic Publishing, Schaumburg IL

You access through a special graphics terminal or a personal computer, usually via local telephone lines. It has some special features: several information banks, many directed at the business community; a calendar of Chicago area events, official airlines guide, and stock quotations. It took several tries to make it through the long and complicated sign up procedure. When we ultimately got on-line, we were very disappointed. There is no download feature, no conference mode and most handicapping, no capture buffer to save information once it is on your screen. Most of the information available on Keyfax can be found elsewhere, easily and inexpensively. Try before you buy, and just keep in mind that the flashy graphics are not available on your 64. Also, without a special terminal, the system is difficult to operate. -Kail Malley (Fox Valley 64 Users Group newsletter)

Utility Reviews

Disk and cassette aids

DISK ALIGNER

\$30 diskette for the 64.

Disk alignment program from GRQ Marketing, Ltd.

I have just finished my tenth consecutive drive alignment and overall I am impressed with this program. Although it is quite difficult to understand the first couple of times, it pays for itself every time it is successful. The documentation is a bit vague and could be enhanced, but it does give a thorough description for every step of the way. This program is definitely worth having. -Darryl Kegg (The Hacker Rag)

Update (see M#23): FASTLOAD

\$40 cartridge for the 64.

Disk load program from Epyx, Sunnyvale CA

This cartridge will speed up the load time on a 1541 disk drive 3-5 times, and it works on many of my programs, but not with several of my favorite programs like **Vidtex**, **Print Shop** and **Doodle..** If your software is one of the newer protected ones, you may have problems. Where I use it the most is with my games, which load very fast. Warning! Don't use **Fastload** with any program that writes to the disk. A friend of mine blew his **Beach Head** disk when he tried to save his high score. Epyx is apparently warning users to reset the drive after it's used if they plan on writing to disk. The wedge features on the newer **Fastload** cartridges are a nice added feature. **Fastload** is recommended to all serious game players, but be careful. Use a backup disk when saving any data. -Mike Stout

Graphic Aids

THE BANNER MACHINE, Sign maker for the 64. \$50 from Cardinal Software, 13646 Jeff Davis Hwy, Woodbridge VA 22191 (800/762-5645). Requires disk or tape and printer. DOS-protected. Disclaimer of warranty.

Mention Broderbund's "Print Shop" to Cardinal Software in the same sentence as the Banner Machine, and you'll get a strong reaction. Even so, it's natural to think of them together because both make signs. The difference is that the Banner Machine doesn't do anything else, and does signs more flexibly than Print Shop. The end product is printed sideways on continuous paper in one of the popular dot matrix printers with graphic capabilities, and extends across as many sheets as necessary to contain the message. Within those limits, it works much like a typesetter, with a choice of fonts and sizes--more such choices than in Print Shop. Also like a typesetter, getting all the choices to work out correctly on the first printout can be a challenge. Even so, the finished product is usually worth it (see cover.)

The limits are type sizes of 3/4-8", total height of 8", and any length you want. You also have a wide choice of border widths and background patterns. If you need more fonts, they are available for \$20 per set of 4.

The main thing still missing is the ability to design and easily include a custom graphic, a la Print Shop. On the other hand, some fonts include such characters as a shamrock and birthday candles. Overall, this is a fine product for anyone who has to make a lot of large signs, such as a shopkeeper, and Cardinal reports the product has sold well for several years in that market. Others should also consider it if you need signs beyond Print Shop's capabilities.-JS

Programming aids

THE COMMODORE-64 PROGRAMMER'S LIBRARY

\$25 diskettes (3) for the 64. Programming aids from Baker Enterprises, Atco NJ 08004. Requires printer.

The Commodore Programmer's Library is a 3 disk package of programming aids. Two diskettes contain nothing but documentation that must be printed out with the included printing program. The program diskette includes a 6502 simulation program which needs 2 disk drives to be effective. It uses the drives as a simulated memory so you can see what the 6502 chip does while executing. There is also a Master catalog program that will store file names and retrieve them. Several other programs demonstrate BASIC and assembler programming concepts. The programs are well written and easy to understand, and good to demonstrate programming concepts. If you're having trouble teaching yourself BASIC or machine language, this package could help. -Steve McNamara

PUBLIC DOMAIN ASSISTANT

\$18 postpaid diskette for the 64. Utility programs from Metro-Area Commodore Club, Box M, Mendota MN 55150 (612/778-8188). Unprotected. No stated warranty. Spare manuals \$2.50+postage.

The Public Domain Assistant is a disk of some of the best current public domain (and quasi-public domain) programs currently available, backed up by an 80-page instruction booklet. Included are Fast format, copy, disk and tape load, a terminal, disk doctor, micromon, and a wedge, among many others. Although the programs are the work of many hands, the manual is a fine idea and reflects a good bit of work by the club. Despite the \$18 pricetag, MACC sent the disk free to many user groups that had helped them, and will send it to other clubs for \$14. We need more efforts like this. Recommended. -JS

Reductions of actual signs

HELP WANTED

THE BANNER MACHINE

THE BANNER MACHINE

CHURCH YOUTH GROUP
7:30 THURS. NIGHT

FOR SALE
991-6502

YARD SALE

BAKE SALE
5/30/85

PROFESSIONAL QUALITY SIGNS MADE EASILY AND INEXPENSIVELY

YEARBOOK MEETING CANCELLED

GO TEAM WE'RE #1

TODAY'S SPECIALS

THINGS WIDGETS	\$4.95
DELUXE WIDGETS	\$6.95
SOOPER DOOPER	\$17.50
SOOPER DOOPER	\$19.95

HAPPY BIRTHDAY JIM!

Works only with: Epson MX 80 (with Grafrax), RX, FX, JX, LQ; Gemini 10, 10X and 15; Commodore MP5 801, 1525E; Banana; Panasonic P1090; Seikosha GP100A; Riteman II, Plus, 15, Mannesmann Talley, Spirit 80, Okidata 82A, 83A with Okigraph, 92A and 93A, Prowriter 8510, C. Itoh 8510.

INCLUDED	OPTIONAL	OPTIONAL
FONT DISK I GOTHIC DATA 70 BUBBLES DARTON	FONT DISK II CONDENSED TOMBOLINA CAMELOT	FONT DISK III OPTIMA STOP COMPANY
THE BANNER MACHINE	\$49.95	Available on
FONT DISKS (optional) each	\$39.95	DISK only.

ORDER TOLL FREE 10-6 MON. - SAT.

800-762-5645

13646 Jefferson Davis Hwy., Woodbridge
VA 22191, Info. call (703) 491-6502
In Canada APIN MICRO
1283 Pharmacy Ave.
Scarborough
Ontario M1R 2J1
(416) 443-0843

Cardinal Software

IT'S NO LONGER A SECRET.

KASARA Electronics, Inc.

We're the leading source for Commodore™ repairs. More dealers, distributors and large national merchants send their repair work to us than to anyone else in the nation!

Now, thanks to our expanded facilities, we are able to offer this SAME PROFESSIONAL SERVICE directly to you . . . no middlemen, no hidden costs, and best of all . . . 48-HOUR TURNAROUND!

In addition to specializing in Commodore 64™ and PET™ repairs, our factory-trained technicians are experienced in servicing ALL Commodore systems and peripherals including ALL Disk Drives, Printers and Monitors.

If you have a special need requiring networking, custom wiring or programming modifications, KASARA can help. No job is too small or too large. Give us a call for details.

We're Faster

Like No Other Repair Service. WE GUARANTEE 48-HOUR TURNAROUND from the time we receive your unit to the time we ship it back! That's 48 HOURS . . . Guaranteed!

We're Better

The unit you send us *is the unit we return* . . . repaired, tested and warranted. Unlike most companies, we do not exchange units. This is your assurance: **KASARA WILL NEVER RETURN SOMEONE ELSE'S PROBLEM TO YOU!!**

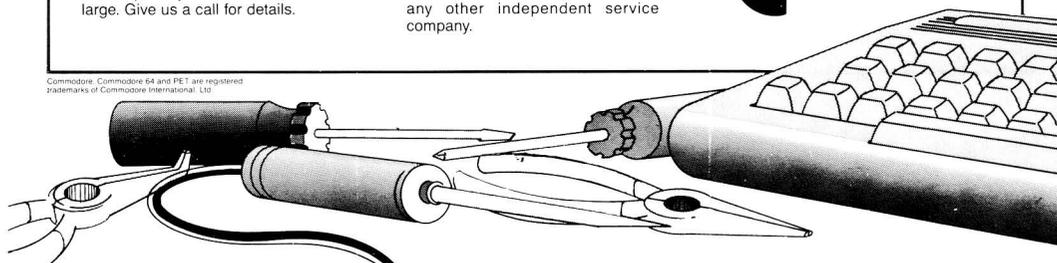
We're Cheaper

It's a simple fact, we charge **LESS** for all our Commodore repair work. **LESS** than the manufacturer . . . **LESS** than any other independent service company.

How Can We?

Today we are making our six years of Commodore expertise work for us in the Service Business. Our factory-trained technicians, the most sophisticated diagnostic equipment in the industry, our experience as 'the company behind the scenes' repairing Commodore Computers for many of America's leading merchants . . . all add up to **FASTER, BETTER and CHEAPER.**

KASARA ELECTRONICS, INC.
33 Murray Hill Drive
Suite A
Spring Valley, NY 10977
(914) 356-3131



Commodore, Commodore 64 and PET are registered trademarks of Commodore International, Ltd.

CARDCO's new DIGI-CAM™ is a video digitizer that lets you transform just about anything you can shoot with a video camera into a black- and-white digital image. And, with your Commodore 64®, you can make pictures of that image.

DIGI-CAM™ comes complete with a black-and-white video camera, a digitizer, and software. It's the most comprehensive package at the most competitive price around. And it's a CARDCO quality product.

FOCUS...SHOOT...STORE... AND PRINT!

DIGI-CAM™ is incredibly easy to use. Simply focus the video camera on your subject, view the shot on your Commodore 64® monitor, store the shot on CARDSCO's DIGI-CAM™ software ... and print out. You can enhance or change the on-screen



image — or combine it with text — because a version of CARDSCO's Paint Now/Graph Now software is built in ... at no extra cost! Make T-shirts for your friends**, Christmas cards and birth announcements ... maps,

graphs, photos, security i.d.'s ... use it for business or pure pleasure. Plus, you can transfer still images via modem to other Commodore® computers ... and share your shots! (Soon to

be compatible with Apple and IBM.)

CAMERA, DIGITIZER, SOFTWARE... THE WHOLE PICTURE FOR \$250*

DIGI-CAM™ from CARDSCO. For just \$250



... shouldn't you be in pictures?

CARDCO's DIGI-CAM™ is available at fine computer stores everywhere. For more information contact your local CARDSCO dealer.



cardco, inc.

"The world's largest manufacturer of Commodore® accessories."
300 S. Topeka, Wichita, Kansas 67202

* Suggested retail — prices may vary.
** Special heat-transfer ribbon required.

FOR \$250*.. YOU OUGHTA BE IN PICTURES!

