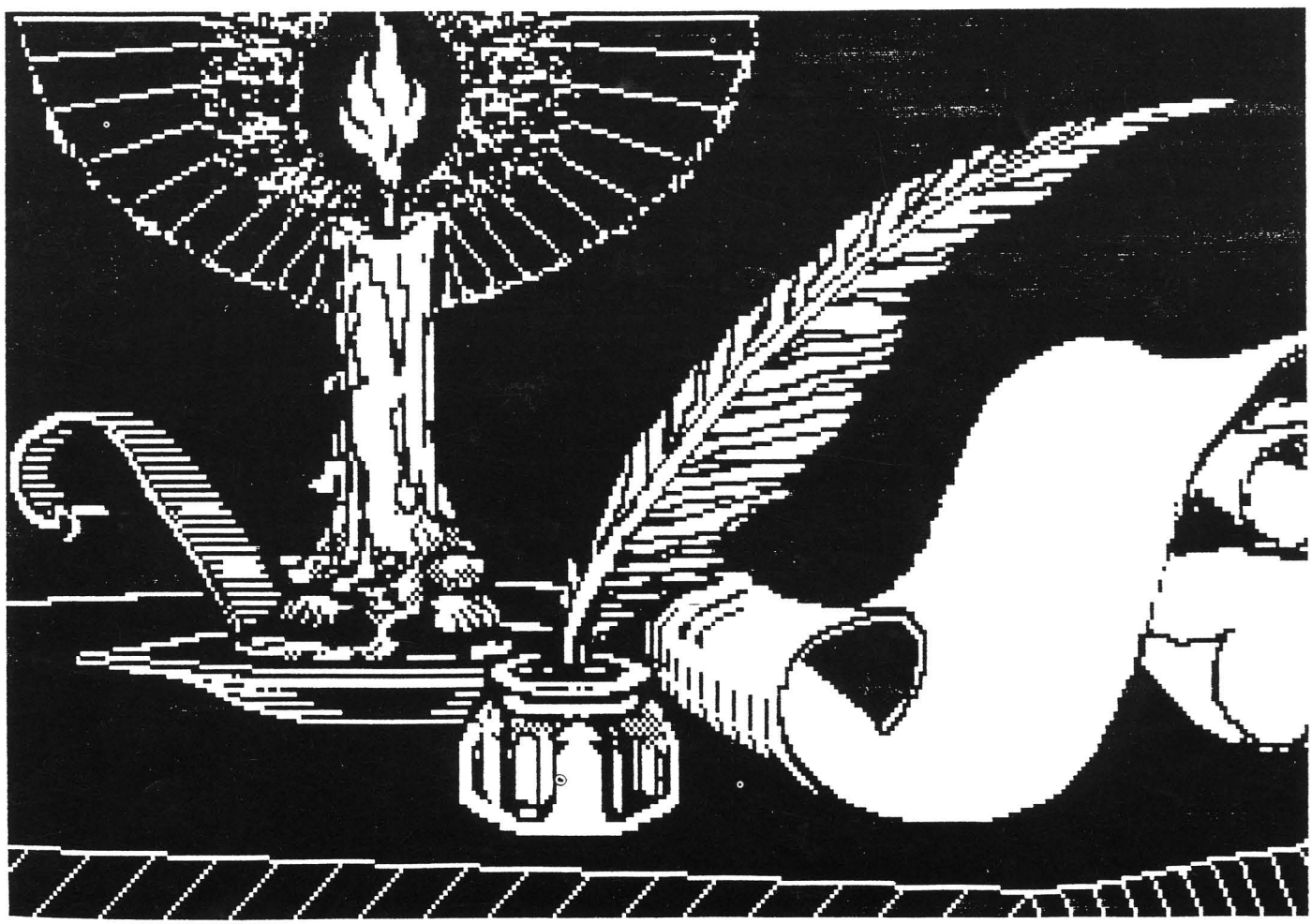
ISSUE 17 1984

The MIDNITE SOFTWARE GAZETTE

Includes The PAPER

A BI-MONTHLY JOURNAL OF NOTES, REVIEWS AND ARTICLES

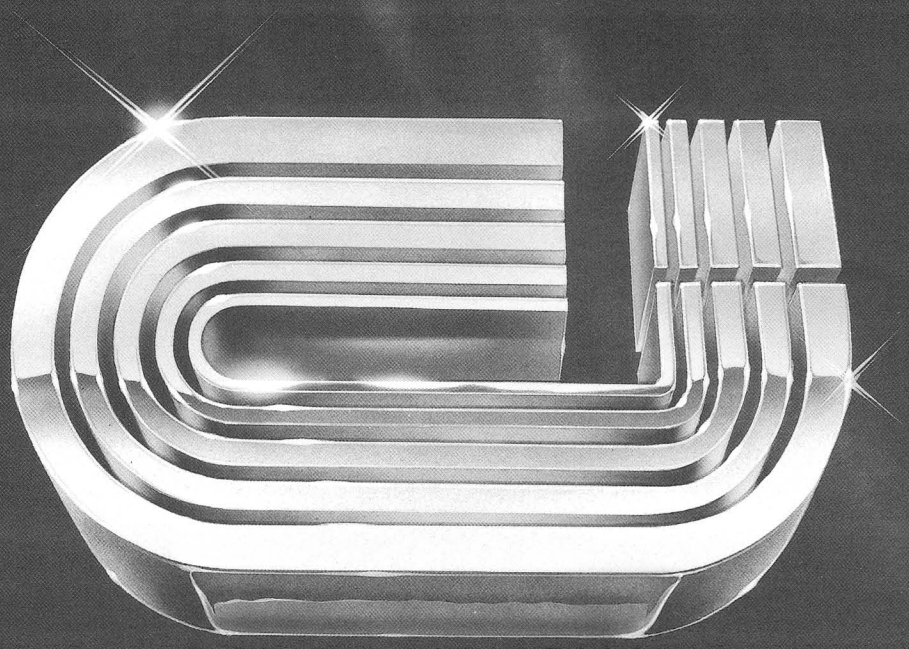


By Wayne Schmidt, using Flexidraw

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

Published by Midnite Software, Inc.

$4.00 US



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The CARDBOARD/5 (CB/5) is an enclosed five slot, fully switch selectable, expansion interface for the Commodore 64™. This quality product allows the user to switch select any cartridge slot or combination of cartridge slots. Twenty-two color coded light emitting diodes give status indication. Each slot has four LEDs and two toggle switches for indication and control. Two master toggle switches allow the user to manually override any situation.

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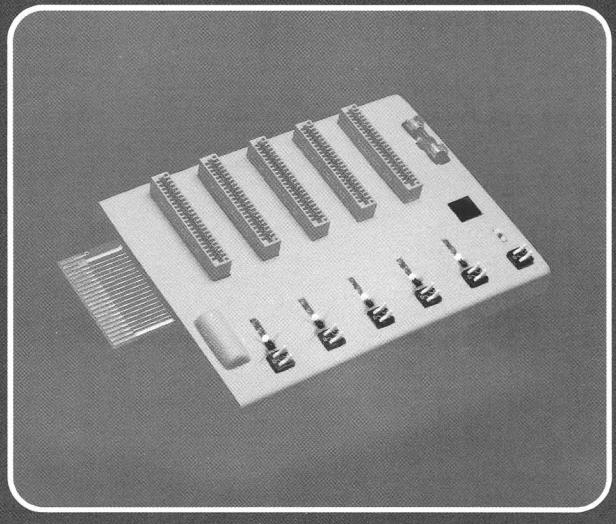

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THE MIDNITE XPRESS NOTES

Midnite Meanderings

by Jim & Ellen Strasma

Great news! Midnite is now one of the hundred largest Computer magazines, according to a newly-arrived "Capell's Circulation Report". And where do we fit in that list of 100? Dead last, of course. Next closest is the Color Micro Journal for the CoCo. (I've never heard of it either.) So step right up, advertisers. We're in the big leagues now.

WHERE'S THE BEEF?

To get back fully on schedule, issues 17 and 18 are a unit. This issue (17) contains only notes and articles. Issue 18, due out in a couple of weeks, will contain only reviews. After this, we hope to be back to normal.

LC4 CAMP OFFERINGS

If you haven't already, sign up now for our second LC4 computer camp. Check the information in this issue for details. We look forward to seeing several of you here.

MIDNITE #16 FEEDBACK:

Most reports on issue 16 were highly favorable, although we did receive a couple of critiques for a change. As suggested in the accompanying letter last time, not all reviews are even close to the way we would like them to have appeared, and we never saw the introductions as finalized. Careful readers will notice errors--like suggesting **Wordcraft 20** is a text editor, whereas it's among the few for VIC that ISN'T merely a text editor. We also heard from two fans of **Flex-file**, who felt our review of it wasn't favorable enough. One suggested the earlier Midnite review that noticed slow sorts and searches on files of over 200 names was inaccurate, in that **Flex File)'s ISAM files aren't sorted at print time. The other disputed Oracle**'s being a better data manager, because he considers **Flex File** better for mail labels.

Unfortunately, Consumer Guide doesn't yet have any plans to do a revised version for next winter. If you think they should, you might let them know. We'd like it to be an annual event.

MIDNITE READERS SPEAK OUT:

Keith Fellenstein of Lawrence, Kansas ("Is anybody there? Anybody at all?") won a free Whole PET Catalog noticing we once published a review of a Scott Adams adventure program with Adams listed as the reviewer instead of the author.

Keith also commented, "Your magazine is the best I've seen for the Commodore computers. If only it were monthly. I rip through most computer magazines in one day, but yours always takes me at least two days to read. I am continually amazed to find that I can go through back issues and find things I missed the first time through. Keep up the good work." [We are hoping to go monthly, if we can ever work out the mechanics of mailing more often. -ED]

Gene Panhorst, product manager at Fisher Scientific, a true heavy hitter in the educational market, wrote in with similar sentiments. "You continue to do a super job in every respect. It is really great to see a lot of honest opinion and objectivity in your articles." Gene also noted that the 64 version of the excellent **Kinder Koncepts** programs we reviewed last time must now be ordered from Commodore. The PET versions are reviewed this time. Schools should contact Fisher for their new computer catalog.

OTHER MAGAZINES:

I enjoyed reading the editor's note in Compute recently about the current issue being their largest ever in both pages and ads. Apparently someone thought better of it, because both the following issues have been far smaller with far fewer ads. We also hear Commander has gone through staff changes. PLEASE NOTE: We get occasional letters from readers about bugs in articles in other magazines, but we don't publish their errata. Since we also don't type in their programs, see your local user group for help with bugs.

TPUG's THIRD ANNUAL CONFERENCE:

TPUG's third annual conference will be May 26-27, in Toronto, Ontario. The club library will be available for only $4 per diskette, products will be exhibited, and many well-known speakers will give talks at all skill levels. Registration by April 15 costs $40 including TPUG membership, from 1912A Avenue Rd., Toronto ONT M5M 4A1. Last year's conference was excellent, and we're honored to be among the speakers again this year. -JS

USER OFFERS RENEGED:

Some issues back we printed an offer from Conway Wilson of Beaumont, TX to send readers a disk copy of a manual he'd written to help use the "Pagemate" text editor. Bro. Timothy Brady reports he sent a disk and postage, but that it was returned blank, without explanation. We've also heard similar complaints about an offer made by Jim Russo, of Ann Arbor, MI to supply custom ROMs several issues back. Readers should probably forget both offers. And Conway, if you ever feel like it, I wouldn't mind either getting back or getting paid for the 4040 DOS upgrade I sent you a year ago.

by Jim Strasma

Answer: BIRD MIGRATIONS STATISTICS:

In response to Mark Blauer's question ("Bird Migration Statistics Question," Issue 15, p.3) on who has a statistics program for the Commodore 64, Dr. Jerry Hintze has developed a very useful set of statistics programs collectively called the Number Cruncher (will be reviewed in Issue 18). The program enables the user to construct a data base and to perform both transformations and various statistical analyses on the data. It is a very "friendly" program, and I use it in my research for many of the uses Mr. Blauer contemplates. -Michael B. Maron

[EDITOR'S NOTE: Handic Software also has a new cartridge for the 64 called **Stat 64**, newly arrived for review.]

Wanted: CURVE-FITTING ON THE 64:

Q: I am interested in finding a software package that will do curve-fitting for the 64. This is a program that will compute the following equation from a set of given points:

$$y=ax^b + ax^{b-1} + ax^{b-2} +....+ ax + a$$

If you give it a set of points, it will compute an equation that will find all the points between and beyond the given points. It is like a "what if" sort of routine, but I just need the final equation to program a small hand-held computer or calculator. -Dale F. Brown

A: Any ideas, readers? -ED

Wanted: DRAFTING PROGRAM FOR THE 64:

Q: I would like to use my 64 graphics for drafting problems. That is, mechanical, three view, 2 dimensional drawings with angles and radii. Can you tell me of anyone who has used the 64 for this and what is needed and how? -Herman E. Radke, 52 Cherokee St., Englewood FL 33533

A: Readers, what do you suggest? -ED

Wanted: HOME SECURITY SYSTEM FOR THE 64:

Q: Do you know of a home security system that utilizes the 64? -James Kohlenberg, 9801 111th Lane N., Seminole, FL 33542

A: Anyone tested one, yet? -ED

OPTOMETRIST PROGRAMS FOR VIC:

Q: We have been putting together some VIC cartridges with utility programs for optometrists and wonder if you know of any optometrist with a VIC that would be willing to review them? I the interest shows up, we will convert them to the 64. -Jerry & Sue Key

A: Are you qualified to review these? If so, write us. -ED

SILICON OFFICE:

Q: Can you briefly describe what **Silicon Office** is, where to get it, and how much it costs? -Henry A. Frosch

A: **S.O.** is the ultimate in power in a Commodore data manager, including multiple files, programmability, built-in MODEM program, and a full word processor. It is also sufficiently slow at some simple tasks, that we no longer use it for our subscriber mail list. It's from Bristol Software Factory for the CBM 8096 or IBM PC computers, and costs $1,000-1,500 depending on version. -JS

Tip: EASY SCRIPT WORD PROCESSOR

You can move the cursor with a joystick or trackball when using **Easyscript.** Use joyport #2. -Henry A. Frosch

TO WORD-WRAP OR NOT TO WORD-WRAP:
An Open letter to Consumer Reports:

In your reviews of the word processing programs **Word Pro** and **Easy Script** you expressed amazement that they do not include "such a basic feature as word wrap." Though I have happily used both programs for years, until I purchased my **Tandy Model 100**, whose text editor has word wrap, I too wondered if word wrap might not be helpful. No longer! Every moment I spend wondering if I've accidentally ommitted a space between two words in **PaperClip**, **WordPro** or **Easy Script** is matched by equal moments going back to be sure I don't have unwanted spaces at the end of my word-wrapped lines on the **Tandy**. Time wasted is about the same in each case, and the "un-wrapped" word processors are in every other respect faster than the many other word processors I've reviewed. I now consider word wrap a matter of taste, so long as a video output preview option is provided, as in **PaperClip**, **Easy Script**, **Write Now**, and some **WordPro**'s. Perhaps your staff should do likewise. -JS

WORDPROCESSOR ALTERNATIVES:

In your June/July edition (p.22), you respond to reader Nino Maida's request for 64 wordprocessor information. You don't mention the Richvale Script 64, although it does well on the list of desired features. -James Allen, Richvale Telecommunications Ltd.

TURNKEY COMBINATION PACKAGES:

Q: Is there a word processor, database, and spreadsheet combination that will all work together on the Commodore 64? --Connie Archambault

A: **Magic Desk II** from Commodore will probably do this, although until it is tested, it's difficult to say how well. (**Magic Desk I** will be reviewed in issue 18.)

MAIL DISK CHANGES:

Q: I would like to use your **Mail Disk** with shipping labels in the change address mode, using the "]" to print the data I select. Would you tell me how? -Howard Schwarzman, Baltimore MD

A: Surely. This requires two simple changes. The first, in the program named "mail list 1541," changes the character that triggers a mail label printout, from "F7" to "]":

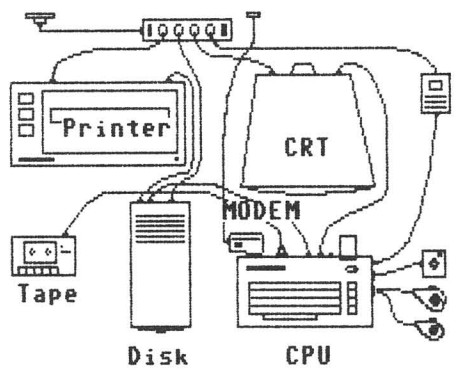
```
1340 e$="]"+"":rem triggers mail label printout
```

The other, in "1541 update," adds enough blank lines after a label is printed to move your printer to the start of the next label. The reason for printing one space on each line is that some printer interfaces on the 64 ignore lines without at least one character in them.

```
6551 for ii=1 to 13
6552 : print#4," "
6553 next
```

To use this with other labels, simply change the 13 in line 6551 to whatever number makes them come out right. Remember not to run the program before making these changes, and be sure to resave each program afterwards. Also, never alter the original diskette; only make changes on your backup copies.

For other corrections to the **Mail Disk**, see the article elsewhere in this issue.



Graphics by Jim Strasma using Flexidraw

Expanded home computer system
(A self-portrait)

by Ken Penny

The Adventures of Max Maxwell

DAY 9: What's the World Coming To?

Max Maxwell was feeling pretty good. His accounts were balanced, his letters written, the 64 had read the kids their bedtime story, and was now humming an Irish ditty to itself. Then he saw his $595 pride and joy advertised for $99....

THE FUTURE IS NOW:

It's always been said that the future was coming. People have predicted price cuts, new products, and major shakeups for a year now, always expected 'Next Month.' Now, at last, there seems to be some potential for change.

THE COMPUTER MARKET AND OTHER MYSTERIES:

The 64 was and still is a marvelous machine. It is perhaps the perfect home computer: great at games and play, yet capable of greater things (with a few sacrifices to offset the $200 price tag). But those running computers for business have not been interested in Commodore lately. Business computers have been going the other way; to simpler operating systems and more complex and powerful programs. This has created a tremendous gap between the computer you have at home and computer you have at the office - a gap in both price ($4000 vs. $200) and in operation.

SO WHAT'S GOING TO HAPPEN (IN MY OPINION)?

Commodore made an interesting announcment lately. I'm not talking about the 264 and the 364, though; those were just a response to Adam, a computer that has turned out not to be worth a response. No, the announcement was about an agreement between Commodore and Hyperion, a Canadian computer company. From this agreement Commodore reportedly got 2 things: the rights to manufacture the 8088 and a system that emulates the IBM PC.

Ever since Jack Tramiel swore vengeance against TI for almost ruining Commodore (back when they got their chips from TI), there has been a great reluctance to rely on outside suppliers for anything. The fact that Commodore can now manufacture the 8088 means that they can enter the new business market in their traditional way: with fireworks.

So get ready. It looks like Commodore may be back in the Business computer market with a vengeance. My guess is that Jack (who is not as out of it as most people think) will be able to build an IBM PC lookalike for under $1000. What they would charge for it is another matter, but wouldn't that put the PC market through some changes? Do you suppose IBM is getting worried...?

Max decided to get another 64 since they were so inexpensive. He got out his checkbook and started scanning the fine print. Let's see, $99, plus, what's this? Discounted software? $500 value? Let's see, that adds up to, uh, $249...

Other Notes:

DEFEATING THE RESTORE KEY ON THE 64:

Kill with POKE 808,225
Reactivate with POKE 808,237

UNNEW FOR THE 64:

1) POKE 2050,8:SYS 42291
2) CHANGE :::

This requires **Tiny Aid** or its equivalent. -Educomp (Comm'putoy Cult)

FIXING EARLY 64 POWER SUPPLIES:

The early supplies [the ones not filled with potting-ED] use an obscure IC, the SK-3052. Replace it with the LM323K, readily available from Electronics Marketplace, 7878 Clairmont Mesa Blvd, San Diego CA 619/278-4393. To do so, open the power supply and lift out the board, heat sink and transformer for ease of handling. Take the screw off the 3052 so the heat sink can be drilled. You'll need two drill bits. 5/32 is used for the screws which hold the IC to the sink, and the 7/32 for holes in the heat sink which IC pins must come through without shorting (VERY IMPORTANT!)

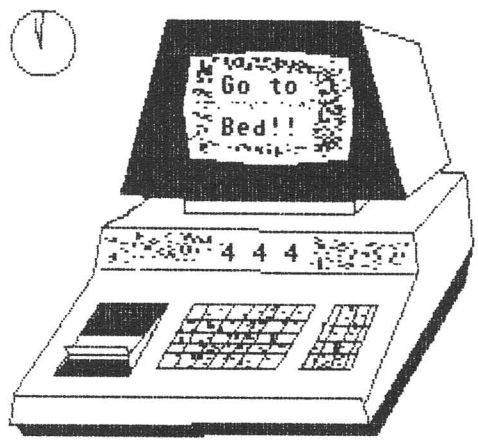
Cut out the 3052, and unsolder its legs from the holes in the board. Solder insulated 20-gauge wire in its place (ensure you have enough so the board can be put back in slots on the heat sink.) Remove the resistor from the board, and jumper its holes with a wire. Be sure to use plenty of heat sink compound between the new 323 and the heat sink. The 323's body should be between the transformer and the heat sink. The solder lug should be attached to the IC screw closest to hole #3 on the board. Attach wires as follows: 323 wire 1 to board hole 2; 323 wire 2 to board hole 1; 323 case to board hole 3 (ground).

When reinstalling the power supply, you'll have to cut off two little plastic tabs on the inside of the upper body of the power supply case, so the regulator will fit between the transformer and heat sink. The 323 is rated for 3 amps at 5 volts, giving 15 watts, compared to 8.5 watts on the new supplies (more than sufficient.)

If you want me to fix your supply, I perform the service for $17.50, usually within a week after I receive it. Call me at 619/298-0196 from 4-10PM Pacific time daily, after 8AM on weekends. -Gerry White (Comm'putoy Cult)

FINALLY, A CREDIBLE APPLE EMULATOR:

Cardco has just completed an Apple emulator it has been secretly been developing for a year and a half. The final product was done in cooperation with AID of Minneapolis (who announced a similar product called the "Amulator" last Fall.) It is expected within 60 days, at an approximate price of $400, including an Apple-only disk drive (could be $500 if it also reads 1541 diskettes.) A previously-announced Atari emulator for the VIC is no longer expected to appear. Cardco is also now shipping Commodore-compatible datasettes. -JS



Graphics by
Jim Strasma
using Flexidraw

Commodore's new 1984 line?

Commodore Notes

by Jim Strasma

COMMODORE ADVERTISES:

Remember "The Day After"? Commodore took advantage of the bargain ad rates resulting from the controversy surrounding the graphic reminder of how catastrophic nuclear war may be, and became the major sponsor of the show. Almost half the American people saw those ads, and no noticeable backlash developed, despite Jerry Falwell's promise to boycott the sponsors.

Thanks, Commodore. Sponsoring that show took far more courage than Apple's famous "1984" ad, and will have a far greater effect on our society. Though the keys to insuring against Armageddon continue to elude us, refusing to consider our present danger would be as foolish as leaving a car with its key in the ignition.

In other advertising news, Commodore has targeted women for its ads this year. In approving the move, Charles Humphrey of C&SN said, "upward of 75% of all men's clothing is purchased by women...the home computer market isn't going to skyrocket until the nation's #1 shoppers are on its side."

COMMODORE PHILOSOPHY:

In answer to the challenge Commodore ruined the computer market, Jack Tramiel commented that his company should be cost-effective; that the business community reacts to prices when they must (excluding Japan). Commodore, he said, reacts to prices as soon as they can. When production costs are reduced, so is cost to the end user. Tramiel believes in sharing with the end user the efficiencies he created. -Mike Apsey (Journal/20 r.i.p.)

COMMODORE A LEADER IN ...:

The Computer Book Market: According to BP Report, books on the VIC and 64 are dominating the best seller lists - 5 of the top 10 at B. Dalton Booksellers, and 3 of the top 4 at Ingram Books. Another magazine groused that it's only due to Commodore's lousy documentation.

Canadian Education: Commodore now has more computers installed in Canadian schools than any other computer manufacturer, representing a marketshare of about 65% nationwide. -Commodore International

Making File Cabinets: Commodore manufactures more vertical filing cabinets than all other filing cabinet makers in Canada put together. -Commodore International

NEW PHONE NUMBERS:

Executive Offices:	215/431-9100	Magazine Subscriptions:	800/345-8112
Customer Support:	215/436-4200	Service Information:	400/727-3754

REPAIRS - A WORD FROM CBM:

If your VIC 20 or Commodore 64 computer is defective during the 90-day warranty, return it to your dealer. In extreme situations, forward to:

1200 Wilson Drive, West Chester PA 19390.
3330 Scott Blvd., Santa Clara CA 95051

Proof-of-purchase must be included, or a service charge of $35 for the VIC 20 or $55 for the Commodore 64 must be included. The unit will be repaired or replaced within three weeks. Peripherals may also be repaired:

1515/25 - Printer	$75	1540/41 - Disk Drive	$85
1701/2 - Monitor	95	1210 - 3K Memory	20
1530 - Datassette	35	1110 - 8K Memory	25
1600/50 - MODEM	60	1111 - 16K Memory	30

COMMODORE'S NEW MODELS:

The new model **264** and **364** computers will be delayed at least several months. Commodore was counting on a slump in 64 sales after Christmas so they could open up a production line for the new models, but none developed. Throughout the winter, orders for 64s exceeded production capacity.

Other changes are still on, though. Despite his reported retirement, Jack Tramiel still has the same office as before, but according to one inside report, "careers no longer end in his office". He has announced his intention to sell 1/3 of his Commodore stock. With him less visibly in charge, the above emphasis on reducing prices even when demand is high may be weakening. Software prices increased March 1. Four other higher-ups left when the change for Tramiel was announced. Marshall Smith, the new president of Commodore is now on the job, and receiving rave reports from Europe, where he has reportedly been working lately. Earlier rumors that he would not be coming after all turned out to be in error, proving once again the unpredictability of Commodore that confounds competitors and friends alike.

Meanwhile, all but one informed observer I've heard from considers the delay of the new models a blessing, because they're not sufficiently better than the 64 nor compatible enough to be released yet. Hal Hardenberg considers the delay a mistake; if no improvements are made, he could be right. Others, myself included, **hope Commodore will use the delay to address 3 serious lacks in the new machines:** 1) inability to run most 64 software (they reportedly can't even use its joysticks), 2) lack of 80 column capability, even as an add-on, and 3) inadequate memory (a mere 64K can't compete with 128K Apples and Jr's). Commodore will of course claim that new chips don't permit the 264 and 364 to use the 64's software, but it didn't have to be this way. They could easily have either required the developers of new models to preserve all addresses within the existing ROMs used by popular programs, or simply added extra chips to allow the 264 to become a 64 at the flip of a switch. Either would have cost Commodore less than releasing still another new model without software. As reader James Condon writes, "The new cursor keys look nice, and a keypad is sorely needed. More available memory?--nice. BUT, if your new computer won't run my software, you won't sell it to me - nor to my kids if they can't use their joysticks, trackballs, lightpens, and Koala pads."

Here's an idea, Commodore. If, as often suggested, the real problem is a shortage of SID chips, then why not revise the 64, adding a phantom ROM to contain the BASIC extensions announced for the 264, along with another 64K or more of bank-selected RAM (a la 8096) and a socket for an 80 column adapter, all selected via a SYS call as in the BusCard, or ignored to run existing software? With these features, the 64's price could easily be raised enough to bring demand into balance with your ability to make its chips. Oh well, it's easier to run someone else's company than your own. -JS

PC FROM THE BIG C?:

Speaking of other companies, Commodore has just made a deal with Bytec-Comterm, the Canadian maker of the PC-compatible **Hyperion** to use their technology. Bytec and insiders claim Commodore plans a PC-compatible, and that it has top priority now, way above the 264 and 364. Such a beast could be as simple as the long-planned MSDOS card for the "B", but I doubt it. I expect the result to be a true PC-compatible at a PC Jr price. Spring CES should be interesting.

By the way, the real sleeper in the Hyperion agreement is that Commodore has also negotiated with Intel the right to manufacture 8088 processors, thus supplying Commdore the independence from outside suppliers it considered absolutely essential after troubles with TI in the mid-70's. Expect a big push by Commodore that may, once again, foil a predicted Japanese takeover of the American market (and trash numerous U.S. competitors.)

Commodore reportedly plans to begin selling programs for other brands of computers than its own, including Atari, Apple, and IBM. Some of their programs have sold over 100,000 copies. I presume they won't make the fatal error Atari did with its Commodore titles - pricing them almost twice as high as competing programs. $50 for Donkey Kong buys 200 plays at the arcade. Expect those prices to drop when Atari tires of looking at 50,000 unsold cartridges.

ACORN COMPUTERS:

Britain's Acorn computer is trying to displace Apple in the school market with its **BBC micro.** Life is tough for newcomers these days, but they have been adopted by 2 school districts in the U.S. thus far.

ANTI-IBMERS UNITE!:

A new anti-IBM group has been formed called **AIBMUGO (pronounced IBM you go).** It suggests techies should unite to contaminate IBM's data base, violate their protocol, decode their EBCDIC, punch their cards, and generally fold, spindle and mutilate. It says, "We don't want IBM to monopolize the market with a piece of junk that will give microcomputers a bad name." As an alternative they suggest, "If the PCjr is a rifle aimed at Apple's][e cash cow, networked 68000s are cannons aimed at IBM's mainframe dogs." Those who agree can write 9 Fourth Ct., Hermosa Beach CA 90254.

APPLE:

After brief testing of the new **McIntosh**, I'm underwhelmed. I don't like the black and white screen, nor its small size and low, unchangeable position. The resolution, however, is stellar, unless you were hoping the word processor would work with your daisywheel printer. The micro disk is compact and seems durable, but only has 70K free for data as sold. The rumored double-sided version will be badly needed. Until more programs appear, MAC's a $3,000+ sketch pad. But given a 12 inch green screen, dual floppies with more capacity, cursor control keys, and useful software, I'd give it another and far more serious look, especially if it were priced at the $1,000 big schools pay for it now.

According to Computer+Software News, Apple's rumored **Elf** will sell for $999 by June, and feature 128K RAM, a built-in single drive, I/O ports, and a QWERTY/Dvorak switchable rubber keyboard. It is expected to use the new 65SC816 CMOS 6502 workalike from Western Design Center, and to be luggable a la **MAC**. The new processor is a pseudo 16-bit unit like the 8088, but directly addresses 16Mwords, runs at 4MH, and includes hardware copy protection. (It is also to be a direct replacement for the 6502 in existing PET and CBM models.) The **Elf** IS needed,as their first quarter net was down 75% from a year ago, and the **MAC** is thus far an attractive debutante who hasn't finished dressing for the ball. (You can't imagine what pleasure it gives me to be able to say honestly to people, "Yeah, the Mac's nice, but NO software." Apple still tries to say the same about Commodore.)

Another interesting Apple note: the notoriously unpopular **III** is now reportedly outselling the **Lisa**, which probably says more about the **Lisa** than the **III**. Both have recently been revised; LISA is now being positioned as an upscale MAC.

AT&T:

C+SN expects AT&T to enter the business and home markets in 1984, with 32 and 16-bit computers respectively, possibly in April. They may even use MSDOS along with Bell's Unix operating sytem. Ma Bell is definitely big enough to give IBM a real headache if she can get her act together. One commentator compared the likely scenario to a fight between elephants in the jungle--not a tree left standing for miles afterwards. One rumor suggests AT&T will sell the MAC (or buy Apple.)

ATARI:

Momma Atari is proudly proclaiming herself a survivor of the micro wars, and has thus far fended off takeover attempts by publisher Rupert Murdock. However, the price has been very high--parent company Warner lost $418 million last year, more losses are predicted for the current half year, and 200 more workers have just been laid off.

CANON:

I just got full details on Canon's new low cost LBP-CX laser printer. It will do about 200 cps, with the quality and quiet operation of the breakthrough PC-20 plain paper copier, with which it shares many components. Unfortunately, Canon doesn't want the hassles of interfacing or retailing, so they're now selling only to OEMs willing to make their own interface, described as "serial video", and apparently based on raster scan (like a TV monitor display.) Anyone interested in hooking it up to Centronics parallel with enough smarts to imitate a Prowriter or Gemini 10X?

COLECO:

Coleco lost $35 million in its 4th quarter, despite the incredible success of their Cabbage Patch dolls, and has cut its workforce twice recently. Nobody seems very worried about them any more, except the doll makers and stockholders. I finally saw an **Adam** over Christmas. I love its box - big enough for a small casket - and the fish line printhead positioner... Oh well, at least they're shipping. They're still promising the Moon, according to CES reports, but not letting any out for independent review, according to Infoworld. Digital Research DOES plan a real CP/M for the Adam cassette drive, which is to be ROM-based, compatible with other CP/M's, and easier to use than the standard variety.

CONVERGENT TECHNOLOGIES:

Unlike other lap computers, the $895 Convergent Technologies **Workslate** comes with no language. ROM functions include: text editing, calendar, terminal, spreadsheet and calculator. Cassette-loaded applications are "promised".

WorkSlate offers: 8 bits; 64K ROM; 16K RAM; a 16-line by 46-character LCD display; a chiclet keyboard; a 2-track voice/data microcassette; a built-in MODEM and RS232 port; an alarm and a speakerphone, all in a Tandy 100-size case. Its 5 cps color printer also uses batteries. Given more RAM, BASIC and a real keyboard, they'd have something.

EPSON:

The reportedly speeded-up QX-10 is getting a brain transplant, a plug-in MSDOS board.

HEWLETT-PACKARD:

HP (which critics say stands for "high priced") is proud of its new 150 cps ink jet printer, slated to sell for under $500 and win them a bigger share of the market. They are also rumored to be bringing out a lap-size PC compatible that runs **Lotus 123**, the best-selling PC spreadsheet/database/graph program.

IBM:

IBM recently announced a Unix for the PC that differs slightly from both Microsoft's "Xenix" and Ma Bell's official Unix. IBM specifically denies widespread rumors it will soon announce a new non-Microsoft, non-MSDOS operating system for the PC. Infoworld's Dvorak claims IBM plans a lap-sized PC-compatible by Christmas, using a 16 by 80 display. Big Blue has also begun suing PC compatible makers.

Early reports from dealers, reported in Computer & Software News, indicate that when buyers compare PC Jr and Apple][e side by side, most buy Apples, largely due to its better keyboard. Those who choose the Jr, often already have a PC at work. As one article put it, "PC Jr sales are peanuts." Industry Week stated it this way, "Never have so many waited so long for so little".

Lotus just announced a new version of **123**, called **Symphony**. It will add word processing and communications, with room for more features later, like spelling checkers.

In predicting IBM will prevail over Commodore and others, Ken Williams of Sierra On-Line made an important point: "I've been very hesitant to put development dollars behind software for a computer that may not be there when the development is completed. But that problem of faith does not exist with IBM." (CES Show Daily 1/7/84) In other words, even if Commodore sells a billion machines, few will invest much in software for them after being burned by the big C's annual model incompatibility binges. They've done it too often for anyone to believe it's accidental, though I have yet to hear anyone suggest it's sane.

KAYPRO:

Kay Nishi of Microsoft, father of the **Tandy 100**, has developed a PC-compatible lap computer for Kaypro. Various sources report it will be 16 bit, highly PC-compatible, with a 16x80 display, and up to 128K RAM, plus a desk module all priced just under the PC, and out by Fall. Other new models are also due out soon, and the **Kaypro 2** is newly on sale, $300 off, suggesting a closeout.

MATTEL:

The troubled toymaker has returned rights to its Aquarius computer to the company that designed it, and appears to be out of the computer hardware business.

SINCLAIR:

Timex is cancelling its distribution agreement with Sinclair, makers of very cheap micros popular in England, and widely sold here last year. This leaves Sinclair without a dealer base for a VERY interesting new model called the **Quantum Leap**, or **QL**. It is a 68008-based system with an 8-bit bus and 32-bits internal, plus 128K RAM, multi-tasking and windows, all for $500, including 2 wafer tapes, a la Adam, and 4 applications. Except for the lack of real disks, this could be "the MAC for the rest of us" lacking $4-5,000 for a full system. It's out in Britain now, and due here by Fall, mail order only.

SPECTRAVIDEO:

The success of this Commodore/Coleco-killer seems to hinge on a Japanese invasion of the U.S. market with MSX computers (not MX missiles.) At the Winter CES show, they got lots of attention by having a man saw computers in half and throw Cabbage Patch dolls into a toilet. Though announced a year ago, I've yet to see one outside a show.

TANDY:

Tandy will bring out an 80 column version of the **Model 100**, probably in June. That would make it a bit easier to use with remote networks like Newsnet, which format everything to 80 columns, but would presumably also make each character harder to see. (It makes a fine remote keyboard for a Commodore.) Tandy's sales for the first half are up 14%, and profit up 9.7%, says C&SN. A dubious virtue for the **Model 100** is it's new $800 single disk and video interface. Only those without another disk-based computer will want to spend that much to tie the **100** to a desk. Clone maker NEC has also announced a disk, a battery-operated job with 3-1/2" floppies and 64K added RAM.

Within a year, expect full 80x25 screens in lap computers (Sharp may offer them this summer), with 256K+ RAM. Some may also have built-in microdisks, though this may be as dubious a virtue as built-in printers on the **Epson EP-20** and **Sharp PC-5000** (useful at times, but add weight and bulk). I'd prefer bubble memory cartridges, like the Sharp.

VECTOR:

Once high-flying Vector's sales were off 50% in the first half of its fiscal year, C&SN reports, dogging a smaller loss before that. It was one of the first popular S-100 CP/M systems 6 years ago. (If you understood that, you're a pioneer.) President Lore Harp even made the cover of TIME as a famous female executive, but that doesn't seem to be helping now. Move over Victor...

VICTOR ETC.:

Chuck Peddle's PC beater company recently went Chapter 11 bankrupt, as did retailers Computer Country and Data Plus in the St. Louis area (both of whom owed Midnite money.) We figured it served 'em right, and forgot about the money until we found their stores still open for business. Victor will apparently be sold to its British vendor, A.C.T., and even long-gone Osborne is still in business. Bankruptcy apparently isn't what it used to be.

ZENITH:

The big TV maker has announced two more PC compatible models, to sell a bit below IBM's price. Both are to have 128K RAM, and are more compatible than the fairly popular dual processor Z-100 model they already offer.

Copyright Notes

by Jim Strasma

ON COPYING PROGRAMS THAT CANNOT BE COPIED:

If I worked for a software house whose DOS-protected wares were newly being pirated thanks to **Canada AM** or **The Clone Machine**, it might upset me greatly to learn that those programs cannot copy themselves. What's good for the goose is good for the gander. Since neither Infosystems nor Micro Ware Distributing offers an archival backup of their programs, the same arguments they use in claiming users' right to use their wares to copy others' products appear to justify users copying the copiers as well.

Frankly, the moral inconsistency in preventing backups of their own programs bothers me far more than the fact that such programs exist. I've always hated DOS protection as a copy-prevention method, both for its awful effect on some 1541 disk drives and for the trouble it makes in moving a program to an even-slightly different disk format, such as from an 8050 to an 8250. If copy protection must exist, then functional ROMs and cartridges are least offensive, followed by dongles. Still better is a serial number that allows copying, but identifies the source in case the copy travels. Best of all is a free exchange of ideas, with no protection at all. Unfortunately, our own recent experience with the **Mail Disk** is a bit disheartening in this regard.

Though we are glad to have legitimate purchasers of the **Mail Disk** make copies for friends, we are underwhelmed by the number of those making such copies who have sent in the requested token royalty of $5 per friend. If this continues, those who expected to earn something for their efforts in writing it will have to stop supporting the product. Considering how much the program has been improved in each of the several years since it was first written, that would be unfortunate. Even so, there is an obvious precedent--our **Subsort** program, which has not been significantly changed since we first feared it was being copied by commercial users without fair payment.

Similarly, we recently noticed that a man who often calls us for advice had never subscribed to the Midnite. When asked why, he responded, "Why should I? I read a friend's copy." It's hard to understand how someone can so easily accept free help and not want to do anything in return. On days like that, I consider ripping out the phone.

The principle here is that everyone is being abused, and while we participate in the abusing, we are no better than jackals. That isn't the way to fulfill the dream of the Micro Revolution. So, buy a disk copier if you need one, and a Xerox copier too if you like, but use both honorably, or not at all.

HESMON'S "COPYRIGHT":

HESMON is, as I've suggested before, a modestly revised version of **Micromon**, written by Bill Seiler and polished by Arthur Cochrane. HES once objected to our claiming they gave no credit to its roots. But here, dear readers are the credits in their current manual for the 64 version: "The seeds of **HESMON** are contained in the public domain monitor programs ... **MICROMON** and **EXTRAMON**. These programs ... provided the general framework and the philosophy ... which distinguish them and **HESMON** from other M.L. monitors..." The inside back cover and the program claim **HESMON** is copyrighted. Worse yet, their version even tries to inhibit PEEKing at it, transferring it, or saving a copy of its addresses, destroying much of its good. It isn't just the general framework and philosophy that were copied - nearly the entire command set and syntax were "borrowed" as well. Even Arthur Cochrane's distinctive dating method for the version number was retained. Anyone can sell a public domain program, but most folks at least mention the authors. I hope "author" Terry Peterson appreciates the true source of his royalty dollars, and that some future revision of the **HESMON** manual may give Seiler and Cochrane the honor they deserve. It's too much to hope their silly PEEK, MOVE and SAVE inhibits will be removed by HES. Perhaps public-spirited user groups will assist... -JS

COMMODORE LAWSUITS:

So many people want to sue Commodore lately that they've formed their own user group, "The Coordinating Committee for Commodore Law Suits." Here are excerpts from their letter:

"We are compiling a data base of all litigation brought against or for Commodore. Please let us know as soon as possible if you know of any litigation in which Commodore is involved. A copy of the Court papers would be most helpful. Please include:

1. Name, address & phone of the litigant and attorney.
2. Exact title of the lawsuit including parties, Court and number.
3. Brief description of the claims

Anyone who responds will be supplied an up-to-date compilation of our data. Responses will be confidential except for information added to the data base. -CCCLS, 3208 Cahuenga Blvd. West, Hollywood CA 90068

We have also received detailed information from Joel Kornriech of Computer Strategies (a Midnite dealer) and from reader Richard Greenfield about their respective lawsuits against Commodore. Kornriech's suit is based on Commodore's apparently having improperly dumped 90% of its dealers (including Computer Strategies) during 1983. Greenfield's is a class action suit for those who purchased Commodore stock last year, alleging that Commodore misrepresented its condition at the time. Anyone interested in following these suits may contact Kornriech at 33 Murray Hill Dr., Spring Valley NY 10977 (914/425-2800) or Greenfield at 361 W. Lancaster Av., Haverford PA 19041-0100 (215/642-8500).

A PERSONAL SURVEY OF SOFTWARE VENDORS:

As a new computer owner I was interested in the availability and types of software on the market. I sent letters to every advertiser listed in Compute! for September, 1983, and kept track of the date mailed and the date information received, to tell the turnaround time if a product were ordered. Here are the results: - Dale R. Eilders

OUTFIT	MAILED	RECEIVED	OUTFIT	MAILED	RECEIVED
Abacus Software	Sep 10	Oct 1	Interesting Software	Oct 10	Oct 20
Academy Software	Sep 10	Not yet	Lords of Basic	Sep 10	Nov 9
Animax Computer	Oct 18	Nov 29	Microware Dist Inc.	Oct 18	Nov 17
Century Micro	Sep 10	Nov 17	Powerbyte	Oct 18	Nov 7
Compatible Systems	Oct 18	Not yet	Professional Micro	Sep 10	Not yet
Compu Sense	Sep 10	Not yet	Protecto Enterprise	Sep 10	Sep 23
Computermat	Sep 10	Oct 8	Public Domain, Inc	Sep 10	Oct 1
Crown Computers	Oct 18	Oct 27	SJB Distributors,Inc	Sep 10	Not yet
Davka Corp.	Oct 18	Oct 27	Team Computer	Oct 18	Dec 5
Dynacomp, Inc	Sep 10	Sep 27	The Floppy Disk	Oct 18	Not yet
Eastern House	Sep 10	Sep 18	Time Works, Inc.	Oct 18	Nov 3

COMMODORE QUALITY CONTROL:

My first VIC came up with "8K free" but no BASIC! Exchanged by dealer. First 64 was dead out of the box. Exchanged by dealer. That 64 died last week, refusing to work with 1541 (cursor froze, system crashed) and then would not reset. Replaced by Commodore Midwest for $55 out of warranty. First disk drive fine. Second disk drive failed diagnostic after two days of use. Replaced by mass merchant after some prodding.

Many chain stores refuse to honor the 90 day warranty. Most will exchange only for ten days, with the exception of Toys R Us, where you can return an item for up to 90 days not only if it breaks, but if you are not satisfied.

My experience has led me to the same conclusion I reached regarding photographic equipment. Find a helpful dealer, a specialist if possible, and pay the modestly higher price. Otherwise, you will probably go crazy and/or waste a lot of time. I had to drive

40 miles to The Software Shoppe, but they helped solve my problem with the 64. If we don't support such people, we will all miss them when they are gone. -Jeff Lowenthal
[Think of that readers, when someone copies a helpful article or useful program.-ED]

AN OPEN NOTE TO HARDWARE/SOFTWARE VENDORS:

While it is realized that the competition to be first on the market with a product is fierce, be prepared to take the heat if your aggressiveness causes you to put out a product before it is ready. I recently found a good product, but it lacked complete documentation. I returned the product, because I felt the user should not have to investigate the hardware it was intended to run on to make it work. The President of the company then telephoned, provided an apology, the required information and an explanation. The product was returned with the proper documentation and worked as advertised. For such a fast growing company, Cardco Inc. and Ed Lippert are to be commended for this type of service.

The message is this. Make sure you have done your homework before releasing a product or be prepared to service it well. If you are going to advertise a product, be sure you can and will provide it, regardless of demand for the product. Customers want the product, not their check returned. Also, provide a way for a potential customer to obtain technical information not covered in the advertising information. Three recent cases make this point. In the first, the telephone number provided gave a recording to leave your name and address; no response after 3 weeks. In the second, the technical information person was not normally available and didn't call me back until 2 weeks later, after the product had been scratched from my list. In the third case, the product would not be available for many more weeks and the advertising had been released prematurely.

If a producer or distributor cannot or will not work with these guidelines, then I am not willing to consider his product. Cardco has set a standard for other product manufacturers to follow. I will continue to purchase their products and extoll their virtues, if only for their excellent support services. I urge all other users to insist on this type of service. The competition is too great to settle for less. -Jerry Key

JINI MICRO MEETS REINHOLD AMAN:

Dr. Reinhold Aman is finally getting noticed by Jini Microsystems. After trying since August of 1982 to get some help or a refund after paying beaucoup bucks for Jinsam 8.0, he finally wrote enough consumer protection and better business agencies that Jini noticed and sent a public relations response. Copies of both the original letters and the Jini response ended up here, and make interesting reading, though a mutually acceptable solution seems a long way off. Too bad--if Jini Micro were thinking straight, they'd give Aman the refund. He's not the type to give up, any more than we did last year. -JS

KAPRI INTERNATIONAL:

Kapri International software distributors, of Sun Valley, California, is putting together an association of software dealers. User groups are qualified for $150 6-month memberships. The catalog prices of more of the several hundred items seem about the same as from distributors with no fees. -Tom Pounds (Federation of Commodore User Societies)

KOBETEK SYSTEMS LIMITED:

Tucked away in New Minas (N.S. CANADA) is Kobetek, who offer a full line of Commodore computers, together with supporting software. However, Kobetek is not the easiest operation to find; even when told they are within a stone's throw of the White Spot Restaurant, Neil Bowlby could not locate their cunningly concealed basement, so phone them for directions. They do not have evening hours; try to catch them open on Saturday before lunch. Those difficulties apart, they are well worth a visit.

A friendly, helpful and knowledgeable staff back up a good range of equipment. Apart from a wide range of computers, disk drives, datasettes, I also noted expansion boards, light pens and even a voice synthesizer, plus a good range of connectors, cables, keyboards and other bits of electronic hardware that tie computers to their peripherals. They also carry a good assortment of programs for Commodore computers, a reasonable selection of games including some from Britain, word processors, standard Commodore Business Programs, utility programs, books and magazines, including the Midnite, Datalife and Elephant

diskettes, and Agfa Tape in C-10 and C-30 cassettes.

Prices seemed reasonable by Canadian standards. Sieg Deleu, the man behind it all, can operate by mail or telephone order, and Kobetek has people coming into the Halifax/Dartmouth area several times a week. Overall, a very favourable impression and well worth the trouble of finding the store. -Don Bidgood (DISKUSS)

KZ SYSTEMS RESPONSE:

In an earlier note I alluded that Eastern Software House and KZ Systems had not responded to my complaint that furnished software with the Branding Iron wouldn't work with BASIC 4.0 systems. Though somewhat tardy, I did receive a new tape from KZ Systems with software for 4.0 40-column machines and the 8032. The version for the 4.0 40-column machine works on my 32N/4.0, but my SuperPET will not verify the 8032 version (this happens with other software, however). Thanks to KZ for Keepin' on Tryin'. -R. Dale Connely

LOWBALLING SUSPECT:

Alfred M. Johnson of the Raleigh, NC VIC/64 group reports Apple Country Ltd., of Julian CA did not honor an advertised price on a Cardco light pen, basing the refusal on a reported price increase from Cardco. Since the requested increase was over 50%, Johnson suspects the company of "lowballing", that is intentionally advertising prices they don't intend to accept. As usual, caution is advised when ordering by mail.

MICRO PACE COMPUTERS:

The serious stop for 64 users is Micro-PACE Computers, 1510 N. Neil, Champaign IL 61820. If you have heard or read about anything for the 64, they have it or will get it. User-friendly management (except on the day the truck comes in with the new goodies and Jim is playing), who will go out of their way to meet your needs. You get the feeling you are cared for. Newly remodeled showroom with latest software and hardware for all 64/PET needs. Definitely worth the trip, even just to browse. -John Jamison

MIDWEST SOFTWARE WARRANTY:

Midwest software writes about its warranty policy as follows: "Most of our disks will be copy-protected (low level), so we can send them out on preview. (Boy, have we been burned lately! Remind me to tell you about the guy who got a program to preview, removed the staple to xerox the documentation, returned the disk and called me 2 weeks later to ask how to run the program!) Anyhow, for a 30 day period we will replace all damaged disks for free. After the 30 day period, a replacement disk will cost $4. Backups (1 at a time) may be bought by registered owners for $4." They also enclosed a letter from a customer which gives rather convincing proof that the level of expertise among new users has dropped sharply in the past year, not only in the use of computers, but also in the use of the English language. Since we don't always remember to include Midwest's address, you may reach them at Box 214, Farmington MI 48024 (313/477-0897).

Update: PUBLIC DOMAIN, INC.:

I have found PUBLIC DOMAIN, INC., 5025 S. Rangeline Rd., West Milton OH 45383, a very reliable source of public domain software. Their catalog is most helpful and the programs thus far have worked as advertised. Recommended. -Kenneth Manuelian, D.M.D.

SCHOOL & HOME COURSEWARE, INC.:

"We will postpone our subscription services for an indefinite period. We will continue to sell programs singly as you desire, however." [They offer to honor or refund unfulfilled subscriptions or substitute programs, as specified by subscribers.] -School & Home CourseWare, Inc., 1341 Bulldog Lane, Dept. 28, Fresno CA 93710

TAYLORMADE SOFTWARE:

Another company with an address worth mentioning is Taylormade Software, which recently moved to 7300 Candletree Ln. #24, P.O. Box 5574, Lincoln NE 68505-5574 (402/488-0196). They report they've made a few changes in **Touch Typing Tutor** and **Pinball Math** per our reviewers' suggestions.

ADDING A SIGNAL TO 1541 BACKUP:

If you're like most single drive users, you get tired of waiting while "1541 BACKUP" slowly copies your disks, wander off while the buffer is loading and forget to return until long after it's full, right? You may not be able to speed up the program, but you can make it signal you when a disk change is required. SFVCUG member John Sulzbach has developed this subroutine to generate a sound when the program requires some action on your part.

Add a GOSUB 20 to line 965: 965 OP$=BC$: GOSUB 795:FOR A=1TO75: GET A$

Then add these lines:

```
10 GOTO 100
20 S=54272
30 POKE S+24.15
40 POKE S+5.9
50 POKE S+1.20
60 POKE S+4.128
70 FOR D=1TO10:NEXT D
80 POKE S+4.129
90 RETURN
```

CHEAP DISK STORAGE:

SUGGESTION #1: Walt Sadler of Waukesha protects about 70 disks for about $2 by buying an 8-track cassette plastic storage box from any local discount store. It holds 2 X 35 5-1/4" disks, stacked vertically. -Reinhold Aman

SUGGESTION #2: A 5 X 8 plastic file box makes for very inexpensive storage of diskettes (<$2.00). In addition, you can get dividers and file cards to provide annotation. -Henry Frosch

COOLING THE 1541 DISK DRIVE:

SUGGESTION #1: Placing wood blocks under the 1541 disk drive raises it off the table to increase air circulation and makes it run cooler. -Robert Newcomb

SUGGESTION #2: 5/8" rubber crutch tips fit over the legs of the VIC and 1541 well, to elevate them for improved cooling. -K.W. Taylor (Comm'putoy Cult)

SUGGESTION #3: Bill Farmer, of Waukesha WI cools his 1541 disk drive with a $10 air cleaner, placed upside down on the rear slots of the 1541. He has never had problems with his 8 drives. A small fan also works. However, I just read that fans cause vibration, with a possible loosening of chips. -Reinhold Aman

HARD DRIVE WANTED:

I am interested in obtaining information on a used Commodore hard disk drive. -Gerald L. Stadt, 1288 St. Cyr Road, St. Louis, MO 63137

1541 ROUTINE MAINTENANCE QUESTION:

Q: The guest speaker at a local users group meeting, who was a serviceman, stated that the 1541 disk drive should be realigned every 4 months to insure it is working correctly, whether or not you are experiencing any problems. What routine preventive maintenance does the 1541 need? -James Kohlenberg, Seminole FL

A: None, unless in a "polluting" environment (smoke, dust, grease, etc.). "If it ain't broke, don't fix it." -JS

LUBRICATING YOUR 1541:

Here's a simple lubricating procedure for the 1541. Locate the two rails that the head assembly moves on, and lubricate them with a Q-tip dipped in white lithium grease (found in bike shops.) This may reduce read/write errors. -Educomp (Comm'putoy Cult)

OVERWRITING FILES QUESTION:

Q: On certain occasions (perhaps it's when not closing a file properly?), my 1541 drive copies in the directory, the start track & sector of another legal file. Then since two directory names both have the same starting track & sector, they overwrite each other and cause lots of problems. What causes this duplication? How can I tell it is happening and avoid it before I've messed up a file? (I have already written (by necessity) a program that lets me read and repair any block on the disk.) -Edgar R. Norton

A: Likely you've scratched files that were improperly closed. Doing so may have unallocated sectors linked to the improperly closed ones, and causing new files added thereafter to overwrite de-allocated sectors within good programs. Avoid this by using VALIDATE instead of SCRATCH to get rid of improperly closed files. -JS

VALIDATING DISK FILES

One group newsletter recently recommended that you NOT validate a diskette containing RELATIVE files, because it would erase them. NOT SO. A main reason for using relative files is that they ARE safe during a "validate" command. The writer was thinking of RANDOM disk files, still popular among inexperienced software companies. File types that appear in a directory are not hurt by "validate". Avoid programs that use RANDOM files; of programs using them, only two (notably **Flex-File**) have performed well in our tests.

To validate a diskette, type OPEN1,8,15,"VALIDATE" and press RETURN. Use it whenever you fear the data on the diskette is corrupted, especially if a file has not been properly closed. Improperly closed files appear on a directory with a file size of 0, and have an asterisk (*) next to the file type. -JS

CASSETTE ANSWER:

In Midnite #13 p.7, Bill Batcher asked about cassette problems. I had a problem which exactly duplicated his. I determined after much checking that I had a bad (cheap) three-prong power outlet. When I replaced the outlet, the problem disappeared. -Brian Schott

WHAT TO DO WHEN CASSETTES WON'T LOAD:

To test your cassette, try making a very long tape of your own. One easy way is to type a long data statement. Then cursor back to it and change the line number until you have at least 500 lines. Then save this and verify it. If it verifies, your cassette works OK. If not, it doesn't. If it fails, the most likely cause is interference, such as from the TV if the cassette is too near it. If it isn't that, it may be a bad cassette, or the datasette may need cleaning or demagnetizing.

If the verify worked, the tape head could be out of alignment. This is easy to adjust, but hard to be sure you've adjusted properly. Under the label over the datasette's keys is a tiny adjustment screwhole. Through that hole, a jeweler's screwdriver can adjust the cassette head azimuth. If acommercial tape that won't load is very important to you, you could make a small adjustment in the head to see if that improves the load. Try both directions, and remember the starting point, in case you make things worse.

One reason a commercial tape may fail is because it is bulk duplicated at high speeds, and loses quality in the recorded signal as a result. Second, the 64 has cassette error recovery built-in, but is limited to a fixed number of repairs per load, so the longer the tape, the more likely you are to overload the repair capability. -Rich Westerman (The Hacker Rag)

Education Notes

BILL BROWN ASSOCIATES

I have started a small business of my own, "Bill Brown Associates," consisting of software, inservice (schools), consulting and writing (articles, books, reviews). My software offerings will be in the form of system modules, mostly consisting of my word processor plus either my Database program, my Library Overdues Manager program, my Ledger program or my Multiple Choice program. Each module will include sample + working files and complete step-by-step instructions for: (a) School office (student records), (b) Media Center, (c) Administrative (activity accounts), and (d) Teacher Testing/Tutoring etc. -Bill Brown, 8781 Lee Rd., Brighton MI 48116

FISHER SCIENTIFIC IN WASHINGTON D.C. SCHOOLS:

Fisher Scientific Company, Educational Materials Division, located in Chicago, Illinois, has installed 52 Commodore 64 computer laboratories in selected elementary, junior high, and senior high schools in the District of Columbia Public Schools, to be used for teacher training and computer literaacy instruction for students. 13 labs were in use this summer for a Summer Computer Camp Program.

LINCOLN COLLEGE COMMODORE COMPUTER CAMP, July 8-14:

See the enclosed brochure for our one-week adult (and teen) computer camp. -ES

"MICROCOMPUTERS IN THE LABORATORY" WORKSHOP:

A HANDS-ON workshop on "Microcomputers in the Laboratory" will be held June 4-9 at Monroe Community College in Rochester NY, presented by Professors Richard Heist, Howard Saltsburg and Thor Olsen of the Chemical Engineering Dept. of the University of Rochester. They have been involved for many years in integrating microcomputer and digital technology into laboratory work, emphasizing data acquisition and process control applications.

The six-day workshop will cost $480, which will include prepared notes, texts, an EPROM machine language monitor and two analog to digital converters, with software. Participants should have access to a Commmodore computer. Contact W. Joseph Graham, Biolgy Dept., Monroe Community College, Rochester NY 14623.

MANITOU-WABING COMPUTER CAMP for ages 10-17:

This Canadian residential computer camp at Sports and Arts Centre, Parry Sound, Ontario, has 1,2 & 3-week sessions from July 24-August 26, 1984, for girls and boys, including all the typical land and water sports and social activities. Their ad shows a camper at a PET. Write 821 Eglinton Av. West, Toronto ONT M5N 1E6 CANADA for information.

Game Notes

WHO HAS THE BEST GAMES?

Omni magazine rates the ten best computer games of the year. Computer Tutor has in stock or ordered 7 of this year's best (the other 3 are not yet available for the 64). These include **Archon, Pinball Construction, Lode Runner, Moon Dust, Worms** and **IFR Simulator.** If you want great entertainment, these games should provide sufficient answers to the popular questions, "So, what does this thing do?"

The current (biased) list of Computer Tutor's favorite 10 games is: 1) Archon, 2) Jumpman, 3) Quest for Tires, 4) Donkey Kong, 5) M.U.L.E., 6) Beach Head, 7) Pinball Construction Set, 8) Music Construction Set, 9) Jumpman Jr., 10) Chess 7.0. -Bill McDannell (The Exchange)

BASIC:

HOW TO LOAD A BASIC PROGRAM INTO A WORD PROCESSOR:

I often want to load a BASIC program into my word processor for publishing in a newsletter or this magazine, as well as to editing. Jim gave me this set of commands that turns a BASIC program into a sequential file **PaperClip** or **Easy Script** can read. -ES

```
OPEN 8,8,8,"0:LETTER,S,W"
CMD8:LIST
PRINT#8
CLOSE8
```

TO KEEP A PROGRAM FROM BEING LISTED:

A simple no-list trick appeared in several of the group newsletters recently. Just make your first line a REM containing a SHIFT-L. -JS

WHERE TO FIND A MERGE FOR 64?

A: In M #11, Herbert Gross asked for a MERGE for 64. I refer him to Jim Butterfield's article "BASIC Program Merges: PET and VIC" in the June 1982 Compute. This works not only for VIC programs to PET, but works great with VIC to VIC or Commodore 64 to 64 program merges. I have tape files now that are strictly for merging - my favorite subroutines! I wonder now how I got along without it before! -Doug Carlile?

AN OLD BASIC BUG: USING A GOSUB IN IMMEDIATE MODE:

I have found an obscure and certainly non-critical BUG in ALL Commodore machines which may not have been reported before. I have confirmed it in my 2001-8 (small keyboard 2.0 BASIC) PET, in several 64's, and in an 8032 (4.0 BASIC). The BUG affects a GOSUB in direct mode, but NOT in PROGRAM mode. It happens when you call the following subroutine (with no other lines of code in memory) using a GOSUB 3300 from direct mode:

```
3300 GET A$: IF A$ = "" THEN 3300      (no space between quotes)
3400 PRINT "ANYTHING": RETURN
```

This subroutine, once called, will wait for a key to be pressed before going to line 3400. If you do a GOSUB 3300 from direct mode, all goes well until you press a key; then instead of printing ANYTHING, it bombs out with a non-fatal SYNTAX ERROR IN LINE 48 (nonexistent), followed by READY. This same code will work fine if called from within a program as in: 10 GOSUB 3300

At first I thought I had a defective scratch pad RAM or a corrupt SYSTEM ROM, because this sort of thing was totally unexpected after 3 years of hacking on the PET and it should be perfectly legal. If you increment the line number by one (3301) the phony error message reports the error in line 49, 3302 gives error in line 50, etc. If you use lines 33 and 34, there is no error message; it works just fine. -Gary Stone

Compilers:

COMPILERS FOR MACHINE LANGUAGE SPEED:

Q: Can you suggest a program or 'system' I could purchase which could 'save' the machine language program developed from my BASIC and which the 64 actually executes? Increased speed is what I'm looking for, of course. -Charles A. Pocatille, Clifton, NJ

A: To "compile" your programs, you need **DTL BASIC**, from Cimmarron, or **PETSpeed 64** from Commodore. Without one of these, the process you describe doesn't actually happen. Rather each instruction is converted to machine language as it is "interpreted," then obeyed and forgotten. -JS

COMAL:

COMAL NOTES, by Len Lindsay:

COMAL 0.14 is now available for the Commodore 64 on diskette for $20. The upgraded version 0.14 should also be available for the PET/CBM for $15. The 64 version includes over 40 additional graphics commands/statements, HI RES graphics, 10 sprite statements (no need to use PEEK or POKE), and a LOGO compatible turtle (only 3 times faster). Anyone who purchased version 0.12 from the COMAL Users Group can get the upgrade to 0.14 for $5.

The **COMAL TODAY** newsletter began publication in January, 1984 (to be reviewed in issue 18). Since COMAL is "standardized," the COMAL Handbook applies to the new version 0.14. ne change though - to select the output location, you must now include a colon, as follows: SELECT OUTPUT "LP:" or SELECT OUTPUT "DS:" Due to constant requests, a tutorial book, Captain COMAL Gets Organized, has been written to explain how to put together a modular COMAL program, by creating a complete Disk Organization System from a set of compatible programs. A disk of programs comes with the book. More CAPTAIN COMAL tutorial/application books are planned.

As for the history and status of CBM COMAL, the preliminary version 0.10 came first and very few people have it. Next came the first CBM COMAL version 0.11, which was put into the public domain by Commodore. Version 0.12 was copyrighted by UniComal Aps, but permission was given to copy it (this led to the misunderstanding that it too was public domain). Finally, the current, copyrighted version 0.14 was released on November 28, 1983, and distributed exclusively in the U.S. by COMAL Users Group, U.S.A., Limited, and by Commodore Canada in Canada. It is not protected; you may give away free copies, but are not allowed to SELL copies. LOCAL User Groups, but not NATIONAL User Groups, may include it in their software library, and schools may make copies for each teacher or computer. It can be marketed nationally only with a license. Thus far, only Reston Publishing and COMAL Users Group, U.S.A., Limited are licensed distributors.

COMAL is now officially accepted by Commodore USA and Canada, and was officially launched at the World of Commodore Show in Toronto on December 10, 1983, where Commodore gave away over 500 COMAL diskettes. Commodore Data in Denmark is slated to begin producing COMAL 2.00 cartridges soon. A limited number of EPROM cartridges will be made early, and then mass more will be produced in Hong Kong. The cartridge is nearly 64K and includes its own bank switching. The cartridge adds Sound, Joystick, Paddle, and Light Pen commands to the Sprites, Turtle, and Graphics in version 0.14, plus error trapping, protected input fields, and external procedures (professional programmers rejoice!).

All versions of CBM COMAL include a RUN-TIME compiler, which is why COMAL programs run so much faster than BASIC. (COMAL 2.00 is actually over 79 times faster in String Searches). Variable names can be long, with each character significant, yet take up only 1 byte of program storage. COMAL checks your COMAL program lines AS YOU ENTER them and won't let you enter an incorrect line; it puts the cursor at the point of any error and gives an understandable error message. After the error is corrected, the error message is removed from the screen and the previous contents are restored (non-destructive error messages).

All versions of CBM COMAL include advanced features such as Auto line numbering, Line renumbering, Merge from disk, and named procedures with parameter passing and LOCAL or GLOBAL variables. The cartridge also has the FIND command and protected INPUT fields. Yes, an INPUT statement in version 2.00 will not allow clear screen, or cursor up or down. It will not allow quote mode. And, Clear screen will clear the input field only - while Home will put you back at the first spot in the input field. Makes your programs really professional.

The ACORN (BBC Micro) now has a tiny COMAL. Norway receently became the fourth country to accept COMAL for their schools. NCR is actively attempting to get COMAL to run on its new dual processor, CP/M, MS-DOS micro. Two more companies are writing COMAL systems. Next COMAL meeting is in England, April 1984. As your representative (the only member not from Europe) I welcome your comments on COMAL and its future development.

COMAL on disk, the newsletter, Handbook, and new tutorial are all available from the COMAL Users Group, U.S.A, Limited, 5501 Groveland Ter, Madison, WI 53716. (See separate ad.)

MORE COMMODORE BULLETIN BOARD NUMBERS

Ohio Valley PUG	24 HR 7 DAY	(614) 423-4422
Salt Lake PUG	8 AM - 10PM	(801) 277-2620
Thunder Bay PUG	S-S 24 HR	(807) 345-7199
TPUG	same	(416) 884-6198

NAPLPS:

For information on using the 64 to receive Telidon-like NAPLPS (North American Presentation Level Protocol Standard) colorgraphic videotex (mentioned in M#14), readers may contact Stan Darland at 15 West 26th St., New York NY 10010 (212/532-0354).

COAST BULLETIN BOARD: A 64 PUBLIC DOMAIN BBS:

There was nothing written to run a BBS for the Commodore 64 with disk and 1650 automodem, so I wrote my own. It is a simple but long BASIC program, called "Electric Magazine" and has worked very successfully here in town. We use it for our club activities, messages, etc. Everybody comments on how well it runs. We hear from all types of computers across the country.

Since a visit from a neighboring users group, we discovered that many otheres were looking for such a program, so I have decided to share it with others for $25. For your money, you get the disk, a program listing, and documentation to tell you how to run it. It's pretty simple, but can be tailored to suit your needs. To change the files, just use your word processor. For a disk and the paperwork, send check or M.O. for $25 to: Bob Shannon, 33175 Oceanview Drive, Fort Bragg CA 95437

PUNTER BULLETIN BOARD SYSTEM FOR THE 64:

For all who asked for a bulletin board system for the 64 that uses Commodore's 1650 Auto-MODEM, Steve Punter has now released a 64 version of the Punter Bulletin Board System used by nearly all of the U.S. bulletin boards that use Commodore equipment. It costs $125 and requires an IEEE disk drive. (If your board will be active, use at leaast an 8050 disk drive.) I have seen the new versionk but not tested it. For more information, call 416/624-5431 (daytime for voice, evenings for MODEM.) -JS

THREE 1200 BAUD MODEMS:

In the latest Newsnet newsletter, Brian D. Raub reviews the **Bizcomp 1012 1200 baud MODEM,** and proclaims it reliable and low cost. He also praises the **Racal-Vadic 3451,** but suggests $1,000 is a bit steep for most users. He also tested and panned a third MODEM as unreliable without naming it, but the description seems to fit the **D.C. Hayes "Smartmodem 1200."** Keith Peterson, on the other hand, is rather fond of his **Smartmodem 1200,** so form your own conclusions, or wait for Commodore to release its rumored 1200 baud MODEM. -JS

APL CHARACTERS ON A DOT MATRIX PRINTER:

Q: Do you know of any dot matrix printer in the $500 price range which can be used to print APL characters without the use of some kind of graphics hardware or software? -William R. Ledger

A: No I don't. However, the February/March 1984 issue of the The SuperPET Gazette has several articles describing how to produce APL characters on Epson printers (specifically the MX-80) using bit-mapped graphics. To get a disk copies of all APL character set articles in the issue, send $10 to Secretary ISPUG, 4782 Boston Post Rd., Pelham NY 10803 for 4040 format, or Editor, P.O. Box 411, Hatteras NC 27943 for 8050 format. For a regular subscription, send $25 to Paul V. Skipsi, Secretary, ISPUG, P.O. Box 411, Hatteras NC 29743. -ES

INTERFACE FOR SUPERPET AND OKIDATA PRINTER:

Q: My machine is a Commodore Superpet SP9000. I would like to attach it to an Okidata ML82A printer via the IEEE488 port (first choice) or RS232 port (second choice); have my 2031 disk drive connected at the same time to the IEEE port; have Pet ASCII translated to standard ASCII for the printer; be able to use the print format codes for all the languages in both the 6502 and 6809 processors; and be able to control printer spacing, skipping, etc. Does such an interface exist for my machine? Is it in the reasonable price range ($150 or under)? -William Ledger

A: CMC's 1450 is a good IEEE-to-RS232 interface, as is their 1600 IEEE-to-Centronics parallel interface. Both convert PETSCII to AASCII, but all other translations are up to you. TNW also has a good IEEE-to-RS232 interfaces. Most of these were reviewed in our Whole PET Catalog, still available for $8 from our Mt. Zion office. -JS

ONE LINER CONVERSION:

I am not much of a programmer yet, but I am fond of R.C. West's one liners. I would like to contribute a one liner of my own to those who use ASCII printers:

```
5 def fntru(x)=(abs((x<64)or(x>91)) * (xand127))+ ((x>64 * (x<91) * (x or 32))
10 Print#4, chr$(fntru(asc(a$)));:rem converts Commodore ASCII  to TRUE ASCII
```

-Gary E. Moffatt, Corpus Christi TX

REMOVING JAMMED LABELS FROM A PRINTER:

I was watching my Commodore 1525 printer run off labels for the monthly newsletter when disaster struck. A mailing label came off the backing, rolled around and was now wedged in the paper chute. Going to the dealer for help was out of the question on Saturday evening. Taking a fast mental inventory, I recalled that our house contained tweezers, thin brass shim stock, paper towels and "Carbo-Chlor" cleaning fluid, which my wife had used to remove pressure-sensitive price labels from plastic glasses with no apparent damage to the plastic.

After pulling away the accessible parts of the label with tweezers, I cut the .003" thick brass sheet into a strip about 1" wide by 11" long. Then I fed the brass strip into the paper chute and out the exit end. Moving it over to the stuck label I pulled it back out of the chute, taking some paper and adhesive with it. I cleaned the brass with a paper towel and cleaning fluid and repeated the process until the chute was clean. (Avoid getting the cleaning fluid on rubber or plastic parts. Also do not use acetone, paint thinner or mineral spirits, because some solvents will make plastics brittle.) The printer started up again and completed the run of address labels. Six months later the printer is still running fine with no apparent damage. -Robert K. Newcomb

by Jim Oldfield, Jr.

CES REPORT

DARK BLUE C..BM:

CES was another success for hundreds of manufacturers, venders, and distributors of electrical equipment and accessories. It's hard to describe a Consumer Electronics Show to someone who hasn't seen one. If you can visualize a carnival, a circus, and exposition crammed wall to wall with 89,000 people, you'd be close. On with the show!

It's not by chance that Commodore leaves little room for people at their large silver, white and blue booth. Even when only Commodore people are left, it's still crowded. Ah, but where else can you rub elbows with the likes of Trameil, Goheen, Butterfield, Neil Harris, Steve Finkel and many others.

Commodore is known for the way they show their wares at consumer shows. You might call it the 'shot-gun' effect. They'll show you many items they've come up with and sit back to see which excite people. Unexciting items are usually either cancelled or delayed. Here are the winners.

NEW MODELS:

The **116**: A smaller size encloser, 16K RAM, most all the features of the two below. A 'CHICLET' style keyboard was integrated on it. A little longer than half of a VIC it looked VERY lonely amoung the VICs on display. I don't think it'll see the light of day.

The **264**: 64K RAM with 60K available to BASIC. The new 7501 processor chip runs the system. A new keyboard nearly identical to the SX-64. Screen windowing capability and text can be mixed with HI-RES graphics. A HELP key was added to 8 other function keys located above the keyboard. Color and Graphics capabilities: 128 colors, 16 primary. 320 X 200 Pixel screen. Reverse and flashing characters. It also has two tone generators, and optional software built-in.

The **364**: All the above, plus an 18-key keypad and speech capabilities. A much more likely candidate for mass marketing. Commodore announced a retail price of under $500.

MY IMPRESSIONS:

As a Commodore dealer I was underwhelmed, no matter how I looked at them. Both models are not 64 compatible (i.e., no sprites, SID chips) other than in BASIC. The ML monitor is nice, but I doubt most buyers would use it. The optional built-in software, either/or word processing, data base, spread sheet, is a great idea. However, if you think about how Commodore manufactures its products, fewer parts means faster production. I cannot visualize upper management being able to forecast the next day's production run of how many Word Processing machines, data base machines, spread sheet machines, etc. If they were to sell upgrade kits through their full service dealers for say $40, THAT would work.

NEW SOFTWARE:

The software emphasized home productivity, education, and entertainment. Educators will be excited about the **Kinder Koncepts** products and the **Micro School** Series; even the **Milliken Edufun** Series will be available for your Commodore 64. For the masses, Commodore has the **Home Teller** (working with Madison Bank in Washington D.C. right now), the **Silent Butler), Commodore 3 Plus 1, B-Graph, Commodore TeliGraphics.**

The BEST game Commodore ever released to date for the Commodore 64 is **International Soccer.** Six guys to a team, full horizontal scrolling of the 3D playing field. You can run, pass, kick, block, and even bounce the ball on your guy's head running down the field. There's half time, crowd roaring, and even a trophy ceremony for the winner! I want a re-match with Finkel after some practice.

AND THE COMPETITION...

APPLE:

Apple Computers was not around. A small booth ten feet from Commodore's was exhibiting sound synthesizers and not drawing many people.

ATARI:

As usual, Atari pushed LOTS of software running on LOTS of color monitors and 5200s and 1200s. Their new machine was around but other than AtariSoft, not much in the way of news. By the way, have you noticed the prices on AtariSoft cartridges? I can see it: 'A $58.97 VIC 20 and a $44.95 PACMAN, please'....

TI:

TI was noticably quiet. TI exhibitors looked VERY lonely. Very few people stopped to chat. In a Compute! editorial TI was praised for their efforts to support their TI 99/4A. Are these people asleep? TI announced they were allowing third party software houses to sell TI's software. Have you noticed any new ads for TI software? It must be like having a 'going away' party when everybody has already left.

COLECO:

Coleco showed the ADAM and ColecoVision. You only could play with their ColecoVision; how depressing. All the hoopla, all the hype, all the coverage in the Wall Street Journal still couldn't put them together again.

SPECTRAVIDEO:

SpectraVideo was directly behind Commodore's booth. Was it by chance? Their people put on a very professional show explaining all the virtues of their machines. They made lots of noise about the $795 SV-328 being the lowest priced CPM machine on the market. Have you priced a 64 and a CPM cartridge lately? [Is 44K and 40 columns a true CP/M? -JS]

PERIPHERALS AND SOFTWARE:

The exibitors of software and hardware add-ons were grouped in another building. HESware, Spinnaker, Electronic Arts, and EPYX even had walk-in booths. The major companies that sell Commodore software were not showing much new material. I got the distinct feeling that if you were not a multi-million dollar national distributor, they weren't willing to spend time with you (the retailer). I didn't get excited over the rest of the third party people. Cymbal Software, Cardco, and Ink Well Systems all have good stuff coming on the market soon.

The overwhelming response from smaller vendors was that they were either negotiating with or already selling to K-Marts. Some were even talking of putting in machines that could (for $5-20) dispense software on cartridge or diskette that any clerk could run, even in your local 7/11 store. "Yes ma'am, give me a cherry Slurpy and a **Blue Max** to go, thank you."

CORRESPONDENCE COMPLAINTS:

I have written to Jim and Debbie Oldfield and to Brent Anderson. To date, I have not received any reply to either letter. It's hard to say which is more frustrating--the Anderson letter, because I have wasted time and postage on 3 attempts to communicate with him, or the Oldfield letter because I no longer receive the Midnite. If they are not going to answer mail, perhaps you should publish a notice to that effect. -Robert A. Longman, Jr.

EDITOR'S REPLY: Consider it published. By now you should have been reminded to renew your subscription and obtained any back issues you wanted. Since we only send one renewal notice and wish to avoid such oversights as above, all mail labels now list the number of the last issue you will receive in the upper right-hand corner. There is no link other than friendship between Midnite and ATUG; I no longer lead ATUG in any way. -JS

KAPRI INTERNATIONAL'S ANNUAL GOLD DISK:

A gold floppy disk mounted is presented annually at CES to the best programs for business, home, word processing, utility, recreation, and education. This year the Gold Disk winners were: En-Tech's **Studio 64** music creation program for best educational program, **Disk Manipulator** for best utility, **Temple of Apshai** from Epyx for best recreational software, **Paperclip** from Batteries Included for best word processor, **Multiplan** from HESWARE for best business program, and **Complete Personal Accountant** from Futurehouse for best home program. -Matthew Stern, En-Tech

WHY DIDN'T I WAIT FOR MIDNITE REVIEWS?

I find your publication invaluable, but unfortunately don't wait for your reviews. For example, I purchased 2 copies of **Candy-Man** for the PET and 8 for the 64. After 2 months, I cancelled my order, only to have the items sent, but NONE of the 64 copies work. I tried in vain to contact Star Software of Merrick NY. [He did get some satisfaction from Star Software later. -ED]

We also took on distributorship in Canada for Tamarack Software's **GradeCalc**, based on my 8032 version and the reputation of **Vanilla PILOT**. We are now cleaning up their mess. Any word on errors would be appreciated! -Info systems Ltd., Sackville, N.B. E0A 3C0 CANADA

Quoteable Quotes

BUT WHAT'S IT GOOD FOR?

"What we are seeing, and what manufacturers are beginning to concede, is that the industry has not yet given consumers a good reason to buy a home computer."-Charles Humphrey (Computer & Software News)

ON THE AGONY OF DELETE:

When power goes off in our computer lab, the students suffer what Reader's Digest calls "the agony of delete". -adapted from Info PACC, Prescott AZ

ON APPLE REPAIRS:

"90% of the time an Apple III fails, you lift up the front cover two inches and let it drop, and that fixes it for a couple of months." -Apple repairman's advice to Debbie Peterson about her office Apple III after its third trip to the repair shop in a year.

ON BALANCED OPINIONS:

"Statements published as opinion but suggesting specific facts can be considered libelous if they omit data supporting another point of view." -quote from an article

forwarded to us by reader, Gary Stone.

[Yes, each Midnite could begin, "Any competent company can find a dozen major magazines to praise its product in a review, especially if they place large advertisements with the magazine. Thus our reviewers are obviously mistaken if they criticize such popular products, and their opinions worthless compared to those of such mainstream columnists as the one who wrote he never reviews any product unless he can praise it." -JS]

ON BUYERS' ETHICS:

"For some reason, people who are really into games are much less ethical than buyers of utility or business software." -Tim Wilson of Sirius Software

ON PROGRESS:

"Progress is a sophisticated way of stealing from your children."-unknown

ON THE FIRST PIONEERS:

America's pioneers were easy to recognize; they had arrows sticking out of their backs. -Unknown

ON QUICK AND DIRTY CODE:

"Spaghetti code has every chance of being more creative than structured programming, because it restores the primacy of imagination." The unknown author adds, "Computing as a creative activity is a response to an ill-structured problem - life." -JS

SAMPLE QUOTES FROM THE NAKED COMPUTER (reviewed in #18):

* A scientist at Hughes once inscribed 100,000 angels on the head of a pin; he says that now he could inscribe over 500 million. The original 100,000 were lost when the pin rolled into a crack in the floorboards.

* The world's fastest computer printer (45,000 lines per minute) is used for producing junk mail.

* The first computer "bug" was actually a moth that met its demise in a relay of the Mark I analyzer at Harvard. The carcass is still taped to a page in a log book at a Navy museum in Virginia.

* If the galloping advance of a major glacier thrills you, you'd be ecstatic about changes in publishing concerning computers. Arthur Clarke sent the entire manuscript of his best-selling novel 2010 from Sri Lanka to Random House on a single double-density 5-1/4 inch disk. There, due to industry inertia, and the firm grasp the printing people have on the subject, the disk was turned back into manuscript and, after copy editing, the manuscript was turned into computer tape for the Compugraphic typesetting equipment.

SO MUCH FOR ASIMOV'S 3 LAWS OF ROBOTICS

According to Infoworld, robots may soon be used as prison guards, to perform boring or dangerous chores, such as patrolling corridors at night. The robots from Denning Mobile Robotics will be bulletproof, but unarmed. When equipped with radio and TV, they could be used on suicide missions during prison riots (not as entertainment centers!). -JS

TO BE A GENERALIST OR A SPECIALIST

Pretty quick, I'll be like the generalist, knowing more about less until I know nothing about everything, and also like the specialist knowing so much about my 64 that I know everything about nothing (when you put the 6510 chip among ALL existing chips). -Richard Nelson (Commodore 64 Users Group Newsletter, Clearfield UT)

WHO'S ON FIRST?

"The microcomputer market has developed a reputation for shifting like a sand dune...but you get another perspective if you view the situation historically (however short that history may be). The fact is, the companies who were on top 3 years ago are still there. Everyone else is still scrambling to get a decent share of the market. In 1980 [as in 1978 -ED] the leaders were Tandy, Apple, and Commodore. The only company since then to take a significant portion of the market is IBM." -Wayne Green (Microcomputing)

Specialty User Groups:

ATUG REQUESTS:

Robert Longman, Jr. (see readers' comments) and Gerald Smith both wrote in this time complaining that they have sent in SASE's for the ATUG list of available programs, but not received them. It's probably wiser to not write ATUG until Brent Anderson announces he's ready to handle requests again. Although there is no connection now other than close friendship between Midnite and ATUG, both JO and I will help anyone in need of a particular ATUG program, bearing in mind that we too are very busy. -JS

UNITED STATES COMMODORE USER GROUP:

The **United States Commodore User Group** has a "black sheep pen" to list companies that have a reputation of not cooperating with customers and providing questionable programs. This month's black sheep are U.S. Technologies, Microspec & Infodesigns. -Commodore Computer Club of Toledo OH

Area User Group News and Newsletters:

CALIFORNIA:

Fresno CA. A 64 user group called **"SixtyFourum"** has been organized in Fresno. Current membership is over 120. They have a newsletter, a disk library available free to members, and plans for a Bulletin Board and a dual disk for the club. They also hope to garner interesting guest speakers for meetings. Contact is John Damiano, Secretary, P.O. Box 16098, Fresno CA 93755.

CONNECTICUT:

Secretary Linda Retter writes that a **Fairfield County Commodore User Group** is now meeting. Write her at Box 212, Danbury CT 06810 for more info.

ILLINOIS:

Glen Ellyn IL. The "Commodore 64 Users Group" of Glen Ellyn IL has dissolved. The reason given is poor health. -WIPUG newsletter

The Fox Valley Commodore Users Group. Has your computer ever won a door prize? At our next meeting, MONDAY 12-12:83, all paid members can register either their VIC, PET or 64 (one machine only) for a door prize. These will be given away by the Software Shop. The computer need not be present to win.

Macomb, IL. I called a meeting of all 64 users in the area for last Thursday. I put a small item in the local paper, and 32 people showed up plus 5 calls from ones who could not come. -Betty Kaspar, 808 Jamie Lane, Macomb IL 61455

MISSOURI:

The **Joplin Commodore Computer User Group** of Joplin MO. This group cooperatively produced the article on a working cassette interface - good work for a "new" user group. Anyone in the Joplin 4-state area can contact Dale Connely at 422 Florida Av., Joplin MO 64801 (417/624-5259 after 5 PM), for more information, or come to the Monday night meetings.

NEW JERSEY:

The **ACGNJ PET/VIC/64 user group** has 110 members, about 1/2 64's. They meet each 4th Friday. Contact is Joe Pylka, 30 Riverview Terrace, Belle Mead NJ 08502 (72345,1601). He adds that he cares for about 50 PETs in the Psychology Department at Princeton, and offers a short article with schematics of interfacing them to video monitors. [Yes, we DO want to publish it, please! -ED]

OHIO:

Commodore Computer Club Of Toledo reports: "For the time being please don't invite your friends and neighbors. Tell them we must develop some rules and you will let them know later when they may come. It is not an answer to the problem because we want to provide a club for everyone. The real answer lies in satelite groups or separate clubs in several parts of the Toledo area." A good problem to have, and fairly common among Commodore groups these days. They have also started a Bulletin Board, at 419/537-9190.

OKLAHOMA:

The Greater Oklahoma Commodore Club has been formed in Central Oklahoma. It currently consists of 3 chapters: Oklahoma City, Midwest City, and Edomond, and publishes the OK Commodore Connection. Contact is Randy Hill, 1401 N. Rockwell, Okla. City OK 73127 (405/789-3229)

PENNSYLVANIA:

The Commodore 64 Users of Central Pennsylvania, P.O. Box 76, Mt. Holly Springs, PA 17065 (717/486-3274), is, to their knowledge, the only one in the central Pennsylvania area exclusively for the Commodore 64. With over 100 families as current members, with every conceivable range of interest and expertise, they offer the usual range of club services - a newsletter (Eight Squared), programming classes, group discounts, a free "program-of-the month," etc. According to J.A. Skelton, they are working with several Commodore Pennsylvania user groups to plan a statewide conference for next fall. Good luck!

Pittsburgh Commodore Group (PCG). The Pittsburgh club counts over 300 families as members. Monthly meetings, held on Sundays, feature not only speakers and demonstrations but also a "Computer Store" where members can buy public domain software, blank diskettes, accessories, and discounted publications. Area Commodore dealers are invited to meetings to display and sell their products. PCG began as a PET club about 3 years ago.

The Westmoreland Club, according to Jim Mathers, is a spin-off of PCG and has over 150 families. He said that in western PA there is a growing interest in the use of the 64 with HAM radio. Members have built their own transmitter - receiver boards which plug into the computer so programs may be exchanged over the air.

According to their newsletter, the I.R.S. has recently ruled that user groups of only one computer brand cannot be classified as a non-profit business league.

WASHINGTON - BALTIMORE:

The Federation of Commodore User Societies (FOCUS). This newly created alliance of 16 User Groups in the Washington - Baltimore area, is a non-profit organization established to take advantage of economies of scale in helping user group members get the most out of their computers. Group purchases, a newsletter, a public domain library and a swap meet are all in the works. Representatives of additional groups interested in participating may contact Mike Spengel at 703/920-0513, or write 4301 Columbia Pike #410, Arlington VA 22204.

ADJUSTING YOUR 64's VIDEO OUTPUT & MODULATOR:

Yes, you can adjust your 64's video output and your modulator. To know which needs adjustment, first use your 64 with a monitor. If the color is good, the modulator is the problem; if not, leave the modulator alone. In either case, pop the top on the 64, by removing the 3 bottom screws and tilting up until the hooks on the other end release. Then the modulator box and a box shielding the video section will be visible on the right half of the circuit board.

To adjust the modulator, use a small nonconductive screwdriver through the holes in the top, remembering the position when you began, should you need to restore the status quo. To adjust the video, pop the top of the shield off carefully by rocking it gently back and forth. Under the shield you'll usually see two adjustable pots, sealed with colored goop. Again remembering where you began, adjust these one at a time, in small increments. One controls color; the other doesn't. Unfortunately, the adjustment wanders a bit when you put the cover back on, and again when the unit warms up, so don't adjust them unless you must. -JS

MONTGOMERY WARD TV AS ALTERNATE TV/MONITOR:

We have found the new Montgomery Ward 12" color TV with remote control and video/audio input/output jacks on the rear is a nearly perfect monitor for the 64 when used with a monitor cable. It is virtually impossible to detect any difference between the Commodore 1702 monitor and the Montgomery Ward TV set (made by Sharp of Japan) - even though it does not fully use the new 8-pin 64 monitor lines. Though list is $399, it is frequently put on sale for $299. For just a few dollars more than the 1702, one obtains outstanding video monitor quality and a remote controlled, crystal controlled TV set as well. -Max Yoder

MONITOR CABLE CHANGES:

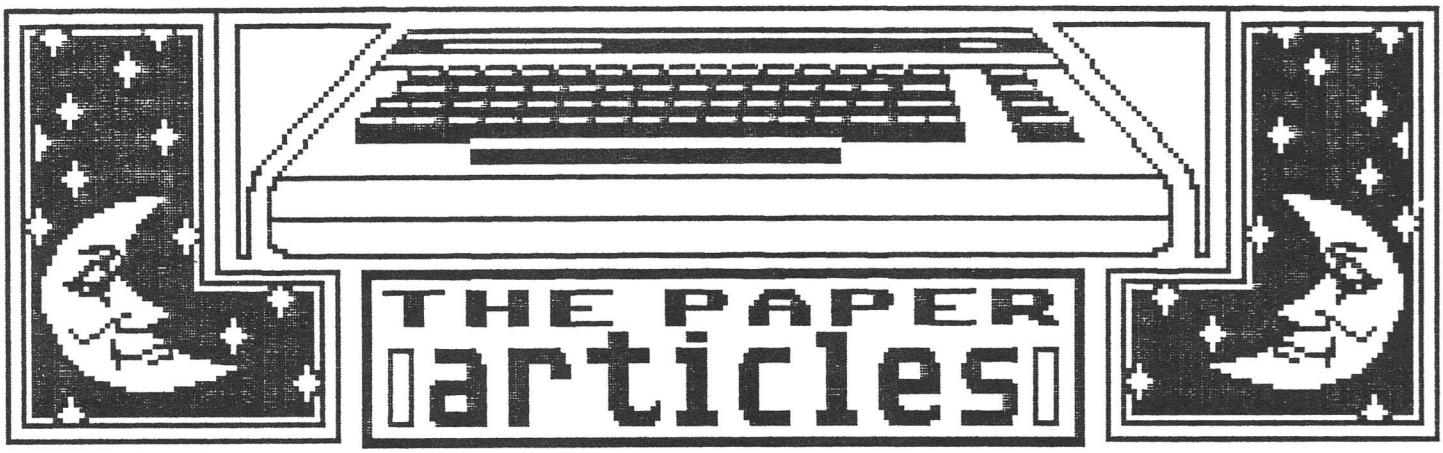
The latest version of the 64's monitor connector has 8 pins with different pin connections than earlier 8 pin connectors. The change isolates audio and video grounds, so the vertical frame rate won't inject hum into the audio. -Tom Lynch (The User Port)

SAY CHEESE:

Ever wanted to take a picture of your TV or monitor screen? Write Eastman Kodak, Dept. 841, Rochester NY 14650 and ask for their free brochure #AC-10, TV and Monitor Computer Screen Displays, enclosing S.A.S.E. I know you will like it. -Fred Jones (WCUC Newsletter)

VIDEO CASSETTE RECORDERS IMPROVE MONITOR SHARPNESS:

If you already own a video cassette recorder, you can increase the sharpness of your TV display dramatically by using the RF modulator in your VCR. To do this, all you have to do is purchase a 5-pin DIN connector, plug it into your 64's audio/visual connector, plug the video output, pins 2 and 4, to your VCR's video input, and connect your VCR to your TV. Turn everything on and you should see a much better vedeo quality. If your TV is black and white, instead of using the VIDEO output from your 64, use the LUMINANCE output, pins 1 and 2. -The Hacker Rag



Feature Article:
MIDNITE MUSINGS

FOR WHAT MARKET IS COMMODORE DESIGNING COMPUTERS?

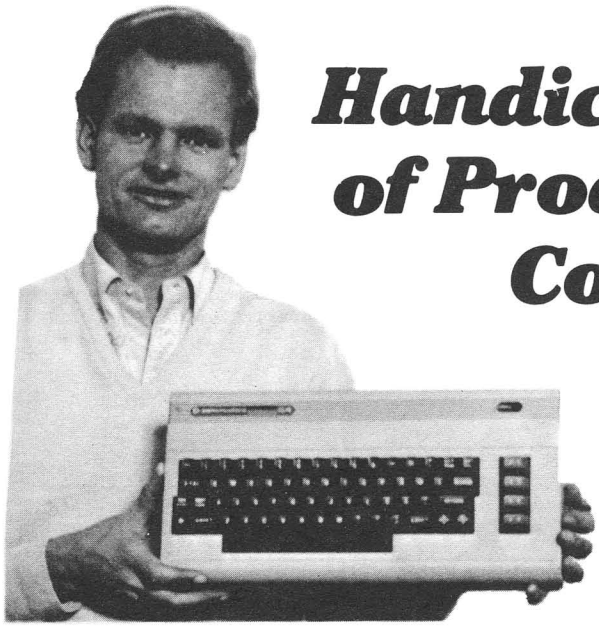
by Elizabeth A. Kaspar

This was the Christmas of the Computer, according to Business Week (Dec. 19, '83). "From 3 to 5 million home computers - worth more than $1.7 billion - will be sold by the end of 1983. And as many as 2 million home machines ... will be sold during the holidays." The problem, however, was meeting the demand. Most home computer makers were cautious in planning Christmas production, fearing that customers would be scared away by the Texas Instrument, Inc. decision in October to withdraw production of the TI 99, and thinking many people would wait till January to see the IBM PC Jr. before buying. So when these fears proved groundless, most companies were caught with their production down.

Commodore was better able to meet the demand than any of its competitors; more 64 CPUs were available than other brands, even if the disk drives were not. Former Commodore president Jack Tramiel told Business Week that only 60% of the demand for 64s could be met for Christmas. Business Week was more optimistic, however, concluding, "The shortage of home computers should make Commodore a big winner this Christmas. Since the company is in the best position of any maker of home models to deliver its Commodore 64 and older VIC 20 computers, it is expected to grab 45% of the Christmas market share."

EDUCATIONAL MARKET?

School sales of computers until now have been primarily Apple since nearly all educational software was for Apple. But major software producers obviously are now rushing to translate their programs for the 64. Added impetus is sure to come from the feature article on choosing the best school computer in the January issue of Electronic Learning. Written by 5 experts, the article states the right computer is the one that best serves your objectives, then lists ten major objectives and recommends appropriate machines for each. Of the ten, the 64 is recommended for six: computer literacy, programming in LOGO, computer assisted instruction, teaching art and music, special needs or special education, and telecommunications. As Dr. Stanley Pogrow says, "Why get a very expensive computer to do the same thing that a Commodore 64 can do?" Those areas for which the 64 is not recommended, primarily because of a lack of software, are: programming in Pascal (now available), teaching real world applications (they do not view the 64 as a business machine), administrative functions (keeping school records, attendance, etc.), and library management. Commodore now has the machine, the price, and finally, the software to surpass Apple in the education market. Amazingly, however, they are not aggressively pursuing this advantage, but instead seem to be concentrating more on the difficult business market against competitors who offer more of what business wants.

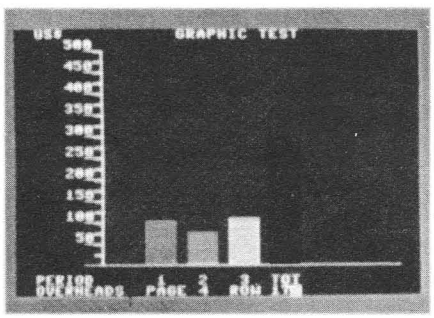


Handic—A Complete Line of Products to Keep Your Commodore 64 Busy—Everyday!

Commodore 64 is a registered trademark of Commodore Electronics, Ltd.

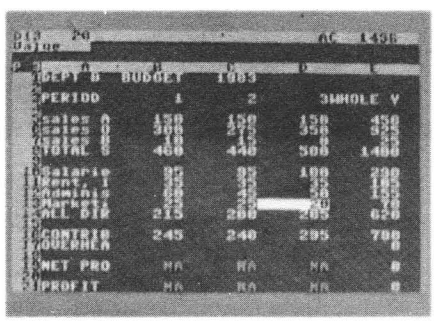
Handle your home budget, stock portfolio, loans and mortgages with Calc Result

Calc Result Easy is a simple-to-use spreadsheet program for the Commodore 64. It includes 254 lines × 64 columns, built-in graphics, and flexible printout formats. Plug-in cartridge... just plug it in and its ready. Perfect for cash flow analysis, personal net worth, IRA analysis, travel expenses, credit card expenditures, gas and electricity bills, etc.



Calc Result Easy $49.95

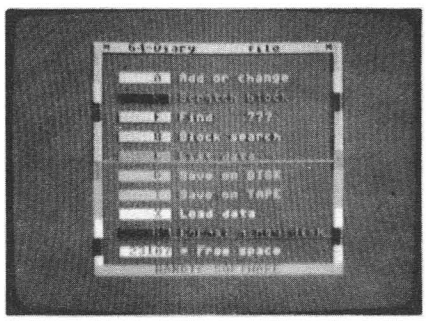
Calc Result Advanced gives you 32 pages of interrelated information. The three-dimensional feature allows you to consolidate calculations in summary format. Calc Result Advanced comes on plug-in cartridge and disk. Disk drive required.



Calc Result Advanced $99.95

A complete database for the home

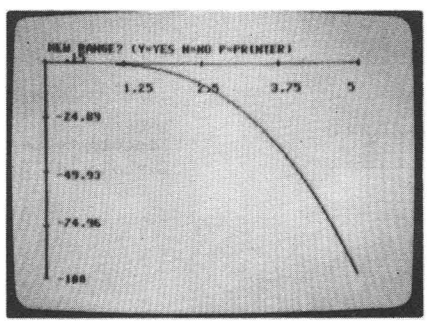
Addresses, telephone numbers, appointments, birthdays, or records–whatever you want to remember–put in on DIARY, an electronic notebook for home use. DIARY comes on a plug-in cartridge. Its easy to use and easy to learn, giving you the flexibility to design a personal calendar or address book.



Diary $29.95

Turn statistical information into graphic format

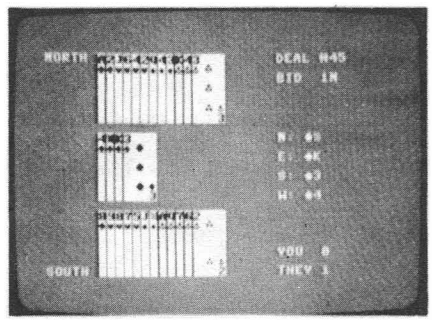
GRAF 64 converts mathematical functions into graphical analysis on the Commodore 64. An ideal program for studying math. Define a function, set the limits of an axis, plot a graph and display the extreme points, intersection values, etc.



Graf 64 $29.95

Develop your bridge skills

Whether you're an experienced bridge player or a beginner, polish your skills or learn the game with BRIDGE 64. Play North-South, then switch to East-West in the same deal, the return to that deal again and test your skill with a different strategy.



Bridge $39.95

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As the largest independent developer of Commodore software and accessories, Handic's broad range of business, education and recreation products are designed exclusively for the Commodore user who demands quality and reliability.

For more information and a catalogue of our products, see your nearest Commodore dealer, or call us direct.

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LEARN FROM JIM BUTTERFIELD AND OTHER COMMODORE EXPERTS

LINCOLN COLLEGE
LINCOLN, ILLINOIS

July 8 - July 13
1984

The Lincoln College Commodore Computer Camp is designed for anyone wanting hands-on training on Commodore Computers, including the Commodore 64, VIC 20, PET, CBM, Super PET, and new models. The workshop is primarily for persons with some background and experience on Commodore machines.

Enrollment in the camp will be limited to the first 75 applicants.

LOCATION

Lincoln College is a private two-year liberal arts college located in the heart of Central Illinois. The City of Lincoln is served by Amtrak from both Chicago and St. Louis, as well as Greyhound Bus Lines. The Prairieland Shuttle operates regular commuter bus service between Chicago's O'Hare Airport and nearby Bloomington, Illinois. Interstate 55 passes through Lincoln, providing easy access by car. Several motels and campgrounds are within a short driving distance from the college.
Lincoln College vans will meet all Amtrak arrivals in Lincoln on Sunday, July 8, 1984. Pick-up service from the Prairieland Shuttle will be provided upon advance request.

WORKSHOP COSTS

Tuition
- Regular student - $250
- Central Illinois PET User Group (CIPUG) member - $200
- Evening programs only - $50

Room (On-campus housing) (Optional)
- $10 per person per night

Meals (Optional)
- Advance Package Price (Payment with registration)
  - Full (16) meal plan - $40.00
    (5 breakfast, 5 lunch, and 6 dinner)
  - Evening (6) meal only plan-$22.50
- Regular Door Price
  - Breakfast - $2.05
  - Lunch - $3.05
  - Dinner - $4.10

Computer Rental (Optional)
- $50 per system
- A system will consist of a Commodore 64 or VIC 20, monitor, and single disk drive. Individual printers will not be provided with the system.
- The number of rental systems may be limited. Consequently, anyone planning to rent a system must notify Lincoln College by May 1, 1984.

WORKSHOP SCHEDULE

Sunday, July 8, 1984
- Registration: 1:00-9:00 p.m.-Harts Science Building
- Evening Meal: 5:00-6:00-Lincoln College Dining Hall
- Evening Program: 7:00 - Johnston Center

Monday, July 9 - Friday, July 13, 1984
- Breakfast Served: 7:30- 9:00
- Morning Class: 9:00-11:30
- Lunch Break: 11:30- 1:00
- Afternoon Class: 1:00- 3:30
- Free Time: 3:30- 7:00
- Dinner Served: 5:00- 6:00
- Evening Program: 7:00
- Early Checkout (Friday, July 13): 3:00-9:00

Saturday, July 14, 1984
- Checkout: 6:00 a.m. - 12:00 noon

Please Print or Type — REGISTRATION FORM

Name_____

Address_____

I wish to take the following courses:

MORNING	AFTERNOON
_____	_____
Alternate Choices	Alternate Choices
1)_____	1)_____
2)_____	2)_____
3)_____	3)_____

PROJECTED FEES:

Tuition.....$_____

Room.....$_____

Meals.....$_____

System Rental.....$_____

Less Total Deposit Enclosed .....$_____
(Minimum $150 due by May 1, 1984)

BALANCE DUE ON ARRIVAL.....$_____

Return Registration Form To:

1984 Commodore Computer Camp
Continuing Education and Special Programs Office
Lincoln College
Lincoln, IL 62656

Phone: (217) 732-3155

WORKSHOP COURSES

Listed below are the tentative course offerings and probable instructors for the 1984 workshop. Participants will be able to take one course during the morning session, and a second during the afternoon session.

MY COMPUTER LIKES ME WHEN I SPEAK TO IT IN BASIC. Instructor: Dick Immers (Morning course)
For those who can "read" BASIC enough to understand some of what is going on, but cannot "speak" it. Familiarization with the words your computer understands, and how it uses them. Hands-on experience designing 20-100 line programs.

BASIC WITH STYLE. Instructor: Debra Landre (Morning course)
Covers the proper use of loops, data structures, string and other functions, arrays, searches, sorts, forms, peeks and pokes. The emphasis is on structured programming, with grace and style.

BEGINNING 6502 MACHINE LANGUAGE. Instructor: Jim Butterfield (Morning course)
"Inside and Beyond BASIC." How to program Commodore's computers at the machine level. Shows use and benefits of small machine language routines. Hands-on experience using popular extended machine language monitors to study, write and debug object level programs. Introduces binary and hex number systems, and the Commodore operating system. Prerequisite: Familiarity with some computer language such as BASIC.

6502 ASSEMBLY LANGUAGE PROGRAMMING. Instructor: Jim Strasma (Morning course)
"Intermediate 6502". Designed for those who know something about machine language, but don't know how to use a full featured assembler. Will provide hands-on experience, using an excellent assembler to easily write programs that would be difficult at best without it. Also covers the use of an "unassembler" to convert machine-language programs back into understandable assembler source code. Prerequisite: Familiar with 6502 instruction set and uses of machine language monitors.

ADVANCED 6502 ASSEMBLY LANGUAGE PROGRAMMING. Instructor: To be arranged (Morning course)
Covers advanced uses of assemblers, including conditional assembly, use of macro-assemblers and library filed, tables data structures and software protection methods. Prerequisite: Experience in assembly language programming.

FORMATTING PRINTER OUTPUT. Instructor: Loren Wright (Morning course)
Hands on experience with different printers and interfaces, developing various printed forms and formatting data properly on them. Will also cover sending computer graphics to various printers.

HARDWARE HACKER. Instructor: Jim Tucker (Morning course)
How to maintain and improve your computer equipment. Covers proper use of a soldering iron, bug-fixes, replacing ROMs with EPROMs, adding memory, reset switches and other accessories, and interfacing "alien" equipment. Prerequisite: Willingness to void your warranty.

HARDWARE/SOFTWARE COURSE. Instructor: J. Dellow (Afternoon course)
What to look for in buying peripherals and software packages. Factors to consider in choosing such equipment as monitors, modems, disks and printers. How to locate and evaluate software packages, including word processors, data managers, financial programs, educational packages, games, and utilities from both commercial and non-commercial sources.

INTRODUCTION TO DISK FILES. Instructor: Debra Landre (Afternoon course)
Explains the proper use of Commodore's disks to store programs and data, including disk commands and sequential, relative and random file-handling. Also, investigates utility programs to repair or copy damaged diskettes.

ADVANCED DISK HANDLING (DOS 2.5+) Instructor: Dick Immers (Afternoon course)
Hands-on experience learning to read and write desired information to and from any byte on the diskette surface and in internal disk memory. Includes use of Disk Utility commands and the internal workings of DOS.

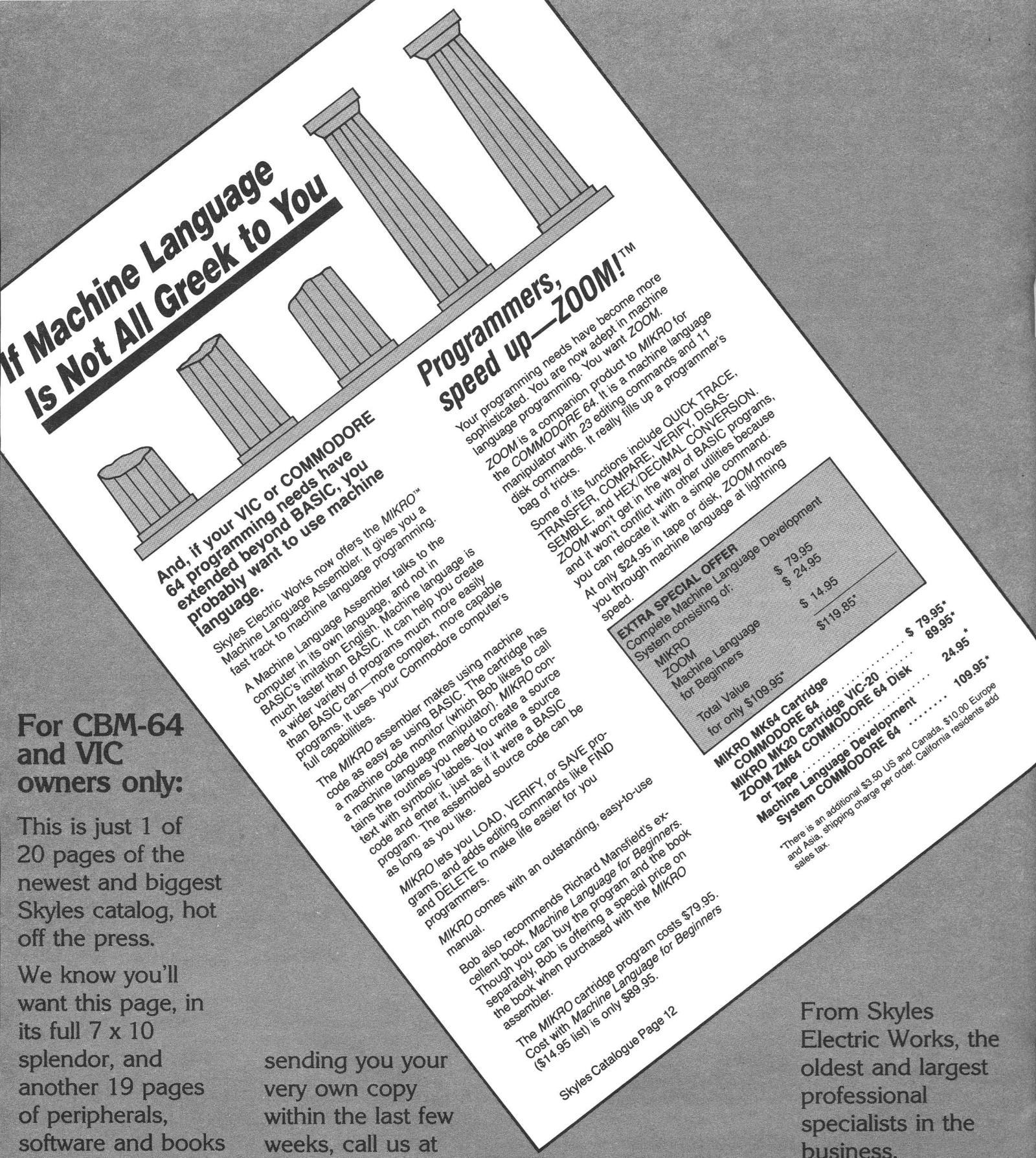
ADVANCED DISK HANDLING (DOS 2.1-) Instructor: Jim Strasma (Afternoon course)
Hands-on experience learning to read and write desired information to and from any byte on the diskette surface and in internal disk memory. Includes use of Disk Utility commands and the internal workings of DOS.

INTRODUCTION TO 64 SOUND AND GRAPHICS. Instructor: Jim Butterfield (Afternoon course)
Uses popular graphics design aids (sprite and character editors) to design effective graphic displays. May include use of voice synthesizers if interest indicates.

ADVANCED 64 GRAPHICS. Instructor: Loren Wright (Afternoon course)
Learn to use high-resolution multi-color displays and animation with interaction between objects, controlled from BASIC and machine language.

EVENING PROGRAMS.
Each evening, Sunday through Friday, there will be a special presentation by one of the Commodore experts. Among those scheduled to present programs are Jim Butterfield, Keith Peterson, Len Lindsay, Dick Immers, Loren Wright, and Jim Strasma.

A special opportunity available between 9:00 and midnight each evening will be access to Compuserve and Commodore bulletin boards. A lab fee for phone and network use will be assessed on checkout.



For CBM-64 and VIC owners only:

This is just 1 of 20 pages of the newest and biggest Skyles catalog, hot off the press.

We know you'll want this page, in its full 7 x 10 splendor, and another 19 pages of peripherals, software and books that will make your CBM-64 or VIC computer even nicer to live with. So, if we missed sending you your very own copy within the last few weeks, call us at **(800) 227-9998 (unless you live in California, in which case call (415) 965-1735.**

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BUSINESS MARKET?

Despite Commodore's recent full-color, double-page ads in the major business magazines, proclaiming the 64 as the ideal business machine, few are buying the idea. A major drawback is the 64's limit of 40 columns. In word processing, no one wants the hassle of not seeing text as it actually will be printed. True, an 80 column attachments and word processors giving 80 columns via software are now available. If Commodore seriously viewed the 64 as a business machine, one priority would have been to sell a true 80 column converter (the 80 column card was what put Apple's in the business market).

Commodore, furthermore, is naive to think that any business will buy equipment without strong support services; can you see K-Mart sending out a service rep? When Commodore decided to mass market the 64 through discount and catalog stores, it signed its own fate as a home rather than a business machine, even though the 64 offers as much or more capability as Apple at a fraction of the cost. Business willingly pays more for equipment to get support and training services. Both Apple and IBM emphasize support in their ads.

The 64's low price also has misled people into assuming it is just a game machine. Business Week, for example, repeatedly defines business computers as those costing more than $1000; in the articles on the competition among business computers, Commodore is never mentioned, though Apple is. The February issue of Consumer Reports classifies the 64 with the Atari 600XL, the Coleco Adam, and the TRS-80 Color 2 in its discussion of word processors, while putting Apple and the IBM PC in another category for a later issue.

Is it too late for Commodore to market the 64 as a business machine? Yes and no! Were they to redesign the case so the CPU, disk drive and monitor are one unit and include a word processor, spread sheet, and graphics program, add an 80 column converter, and call it the Business 64, it could still be sold below the Apple or IBM PC and easily capture second place in the market. Better yet, they could add more K while remaining compatible with the present 64, because compatibility of newer models with old is important in building long term customer relations; if ignored, trust will decrease and ultimately, sales, which Tandy discovered several models ago. A totally new machine is not the answer.

DEALER SUPPORT?

In addition, any business computer would have to be sold through computer dealers with strong support TO them as well as BY them to their customers. Michael Forster, Director of Merchandise Management for IBM's National Marketing Division, recently told The American Marketing Association in Atlanta that a survey of business people indicated their top priorities in purchasing computers were: a place to examine the computer at length, and support services at ALL times. With the number of Commodore dealers dwindling over the last year because they are so undersold by discount stores, stores offering little or no help, how can anyone believe that Commodore really wishes to serve business?

Meanwhile, Apple is still holds 24.5% of the business market in spite of its over-priced machines; IBM is in first place, of course, with 35.5% of the market share. The 64 might have taken second place had it been marketed as well as it was designed!

WHAT MAKES A SUCCESSFUL COMPANY?

It has been my experience as a psychology consultant to business and industry that those companies founded and run by brilliant engineers with brilliant inventions often succeed for a while in spite of themselves, in spite of their poor marketing, their poor organizational relationships and their attitude that only product and profit matter. But even with the best products, they eventually flounder because they lack the ingredients that create a dedicated, loyal work force and dealer network, which, in turn, create contented, loyal customers. Peters and Waterman make this point repeatedly in their bestseller, In Search of Excellence: Lessons from America's Best Run Companies. IBM is named as one of the best, with many examples demonstrating IBM's committment to both dealers and customers. Wake up Commodore, and make this book required reading for your personnel if you intend to compete with Apple and IBM, especially in the business market!

Predictions are that microcomputer sales will rise from 5 billion dollars in 1983 to 7.5 billion in 1984, and Commodore has the potential to be among those at the top - their machines are excellent - but only time will tell if their managerial and marketing decisions can begin to equal the quality of their products.

CODING FOR SPEED

by Art Klinger

The way you handle loops, strings, numbers, and character strings will affect the execution speed of programs. Games and certain data or file handling routines particularly need "tight coding" (careful attention to how the machine internally interprets and executes programs), to avoid delays. For example, program execution will be faster if often-used constants, such as 352, are first assigned to a variable (A=352) and the variable (A) used. When the machine interprets a statement, like the loop 'FOR I=1 to 1000:IF M=352 THEN 300', it must translate the decimal number 352 into binary during each loop execution, to perform the comparison. In the equivalent loop 'A=352:FOR I=1 to 1000:IF M=A THEN...', the machine merely tests the binary assignment A=352. A binary compare is far simpler and faster than changing a number from base 10 to base 2 beforehand.

The PET's internal clock timed 1000 loop executions of the instructions in the following examples. Note that although a set of routines may do the same thing, the execution time may vary considerably.

CASE 1: Comparison of a "FOR-NEXT" loop with a "I=I+1:IF I=X THEN" loop:

```
10 t=ti                                10 t=ti
20 for i=0 to 1000:next                20 i=i+1:if i<1000 then 20
30 print (t-ti)/60                     30 print (t-ti)/60
run                                    run
 1.08333333 seconds                     9.36666667 seconds
```

CASE 2: Putting the NEXT or GOTO on a separate line:

```
10 t=ti                                10 t=ti
20 for i=0 to 1000                     20 i=i+1:if i>999 then 30
25 next                                25 goto 20
30 print (t-ti)/60                     30 print (t-ti)/60
run                                    run
 1.11666667                             8.95000000
```

CASE 3: Checking directly for a specific CHARACTER STRING vs. checking for a STRING VARIABLE with the same character string. (Nothing can follow a THEN statement with a PET):

```
10 t=ti                                10 t=ti:g$=chr$(34)
20 fori=0to1000                        20 fori=0to1000
30 if x$ <> chr$(34) then              30 if x$ <> g$ then
40 next                                40 next
50 print(t-ti)/60                      50 print(t-ti)/60
run                                    run
 6.73333333                             3.91666666
```

CASE 4: In many cases, we can check if a variable has a value other than zero or a null (nothing) string, rather than check for a particular value or alphanumeric. The following checks to see if A$ has value (not a "null") against a check to see if A$ is equal to the letter "B". Then both are compared to see if A$ equals CHR$(66) - another way of saying "B". We see a further slowdown if we check that A$ DOES NOT equal CHR$(66), instead of seeing if A$ DOES EQUAL CHR$(66).

```
10 t=ti                                10 t=ti
20 fori=0to1000                        20 fori=oto1000
30 if a$ then                          30 if a$="b" then
40 next                                40 next
50 print (ti-t)/60                     50 print (ti-t)/60
run                                    run
 2.08333333                             3.46666667
```

```
10 t=ti                                  10 t=ti
20 fori=0to1000                          20 fori=0to1000
30 if a$=chr$(66)                        30 ifa$<>chr$(66)
40 next                                  40 next
50 print(ti-t)/60                        50 print(ti-t)/60
run                                      run
 6.23333333                               6.48333333
```

PET takes slightly longer to decide on the value of a NUMERIC variable. If line 30 of the first 2 routines are changed to IF A THEN and IF A=5 THEN, the times increase slightly to 2.15333333 and 3.81666667.

CASE 5: Commodore BASIC doesn't care if you insert or omit spaces between words or statements. Or does it? Omitting all spaces can save SOME time, as well as memory space:

```
10 t=ti:b$="zap"                         10 t=ti : b$ * "zapp"
20 fori=0to1000                          20 for i = 0 to 1000
30 ifa<>5andb$="zag"then                 30 if a <> 5 and b$ = "zag" then
40 a=12:b=6:c=int(125/a*b):geta$          40 a = 12 : b = 6 : c = int (125 / a * b ) : get a$
50 next                                  50 next
60 print(ti-t)/60                        60 print (ti-t)/60
run                                      run
 25.2166667                               25.8833333
```

Omitting spaces saved more memory than it did time. Further compressing the left routine, by including more than one statement on each line, shaved the time by only 0.1 second, to 25.1166667 seconds.

CASE 6: In PRINTing a mixture of literals and variables, Commodore BASIC does NOT require semicolons be inserted as separators or "delimiters." This saves program memory, but does it save execution time? This example suggests a negligible difference, and shows that printing to the screen is a very slow operation compared to most internal operations:

```
10 t=ti                                  10 t=ti
20 fori=0to1000                          20 fori=0to1000
30 printtab(0)"a"b"c"d"e"f"g"i"          30 printtab(0);"a";b;"c";d;"e";f;"g";h;"i"
40 next                                  40 next
50 print(ti-t)/60                        50 print(ti-t)/60
run                                      run
99.7166667                               99.7166667
```

CASE 7: Some say programs will run faster if assigned variables are substituted for numeric constants, but this is apparently not true for all operations:

```
10 t=ti                                  10 t=ti:a=0:b=1000
20 fori=0to1000                          20 fori=atob
30 next                                  30 next
40 print(ti-t)/60                        40 print(ti-t)/60
run                                      run
 1.10000000                               1.10000000

10 t=ti:i=0:b=1000                       10 t=ti:i=0:b=1000
20 i=i+1                                 20 i=i+1
30 ifi<10000then20                       30 ifi<bthen20
40 print(ti-t)/60                        40 print(ti-t)/60
run                                      run
 9.35000000                               6.06666667
```

We also used a few simple loops to compare execution speed of PET 2001 (3.0 BASIC), a CBM 8032 (4.0 BASIC), and a 64 (BASIC V.2). All executed at about the same speed. If you know your machine, you can choose your methods for the fastest and most compact form of coding. -Reprinted from Commodore Newcomer's Newsletter #5

FIRST TIME USERS: JUST A LITTLE HELP

by Joe Allain

If you've just bought your first computer, here is some useful information to make your first days with the machine a bit easier and more satisfying. Most hints are in your User's Guide, but few of us really understand, or even find them the first time we read it. And remember to HAVE PATIENCE WITH YOURSELF! You're learrning something entirely new!

GET A COLOR MONITOR:

If you intend to use your computer for a long time, consider buying a color monitor (particularly Commodore's 1702), instead of using your TV. In value for dollar spent, it may be the best and cheapest color monitor around (about $250 vs. $350 for others), and much easier on your eyes (especially for extended use) because the picture is much sharper. However, most monitors cannot be used as a TV; plan to use them only with your computer.

SHORTCUTS FOR LOADING PROGRAMS FROM CASSETTE:

Shortcut #1: When loading your programs from cassette, hit SHIFT plus RUN. This will load AND run your program. However, if you don't want your program to run immediately, use the "LOAD" command only.

Shortcut #2 (for cassettes holding many programs): If you have a cassette tape player (NOT THE DATASETTE), listen as you play a tape. You'll hear a short buzz, some dead space, then a long buzz, then some dead space. This pattern will repeat for each program you have on the tape. The short buzz is the marker to tell the computer a program is coming up, and the name of the program. The first dead space tells your computer the marker message is finished. Then comes the long buzz, for the program; the longer the buzz, the longer the program. A second dead space is the "no more program" message. For instance, you could que up the sixth program by stopping the tape after the fifth long buzz. If you get into the sixth short buzz, back up a bit, because the computer needs it as a marker. This method beats watching every message come on the screen and waiting for the next.

CHANGING SCREEN COLORS:

1. If the text (the letters and numbers) is too difficult to read on your screen, hold CTRL down as you hit a number from 1 to 8. If it's still hard to read, release the CTRL key, hold down the C= key and hit a number from 1 to 8 until you find a readable color. The letters that were already on the screen won't turn colors - only the cursor (that little blinking square) and any letters you type afterwards will be changed.
2. The background and border colors (the huge square and the color around the edge) can make it difficult to look at the screen for very long. Change the color of the border with "POKE 53280,x" where x is a number from 0 to 15. To change the background color, type "POKE 53281,x" where x is a number from 1 to 15.

USE THE ABBREVIATIONS FOR BASIC COMMANDS:

Most BASIC keywords have 2- or 3-letter abbreviations. For instance, when you want to VERIFY a program, just type "V[shift E]". The one you'll use the most is a question mark, for PRINT. Using abbreviated keywords lets you put more than 80 characters in a line, because the computer always prints the keyword in full when you LIST your program.

USE THE REM COMMAND LIBERALLY:

Use the REM command freely when programming. Since it is ignored by the computer, you can use REMs as memos to remind yourself what the program is about, where it came from (when your program won't work!), labeling an algorithm (a formula that uses the symbols +,-,*,/,(,) and UP ARROW - in various combinations), as well as announce what you've accomplished! When you put the program away until another day, you're going to wonder why you wrote that line! (Some poor programmers have even been known to write the whole program over again because they can't remember what they wrote or why they wrote it!)

PET PERSONAL COMPUTER GUIDE ERRATA

compiled by Ellen Strasma

Our thanks go to Keith Peterson, formerly of Commodore, Bob Baker of Baker Enterprises, Alan Ackerman of Image Software, Clark Stewart of COPUG, Max Taylor of PAPUG/CIPUG, and all who called us with corrections to the CBM or PET Guides.

PAGE	CORRECTIONS TO THE PET PERSONAL COMPUTER GUIDE
2	The second line of the listing should read: [space]7167 BYTES FREE
3	The second line of the first listing should read: [space]15359 bytes free
11	In Figure 1-7, Add labels for the SuperPET memory protect switch and SuperPET processor select switch on the left side of the computer chassis.
23	In Figure 1-12, change the words "second" to "the", and "unit" to "drive."
35	The last sentence of the second paragraph should read: "The CBM 8023P uses both tractor and friction feed."
51	The first 2 examples should be switched. Line 17 should read: "n is a number or numeric equation".
53	In Table 2-1, the symbols in the fourth column should be changed to: Cursor Down.....[rvs Q] Cursor Up.....[rvs solid ball] Cursor Right.....[rvs right bracket] Cursor Left.....[rvs vertical line in column 4]
54	Line 20 of the bottom listing should read: 20 : print "a";.
59	Change third line from bottom to read: Press RECORD and PLAY keys on cassette 1.
69	In line 14, change disk drive number "2" to the number "1." After the illustration "verify"*",8", add sentence: (In this case, the disk drive activity light stays off.)
71	The LIST statement illustration should read: OPEN 1,4:CMD 4:LIST. In the next example, line 20 should read: 20 : PRINT "A"; and line 30 should read: 30 NEXT.
72	In second line (last illustration), add a long, left-pointing arrow, followed by: (Note that this statement does NOT end with a semi-colon)
78	The last sentence should end: "then move the cursor right to the...".
85	In the first listing, the answer is: 6.2831853 (leave off the "1").
87	Step 3 should read: Type in the seven characters C$="W": Step 4 should read: CURSOR RIGHT 16 times to the first quotation mark.
96	The second sentence should read: "Therefore, BANANA and BARTER are...". The last two lines of the next illustration should read: ABCDE% interpreted as AB% and CABBAGE interpreted as CA.
97	In the first blank line in column 4 of Table 4-2 (Reserved Words), add: GET # **. Eliminate the word TIME in line 16 of column 10. Add the sentence: The arithmetic operators +,-,*,/,[up arrow],<,>, and = are also tokens.
98	The next to last line should read: the first and second examples are....
99	The first line following the third example should read: The second example, A/B, can duplicate the first example....
101	In Table 4-4, correct the third line to: 0 AND 1=0. Add sentence at the bottom of the chart: Note: Commodore uses -1 as true.
102	The third paragraph-sentence should read 'string operands like A$ and B$.'
109	Line 200 of the second and third listings should have only one space between SHOPPING and LIST, putting LIST directly under the 2 in 200. In line 90 of the next to last listing, the words FOR LATER USE should start directly under the 9 in 90.
110	In line 90 of listing 1, the word CHAPTER should be directly under the 9 in 90. The last sentence in para. 4 should end with: D = 16 x 10^6 or D = 16 x 1E6.

PAGE CORRECTIONS TO THE PET PERSONAL COMPUTER GUIDE

115 In the third listing, line 30 should read: 30 : A(0)=0.
The last page line should read: "...100 elements of A(I) with values...".

122 Line 40 of the first listing should read: 40 IF CC$<>"M" THEN IN=0.

126 The last listing should read: 10 INPUT A$,A%,A, and 20 ?A$,A%,A.

127 Change listing to:
10 REM ASK GENDER OF USER
20 INPUT"SEX ([rvs on]M[rvs off]ALE, [rvs on]F[rvs off]EMALE OR [rvs on]X[rvs off] IF UNKNOWN F[3 cursor lefts]";SX$
30 IF SX$<>"M" AND SX$<>"F" AND SX$<>"X"THEN PRINT"TRY AGAIN[2 cursor downs]":GOTO20
40 PRINT "THANK YOU"

129 Change the second sentence of the fifth paragraph to read: (This strange upper limit is, in fact, 2^8 -1.)

133 Change the second illustration (of String Functions) to match the CBM Guide illustrations on page 139. Should include definitions for:
STR$=Converts a number to its equivalent string of text characters.
VAL=Converts a string of text characters to their equivalent number (if possible)
CHR$=Converts an 8-bit binary code to its equivalent ASCII character.
ASC=Converts an ASCII characters to its 8-bit binary equivalent.
LEN=Returns the number of characters contained in a text string.
LEFT$=Extracts the left part of a text string. Function arguments identify the string and its left part.
RIGHT$=Extracts the right part of aa text string. Function arguments identify the string and its right part.
MID$=Extracts the middle section of a text string. Function arguments identify the string and the required mid part.

140 Line 25 of the second listing should read: 25 N$=STR$(-1*3.14159265)

142 Line 50 of the listing should read: 50 W$=MID$(T$,2)+MID$(Q$,2)

144 The laast text line should read: "...ending index to 267 (800/3."

146 TO index in middle of page should be 4*20=80

148 Line 20 of third example from bottom of page should end with a semicolon.
Line 30 of same example should eliminate the semicolon at the end.

152 Move the lines "MY PET BITES" and "READY." in the first example to replace the line "MY PET BITES" just below. In the line between, change "the above program" to "the last line above". In the next text line, change '...the words MY and PET, to '...the words PET and BITES,'. In the next line, "column 4" should be "column 7"

155 Third line in last example should read: "A is a number between 0 and 999

162 Eliminate line 2030 in first listing. In second listing, change line number 2005 to 2000 and correct line 3010 to read: 3010 GOSUB 2010

163 In line 2, change "subroutine 3000" to "subroutine 3500"
In line 11, delete reference to lines "250, 260,"

165 In Figure 5-2, add a semicolon to the end of lines 70 and 170.

166 Line 7 should read: "...lines 60, 160, 230,1015, and 1035..."

172 Line 360 in next-to-last listing should read: 360 :IF I>MAX THEN 500

174 In Figure 5-4, lines 1000-1150 should be added (as printed at the bottom of 173 and top of 174).

178 Line 30 of last listing should read: 30 BLANK$="":REM 16 SPACES

180 Last line of example 3 should read: B = VAL(MID$(B$,5,1))...

185 Correct line 1002 in second listing to: 1002 F=Y/2:IF X>Y THEN F=X/2
In fourth listing, replace line 1006: 1006 IF F>INT(F) THEN F=INT(F+.5001)

206 The second POKE (for 9-inch displays) should be 59468,12 (not 49568,12).

207 In Figure 5-7, line 1002 should read: F=Y/2:IF X>Y THEN F=X/2.

218 In examples, arrows on all horizontal lines point to the right, and arrows on all vertical arrows point down.

PAGE CORRECTIONS TO THE PET PERSONAL COMPUTER GUIDE

221 In the top box, the line "Jiffy = 1" should read Second = 1.

222 The first listing should be changed to:

```
5 REM **RUNNING CLOCKS**
10 PRINT CHR$(147);"REAL TIME:  ":PRINT:PRINT "JIFFY TIME:  "
15 A=TI
20 FOR I=1 TO 235959
30 : PRINT CHR$(19);TAB(13);TIME$
40 : FOR J=1 TO 60 STEP 2
50 : : PRINT:PRINT CHR$(19);CHR$(17);CHR$(17);TAB(12);TI
60 : NEXT
70 NEXT
```

243 Line 5 under CASSETTE FILES should read: "end-of-file mark follows each file."

248 The first sentence of the last paragraph should read, "Next, we set up a FOR-NEXT loop to display the numbers 1 through 10..."

267 Line 100 of listing should read: 100 PRINT J

278 Last line of example 1 should read: "Therefore, the first file encountered..."

281 Line 50 of the second listing should read: 50 OPEN 1,8,7,"1:"+M$"+",W".

282 Line 20 of second example should read: 20 IF DS <> 0 THEN PRINT "ERROR":STOP

283 Line 10 of third example should read: 10 OPEN 15,8,15

287 Reverse explanations in second example:

```
COLLECT      Collect diskettes on both drives
COLLECT D0   Collect the diskette in drive 0
```

295 Replace all commas in line 80 of example 1 with semicolons EXCEPT THE FIRST: 80 PRINT#1,R;C$;F;C$,(R-1)*100+F

296 In Figure 6-15, correct line 30: ..." STATE: "," ZIP: "
Add missing lines 425-999 from page 272 in CBM Guide.

297 Eliminate the quotation mark in line 170 of Figure 6-16.

298 Delete first paragraph and listing after "Using GET# with Sequential Data Files." Begin next paragraph as, You can modify line 390 by substituting...

303 Line 20 of listing should read: DOPEN#1,"TESTDATA",L50

314 Line 2660 of first listing should end with a semicolon: 2660 PRINT#1,G$;

322 In last example, first two sections (where Format Specification" starts wih an "s"), a "plus" sign MUST precede each number under "Printed Result" (6 numbers: 4 with pluses and 2 with minuses).

335 Add note below the last listing: (On the 2022 Printer, line 20 should read: 20 pR6,18).

341 Eliminate fourth line of second example ("TEXT. NOTE...")

357 In last example, add a "b" with a line through it below the number 32 that is between the two down arrows, and above THEN PRINT

358 In paragraph 5, "Figure 8-3" should be "Figure 8-2".

360 In paragraph 3, sentence 4, reverse the references to "decremented (make smaller)" and "incremented (make larger)."

362 In the first chart, reverse the "+" and "=" in the first line of the Byte 4 column, and eliminate correct the last entry in the Byte 3 entry from "1281" to 128. In the fifth text line, correct it to read: "...in the string (0 to 255)."

365 Sentence 3 of paragraph 2 should begin: "The dimension sizees are stored in reverse order (HIGH-LOW) as compared...." Third from last text line should read: "Line 40 fills the string array..."

366 81911 (below the fourth Array Area's third "down arrow") should be:8191.

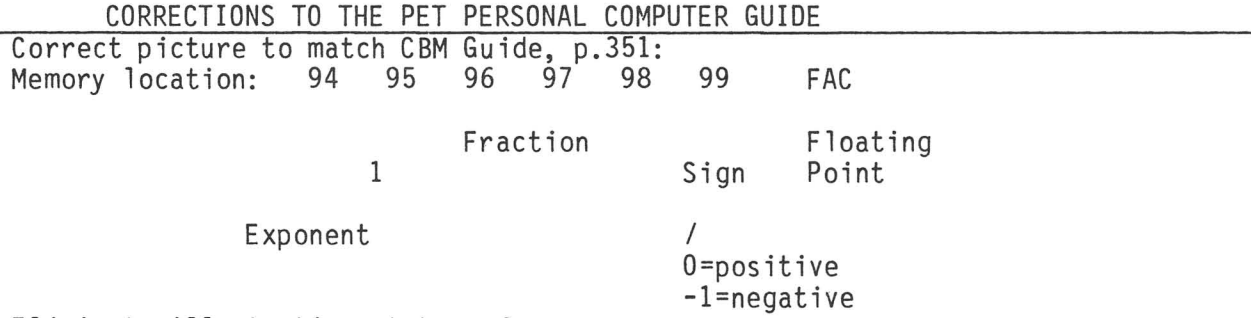
367 First line of last listing should read: .M 7FF8 7FF9
Next to last line should read: "gone, replaced by $FF at $7FFF and $01 aat $7FFE." Last line should read: "...(found at $7FFE-$7FFC)."

367 First line of first listing should read: .M 7FF8 7FF9

369 Next to last listing should read: POKE 1,122:POKE 2,2:REM =$027A

PAGE CORRECTIONS TO THE PET PERSONAL COMPUTER GUIDE

370 Correct picture to match CBM Guide, p.351:



371 Eliminate illustration at top of page.

372 Paragraph 3, sentence 5 should read: "the overflow bit, V(bit 6), is low;..."

373 Eliminate last sentence in third from last paragraph ("Both are listed..."

376 Line 3 should read: "...as the last buffer specified is not saved."

387 Replace 2031 lines under DISKS with:

2031	2.6	901484	U5F -05	(blank)	U5H -03	-04	901467	---

392 In figure 9-2, reverse "L" and "N" designations in picture of User Port Connector.

393 Paragraph 4, line 2 should read: "other to lug "L" of the..."

403 AND keyword omitted. Explained on pages 101-103.

407 Last example should read: PRINT#1,"CO:NEWFIL=1:FILEA,0:FILEB"

408 Last example should read: PRINT#1,"C1:FILE1=0:FILE0"

412 First example, line 2 should read: LOAD"$",9 Read all filenames" on both..."

413 First line should read: "...key, the first program"

421 Paragraph 2, sentence 2 should read: "If the dr parameter is NOT present,...

422 Under Example, Lines 8 and 9 of Operator Response should both be preceded by two question marks: ??456 and ??789

424 Example under number 2 should have blank space before line 50 A=1.

425 In paragraph 3, sentence 2, "TEST*" should have no space before the asterisk.

426 NOT keyword omitted. Explained on pages 101-103.

* * * * * * VERY IMPORTANT OMISSION * * * * * * *

431 REPLACE EXPLANATION OF RECORD COMMAND WITH ONE FROM CBM GUIDE, p.409:

RECORD

The RECORD statement adjusts a relative file pointer to select any byte (character) of any record in the relative file. The RECORD statement is used before GET#, INPUT#, or PRINT# statements.

BASIC 4.0 format: RECORD#lf,rno[,bno]

The RECORD statement selects byte number bno in record rno of the file identified by logical file lf.

If the RECORD statement sets the file pointer beyond the end of the file, an a PRINT# statement attempts to write another record, the file is extended to include these additional records. When this happens, DS=50, meaning that the record is not present and the file is being expanded to include it. If an INPUT# statement is executed after the RECORD statement has set the record pointer beyond the last record, INPUT# will return null data and an end-of-file status is generated in ST, the status word variable.

Parentheses must surround a variable or an expression used as a record number.

The RECORD statement is not included in DOS 1.0

With difficulty, users with BASIC 2.0 and COS 2.0 may simulate the RECORD statement, as described by Louis C. Ray in Compute!, no.16, September 1981, p.122.

BASIC 2.0 format: PRINT#lf,"P"sa;rnl;rnh;bp

If not given, 1 is assumed for the byte pointer, bp. Since sa, rnl, and rnh are in binary, they must be given as parameters of the CHR$ function. For example, if rnl has a value of 3, it is listed as CHR$(3).

Example
25 PRINT#15,"P";CHR$(sa);CHR$(rnl);CHR$(rnh);CHR$(bp)
610 PRINT#sa,AA$;CHR$(13);

434 Eliminate sentence beginning: "Parenthese must enclose any variable..."

439 First example, line 3 should read: ?X Prints the ASCII...
Second example, line 2 should read: "?180/3.14159265*ATN(A)"

441 Lines 3 & 4 of first listing should read: ?EXP(88.02969190 and ?EXP(-88.02969191) Next to last example on page should have up arrows between the 10 and the "x" in both places: r = int((r+5)*10[up arrow]x)/10[up arrow]x

443 Correct sentence beginning: "For a 40-column display, POS will normally return a value between 0 aand 79.

444 The first example under RIGHT$ should read: RIGHT$("ARG",2).

445 In line 3 of first listing, ">=" should be ">"

458 Under TYPE MISMATCH, eliminate the words or vice versa.

463 After the ILLEGAL TRACK AND SECTOR explanation, add: You should only see this error code if you are using random access files, a backup fails, or you have just given the first command to read an 8050-formatted diskette in an 8250 disk drive. In the last case, just give the same command a second time, and the 8250 disk drive will be able to read the 8050-formatted diskette.

464 After the DOS Mismatch explanation, add: This message is also returned if the error channel is read (that is, via DS$) before any other disk command is given after power-up. This is an easy way to determine which DOS is in use.

478 Eliminate third line (beginning 005a...) and line 30 (beginning ? 0012...). In line 12, label should read: valtyp

480 In line 31, correct 4.0 column to read: 008d (not 009d)

481 Eliminate xid label and line.

482 Add these labels: line 14 is rptflg, line 15 is kount, and line 16 is delay

484 Line 30 of 1.0 column should read: c418

499 Line 21 of 2.0 column should read: e7f7

511 Eliminate line 17 (beginning f6e3). Line 16 of 4.0 column should read: f717

516 Correct Commodore Software Encyclopedia address to 1200 Wilson Dr., West Chester PA 19380.

517 Under MACHINE LANGUAGE, add Mansfield, Richard. **Machine Language for Beginners, Greensboro NC. Compute Books. A new bestseller.**
Add Jim Butterfield's book when it hits print.
Correct COMMODORE MAGAZINE address to: 1200 Wilson Dr., West Chester PA 19380. $15/year.

518 Correct name of The Torpet to TPUG Magazine. Correct last sentence to read: Sometimes includes excerpts from Midnite Software Gazette.
Correct name of IPUG magazine to ICPUG magazine.
Eliminate last two sentences under Midnite Software Gazette. Add subtitle: A bimonthly journal of notes, reviews and articles. $23/year.
Add Commander magazine (monthly, $22/year, Box 98827, Tacoma WA 98498).
Remove Creative Computing)

519 Drop COPUG, SEMPUG and SPHINX listings. Correct TPUG address to 1912-A AAvenue Rd., Suite #1, Toronto ONT M5M 4A1 CANADA

520 In line 18, eliminate phrase: "but not UCSD version."

529 Correct these lines: TI function, 133.220,447
TI$ function, 133,220,447

Feature Article:
BUSINESS

MAIL DISK ERRATA

by Larry Woolard and Jim Strasma

Here are all the **Mail Disk** updates, by module. Change or add these lines:

STARTUP MODULE
```
  1060 POKE 45,0:POKE 46,64:CLR
```
MENU MODULE
```
  1200 PRINT#15,"INITIALIZE0"
```
UPDATE MODULE
```
  1510 PRINT#15,"DUPLICATE0=1"
  1980 : IF I=NF THEN L$="":SYS IN,27,MX,L$:GOTO 2000
  1990 : L$="":SYS IN,0,MX,L$
  3040 IF I=NF THEN L$="":SYS IN,27,MX,L$:GOTO 3060
  3050 L$="":SYS IN,0,MX,L$
  4480 L$="":SYS IN,25,(KL-IL),L$
  4530 L$="":SYS IN,9,IL,L$
  4725 [delete]
  4745 [delete]
  4850 FOR I=1 TO NV:INPUT#9,AV%(I),AL%(I):GOSUB 60010:IF DS=0 THEN NEXT:GOTO 4870
  4940 FOR I=1 TO NF:INPUT#1,D1$(I):GOSUB 60010:IF DS=0 THEN NEXT:RETURN
  5000 FOR I=1 TO NF-1:D$=D$+QT$+D1$(I)+C$:NEXT
  5010 D$=D$+QT$+D1$(NF)
  5135 GOSUB 60010:IF DS THEN 1690
```
PRINT MODULE
```
  1690 IF WK$="6" THEN PT$="0":NU=1:GOTO 5540
  2520 (Begin with REM)
  2725 IF PD=DD THEN PRINT "[clr]REMOVE DATA DISKETTE FROM DRIVE";PD:GOTO 2740
  4310 (Remove 12 spaces from end for 32 character code field)
  4360 (Remove 12 spaces from end for 32 character code field)
  5435 IF PD=DD THEN 5475
  5540 REM DUMP FILE SIZE WARNING IF 1 DRIVE
  5550 IF PD<>DD THEN 1800
  5560 PRINT "[clr,dn,rvs]WARNING[off] THE SIZE OF THE OUTPUT FILE"
  5570 PRINT "MUST NOT EXCEED THE FREE SPACE"
  5580 PRINT "REMAINING ON THE DATA DISK."
  5590 PRINT "[dn]CONTINUE (Y/N):"
  5600 GET L$:IF L$="" THEN 5600
  5610 IF L$<>"Y" AND L$<>"N" THEN 5560
  5620 IF L$="Y" THEN 1800
  5630 GOTO 1470
```
(FORMAT MODULE
```
  1290 GOSUB 60010:IF DS>0 AND DS<>50 THEN 1510
  1490 IC=0:REM SET IC=1 FOR 1 UP 3X5 CARDS IN REPORT
  1550 (Add 12 spaces to line for 32 character code field)
  1560 (Add 12 spaces to line for 32 character code field)
```

These changes expand the code field to 32 positions. The default values now work properly. Other changes make the index card option a selection rather than a default, work better with dual drives, and enable the format module to work properly with BASIC 4.0 cartridges. These changes are current through "-<Preliminary 5>-", and are also available to **Mail Disk** owners for a copy fee of $10 accompanying the original diskette (or $15 for a new diskette). (You should, of course, be using a backup for your daily work anyway.) Send diskettes to be updated to us at 1238 Richland Av., Lincoln IL 62656.

Feature Article:
DATA TRANSFER

TAPE TO DISK TRANSFERS

by Herb Gross

If you have an extensive collection of programs on cassette tape and then buy a disk drive or **Rom Rabbit**, you may have difficulty in transferring some data and programs. The **Rom Rabbit** can save and load sequential files directly. Disk drives cannot; however, many can be transferred from tape through the use of Jim Strasma's Tape File to Disk program in Midnite #12, p.20. One major difficulty occurs when there is a machine language component on the tape leader; any SAVE not only misses it, but wipes it out.

ONE METHOD FOR MACHINE LANGUAGE PROGRAM TRANSFERS:

Here is one simple method that works for the VIC and 64 using a machine language monitor and dynamic keyboard technique. It can easily be adapted for PETs by changing the address of the cassette buffer from 033C- 03FB to 027A-0339. The first step is to write a short disk boot program that will LOAD both the tape leader program and main program. (But don't use it for the Rom Rabbit.)

```
10 PRINT"[down 4 & left 4]NAME OF PROGRAM":FOR I=1 TO 1000:NEXT
20 Q$=CHR$(34):REM QUOTES
30 PRINT"[clr & down 3]LOAD" Q$"[space]NAME LEADER";Q$;",8,1"
40 PRINT"[down 4]LOAD"; Q$"[space]NAME OF PROGRAM";Q$;",8"
50 PRINT"[down 5]RUN[home]"
60 FOR I=1 TO 4:POKE 630+I,13:NEXT:POKE 198,4:REM 4 CARRIAGE RETURNS
```

SAVE this boot to disk, but do not RUN it. Then load the cassette, using a machine language monitor. When the FOUND message appears, press STOP and enter after the dot: 'S"[space]NAME LEADER",08,01,033C, 03FB'. (Use your Rabbit to SAVE to tape S"[space]NAME LEADER",01, 033c, 03FB.

Now type X to exit to BASIC, rewind the cassette and do a BASIC SAVE, allowing a space between the first quotation mark and the name (such as SAVE" PROG",8). Use **Rabbit** procedures for a fast save. Then when you LOAD and RUN your Boot program, it should automatically RUN your program. Both programs will have to be LOADed and RUN separately with **Rom Rabbit.**

IT'S READY TO EXECUTE:

That's all there is to it. Your diskette will now show the Boot as the main program with the other parts indented so they cannot be accidentally LOADed. You can use this very versatile Boot for programs that require a SYS to start. In this case, delete RUN from line 50. It can also be modified to LOAD multiple programs. You would then have to modify the number of 'CURSOR DOWN's and change I and the POKE in line 60 to indicate the number of characters in the keyboard buffer and the number of carriage returns. For example, if another LOAD was added between Lines 40 and 50, then Line 60 should be changed to:

```
60 FOR I=1 TO 6;POKE 630 + I,13:NEXT:POKE 198,6
```

USE THE ROM RABBIT UNTIL YOU GET A DISK DRIVE:

For those who cannot afford a disk drive, I heartily recommend the **Rom Rabbit** by Eastern House Software. The **Rom Rabbit** will enable you to SAVE and LOAD at least 5 times faster. For $40, you can't get a better deal. It's ironic that people restrict themselves to the slow, slow Datassette access, when the main purpose of a computer is to do simple minded calculations faster than people. Unless you need frequent coffee or tea breaks, you should not use cassettes without a **Rom Rabbit.**

Feature article:
EDUCATION

CHOOSING MICROCOMPUTERS FOR EDUCATION

by Elizabeth A. Kaspar

CHOOSING EDUCATIONAL HARDWARE:

Each passing month rapidly changes the world of computers, further confusing potential buyers. For example, IBM just introduced its small personal model, the **Jr**, Coleco introduced **Adam**, and Texas Instrument withdrew its home/school model, **TI99**, from the market. Add to this the expanding selection of software, more than half of which is still quite poor, and the caveat, "Buyer Beware," becomes all the more important.

TI?

First, beware of those bargain TIs at $49 each. They are useless without the unreduced expansion modules. Worse yet, software will soon be difficult to buy, plus no one will write new programs for the TI99, and within a year it may be difficult to get serviced.

Coleco's Adam?

Coleco's **Adam** is touted as the lastest technology at a reasonable price, but few of the machines work! Apparently Coleco rushed to get them on the market for Christmas, failing to get out all the bugs first. Consumer Reports has been unable thus far to buy even one working model to review! The word processors especially do not work. It comes with only a tape system that I found aggravatingly slow. So much for the newest technology! Also remember that any new machine will have little available software for at least 6-8 months.

IBM's PC Jr?

What about the computer for which everyone has been waiting, IBM's **PC Junior**? This bottom of the line model, which is still expensive as small computers go, has major drawbacks. The expanded **PC** offers 64 more K of memory, and a disk drive, but it costs a hefty $1,269. Peter McWilliams, writer and computerist, said, "I would think it would embarrass IBM ever so slightly, that a $200 Commodore 64 has a better keyboard than a $669 IBM." I would characterize both models as "too little for too much money." Keep in mind, however, that IBM expects the public to be willing to pay just for the name.

Commodore 64? Best in Hardware

The **best buy** on today's market for either home or school, is the **Commodore 64.** It can be bought many places for $188. Its editing capabilities are the best of all micros, better than Apple and other machines 3 times its cost. Until recently the big complaint was "too little software." But for the past 4 months, the 64 has been the nation's top seller; all the software companies are now rushing to translate their Apple and Atari programs. One computer store owner told me he's getting more than 40 new Commodore **64** programs per week!

Many Americans don't realize that Commodore has been the number one seller of micros in Europe and in Canada for years. Thus, it is well established and well financed. It has not been having the problems Atari has. Atari moved its manufacturing to Taiwan, but The Wall Street Journal reports they are still in trouble. Atari 800s and the new models are good machines, but it remains to be seen if they will be able to compete in coming months.

Apple? Best in Software

The most and best educational software available is still for Apple, although that is changing rapidly. Apple continues to be quite overpriced with the Apple][e at $1,395. Therefore, I recommend the Apple compatible machines, such as the Franklin. Be sure before buying one, however, that it is truly Apple compatible; some are only partially so. Apple, Atari and Commodore 64 come with only 40 columns which can be a drawback, especially for word processing. Eighty column boards are available, but are expensive. This article was

written on a Commodore 64, with an **Easy Script** word processor that includes an option to change the screen to 80 columns, of which 40 can be viewed at one time. The screen will scroll to the left or right to view other portions of the text. I find it no problem unless I wish to type a series of columns of words.

There are many other excellent machines on the market, such as Morrow and Kaypro, but these are business machines, and will never have much educational software. Software should be the major consideration in buying any machine ... is software available to do what you want your computer to do? For years, experts said one machine would not suffice for multi-purposes, but this is no longer true. Apple (or Apple compatibles) and Commodore 64 all have a large selection of educational software, arcade and adventure games, and even business programs.

Buying at a Discount?

Most machines can be bought at substantial savings now at discount stores, but there are drawbacks. If the customer needs help, it is rare to find anyone who knows anything about the machines. The rate of defective machines is high, because machines and disk drives are rarely checked in these stores. Never buy one without first having the clerk (and a computer friend) test it first in the store, to be sure every aspect is in working order. There is an unverified rumor that with the demand so much greater for some machines than the supply, some discount stores have been selling the returned, defective ones, until a fresh supply of machines arrives!

CHOOSING EDUCATIONAL SOFTWARE:

Once the hardware problem is solved, then comes the software. Nearly all programs up to now focus on drill and practice which most gifted children don't need and find teribly dull. Good, interesting programs for use with the gifted are still as rare as hen's teeth. In general, simulations are usually more stimulating; her are a few I recommend.

Good Simulations

Most of **McGraw Hill's Search Series** are excellent. The best are the archeology, geology, and world explorer programs, appropriate for gifted 5th through 9th graders. They are expensive, but come with many materials for class use (for Apple only). The best math package I have seen is Sunburst Communication's **Survival Math**, with four simulations: a travel agent contest, a shopper contest, a hotdog stand, and the difficult, Foreman's Assistant, using many kinds of math (running against the clock) to determine materials needed for a construction project. Sunburst lists them for grades 7-12. The first three, however, I recommend for bright 4th, 5th and 6th graders, as well.

Typing Skills

Every child using a computer needs to know how to type; no school should be without several typing programs. The most exciting one is **Mastertype** in which the typist has only aa short time to type some letters or words before a rocket hits the spaceship. One gets four hits, and the number of seconds can be varied as can the difficulty of the words. Words or phrases, however, cannot exceed 9 characters. A more versatile, but less exciting program, is **Touch Typing Tutor** by Taylormade. The screen can show a keyboard on which the letters blink, but there are also practice lessons of nonsense words many paragraphs long. This program is good for beginning, intermediate and advanced students, but young students may get bored. Academy Software's **Typing Tutor and Word Invaders** is a combination of the two above, but in my opinion, neither is as good as the first two.

THREE 64 HARDWARE MODIFICATIONS
for pre-8 pin video output 64's only

by Win Craft, Larry Strout and Jerry Key

CREDITS: Win Craft for basic modification concept, Larry Strout of Rockwell International for this method and Jerry Key for sketches and explanations.

This article describes three modifications:
1) Reducing or eliminating 'sparkles'
2) Improving video sharpness and color with the Commodore 1701 monitor
3) Adding a reset button

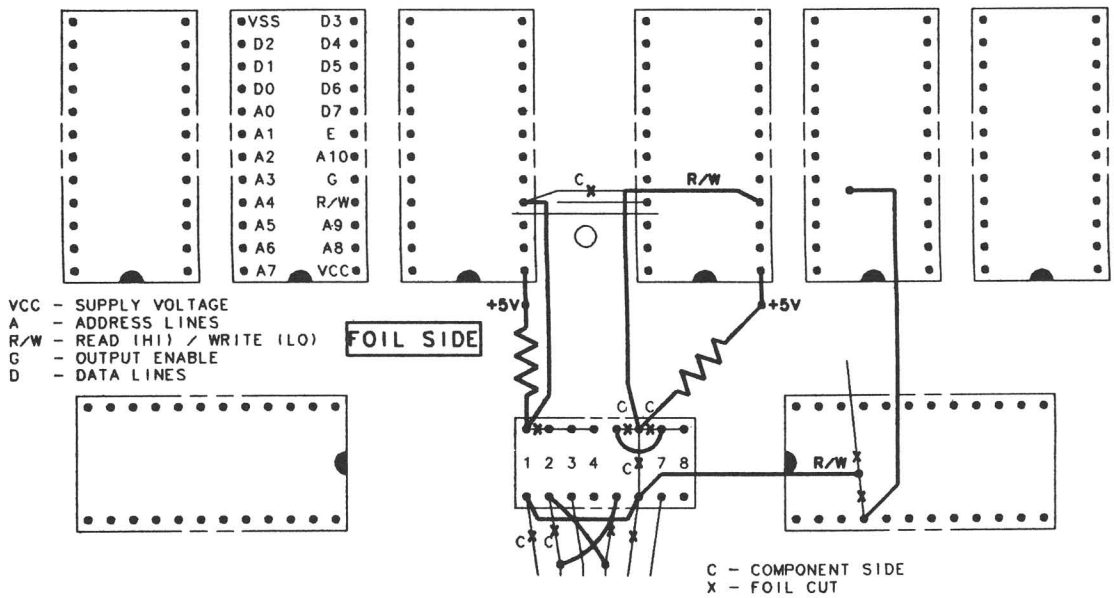
FIRST READ THESE NOTES:
1) The first two modifications require close work with a soldering iron on the circuit board. Use no more heat than necessary to ensure good solder connections. If you have any doubts about using a soldering iron on your board, have an person experienced in computer repair do the work.
2) The first two modifications will void the warranty on your 64 and won't improve your picture, if you do not have sparkle and your existing video is clean and sharp.
3) The composite video will not support a TV, once the monitor has been modified.
4) The third modification requires no soldering or cutting and is risk-free.
5) [Although our author experts thoroughly tested these changes, cirrcuit boards on the 64 differ. Thus, some chaanges may not apply to your unit. As with all hardware modifications, proceed at your own risk and kiss your warranty goodbye. -ED]

MODIFICATION 1: REDUCING OR ELIMINATING 'SPARKLE'

Parts required: 2 - 330 PF Non-polarized Capacitors (May be disk or axial).

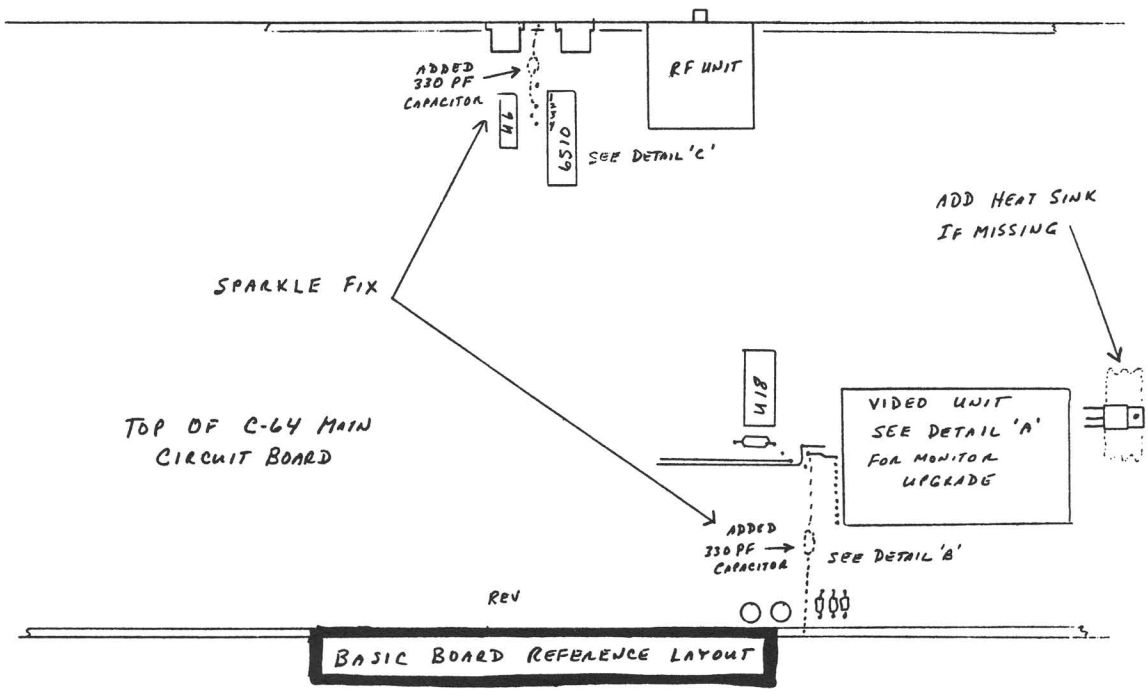
1) Remove 3 screws on underside of the 64 case and open it.
2) Remove keyboard connector at left of circuit board.
3) Remove power light connector at right side of circuit board; note how it hooks up.
4) Set keyboard half aside.
5) Using detail B:
   a) Locate the first capacitor attach point beside video circuit metal case by counting up from the bottom (nearest you with the 64 in normal operating position) to the tenth pad. Follow the trace from this pad to the left to the pad where it ends.
   b) Locate the second attach point on the circuit board edge nearest you. If it is a metal strip, solder one end of the capacitor to it. If it is a wide trace, scrape a small area clean of the greenish covering layer with a small knife so that solder will stick.
   c) Solder the capacitor to the two attach points.
6) Using Detail C:
   a) Find the first attach point by locating the solder pad nearest pin 2 of the 6510.
   b) Find the second attach point as either a metal tab or a wide trace between the Serial and Video output connectors at the edge of the board farthest away from you.
   c) Solder the capacitor to these two attach points.
7) Make sure the leads from the capacitors do not touch any traces, screws, etc.
8) If you still have sparkle, increase the value of capacitors to 500-600 PF.
9) Do any other modifications now. Otherwise, reassemble the 64 by reversing steps 1 to 4.

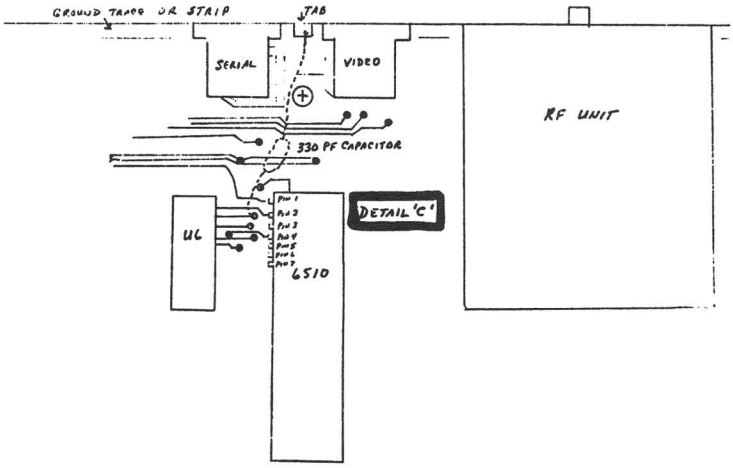
UPGRADE ALLOWING WRITE PROTECTION
OF EITHER/BOTH SIDES OF THE VIC-20
16K EXPANSION BOARD

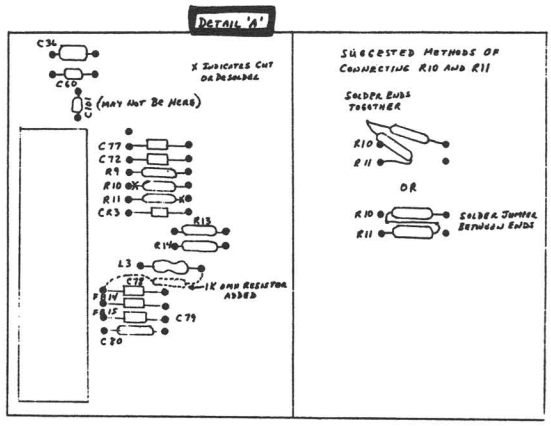


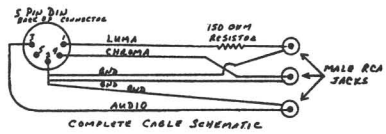
REQUIRES (2) 10K-25K RESISTORS

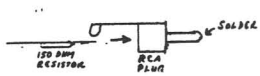
SWITCHES	ADDRESSES
1,2,5,6	$2000,$4000 (16k EXP)
1,2,6,7	$2000,$6000 (8k EXP + PROG AID, VIC-MON OR RABBIT)
	NOTE: (AFTER LOADING RABBIT, SWITCH 6 MUST BE TOGGLED OFF
1,3,5,6	$6000,$4000 (Setting for Adventure Games)
	NOTE: (AFTER LOADING, SWITCHES 1 & 6 MUST BE TOGGLED OFF
1,3,6,8	$6000,$A000 (Common Setting for most Cartridges)

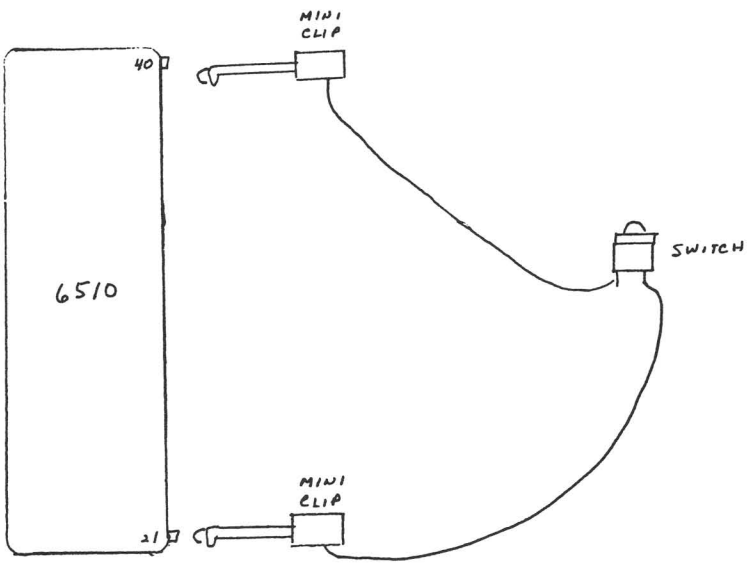




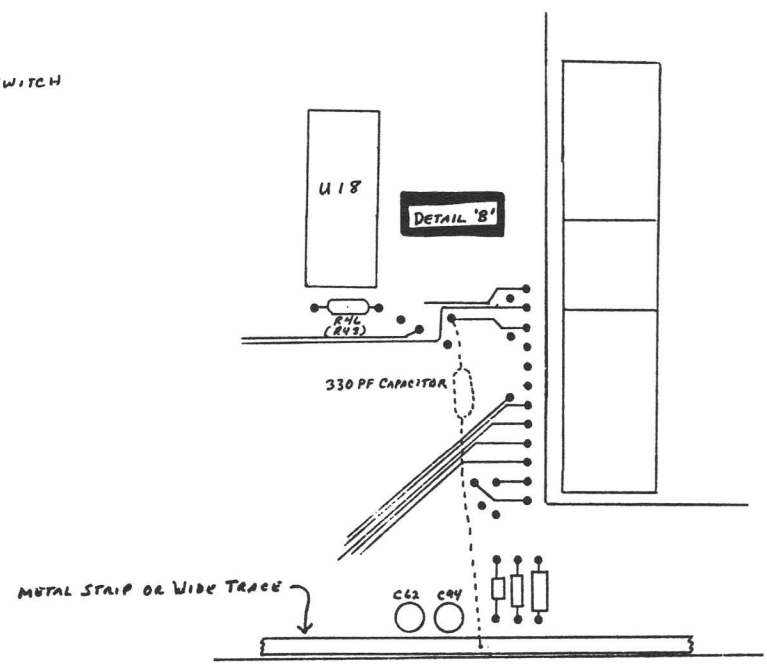








Modification #3



MODIFICATION #2: VIDEO MONITOR UPGRADE

Parts required:

1 - 1K ohm resistor, 1/4 or 1/2 watt, 5 or 10% tolerance (Radio Shack 271-1321 works)
1 - 150 ohm resistor, 1/4 watt, 5% tolerance (for the cable mod. Radio Shack 271-1312)
3 - RCA male connectors Radio Shack 274-339
(You only need 1 male & 1 female RCA connector with a 5-pin DIN to 4 RCA cable).
1 - RCA female connector Radio Shack 21 - 5 pin din connector RS 274-0034
1 - Tube heat sink grease RS 276-1372

To Modify the Computer:

1) Do steps 1-4 in modification 1.
2) Locate and carefully pry off cover of video circuit case (see Board Basic Reference Layout), withou damaging the circuit board.
3) Learn the layout of the circuit in the left half of the video circuit case in Detail A. Look at the suggested methods of attaching resistors R10 and R11 together in the right half of detail A. To avoid applying heat to the circuit board, you can use a small pair of diagonal cutters to cut the leads on resistors R10 and R11.
4) Desolder or cut the lead on the left side of resistor R10.
5) Desolder or cut the lead on the right side of resistor R11.
6) Attach the desoldered or cut ends of R10 and R11 to each other as chosen from Detail A. Make sure the resistors or leads do not touch the top of the case when reinstalled.
7) Carefully solder the 1 K ohm resistor into place from the right side of L3 to the left side of C78 as shown by the dotted lines on Detail 'A'. Make sure the components or leads do not touch the top of the case when reinstalled.
8) Apply a little heat sink grease to the metal plate on the top middle of the 6567 IC (the large IC in Detail A) to ensure heat transfer.
9) If all has gone well, replace the cover firmly on the video case.
10) Do the next modification, or re-attach cover (reverse Mod. 1, steps 1-3).

To Modify the Cable:

You may make your own cable or buy a 5 pin din to 4 RCA phono plug cable at an audio store. If you buy the cable, skip to the adapter modification. To build your own cable, see parts list above.

Then, using any good shielded coax cable (Radio Shack 278-1327 fits very snugly), assemble the cable as shown in the complete cable schematic. The 1/4 watt 150 ohm resistor will slide firmly into the RCA phono jack.

If you are using an existing cable, make only the adapter as shown in the adapter schematic. NOTE: Neither the 1/4 watt 150 ohm resistor nor the adapter is required. BUT, you may get too bright a picture and have to make adjustments to your brillance, otherwise. HOOK UP and ENJOY !!

MODIFICATION #3: SOFT RESET BUTTON

You can easily add a reset button to your 64; the switch type and mounting is up to you. Here are the suggested parts:

2 - RS 270-372 Mini clips
Light weight wire, like RS 278-1296 (couple of feet)
1 - Pushbutton switch, SPST momentary like RS 275-1571

Hook two equal runs of wire to the switch with a mini clip at the end of each one. Then hook one mini clip to pin 40 of the 6510 and the other to pin 21 of the 6510 (see Basic Board Reference). Make the leads long enough, plus an inch or two, to allow you to mount the switch where you desire. You can cut a hole in the case or bring the switch out through one of the port cutouts on the back of the machine to mount it.

Feature Article:
HARDWARE

ANOTHER PET/VIC TAPE INTERFACE

by R. D. Connely

MAKING THE C2N AND DATASETTE TOTALLY COMPATIBLE:

A favorite hardware and often unsuccessful project through the years has been interfacing an ordinary cassette tape recorder to the PET computer. The exact format and phase of the PET tape signal appears to have changed between the early original PET 2001-8 and today's VIC, since I cannot read tapes made on the new-style Datasette and a VIC 20 with a very early C2N and a 2001-32. To solve that probem and improve the C2N's reliability, I added a 74LS14 to the C2N's output (read) line with a SPDT switch to choose either one or two inverting gates with the output line tied to +5VDC through a 1K ohm pull-up resistor. Reading tapes made on the C2N has never been a problem with the VIC 1530 (probably another sample of Commodore's upward compatibility).

REQUIREMENTS FOR USING AN AUDIO CASSETTE RECORDER:

There are many reasons to use an ordinary cassette recorder with your PET or VIC. What requirements must an 'ordinary' cassette recorder have?

a) half track heads (stereo is a no-no)
b) a meter or counter (a real time saver)
c) a remote jack (used by an external microphone to control tape drive on/off)
d) an aux jack (for high-level inputs, much better latitude than the mic input)
e) 117VAC operated (no weak batteries to worry about)
f) preferably without auto-level recording

This tape interface is the cumulative effort of the members of the Joplin Commodore Computer Users' Group and has worked reliably with every VIC 1530 and every C2N (some had to be updated per above) we could find. Of the 'ordinary' tape recorders we tried, over 90% worked well with this interface, including reading commercial tapes (easiest), 1530 & C2N tapes, its own tapes, tapes made on another 'ordinary' recorders using this interface, and writing tapes readable by 1530s and C2Ns, or tapes readable by other 'ordinary' recorders using this interface. Use of commercial or other non-commercial interfaces was not tested.

PARTS LIST

QTY	PART	APPROX. MAIL ORDER COST)
1	74LS132N or 74LS14N schmitt inverter	.50
1	LM3900N amplifier	.90
2	1N4148 diodes	.50
1	1N4001 diode	.25
1	5VDC spst relay, low poer	4.00
2	14 pin IC sockets	1.00
3	dpdt miniature toggle switches	6.00
1	.5 Mohm variable resistor	.75
1	10 K ohm variable resistor	.75
1	3.3 M ohm resistor (1/4 watt)	.25
4	1 M ohm resistors	1.00
1	100 K ohm resistor	.25
2	10 K ohm resistors	.50
2	1 K ohm resistors	.50
2	.1 mmf capacitor	.50
1	50 pf capacitor	.25
1	220 pf capacitor	.25
1	tape port connector (cinch 250-06-90-170)	2.00
6'	6 conductor STRANDED ribbon cable	1.00
2	1/8 inch male plug *	.90
1	3/32 inch male plug *	.45
	misc wire, electronic solder, plastic box, perf board	6.00

* check your recorder

DIRECTIONS

MAKING THE CONNECTIONS:

If you have to buy all these parts, don't expect to save money.

The 3 male plugs are for the 'earphone' or 'monitor' jack, the 'aux' (record) jack, and the 'remote' jack of your recorder. Check your particular unit for the correct sizes. Wire the 'tip' to the 'high' line and the 'shield' to the 'low' line (top and bottom line of each set respectively).

Cut the ribbon cable in two. Attach the cassette port connector to one, and the three plugs to the other cable. A piece of perf board makes the layout simple; use insulating tubing on crossing wires. Install the ICs after soldering the sockets.

MAKING THE ADJUSTMENTS:

If you don't have access to an oscilloscope, adjust VR 1 tap maximum from ground and VR 2 to minimum from ground. If you use a scope, adjust the output of VR 1 down until the signal just begins to decay, then back up until the signal is a clean sine-wave. Similarly, watch the output of S1 (read) from the 'A' and 'D' lines and adjust VR 2 tap away from ground until the signal just begins to decay, then back down until the square-wave is shaarp, full and clean. The sine-wave will be about 3VPP and the square-wave better than 4.7VPP.

S2 (built into CBM decks) enables your tape drive and tells the computer the recorder is running. By keeping S2 off until you've set the recorder's controls, you stay in control. Set the recorder's volume control to about 2/3 of maximum (or better setting). Make the record level setting fixed (if not, adjust it for 0 db.).

If your interface doesn't work on the first attempt, remove the connector from the computer and recheck your wiring. Watch out for the IC pin numbers. Its easy to flip the board over and miscount pin numbers. If you still have problems, someone with a scope to help you. It gives you both quantitative data and invaluable qualitative data.

MARKING THE NEW "NORMAL" POSITIONS:

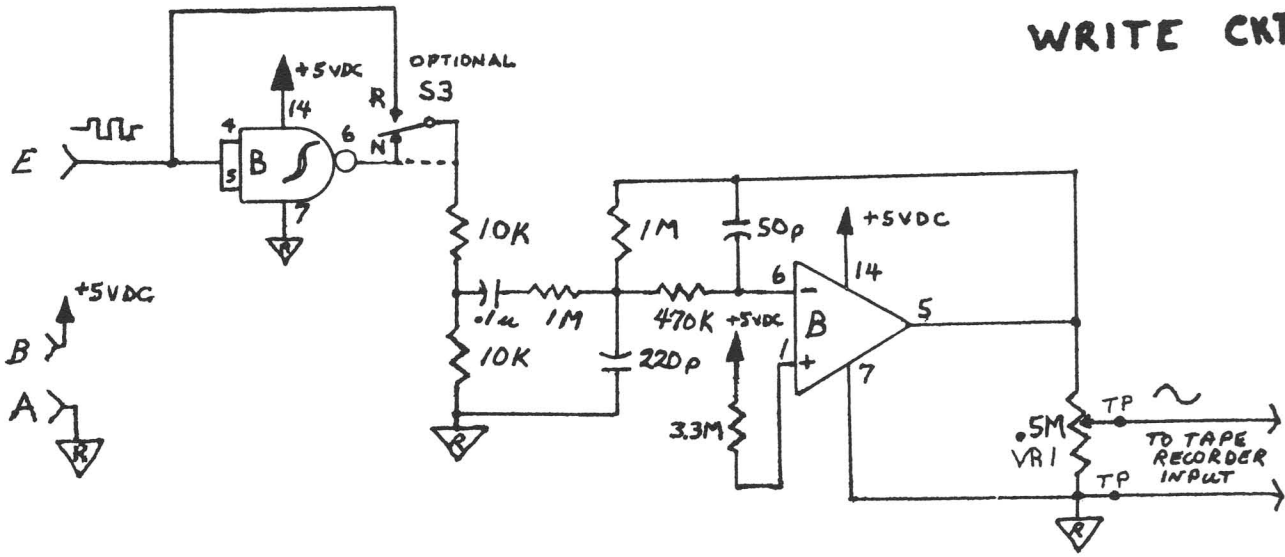
Once your interface works (you can read your own tapes) take your recorded tape and play it back in a VIC 1530 or a newer-style C2N. If it loads okay with ST=0, mark the record inversion switch (S3) position as the NORMAL position. If it doesn't load, re-record the tape with S3 in the other position. Mark the position that records tapes readable by CBM decks as NORMAL. Then find which position S1 will read the NORMAL recorded tape; mark this position NORMAL for reading commercial and CBM recorded tapes. Do not submit INVERTED tapes to user groups (inverted tapes are useful as an added security on your own system).

Graphics by Wayne Schmidt using Flexidraw

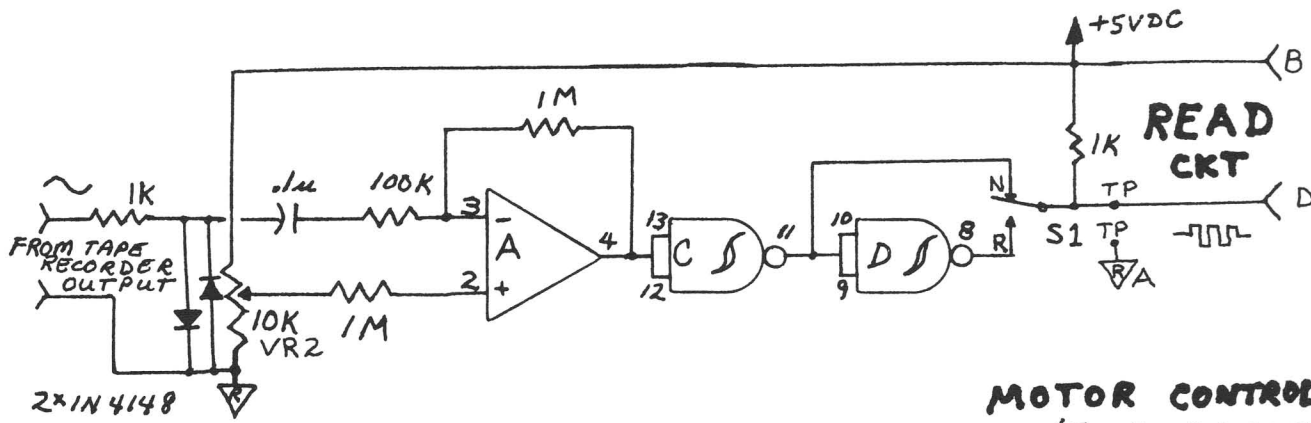
SN 74 LS 132 N

LM 3900 N

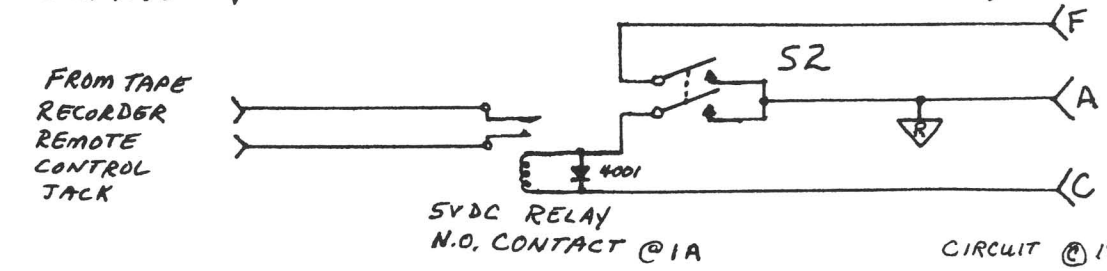
WRITE CKT



READ CKT



MOTOR CONTROL & SENSE CKT



CIRCUIT © 1982 CONTRONICS
NOT TO BE USED FOR PROFIT WITHOUT WRITTEN PERMISSION OF R.D.CONNELY JOPLIN, MO

PARTS REQUIREMENTS

RESISTORS	¼ WATT 10%
CAPACITORS	10 WVDC
S1, S3	SPDT OR DPDT
S2	DPST OR DPDT

NOMENCLATURE

- S1 READ SIGNAL INVERTER
- S2 TAPE CONTROL ON/OFF
- S3 OPTIONAL WRITE SIGNAL INVERTER (OMIT SW., TIE WIRE ACROSS DASHED LINE)
  - R INVERTED POSITION
  - N NORMAL POSITION
- J3 CASSETTE PORT PLUG CINCH 250-06-90-170

FROM CBM MAIN LOGIC ASSEMBLY BOARD

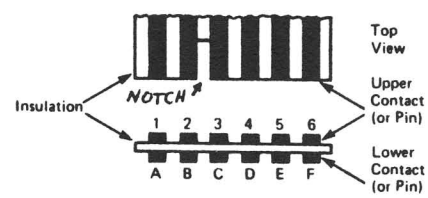


Figure 7.9. Simplified view of edge connector J3 with contact identification.

Note A-1, B-2, etc., imply a pin A to pin1, pin B to pin 2, connection. In some special units, pins 1 through 6 were not connected.

Pin Identification Characters	Label	Description
A-1	GND	Digital ground.
B-2	+5	Positive 5 volts to operate cassette circuitry only.
C-3	Motor	Computer controlled positive 6 volts for cassette motor.
D-4	Read	Read line from cassette.
E-5	Write	Write line to cassette.
F-6	Sense	Monitors closure of mechanical switch on cassette when any button is pressed.

Table 7.10. Second cassette interface port. CBM pin identification characters, labels and associated descriptions.

COMMODORE ASSEMBLER PROBLEMS AND SURPRISES

by Thomas Henry
249 Norton St.
Mankato MN 56001

Here are some things I have done with the Commodore assembler on my 8032. I really have been happy with this system, except for some irritating problems in the editor.

EDITOR PROBLEMS:

1. If you try to load source code (GET, in the editor's language) and the disk doesn't find it, instead of giving an error message, the whole system freezes, and you have to power down.
2. If you try to save (or PUT) source code, and the title already exists on the disk, no indication is given, other than the error LED blinking once. If you happen to look away at that momemt, you won't notice your code wasn't saved.
3. Typing "DELETE-" erases the whole code.
4. The tape load and save features are totally unreliable (bad code).
5. Some default options for the PUT and GET commands were poorly written and can get the user into serious trouble. The program has the appearance of piecework, and errors may have crept in along the way.

UNDOCUMENTED COMMANDS:

I also found several commands and functions not mentioned in the manual. CPUT will save the code with all but field delimiter spaces removed. This really saves space on the disk! The COLD command gives a cold start. The assembler has conditional assembly.

I would be most interested in trading tips with Commodore assembler users. For instance, I've modified the loader and the assembler. The assembler used to send both line feeds and carriage returns to my printer, causing everything to be doubled spaced.

WAS THE COMMODORE NON-SUPPORT GROUP A BLESSING IN DISGUISE?:

I never really intended to get intimately involved with computers, but Commodore USA saw to that! When I first got my 8032, I had no computer experience. The only reason I got the beast was to do word processing. At that time, my free-lancing career was really blooming (in the area of electronic music circuit design), and my old typewriter was giving my hands the fits. I got the wordprocessor, and never intended to see anything else. But Commodore had other things in mind for me. They proceeded to ignore every letter I wrote them (four) and forced me to find out things for myself. They make the finest computers anywhere, at the best prices and yet their so-called Customer Support Team must live in the Twilight Zone. I have a friend in town who has a VIC. Everytime he wrote Commodore a letter, he got a return letter from William Shatner thanking him for his interest in Commodore products! But at least my friend is lucky; he got responses, even if they are nonsense.

AND ON THE COMMODORE 64 VERSION:

An acknowledged bug in the GET and PUT routines makes reloading difficult or impossible with V2 BASIC/DOS on the 64. It's possible the glitch has been fixed. To correct it on older copies, first load and run "BOOT ALL" to load the editor 64 program. Then type '% MONITOR$8000' (or '%XVM4.8', using the original developers package). Then use 'D C27B' to disassemble the line that needs to be altered. Change 'LDA BA' to 'LDX BA' and hit [return] TWICE to enter correct code. Finally, type 'S"@0:EDITOR64.",08,0000,C6F0' to SAVE the corrected program.

Feature Article:
NETWORKING

ACCESSING THE COMPUSERVE DATABASE

A (Hopefully) Helpful Guide

by Joe Allain

So, you bought your VICMODEM, used up your free hour on Compuserve, and just got frustrated trying to get any information out of your new toy!! Well, by the time you've finished reading this, you'll either say, "Of Course!" Or you'll have a driving desire to tear my head off...(gulp!) Please note that all examples are for the VIC 20, but the principles are the exactly same for other Commodore computers.

COMMODORE SPECIAL INTEREST GROUP DATABASE:

All databases in **Compuserve** use a similar procedure, but this guide only covers the COMMODORE SIG Database. First let's discover what's in a database, and why it's there. The database holds information for its particular SIG (Special Interest Group) users, which varies from SIG to SIG. The COMMODORE SIG database holds (by section number):

0:HOTLINE. Questions other users have asked are stored here for reference.
1:MANUAL UPDATES. Errata on Commodore Manuals.
2:VENDORS. Retailers selling Commodore machines and support.
3:SOFTWARE. Public domain programs you can download and use.
4:USER GROUP FORUM. Used to leave messages for various users groups.
5:COMMUNICATIONS. Various Nationwide Bulletin Boards.
6:HARDWARE. Information on Commodore Hardware, such as chip specs.
7:BUSINESS. A report on Commodore's financial picture (rarely on-line).
8:MISCELLANEOUS. Magazine articles and books on Commodore Equipment.
9 & 10: The files are not always available; when they are, they sometimes have nothing in them, but it's fun to peek.

GETTING INTO THE DATABASE:

How do you get there from here? Assuming you know how to access Compuserve, at the first command prompt, type: **'GO CBM310 (or GO PCS156 for the 64 SIG)'**. If you haven't joined the SIG, do so now. It's free and you can't access the database unless you're a member. When it says "FUNCTION:", type: **'XO'**. That tells you what's hiding in Section 0:HOTLINE of the database. If you want to find out what section 2:VENDORS is hiding, type: **'X2'**. You may find it handy to hook your printer up, to download the information for a permanent copy. If you get stuck in the database type, **" exi"**, and you'll get the "FUNCTION:" prompt. Now that you're at the FUNCTION: prompt, type: **'XA'**

ONCE INSIDE THE DATABASE:

This will get you to the database. You'll get the following:

```
Which section?
( 0 1 2 3 4 5 6 7 8 9 10 ):
```

Since the computer has asked you a question, politely answer it by typing: **'7'**. The main computer will answer with: **'Using section 7 database'**. Any number would work; we're just using this section as an example. Now, the computer will type: **'SIG/ACCESS:'**, the Database prompt that lets you know you're using the database. Now if you type: **'KEYS'**

The computer will respond with:

```
BASIC         5
DOWNLOAD      3
INSTRUCTIONS  1
TOKEN         1
TOKENIZE      2
UPLOAD        2
VIC20         5
```

DON'T PANIC if your readout is different! The contents of the database change occasionally. When you typed **'KEYS'**, the computer gave you a list of keywords it uses to

find information in the database. Next to each keyword is the number of data files found under that keyword. In this example, there are only 5 listings in the section, but they're accessible using the various keywords.

Now type: **'CAT/KEY;BASIC'**. You've just used a new command: CAT (short for Catalog). The entire command is just a short way of saying, "Show me your Catalog of data in BASIC or programs that use BASIC." The most important thing to note here is the form - the use and position of the "/" and the ";" and the lack of spaces between the commands and punctuation. If you don't use the proper form, you will get only one of these messages:

=> Can't locate that file.
=> Valid commands: (followed by a list of Valid commands)
=> SIG/Access:

Although the form of the command is extremely important, the use of upper case or upper/lower case is not. If you've typed in the CAT/KEY;BASIC in the proper form, you will get something like this:

```
------------
+73465,1635
DWNLOD.VKY      07:Mar-83 1870
   Accesses:    37   16-Mar-83
INSTR.VKY       07-Mar-83 1790
   Accesses:    27   15-Mar-83
TOKEN.VKY       07-Mar-83 1305
   Accesses:    29   15-Mar-83
UPLOD3.VKY      12-Mar-83 2415
   Accesses:    3    14-Mar-83
UPLOD4.VKY      12-Mar-83 2920
   Accesses:    4    14-Mar-83
```

TRANSLATING ALL THOSE TERMS:

What does all this mean? **+73465,1635** is the user's number of the person that donated the data (usually programs, like these). **DWNLOD.VKY** is the name of the file, which means "Downloading Program for the VIC 20." Unfortunately, not all file names are as readable. **07-Mar-83** is the date the file was entered into the database. **1870** is the size of the data file in bytes. It's about 2K big. **Accesses: 37** tells you how many times the data file has been read since it first appeared in the database, while **16-Mar-83** is the date of the last time it was read.

FINDING THAT SPECIAL DATA FILE YOU WANT:

Clear as mud? You don't have to list the data files keyword by keyword. If you were interested in several keyword areas you might type:

CAT/KEY;BASIC,DOWNLOAD,INSTRUCTIONS,TOKEN,TOKENIZE,UPLOAD

The proper form is the command "CAT" followed by the "/KEY" followed by the ";" then the keywords you want to look at separated by "," and no spaces. (Spaces might work here, but I didn't test them here...). If you get the same printout as you did by typing only one keyword, don't blame the computer for misunderstanding your commands. Like all computers, it just printed what you asked for. The identical readout means these are the only programs in this section of the database.

Now let's take a look at how to access the file. Type: **'TYP DWNLOD.VKY73645,1635'**. Again, form is all important. "TYP" instructs the computer to type the following file. "<space>" separates it from the file name, "DWNLOD.VKY", and "<no space!!>73465,1635", the user number of the person who donated the file. If there's only one user number in the file, you can omit it from the command.

THE PROGRAM SHOULD NOW APPEAR:

If you've done everything properly, the program should now appear on your screen! If it doesn't work, try screaming invectives and jumping up and down, but don't beat on your 64 or your CRT! Hopefully you'll now have enough ammunition to play effectively with other things you can do in the database. With a proper terminal program, you can download the information for your files and examine them at your leisure. Have fun!

Feature Article:
PRINTERS

WHAT PRINTER SHOULD I BUY WITH MY COMMODORE Computer To Print Commodore Graphics?

by **E.J. Lippert II**

Reading JS's column in **RUN** left me feeling that you might like a definitive answer to the question, "What printer should I buy with my Commodore Computer so I can print Commodore Graphics?" I can only tell you how these printers interact with our Cardco **Card/?+G** interface, but since this unit is by far the largest seller, and since most interfaces operate in similar fashion, I think your readers will appreciate my opinion. Our tech staff has evaluated these printers and found they all work well! As is the nature of people, some were preferred over others. Here is our rating (in order of preference):

1. **Prowriter**, C-Itoh 8510, NEC 8023 (BEST OVERALL) *****
   GOOD POINTS: Fast graphics, Excellent print quality, very reliable, Rear tractor feed
   BAD POINTS: Complicated internal DIP switches

2. **Mannesman Tally Spirit** (BEST BUY) * * *
   GOOD POINTS: Excellent print quality, Rear tractor, Epson code compatible
   BAD POINTS: Tractor mechanism binds occasionally

3. **Okidata 82/92 series**
   GOOD POINTS: Good print quality, Very reliable
   BAD POINTS: Non-standard printer codes, 7-bit graphics (prefer 8-bit)

4. **Epson MX/RX/FX Series** printers
   GOOD POINTS: Good reliability, Good print quality, Standardized special printer codes
   BAD POINTS: Non-standard width graphics characters, Slow graphics printing

5. **Gorilla Banana** (Good Value)
   GOOD POINTS: Exactly duplicates Commodore 1525, 40% faster than the 1525
   BAD POINTS: 30% slower than most printers, Fair print quality,
   No descenders, 7-bit graphics (prefer 8-bit), Fair reliability

6. **Star Gemini 10x/15x**
   GOOD POINTS: Good print quality, Epson compatible
   BAD POINTS: Fair reliability, Slow graphics printing,
   Non-standard width graphics characters
   SIDE NOTE: The Star Gemini 10/15 (without the X) can't do graphics
   and text on the same line and therefore will not do
   Commodore graphics with our interface (or anybody else's).

7. The following printers will work with the C/?+G but we have insufficient data to rate:

Panasonic (all newer models)	Inforunner Riteman	Star Delta 10
BMC Dot Matrix	Mannesman Tally 160	

SCREEN DUMPS:

In response to another reader's question asking about screen dumps, JS recommended the program in our printer interface instruction manual. This program will work well for all dumps not requiring graphics or high resolution information. If you need to dump this type of screen, you'll need a program like the ones in our **Printer Utility Programms** in **Chartpak 64** (from Abacus Software), in **Doodle** (from City Software), or in **Simons' BASIC** (from Commodore).

[Ed's article was written with their new **Write Now!/64** and printed on the Mannesman Tally **SPIRIT** (his newest toy for under $300) via a C/?+G. -ED]

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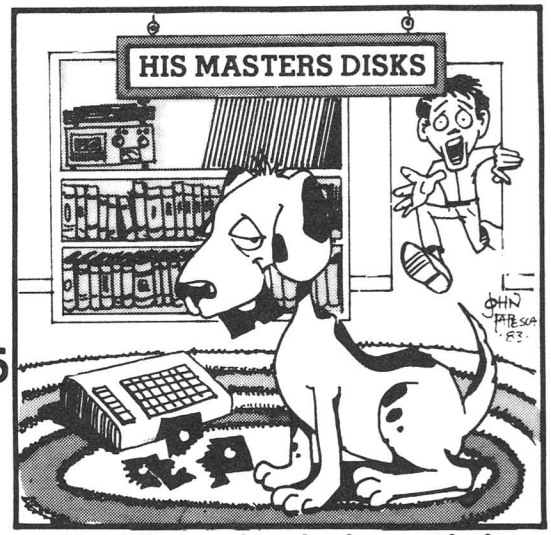

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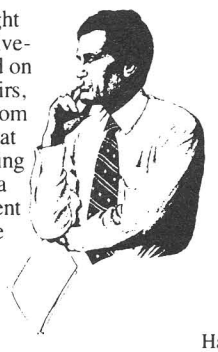

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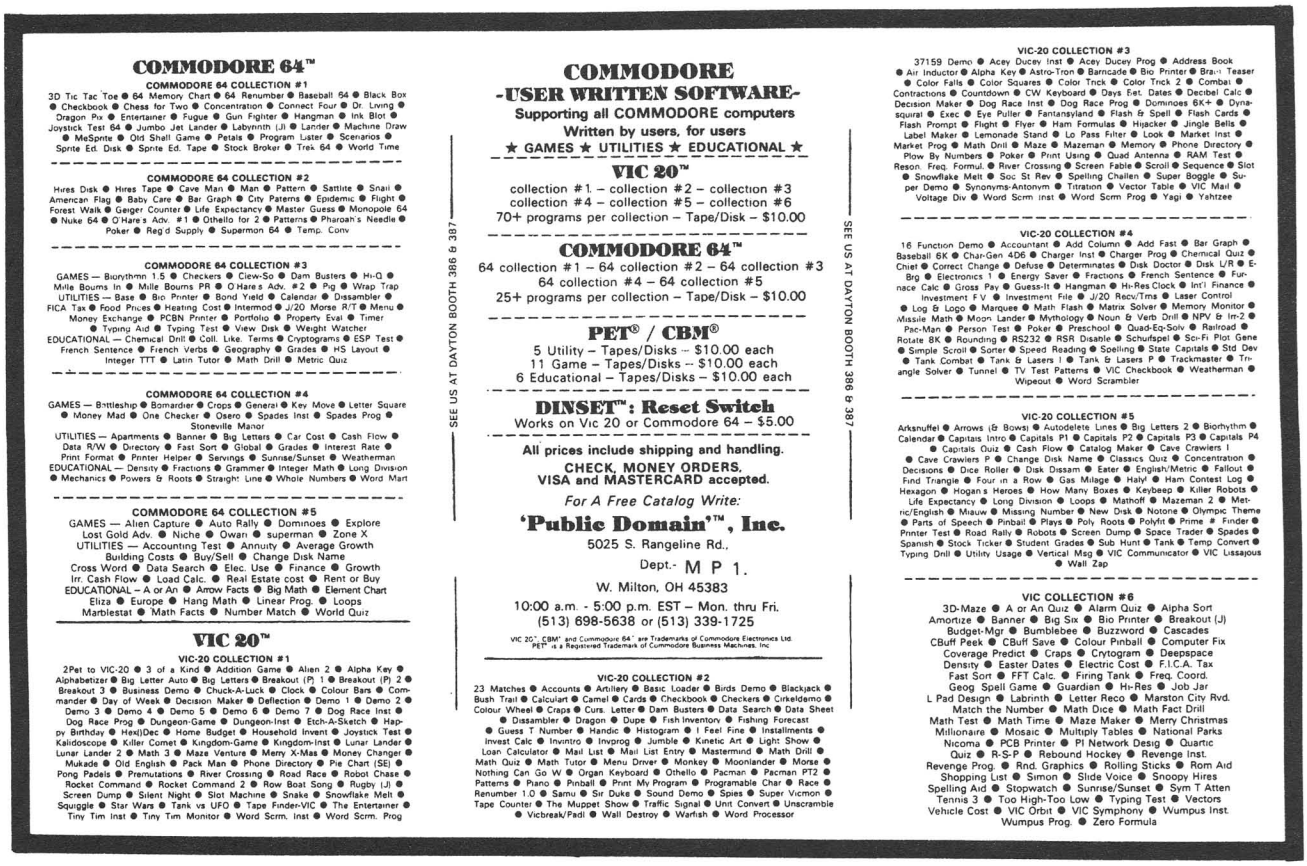

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23 Matches ● Accounts ● Artillery ● Basic Loader ● Birds Demo ● Blackjack ● Bush Trail ● Calculart ● Camel ● Cards ● Checkbook ● Checkers ● Cirkeldemo ● Colour Wheel ● Craps ● Curs. Letter ● Dam Busters ● Data Search ● Data Sheet ● Dissambler ● Dragon ● Dupe ● Fish Inventory ● Fishing Forecast ● Guess T Number ● Handic ● Histogram ● I Feel Fine ● Installments ● Invest Calc ● Invintro ● Invprog ● Jumble ● Kinetic Art ● Light Show ● Loan Calculator ● Mail List ● Mail List Entry ● Mastermind ● Math Drill ● Math Quiz ● Math Tutor ● Menu Driver ● Monkey ● Moonlander ● Morse ● Nothing Can Go W ● Organ Keyboard ● Othello ● Pacman ● Pacman PT2 ● Patterns ● Piano ● Pinball ● Print My Program ● Programable Char ● Race ● Renumber 1.0 ● Samu ● Sir Duke ● Sound Demo ● Spies ● Super Vicmon ● Tape Counter ● The Muppet Show ● Traffic Signal ● Unit Convert ● Unscramble ● Vicbreak/Padl ● Wall Destroy ● Warfish ● Word Processor

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VIC-20 COLLECTION #3

37159 Demo ● Acey Ducey Inst ● Acey Ducey Prog ● Address Book ● Air Inductor ● Alpha Key ● Astro-Tron ● Barricade ● Bio Printer ● Brain Teaser ● Color Falls ● Color Squares ● Color Trick ● Color Trick 2 ● Combat ● Contractions ● Countdown ● CW Keyboard ● Days Fet. Dates ● Decibel Calc ● Decision Maker ● Dog Race Inst ● Dog Race Prog ● Dominoes 6K+ ● Dynasquirat ● Exec ● Eye Puller ● Fantansyland ● Flash & Spell ● Flash Cards ● Flash Prompt ● Flight ● Flyer ● Ham Formulas ● Hijacker ● Jingle Bells ● Label Maker ● Lemonade Stand ● Lo Pass Filter ● Look ● Market Inst ● Market Prog ● Math Drill ● Maze ● Mazeman ● Memory ● Phone Directory ● Plow By Numbers ● Poker ● Print Using ● Quad Antenna ● RAM Test ● Reson. Freq. Formul. ● River Crossing ● Screen Fable ● Scroll ● Sequence ● Slot ● Snowflake Melt ● Soc St Rev ● Spelling Challen ● Super Boggle ● Super Demo ● Synonyms-Antonym ● Titration ● Vector Table ● VIC Mail ● Voltage Div ● Word Scrm Inst ● Word Scrm Prog ● Yagi ● Yahtzee

VIC-20 COLLECTION #4

16 Function Demo ● Accountant ● Add Column ● Add Fast ● Bar Graph ● Baseball 6K ● Char-Gen 4D6 ● Charger Inst ● Charger Prog ● Chemical Quiz ● Chief ● Correct Change ● Defuse ● Determinates ● Disk Doctor ● Disk L/R ● E-Brg ● Electronics 1 ● Energy Saver ● Fractions ● French Sentence ● Fun-nace Calc ● Gross Pay ● Guess-It ● Hangman ● Hi-Res Clock ● Int'l Finance ● Investment F.V ● Investment File ● J/20 Recv/Tms ● Laser Control ● Log & Logo ● Marquee ● Math Flash ● Matrix Solver ● Memory Monitor ● Missile Math ● Moon Lander ● Mythology ● Noun & Verb Drill ● NPV & Irr-2 ● Pac-Man ● Person Test ● Poker ● Preschool ● Quad-Eq-Solv ● Railroad ● Rotate 8K ● Rounding ● RS232 ● RSR Disable ● Schurfspel ● Sci-Fi Plot Gene ● Simple Scroll ● Sorter ● Speed Reading ● Spelling ● State Capitals ● Std Dev ● Tank Combat ● Tanx & Lasers I ● Tank & Lasers P ● Trackmaster ● Triangle Solver ● Tunnel ● TV Test Patterns ● VIC Checkbook ● Weatherman ● Wipeout ● Word Scrambler

VIC-20 COLLECTION #5

Arksnuffel ● Arrows (& Bows) ● Autodelete Lines ● Big Letters 2 ● Biorhythm ● Calendar ● Capitals Intro ● Capitals P1 ● Capitals P2 ● Capitals P3 ● Capitals P4 ● Capitals Quiz ● Cash Flow ● Catalog Maker ● Cave Crawlers I ● Cave Crawlers P ● Change Disk Name ● Classics Quiz ● Concentration ● Decisions ● Dice Roller ● Disk Dissam ● Eater ● English/Metric ● Fallout ● Find Triangle ● Four in a Row ● Gas Milage ● Halyf ● Ham Contest Log ● Hexagon ● Hogan's Heroes ● How Many Boxes ● Keybeep ● Killer Robots ● Life Expectancy ● Long Division ● Loops ● Mathoff ● Mazeman 2 ● Metric/English ● Miauw ● Missing Number ● New Disk ● Notone ● Olympic Theme ● Parts of Speech ● Pinball ● Plays ● Poly Roots ● Polyfit ● Prime # Finder ● Printer Test ● Road Rally ● Robots ● Screen Dump ● Space Trader ● Spades ● Spanish ● Stock Ticker ● Student Grades ● Sub Hunt ● Tank ● Temp Convert ● Typing Drill ● Utility Usage ● Vertical Mag ● VIC Communicator ● VIC Lissajous ● Wall Zap

VIC COLLECTION #6

3D-Maze ● A or An Quiz ● Alarm Quiz ● Alpha Sort Amortize ● Banner ● Big Six ● Bio Printer ● Breakout (J) Budget-Mgr ● Bumblebee ● Buzzword ● Cascades CBuff Peek ● CBuff Save ● Colour Pinball ● Computer Fix Coverage Predict ● Craps ● Crytogram ● Deepspace Density ● Easter Dates ● Electric Cost ● F.I.C.A. Tax Fast Sort ● FFT Calc. ● Firing Tank ● Freq. Coord. Geog Spell Game ● Guardian ● Hi-Res ● Job Jar L Pad Design ● Labrinth ● Letter Reco ● Marston City Rvd. Match the Number ● Math Dice ● Math Fact Drill Math Test ● Math Time ● Maze Maker ● Merry Christmas Millionaire ● Mosaic ● Multiply Tables ● National Parks Nicoma ● PCB Printer ● PI Network Desig ● Quartic Quiz ● R-S-P ● Rebound Hockey ● Revenge Inst. Revenge Prog. ● Rnd. Graphics ● Rolling Sticks ● Rom Aid Shopping List ● Simon ● Slide Voice ● Snoopy Hires Spelling Aid ● Stopwatch ● Sunrise/Sunset ● Sym T Atten Tennis 3 ● Too High-Too Low ● Typing Test ● Vectors Vehicle Cost ● VIC Orbit ● VIC Symphony ● Wumpus Inst. Wumpus Prog. ● Zero Formula

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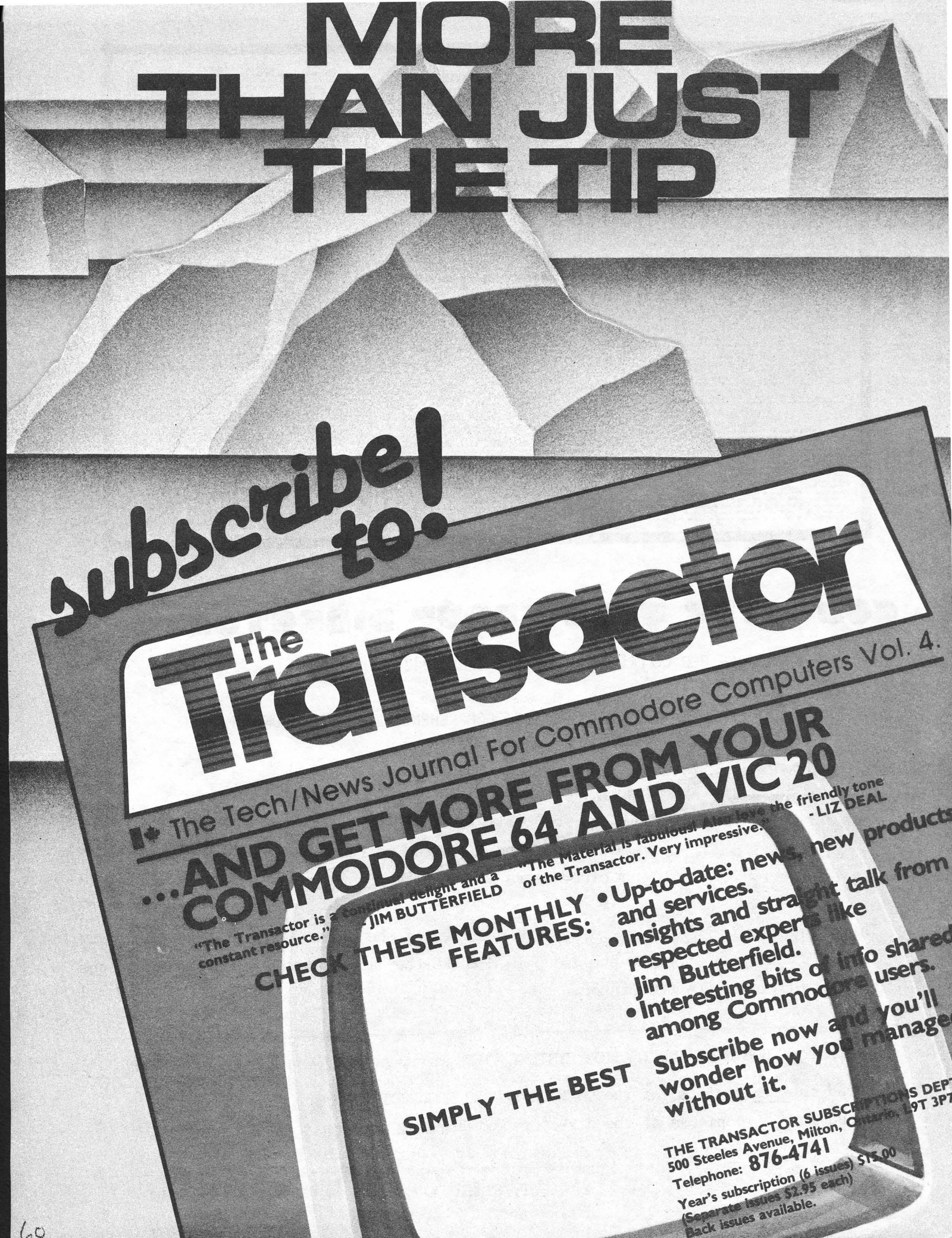

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Resources

Here are the addresses of some user group newsletters quoted in recent issues. Many thanks for the great job they are doing in their local areas and for keeping us informed about their work!

COMAL Today, c/o Len Lindsay, 5501 Groveland Terrace, Madison WI 53716
Commodore Computer Club of Toledo Newsletter, 734 Donna Dr, Temperane MI 48182
Commodore International, a staff newsletter published by Commodore Corporate
Commodore Newcomer's Newsletter, c/o Art Klinger, 4659 Balboa, Wichita Falls TX 76310
Commodore 64 Users Group Newsletter, c/o Clearfield UT
Commodore Users Group of St. Louis,c/o Richard Schumacher,Box 6653, St.Louis MO63125
Comm'putoy Cult, c/o Jane Campbell, Box 86531, San Diego CA 92138
Computer & Software News, 99 Park Av., New York NY 10157 (dealers only)
DISKUSS, c/o Don Bidgood, 25 Medford St., Dartmouth, N.S. B2Y 3C2 CANADA
DTACK Grounded, c/o Hal Hardenberg, 1415 E. McFadden, Ste. F, Santa Ana CA 92705
Eight Squared c/o J.A. Skelton, P.O. Box 76, Mt. Holly Springs PA 17065
The Exchange, c/o Bill McDannell, 1410 S. McArthur, Springfield IL 62704
The Hacker Rag, c/o Rich Westerman, R.R #1, Box 279, St. Anne IL 60961
Hardcopy, c/o CHUG, John Walker, 8738 Wildforest, Houston TX 77088
Industry Week, (dealers only. address unknown)
Infoworld, 375 Cochituate Rd., Framingham MA 01701 (magazine)
Journal/20, r.i.p. Write Mike Apsey, at Box 1149, Van Alstyne TX 75095
FOCUS, c/o Mike Spengel, Apt. 410, 4301 Columbia Pike, Arlington VA 22204
Fox Valley Commodore Users Group, c/o Herb Gross, 833 Prospect, Elgin IL 60120
Jeffries Report, Box 6838, Santa Barbara CA 93160
Microcomputing, 80 Pine St., Peterborough NH 03458 (magazine)
OK Connection, c/o Randy Hill, 1401 N. Rockwell, Oklahoma City OK 73127
On-Line, c/o Paul Motise, Rockville MD VIC/64 UG,
Peeks and Pokes, BCUG, Bloomington IL
SuperPET Gazette, c/o Paul Skipsi, Box 411, Hatteras NC 29743
The Use-Letter, South Bay CUG, c/o Craig Whittler, 17306 Ermanita #3, Torrance CA 90504
User's Port, c/o Tom Lynch, San Fernando Valley CUG (SFVCUG)
Wall Street Journal, New York NY (magazine)
WCUC Newsletter, Westmoreland PA
Western Illinois PUG Newsletter, Quincy IL

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