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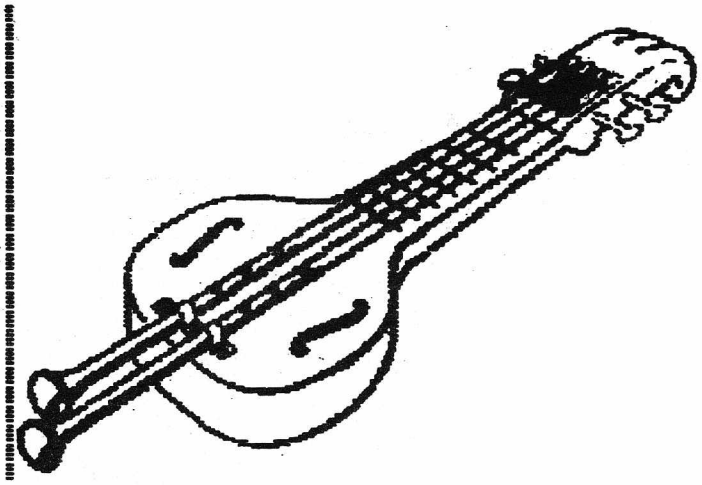
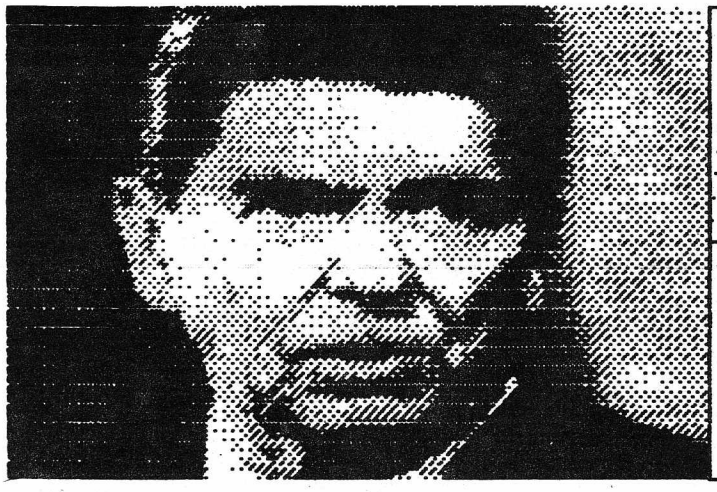
- SPECIAL THANKS TO RANJAN BOSE WHO SUGGESTED A 9-BYTE SPECIAL CHARACTER DEFINITION!

* LIZ DEAL *

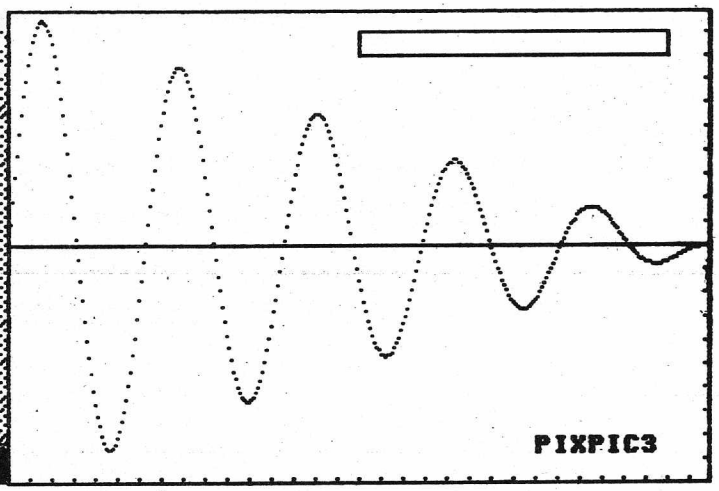
DUMP TIME (M:S) 01:52



DUMP TIME (M:S) 01:31



DUMP TIME (M:S) 03:36



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DETAILS WILL BE IN THE FALL CBUG-ESCAPE

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_____	11771	CBUG #40 Public Domain Math A	10.00	_____
_____	11785	CBUG #41 Public Domain English A	10.00	_____
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_____	11803	CBUG #43 Public Domain Science A	10.00	_____
_____	11818	CBUG #44 Public Domain Science B	10.00	_____
_____	11822	Set of 5 Public Domain above	45.00	_____
_____	12542	Pre Release #5	9.00	_____
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NOTE: We endeavor to ship against money order orders within 3 business days of receipt. Orders paid paid by common check will be delayed 14 to 18 days. Note that purchased programs may be further delayed by producers thereof -- see advertisments for same.

THE CBUG ESCAPE

FOURTH ISSUE
Summer 1986
part 2

* *

THE CBUG ESCAPE is a 4 times a year publication of the Chicago B128 User's Group - International (CBUG), an international membership organization in support of applications and usage of the Commodore B128 Computer.

CBUG is NOT affiliated or allied with any other organization, user's group, business or other entity of any kind, except in support of CBUG chapters.

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CBUG SCRATCH PAD

THE CHICAGO B128 USERS GROUP - INTERNATIONAL
4102 N. Odell, Norridge, Il. U.S.A. 60634

By: Norman Deltzke
Sept. 14, 1986

I promised myself that there would be NO Scratch Pad column in the second half of the Summer issue, but alas.

First off, we are late, as usual. Therefore the Fall issue will have to be late also. Being that it is now Sept. 14 and this issue will not make it to the printer for several more days, the Fall ESCAPE has a new target date: December 1 to the printer, and a closing date of November 1. Unfortunately this will put us into the mail during the Christmas rush -- so save a few pence for your B-128's Christmas presents.

Being that the Fall issue is now 10 weeks off (ee gads, that's nearly tomorrow), you authors and library contributors have plenty of time to get things in. Our incoming box does NOT runneth over as of this writing.

SUPERSCRIPT III and SUPERBASE II are the new kids on the block at the moment. There are several articles in work on Superscript III which has fomented the most discussion. I urge all persons with well researched and carefully considered opinions to set them down in Superscript II and send them on for publishing in THE CBUG ESCAPE. Of particular use are tutorials and operational hints beyond the excellent ones in the new manual. (I require SS II only because I've not had time to learn how to do certain operations needed for formatting THE ESCAPE in Superscript III.) Normally we do not edit or abridge articles, but in this case since there may be much duplication and possibly some technical errors, a review will be made by Liz and/or a few others who've been working on the program since the Beta test stages. Because of the review process, I'd appreciate receiving all Superscript III articles by about than October 15, 1986

Get those Superscript III papers in! We will have a complete "trial" by press. A bit of a first in the world of user's group publications.

Why this special interest in Superscript III. The initial reviews have been all over the field ranging from most favorable to the pits. HOWEVER, upon further review all of the authors have come to the same general conclusion: Like all products, there are advantages and disadvantages. On the whole it is agreed that Superscript III is a major (some say fantastic) improvement over Superscript II in spite of a few seemingly new faults. I believe it is the obligation of the group's publication, THE ESCAPE, to air all viewpoints so that all members will be fully informed as accurately as possible as to proper usage of this new program. Both Precision Software and Progressive Periferals are providing articles. How about it members, let's keep them on their toes! More importantly, let's help each other to achieve expert user level with this new Superscript. No reason why we have to continue to suffer alone as we all did (and many still do) with Superscript II. Please try to put write in an accademic footing without inserting personal feelings into the articles.

One significant drawback which needs to be mentioned at this time is that Superscript III for the B128 will not support RS-232 ported printers. People with such printers will need to use a converter from the IEEE port should they wish to use Superscript III. Atleast for the time being.

P.S. Superbase II articles are welcome also.

AGAIN, the final closing date for articles, library, and advertising is set over to November 1, 1986.

FROM LONDON WITH LOVE

Our Librarian, Mark Schwarzbauer was in London from August 26 thru Sept 1, 1986 solely on behalf of CBUG. In that period he met with the owners of several software houses, the London based Commodore International and Commodore UK managements, and board members from the ICPUG -- our brothers in sharing the title of the world's second largest Commodore User's Group. Over the next several issues, the product of this major undertaking will appear in issues of THE ESCAPE. Quantities of new software to run on the newly acquired MSDOS, CCPM and CPM capabilities for our B128 machines. And for the historically minded, much of the never before disclosed history of the B128. Having invested an entire week plus jet-lag, Mark has just begun his work with this material.

Mark negotiated on behalf of all of CBUG a license to distribute the entire JCL Workshop. This is an outstanding package of a.) an assembler, b.) a compiler, and c.) an extended Basic. This suite required the use of a special ROM (read only memory) cartridge. In the CBUG form, it will be released completely on disk using a RAM (read and write memory) cartridge such as the one offered by Gary Anderson. (You will see in this issue many uses for this RAM cartridge, and many more are in the offing). As such the entire set of programs are on disk along with the instructions. What formerly was quoted at about $300.00 will be available next issue from CBUG all on disk for about $50.00! There is a major review of the JCL workshop elsewhere in this publication.

Persons with very substantial hardware AND software experience in both 6509 and 8088 systems are requested to write directly to Mark detailing their capabilities and time availability to assist in these projects. Send all such correspondence c/o CBUG at Norridge Il.

SUPEROFFICE

There is some possibility that Superoffice may be obtainable for the B128. HOWEVER, there are a number of hurdles. Firstly it will be based on the Superscript II and Superbase I we all now know well. Bugs and all. The major reported advantage of Superbase II is the elimination of most of those bugs. Bottom line is that Superoffice would not be bug free, and would not be supported by Precision. (But we are all used to being on our own, eh!).

The principle advantage of Superoffice is that you can directly access Superbase records from Superscript in the manner of mail merge. No need to fool around with output disk files. Handy for some kinds of letter writing and atleast simpler mail merge work. Also you can toggle between the two programs rather than exit and reload. Super office REQUIRES 256K minimum!

If you are interested please write CBUG stating your interest and a realistic price (or range) you would be willing to pay for Superoffice. If acquired, the monies involved will be quite substantial for CBUG and we must know our market first.

PRINTING FORMATS

We've been trying, experimenting, sending samples, etc. As you see we have taken the time to go to double column this issue. In the future I may try photo typesetting as run several days worth of experiments are now completed.

This issue is prepared for the most part on a Daisywriter 2000 using 12 pitch gothic galleys which are pasted up on a layout sheet with an overall typeset area of 10.125 x 13.5. These are then photo-reduced to the actual printing size. Future photo-typesetting plans contemplate a three column form, set 9 on 10, using a helvetica type font. Let us know if our two column format is adequate or if you believe we should persue the additional time and expense of professional typesetting.

ALL FUTURE SUBMISSIONS should be without formatting commands except for centering, the standard Underline, and bold commands shown in the Superscript II manual on page R129. There will be a presumed *jul command in effect at all times EXCEPT, when you are doing tabular text, please on a separate line before and aft the tabular section issue a *ju0 and *ju1 command. Though we do not need it for Superscript, it will be used to alert the typesetting operator to space the tables properly. Please do not us *ln or *ma commands until further notice.

The photo-typesetter will not accept multiple spaces, so all indentations and other such multiple nulls which we all use regularly are no longer practical.

Please, at the second top of your file include a *nb" line. That line shall contain a list of all print commands you have invoked using a regular star instead of the reverse star.

The CBUG typesetting column format for articles is 58 characters wide. Be sure your tables fit in that space. Temporarily set a *rm58 on your article and print out a proof and/or output to video to check your text before submitting.

One of the interesting advantages of these experiments is that atleast one photo typesetting company has written conversion tables which will accept standard Superscript II commands without further effort on our part. In the near future they will prepare instructions on how to enter the entire extensive vocabulary of operating commands to their equipment directly using Superscript. You can then directly command all manner of fonts, weights, sizes, spacing, margins, etc. Best yet, you can send them copy by phone line with just a modem! AND, they are promising exceptionally reasonable pricing for CBUG members!!

AN IMPORTANT NOTE TO OUR AUTHORS -- Take note of the contributors' instructions at the end of the Library lead article. Remember to identify your disk when sending materials to CBUG. If you do not wish your address and/or phone to even appear on the print file disks offered thru the library, please put your zip code in a *nb line below your name/byline. This way we can look you up in the roster. BUT be sure to put full information in the EYES ONLY file if you use one.

PROPOSED SUPSCRIPTION RATES

Much to my disappointment, the post office, the paper mill, and the printer will not donate their services. If it were not for our generous authors, my wife and kids who do donate their time, we would not have an ESCAPE. The many members who have made generous contributions along with the library sales have just barely balanced the budget for the 1986 publishing schedule. By the end of 1986 we will have published about 320 pages of our infamous tiny print, weighing in at about 23 ounces. Even at bulk mail rates, the postage bill approaches 4 digits.

1987 promises to be a bumper year for articles and new technology. There is no way to accurately estimate what is to come, so I'm proposing the following subscription rate schedule. DO NOT SEND MONEY NOW. OFFICIAL NOTICES WILL BE MAILED SEPARATELY IN LATE NOVEMBER PROX. If you have any comments, please let us know quickly.

Area Served	Calendar Year 1987
United States & Possessions Bulk Rate	$14.00
United States & Possessions 1st Class	20.00
Canada & Mexico 1st Class	20.00
All Others 1st Class Surface mail (boat)	21.00
All Others Air Mail (small packet rate)	35.00

A COMPLAINT FROM YOURS TRULY

Many of our members have moved and not sent in forwarding addresses. For this reason we have been putting "form 3547 requested" on the outside of each book. This asks the post office to send us your new mailing address, assuming you told them! These little do-dads cost us .30 each at which point we try to send you your publication again by first class. The Summer 1986 Part one issue has produced over 150 such responses which we have to decipher, update into the database and send out a completely new copy of the publication as the bulk mail copies are destroyed at the undeliverable destination. The total processing time works out to about 15 minutes per returned item. Please Please Please, remember to tell us promptly when you move! You need only send us the customary post card with your old and new addresses clearly written to save CBUG much valuable time and expense so we can get your ESCAPES to you on time!

PUBLISHING NOTICE

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CBUG ANNOUNCEMENTS

MEDICAL ACCOUNTING PROGRAM UPGRADE

It turns out we were sleeping at the switch. It was our assumption that the upgraded disk we received was the entire program. Rather it contained only those portions which were upgraded. Since about August 8, we have been shipping the "upgraded" version both on upgrade orders and on new orders. We did not realize till Sept. 13 that there was a problem. We are going back and checking our records. Towards the end of September we'll be sending all who have recently been shipped Medical Accounting as a first time purchase a new disk with the improvements already in place. These shipments should go out towards the end of September as soon as the master disk is re-compiled. Check the directory on your disk. If it is 1585 blocks free, then you have the partial upgrade -- which is rather useless. If you are in urgent need, we can send you a copy of the original disk also -- but you will have to do the file replacement. Should you need this temporary copy, just phone me at 312 456 8720 7pm to

10pm.

SERVICE STATIONS

Commodore Business Machines (CBM) has issued a revised list of service stations which THEY (CBM) currently show as authorized to service B128 series computers as well as the 8050 drives and other IEEE periferals. This list superseds all previous lists. This current list was provided to CBUG by CBM on August 7, 1986:

On Line Micro Computer Repair
3207 S. Brea Canyon Road #13
Diamond Bar, Ca. 91765
714 594 2641

Adcom Corp.
3482 Oak Cliff
Doraville, Ga. 30340
404 4451 8455

Micro Inc.
1164 Tower Lane
Bensonville, Il. 60106
312 350 1300

MEMBER RECOMMENDATIONS for service stations are being received from time to time. Some have been previously published. Here are a few more:

Century Computer Systems
1040 E. Whittier Blv'd. #102
La Habra, Ca. 90631
213 697 6977
714 750 3423

Adcom Corporation
3482 Oakcliff
Doraville, Ga 30340
404 451 8455

(CBUG member Max Pitzer reports that the repair was fine except for a few spelling errors remaining in the computer, which "I'm sure it will learn to correct in due time".)

CCBS
6720 N. Karlov
Lincolnwood Il. 60646
local area only phone contact -- you must u se a touch tone phone for this method: 856 0261, when ask ed for mail box number dial "390", leave message and state type of problem you are having. (this service station is part time venture of a former CBM staff enginee r/programmer with considerable special knowledge of the 80 50's as well as the entire CBM line of computers.

Computer Clinic & Electronics
Pete Vandrew
205 State St.
Manhattan, Il. 60442
815 478 4995

B128 Power Supplies & 256K memory upgrades are available from:
Jim White
S & W Supply
5308 Timberline Trail
Rapid City, S.D. 57702
605 348 9696

CBUG nor CBM make any recommendation as to the capabilities or service rates of repair stations listed. However, listings will be deleted if substantiated reports of improprieties are received. We urge members to let both CBUG and CBM (attn. Pete Bazcor, 1200 Wilson Drive, West Chester, Pa. 19380) know of any gross improprieties as well as noteworthy successes.

A note of caution. Many service stations claim they service "ALL" types of Commodore equipment. This may merely be ignorance on their part (but dangerous to you and your machine). We've heard a few sorry stories of rip off's by starving local service stations who finally resort to tactics worse than big city auto repair cons. Do not accept diagnosis of an entire board has to be replaced without some careful questioning. Rarely is this really necessary. "Component level service" is the buzz word. If the shop is not well equiped with test instruments, such as osciloscopes -- and people who have obviously had years of experience using them, the only type of service possible will be "board level". You'll get charged for a several hundred dollar board when all that is at fault is a chip often worth only a few dollars and at most $40 or $50.

A similar example is the write protect sensors. There is a LED and a photo transistor mounted in the left sidewall of each drive in the 8050. Less capable shops insist on purchasing an entire drive or atleast the entire side wall simply because they do now wish to go to the supply store and purchase a less than $2.00 part that can be mounted with epoxy. Of course they can't make much markup on such a low parts biill either.

This type of problem is epidemic throughout the computer trades, but is a bit worse with less common equipment such as the B128. AND!! don't let that used car dealer turned computer salesman try to convince you that you should trade up to whatever brand he is selling today because your B is obsolete or unservicable. If you suspect you are not getting a straight shake, get everything in writing, require return of defective parts or a detailed and signed written statement as to why -- and verify those claims (such as factory exchange). Get references and check them carefully, etc. Report any suspect responses as well as suspect abuses to both CBUG and CBM, and attached full documentation with detailed statement to your basic report letter.

One member reports a typical dealer comment when asking for help with his B128. Quoted verbatim: "A snidley remark about Commodore Dealers. I've been to two of them in the Cleveland Ohio area for support for my B-128. The little creeps. They called my machine a piece of --it!! Their attitude was: You didn't buy it here so suffer. Well I guess this is my chance to get back. I'm learning to use this without their help and getting along nicely. I also won't buy anything from them now. I get my hardware support via mail order!!!" Jeff's experience unfortunately epidemic in today's high speed hustle by computer dealers. It is understandable that a dealer can not afford to invest expensive time in a non-paying customer -- a common problem when any product is bought at mail order or discount warehouse pricing. But when that business rational becomes abusive or turns to bait & switch -- or abuse and switch, it has gone too far.

Other Technical Tips

TIP re 8050 electrical problems. One of the more commonly reported failings of the 8050, in terms of actual circuitry failure, are the LM7812 regulator devices (located in the heat sink on the digital board), and the TIP 110 transistors located at the rear of the analogue board. The TIP 110's should be replaced with higher rated parts if they fail. Though electronic failures of the 8050 are rare, these have proven to be the most common.

It has been reported that unpluging a power cord before disconnecting the IEEE cable from a device has been known to damage the IEEE port of that and possibly other devices connected to the buss. Be sure to disconnect all logic lines before opening the power connection (as that contains a ground line).

Similarly, do not open an IEEE or other cable while a disk access operation is in progress. Exit as is necessary before opening the IEEE or you will likely corrupt your data disk!

The new B128 versions of Superscript III and Superbase II disks are NOT protected. This is due to the fact that CBUG has convinced Precision Software that CBUG membership is an honest lot. Always make backups of your software before using! Make several of them so if you have an accident you still have more than one! Meanwhile,

remember, all of us in CBUG are part of a great experiment -- to see if high quality software can be offered in unprotected form. Let us not be unfaithful to our friends!

LEST WE FORGET

Lest we forget both our roots and who the great majority of our members are, this is the note on a recently received membership application asking of the member's areas of expertise:

> "Strictly a means, I don't care if the computer is powered by millions of ants on tiny treadmills or by magic (but I suspect the latter)."

As THE ESCAPE continues to grow many of the articles become more and more technical. That is necessary for our advanced membership -- so that they may better help the whole organization with their applications programming. BUT, for the rest of amateurs articles on simple applications, extricating ourselves from routine disk errors, basic help in the regular meat and potatoes programs such as Superscript, Superbase, Calc/Word Result, CABS, CMS and telecommunications must also be published.

Roy Sherman was volunteered to tabulate the results of the survey on user needs published last March. The consensus is as follows:

Interest was expressed on a scale of 10:

Superscript	10	Business	5
Telecommunication	9	ML programming	5
Utilities	8	Calc Result	5
Printer Info	7	Hi-Tech documentation	5
Superbase	7	Disk applications & Info	4
Do it yourself service	7	General helps	4
Basic programming	6	Education applications	3
CABS	6	B-Emulator for the IBM	3
Co-processors	6	CMS accounting suite	2
Other	5	Games	1

Roy will have a graph of the above showing the level (weighting range and average) of interest for our next issue. Meanwhile, our members who can help by providing articles in the above areas, particularly as to higher need level items are urged to send in articles (in Superscript II form on disk) as soon as possible.

CATALOGER NEEDED

CBUG is in need of a member to take on the job of indexing all of our library programs into an ongoing master index by title, author, and subject matter. An ideal Superbase task. You'll need lots of time as every program and text file would need to be worked thru and entered into the database. Of course, the Index Manager would receive complimentary copies of all CBUG releases. We can not afford any false starts on this one. If you are interested, write CBUG indicating your capabilities, level of expertise with the computer, programming and such.

The results of this effort would be published periodically as a Superbase data disk as well as in THE ESCAPE in condensed form.

MEMBER ANNOUNCEMENTS ETC.

IEEE applications of the B128 for laboratory instrumentation are becoming commonplace amongst our scientific oriented members. One recent report from Michael Steinitz, Professor of Physics, Dept. of Physics, P.O. Box 154, St. Francis Xavier University, Antigonish, NS, Canada, B2B 1C0 reports:

We have successfully used the B128 and B256 with the following lab instruments:

- Keithley Model 195 Multimeter.
- Keithley Model 181 Nanovoltmeter.
- GenRad Model 1688 Digibridge.
- Hewlett Packard 3438A Multimeter.
- LeCroy Model WD8256 Waveform Digitizer
- Ithaco Model 385 Integrator/Coupler Lock-in-amplifier.
- Seitz Model 6450 general purpose parallel interface - relays etc.
- ICS Model 4880 instrument coupler (to BCD instruments)
- Multiwriter daisywheel rs232 printer (Diablo Hytype 1345A).

Michael further writes: The IEEE-488 implementation on the B128, as on the Superpet, is much better than on the PET 2001, and makes the B128 the cheapest and best IEEE-488 lab controller available for relatively slow measurements (although the LeCroy, above, does take readings with eight-bit resolution every 50 nanoseconds for 1024 points). GPIB programs I have seen on the Apple and IBM computers with GPIB interface cards <<the cards cost more than the B128!!>> use 6 or 7 lines of BASIC to do what we do with one INPUT# statement.

A further tip from Mr. Steinitz: dcleard (0) or dcleard(1). This is a command not included in basic 4 and only mentioned once, without any details or even parameters (0 or 1), on page 19 of the B128 Programmers Reference Guide. It is not mentioned in any description of DOS in the 8050 manual, or anywhere else. I have only seen it used once - in Liz Deal's Keytrix Loader program, but it does seem to do a good job of initializing the drive. Questions: When is it essential? What does it do that is not done elsewhere?

A B-128 BBS PROGRAM

Member Lewis Horn is the first to announce a BBS program operating on a B-128! Congratulations Lew!!! He writes "The B-128 BBS is up and running!!! Right now it is at 300 baud, but I plan on switching to 300/1200 shortly. The BBS is running on a B-128, 8250, 4040, 2023, and Challenger 1200 modem. The phone number is 305 726 4390, and all of the CBUG members are more than welcome.

Regards,
Lewis Horn

Hey you, Lewis, how about putting the program in the CBUG Library????

SIG INFORMATION

HAM RADIO
Dale Cryderman
518 N. Lincoln
Warsaw, Indiana 46580

The CBUG release stirred up some interest and I have corresponded with several amateurs concerning the use of the B-128 on the amateur bands. While in Florida I had a chat with the President of Kantronics which is one of the suppliers of interface equipment and found him very helpful.

Amateur radio operators using the B-128 can now get into RTTY and PACKET by using the Kantronics interface UTU-XT or the UTU with either B-Term or BEELINE software. If there is sufficient interest we will attempt to establish a B-128 users net for the exchange of information. Contact KA9EIZ, Dale.

INTERNATIONAL INFORMATION
Jeff Spielmaker
2145 Galewood
Wyoming Michigan 49509
616 243 5686 reasonable hours.

Some months ago Dale volunteered to act as resource co-ordinator for European research. This function was to

try and match up known or suspected sources of software or hardware in Europe with persons having either travel plans to various locations contacts available to do so investigation on behalf of CBUG. If you have either information as to European resources or some spare time on an upcoming trip being planned, please check in with Jeff. If the information relates to the greater London area, kindly carbon copy it to CBUG Librarian Mark Schwarzbauer at 1723 Michigan, Sturgeon Bay, Wi. 54235.

MEMBER REQUESTS

PEN PAL FOR GAMES WANTED:
Mark Vining
4601 Erie
Midland, Tx. 79703

INTERFACE INFORMATION re ROYAL 6100 or BROTHER 90
Orick Ratzlaff
15215 Calle Verdad
Green Valley, Ca. 91350
Anyone out there hooked either one of these printers to a B128? If so, please forward detailed instructions to Orick. If worth an article, send on in Superscript II form to CBUG.

CHESS PROGRAMS
J. J. Willis
P.O. Box 1165
Belle Glade, Fla. 33430
Are there any good Chess programs available for the B128? If available are they fast enough in upper levels to be useful as an opponent?

LODGE PROGRAMS
William H. Cox
1210 S. 7th St.
Copperas Cove, Texas 76522
We of Killeen Masonic Lodge have been using the B-128 system from Protecto for about two years. Using the Superbase to maintain our records and make labels for our mail; Superscript to create and file letter for the Lodge. We are now wondering if you have available any programs specifically made for Lodges?

COMMODITY TRACKING
William R. Lund
113 Wilmar Drive
Pittsburgh, Pa. 15238
I keep about seventy twelve month moving averages regarding the worldwide LPG industry. One of the reasons I have Calc Result is that Protecto advised me that it could handle graphic presentations of these tables. Turns out that it only makes bar graphs and only for about a year. I need line charts and would like to cover atleast three years. Can you suggest a program that would help, one with which I could use the data I have on Calc Result without having to retype all the data?

* * * * * * * * * *

FIRST NOTES FROM EUROPE

by: Mark Schwarzbauer

C-BUG, in and effort to bring you everything that is, was and could be available for the B, sent yours truely to England. It was timed perfectly. Commodore U.K. is in much the same situation as is Commodore America, liquidating and cutting back everything. I arrived in time to collect B-700 materials before they were destroyed.

While I was there, I was also able to meet with Pete MacClaurin. This gentleman is the author of the programmers reference manual and the man responsible for debugging a great deal of the machines faults. I also met with John Tranmer of Precision Software in an effort to have the original version of "SUPEROFFICE" for the B-128 released. Contracts were also set up to have the J.C.L. 700 workshop, a masterpiece of software by Richard Leman, released through C-BUG. <<See the review elsewhere in this issue.>>

Naturally, much more was accomplished. I brought home all the remaining records from the library archives of CBM U.K. And I brought back many "secret" vaporware treasures. In addition to working 8088 co-processor boards I picked up the following software...

CBM 700 sampler- released this issue
CBM 700 DEMO- also released this issue
CPM 86 Bios- for loading concurrent CPM in the B.
C-Basic 86- programming language for the B
C- Basic compiler- compiles your program
SPP- a programming language designed for the B series
Calcstar- The famous spreadsheet used on Big Blue
Wordstar- industry standard word processor for the B
CPM 86 system disk-
Cobol- a programming language
Cobol level II- the revised cobol
MS DOS 1.25- The MS DOS for the B
CBM 700 revison IV basic- Not sure if this is our basic 4.0
CBM 700 Kernals- wow- could this be the magic we need!
PL1-86 -programming language for the B
this comes in three disks.
CBM 700 editor- Not sure what we have here yet.
PASCAL 1-4 - another popular programming language
MOVE IT 86- another we are not sure of yet.
AK SS PUTN- Unknown what we have here yet.
A1- SS protection - Appears to be the protection for programming
A5 SS ref G.D.- another unknown
Personal basic- unknown
and even more!

While there I learned why, how, when, and what for on most of the history of the B series. In the up coming issues I will be sharing with you the wonderful tidbits of information I picked up in over 60 hours of London meetings and 7 hours of transatlantic phone conversations prior to the trip. Our programmers will be evaluating what we have in the treasures I returned with.

Now don't rush and call Norman, or myself, to ask when you can get the materials. There are issues of ownership of some materials, possible licenses or releases to be negotiated; and no doubt much work to be done tie down loose ends. We expect that the materials will be start becoming available in the early part of January. You can order a tickler right now however, as I have assembled the dealers demo programs and samplers that they used to originally sell the B. These have some super graphics and some startling information that ended up being wrong! But, CBM changed the B more than some people change socks.

Did you know that the early B's exploded?
Did you know that there were internal drives available, but they didn't fit inside the case (hi-boy version anyway)?
Did you know there are over 20 tech sheets available on all our B bugs?
Did you know that the B 700 (128) was followed by a never released 900?
Did you know the B can support an internal 64K IEEE printer buffer?
All this and more in upcoming issues.

Aren't you glad you joined CBUG?!

* * * * * * * * * *

CBUG Question & Answers

By: Warren D. Swan

Keywords: Superscript II, *format1=, Section 10.2.2, Page 131

Question: "How do you get the Superscript II *format1= command, described in section 10.2.2 of the manual (page 131), to work?"

Answer:
The confusion here is caused by the word "format", which Precision Software wanted to mean "put any optional format commands here, separated by colons." To avoid confusion they should have simply left out the word "format". Their example would then have looked like:

*1=204

The word "format" simply means that we could also have used:

*1m20:ju1:2=95:1=204

for all that Superscript cares. Notice that you do not press the ESCape key before typing the digit when using the *digit= command (I mean *1=... or *2=... for example). But, when you go to insert these special characters into your text, you must press ESCape and the corresponding digit to get the ASCII code that you assigned to that digit in the *digit= command. When you do this, the digit will be displayed reversed in your text.

As an example, we want to print the underscore character on a Commodore 6400 printer. The underscore is ASCII code 95. To print the underscore we would use the following text (reversed characters are underlined here):

> *1=95<
> This text will contain an underscore (1) between the parenthesis when printed, and a reversed 1 when viewed in Superscript.

* * * * *

Keywords: Commodore Key

Question: "Why doesn't the Commodore key work all the time?"

Answer:
There are 2 possible answers to this question:

(1) Many times this key seems to fail because the user isn't really aware of what this key is supposed to do and so assumes that the key didn't work if it didn't do what was expected. This point is further confused by the fact that different pieces of software have different ideas about what this key should do. So I will start by pointing out what BASIC and the Operating System take this key to mean:

> The Commodore key is used to stop output when the screen would scroll. It does not cause a program to pause its execution, unless the program is attempting to print output that will make the screen scroll. It does not cause a program to pause its output, unless that output will cause the screen to scroll. It will not freeze output to the printer or disk.

Once we understand just exactly what this key is supposed to do, we can better understand when and how to use it.

(2) Many times this key actually does fail because of one of 2 reasons:
(a) "Keyboard bounce" and
(b) The software using it ignores the "standard definition" given above and instead checks for the Commodore key being pressed to do something other than pause the scrolling. Some software seem to want to use the Commodore key for its original purpose, but instead of letting the Operating System do the scroll-freezing, they seem to do everything the hard way and try to check for the Commodore key in their own program. [Superscript seems to ignore the Operating System for many things because it is actually a conversion from a 64 version, and the 64 didn't have a "freeze scrolling" key, a hardware cursor, and some other basic features found in the B.]

* * * * *

Keywords: Orphan, Goof, Commodore Business Machines

Question: "I'm new to the B. Could you tell me why it is an orphan?"

Answer:
A company can go broke if it miscalculates the market. Companies (and not just Commodore) are always introducing new products, sometimes one right after another, only to find out that one product overshadowed an earlier product. Sometimes a company must move quickly to back down on the earlier, overshadowed product so as to invest its resources on the newer, booming product or products (unless it can do justice to all the products with its current capital).

The later product or products don't have to be better or faster or smarter or have a bigger capacity. All they have to do is fit into a market that is moving faster. At the time the B was introduced there were a few relatively good business systems already in the market (whether Commodore's or other's), but there were no really good affordable computers for the home.

So the answer(s) to why the B is an orphan is: the 64, the VIC, the +4, the 16, the Amiga, ... Got it?

* * * * *

Keywords: 256k, extra 128k, Bank 3, Bank 4, fre(3), fre(4)

Question: "What do I get when I add the extra 128k to banks 3 & 4 to get 256k RAM? Why do fre(3) and fre(4) lie?"

Answer:
[Author's opinion: the B kernel is well written and supports our machine well, but the Microsoft BASIC is poorly written and neither uses all of the features of the machine, nor of the kernel. As an example, the kernel contains a routine that can move the cursor to a direct X,Y coordinate on the screen. Such a routine would easily allow our BASIC to have a feature such as PRINT@(X,Y);A$ (or some such syntax) to cause it to print at a specific screen row & column. Microsoft doesn't even use that kernel routine, so unless you write your own assembly language routines, this routine is wasted. Foo!]

In implementing BASIC for the B machines, Microsoft seems to have ignored all modern programming techniques that allow flexibility. In computer science terms, they "hard coded" in the references to each bank in order to get variables, arrays and strings. Then they had to make 2 versions of BASIC - one for 128k machines and one for 256k machines. Had they stored the bank numbers for variables, arrays and strings and used those stored bank numbers, rather than imbedding them in the coding, they could have had 1 version of BASIC that would work on both machines.

If you add the extra 128k of memory the machine will take a while longer to start up because the good ol' kernel correctly recognizes the extra memory, and it is the kernel that checks out all the memory when the machine comes on. BASIC, being the language that understands the fre() function, ignores what the kernel found to be the amount of memory available [figures!] and, thinking to itself, "Since I'm a 128k BASIC, I don't have a bank 3 or 4," it returns 0 for fre(3) and fre(4), thus lying to the user.

So what does use the extra memory? Your own machine language routines. (What? You haven't written any

lately?) Superscript II uses up to bank 9, but Superbase doesn't recognize the extra memory either [shame!]. Calc Result and Word Result also recognize the extra memory. So, I've found it useful for some of my work and you may too, unless you do everything in BASIC.

* * * * *

Keywords: Precision, Floating Point Errors, Real Errors

Question: "Why do my numbers sometimes get changed after the B has worked with them? Why don't I get the answers I expect?"

Answer:

A common question is about the precision of Commodore BASIC. Let me first start out by (unnecessarily) justifying B's BASIC [after what I just said above]. Most BASIC's written by Microsoft only allow 6 to 8 digits of accuracy [Hmmm. I guess I was right after all.], whereas Microsoft BASIC on the B has over 9 digits of accuracy. However, in some Microsoft BASICs (such as that on the Radio Trash machines) there are single precision numbers, which are about 6 significant digits, and "double" precision numbers, which are almost 16 significant digits.

There are several reasons why floating point numbers are not perfect in **ANY** computer:

(1) Floating point numbers are only stored as approximations anyway. The number resulting from 1/3 is a repeating, non-ending real number (.333...). No computer or calculator can hope to hold an infinite number of digits! Try this on your calculator: Calculate 1 divided by 3. Take that result and multiply it by 3. Subtract 1. Did you get 0? I'm betting not, even though we know that (1/3)*3-1 = 0.

Integers as well as real numbers suffer from this problem. Try to store the number 10,000,000,002 in a variable. Since our BASIC only stores less than 10 digits of precision, that 11th digit (2) will have to be ignored.

(2) Most computers store floating point numbers as floating point binary, not floating point decimal (or Binary Coded Decimal, which I won't get into here). This generally isn't true of calculators (which do use BCD). So what? So, numbers that are simple decimal numbers in decimal may be repeating, non-ending binary numbers. For example, .3 in decimal is .0100110011001... in binary.

In fact, since the factors of 10 are 2 and 5, any number that is the result of

$$\frac{a}{(2^x * 5^y)}$$

(that's a divided by the quantity 2 to the x times 5 to the y), where a, x, and y are all integers, must be a non-repeating decimal number. The denominator is what is important here, and we can see that we will get finite-precision decimal numbers if we use a/2, a/4, a/5, a/8, a/10, a/16, a/20, a/25, etc. Whereas, since the only factor of 2 is 2 (besides 1, I mean), then only the numbers that are the result of

$$\frac{a}{2^x}$$

must be non-repeating binary numbers. So we will only get finite-precision binary numbers if we use a/2, a/4, a/8, a/16, a/32, a/64, etc. Notice that this particular problem has no bearing on integers. In fact, this can be proved mathematically simply by noting that any integer I can be represented by a/(2^0), such that a = I and x = 0 for every integer I.

So binary isn't a very good choice for storing floating point fractions in, in spite of its importance in making the design of the computer simple. A better number system might be one like the duo-decimal system (base 12), since 12 is divisible by 2, 3, 4, and 6. It is believed that our names for numbers might have had an earlier ancestry with a base 12 system since we don't start using the "teen" suffix until we get to 13. That is, ten, eleven, and twelve are all simple words (just like one, two, and three) until we get to thirteen, fourteen, and so on, which are compound words with a -teen suffix.

(3) Furthermore, the algorithms used in some of the built-in operations or functions themselves cause us to lose precision. Some of the functions (such as sine and cosine) are derived by the machine repeating a formula many times, each time getting closer and closer to the needed answer. This is called an iterative technique.

However, so as not to slow our machines down to a very slow rate, these algorithms quit when they figure that they have calculated the answer "good enough," a judgment call that must be made by the language implementer [Microsoft again!]. As a result, the trig functions in our machine are only good to about 6 or 7 digits, even though BASIC stores over 9 digits. The log function and exponentiation (^) are likewise plagued.

Integers are not exempted from this problem since we are talking about digits of precision, not places after the decimal point. The integer 321654987 has 9 digits of precision, just as does the real number .000000001.

(4) Finally, the incorrectness in floating point numbers, called the error, is cascaded by further operations. If we have two floating point numbers stored in a and b, and a is accurate to + or - 3%, and b is accurate to + or - 4%, *hen a+b is accurate to, at best, 4% (the worst of the two), and a*b is accurate to, at best, 7% (the sum of the two). So expect cos(a)+sin(b) to be only in the ball park of what you really wanted. This affects integers as well as real numbers.

To summarize then: numbers are inaccurate in BASIC because of
(1) rounding error (or representation error),
(2) radix conversion error,
(3) algorithm error, and
(4) combination error.
Only radix conversion error does not affect integers.

One way to avoid errors caused by floating point is to avoid floating point! NEVER represent money as dollars when writing a program to handle money, use cents instead. That is, $1,768.23 should be stored as 176823 NOT 1768.23. Only convert the result to dollars when you go to print them out:

```
print using "Balance: #$#,###.##"; b/100
```

will cause the 176823 value to be printed out nicely as:

```
Balance:  $1,768.23
```

which is how you wanted it to look. I do admit that this causes a problem if your program deals with larger businesses or you are a multi-millionaire with $10,000,000.00 or more, but then what are you doing with a Commodore B instead of an AT&T 3b20 or 3b5 computer if you have that much money?

* * * * *

Please, do not send questions for the Q & A column to over-worked Norm. You may send them directly to me:

Warren D. Swan
Prairie Maples
1 N 114 Woods Avenue
Wheaton, IL 60188

If you want a direct answer without waiting for the Q & A column, you must include a self-addressed, stamped envelope (normal business size). From now on I will not directly answer mail that does not include a SASE. However, questions will still be answered in this Q & A column.

* * * * * * * * * *

The JCL Software 700 Workshop

By: Micheael O'Henly

The JCL 700 Workshop is a ROM cartridge offering BASIC extensions in the form of approximately 40 new keywords, a screen input editor, DOS support, additional RAM mapped in to the system bank, and an enhanced machine language programming environment. Standard versions are available for the B-Series in both 128k and 256k configurations as well as an extra-RAM version which may be used to soft-load another JCL product: the 700 Assembler.

I purchased the extra-RAM version 2.2 of the 700 Workshop at the same time as my B128 and, quite frankly, I consider it to be essential for BASIC programming. The 700 Workshop is not a "B-Series Simon's BASIC" - it doesn't offer, for instance, structured programming commands or graphic modes. It does, however, address traditional weaknesses common to most CBM BASICs as well as exploiting particular features unique to the B-Series machines. Although I don't wish to disparage BASIC 4.0+, it must be conceded that procedures like windowing, memory transfers and complex input routines are frequently either awkward to program or slow to execute in BASIC. The age-old question with CBM products seems to be: "When the machine is capable of so much, why aren't its features more accessible with the resident language?" For B-Series computers, the JCL 700 workshop provides an elegant solution.

The 700 Workshop is essentially a "toolkit". I suspect that its authors conceived of it being used mainly as a programming aid and system enhancement by developers of applications software. Rather than making the machine do unusual things, it make the machine do what it should do more easily - and this translates into both efficient, compact BASIC code and reliable software that is easier for an inexperience operator to use.

The manual is one of the more instructive and clearly-written that I have come across. It's about 60 pages in length, spiral-bound and mercifully succinct. Each of the Workshop's features is explained in a way that someone reasonably familiar with BASIC would understand and a short piece of code accompanies keyword descriptions to illustrate their context and syntax. (JCL also sells a demo disk containing a number of genuinely useful programs including a lister/formatter which interprets 700 Workshop BASIC tokens and a "mini-office" utility with typewriter, calculator and database.) Unfortunately, page numbers are not referenced in the manual's table of contents and there is no index. There are a few minor typographical errors but none that would lead to serious misunderstanding.

To start with, the EBR (Extended BASIC ROM, as JCL refers to it) fits in the expansion port and need only be removed if other cartridges are to be used. It is important to note that programs written with 700 Workshop keywords need the cartridge in place in order to be listed correctly or run - but if the DOS support or programming aids are being used to edit standard CBM BASIC programs, then they may be listed or run without the EBR. Since the 700 Workshop is inactive until enabled with a SYS command, it will not ordinarily interfere with other software. The appropriate SYS brings a power-up display (which may be suppressed) and access to the 700 Workshop's various features...

DOS Support

A full range of conventional "wedge-type" DOS support commands is provided. The directory display is formatted into two columns on the screen.

Programming Aids

The keyword EDIT puts the B128 in an ASCII text editing mode which facilitates the manipulation and output of assembler source code and other sequential files. The EDIT mode actually functions as a simple word-processor and I often use it when I don't feel like waiting for Superscript to load. KILL returns the system to BASIC text entry. AUTO, NUMBER, JOIN, MERGE, and FIND are conventional and fairly self-explanatory. Unfortunately, there is no REPLACE command (FIND will detect all occurrences of a search string but changes must then be made manually). TYPE, with its various parameters, permits formatted output of sequential files. SCROLL permits several ways of displaying BASIC program listings including paging, bi-directional scrolling, and a simple screen dump.

These commands, in addition to the B128's keyboard escape codes, make screen editing fast and intuitive.

Machine Language Environment

I'm not a machine language programmer so I am essentially paraphrasing the manual here...

The 700 Workshop contains additional RAM which is available to ML programs residing in the system bank (15). Furthermore, the keywords BSYS, FIXMEM and their attendant parameters allow ML programs (or hybrid BASIC/ML programs) to run in any RAM bank and to access the system bank Kernal entry points as if they were available in that bank. (If you remember Jim Butterfield's terrifying description in the Transactor of B-Series transfer routines, this will probably be of interest.)

Techniques are described, and examples included, showing the ML programmer how to create up to 126 additional BASIC keywords. These are stored on disk and may be BLOADed (either at command or program level) into the EBR cartridge RAM. If, for instance, you missed REPLACE as much as I do and you know something about ML, this would allow you to add a useful keyword to your command set.

An EBR Access Point Table is printed in the manual with the address of each routine and a brief description of its use.

Enhancements to BASIC

As I've said, programs written with the 700 Workshop tend to be efficient and compact - efficient because the EBR uses machine language routines and compact because long stretches of BASIC may be replaced by a single keyword and a few parameters. (Keywords tend to be quite descriptive: BELL, DELAY, FLIP, FLASH, UPPER, LOWER...)

WINDOW (x,y)(x,y) creates a window. FRAME (x,y)(x,y) draws a box and PRINT@ (x,y) positions the cursor - both relative to the current window.

SAVESCRN (n) copies the current screen to the top of available text-bank RAM where it may be recalled with GETSCRN (n) or exchanged - EXSCRN (n) - with a subsequent screen. (Since each screen consists of 2000 bytes, there's room for plenty of screens!) TRANSFER moves the contents of memory with parameters specifying the number of bytes, source and destination.

SORT sorts... quickly! This is a good example of how a single ML routine can vastly improve the efficiency of a BASIC program.

PLIST lists programs to a printer using LIST parameters and outputting in upper and lower case. DUMPLINE (*) is a screen dump, DUMPLINE (n) permits a specified line range.

EVALUATE performs mathematical operations on string input.

READSCRN reads a specified number of bytes from the current cursor position into a string variable.

GETKEY displays a cursor and waits for a single keypress. For instance, GETKEY menu$, "123" will halt a program until either "1", "2", or "3" is selected. RESPOND acts as a string input routine with a response length limit. RESPOND (a$,5) will accept up a response of up to five characters and assign it to a$.

The "JCL Software Screen Input System" has a rather proprietary ring to it which, as far as I'm concerned, they're quite entitled to. One of the inherent weaknesses

of CBM BASIC has always been difficulty in producing "bulletproof" input routines. Under certain circumstances commas, colons, cursor controls, insert/delete controls, long strings and even null strings can wreak havoc when used with the beleaguered INPUT command. JCL's screen input editor, which is accessed with the keyword SCRINP not only overcomes all of INPUT's deficiencies, it permits extremely subtle control over the type of input accepted (ie: numbers and letters, numbers only, letters only, no keyboard entry, response length limits), formats numeric input, and offers extensive editing and checking of data before input is accepted. DEFINE, INPFLD, CLRFLD, and CHECKFLD are commands associated with the editor. SEND, RECEIVE and MATCH permit a one-to-one relationship between SCRINP fields and relative file fields.

Conclusions

This is a very sophisticated package offering tremendous potentials for the BASIC and ML programmer. It strikes me as being the result of some serious thought about the way BASIC has been implemented in CBM machines. (I think it's significant, for instance, that JCL also makes similar software for the C64 and PET/CBM series computers.)

If you are considering buying the 700 Workshop, I suppose the greatest negative factor you would have to consider is that any software you write will only run with the EBR in place - and this obviously limits your audience to other 700 Workshop users. Nonetheless, it offers such a powerful boost to the utility of the B-Series computer that unless commercial software development is your priority, I would recommend it very highly.

Michael O'Henley
P.O. Box 1173
Station B, London
Ontario, Canada, N6A 5K2

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DELPHI/FLAGSHIP HELPS

By Deb Cristensen

It's been very exciting watching more and more B-128 CBUG members from across the country help each other on the *FlagShip*! Angel Matos has cheerfully agreed to be the CBUG Sysop, his Delphi Mail address is: AMATOS

Several people have inquired just how they can locate other CBUG members on the *FlagShip*. Well, I have no access to those kind of records, but there is a special member directory that you can use to enter whatever information you'd like to, voluntarily. The member directory will probably ask for your computer type, software type, and will let you enter any other info there. Use the keyword field: CLUBs to enter 'CBUG'. Thereafter, you can use the search options for CLUBs to equal CBUG, and browse through a list of CBUG members on Delphi!!

For those who are just joining Delphi and the *FlagShip*, here are some practical hints for your first visits!!

You'll need to use any standard terminal program. After signing in with your UserName and password, you'll be at the Delphi Main Menu. On Delphi, all commands are just typed in. There are no numbers. When you want to do something, you can review your choices with a '?' and RETURN, then just type in the first three letters of the command or choice, and Delphi executes it!

The *FlagShip* is on the Groups and Clubs menu. If you'd like to take a shortcut from the MAIN> menu, direct to the *FlagShip*, you can concatenate the commands and bypass the Groups Menu. At the Main> prompt, type: GR FL Press RETURN. There can be only *1* space in the line, tho!

Your terminal software should be configured for 8 bits, no parity, 1 stop bit. If your software is capable of defining the delete character, Delphi prefers the use of an ASCII 127, -or- RUBOUT character. An ASCII 8, the traditional backspace, will work, too, it just sometimes acts slower. Downloading from Delphi is accomplished with any standard XMODEM program. Text files and messages can be captured into your buffers anytime.

There are extensive HELP files prepared individually by the *FlagShip* staff for new members. Just type HELP at the FlagShip menu. You'll be given a choice of around 15 HINTS articles, each one covering a specific area of the SIG. CBUG members who have no interest in other Commodore computers may want to take immediate advantage of the ability to screen out topics which do not interest them. The *FlagShip* serves both C-64 and C-128 owners, too, and many of the messages are from and about them. You can narrow the topics which you see by using the CLEAR command. Here's how to do this:

```
 <This is a run-through of EXACTLY what you see/do!>
 <I have added underlining to the commands you type, altho
they appear>
 <in caps, you can type them in either case.>

 *Welcome to the *FlagShip* Commodore *
   ... pursuing excellence
     in Commodore Computing!

Flagship Commodore Menu:

Announcements          Progressive Support
Conference             Topic Descriptions
Databases              Toronto Pet User Group
Entry Log              Who's Here!
Forum (Messages)       Shopping Service
MAIL                   Help
Member Directory       Exit
Poll

*FLAGSHIP*>What do you want to do? FOR
                                   ---
Welcome to the Flagship Forum!
Forum contains messages 601 through 14059.
Highest message you've read is 14050.


FORUM>Read, Reply, Menu, Exit> CLEAR ALL
                               ---------

ALL accessible topics now cleared. Be sure to SET
something as your DEFAULT.
FORUM>Read, Reply, Menu, Exit> SET
                               ---
SET TOPIC>Which topic to set? ?
                              -

DEFAULT Topics Available Menu:

FLAgShip Archives          LANguages & M/L
SOFtware To Go             TELecommunications
                           TOOlkit
C-128                      USEr Groups
ELEctronic Chalkboard      B-128 National Group
CP/M                       New Files *ShowCase*
GAMes & Entertainment
StarBoard Journal

SET TOPIC>Which topic to set? FLA
                              ---
"FLAgShip Archives" is now one of your default topics.

SET TOPIC>Which topic to set? STA
                              ---
"StarBoard Journal" is now one of your default topics.
```

```
SET TOPIC>Which topic to set? B-128

"B-128 National Group" is now one of your default topics.

SET TOPIC>Which topic to set? ^Z
        --> I entered CTRL Z to exit, and it echoes:  ^Z

FORUM>Read, Reply, Menu, Exit> SHOW
                               ----

Topics set:

FLAgShip Archives          StarBoard Journal
B-128 National Group


Topics available:

SOFtware To Go
C-128                      ELEctronic Chalkboard
CP/M                       GAMes & Entertainment
LANguages & M/L            TELecommunications
TOOlkit                    USEr Groups
New Files *ShowCase*
```

Those listed under Topics Set: are the ONLY things which you will SEE on a regular basis. Those listed under Available are the ones which you are essentially ignoring. Most news and items of general interest will be posted under the FlagShip Archives or the StarBoard Journal, so I highly reccomend that you keep these topics 'open'. If it ever looks like there is a message number you cannot read, its likely in one of the ignored topics. You can reset to any additional topic or all of them any time by using SET again. SET ALL does it in one fell swoop. To restore to your personal preferences of defaulting topics, use CLEAR ALL and SET to the individual topics again. These are permanent and will be remembered every time you log in online to the *FlagShip*!

One of the other handy options that Delphi allows you to set is the level of prompt or menus which you see. There are three levels, FULL MENU, where every command or choice option is always displayed to your screen. This is what every new member sees. There is also a VERBOSE mode, where a one line summary is printed, and BRIEF, where only the name of the menu is printed, and no command reminders. I suggest that as soon as possibly, you choose USING DELPHI at the MAIN Menu, then choose SETTINGS. Choose the BRIEF one-word menu option at the PROMPT menu. The full menu is ALWAYS at your fingertips if you forget, just enter a question mark and press RETURN!

Some Delphi conventions which will also help guide your first trips online...!

<CTRL Z> Holding down the Ctrl Key and the Z key at the same time. A Control Z will always exit the menu or message you are in.

? Press the question mark and enter return. This will always give you a summary of commands available.

<CTRL S> Holding down the Ctrl Key and the S key at the same time. This pauses text coming in from Delphi.

<CTRL Q> Hold down the Ctrl Key and the Q key at the same time. This continues transmission after a control S.

<CTRL O> Hold down the Ctrl Key and the O key at the same time. Control O aborts or skips over the remaining text in the file you are reading.

/LEN 0 This temporarily overides the length of text received without pausing for the More? prompt.

All commands require a RETURN at the end of them, with the exception of an <CTRL Z>, which acts immediately to end the message you are leaving or to return you to the previous menu.

Any questions, just leave Angel or myself a message, we'll be glad to steer you where the answers are!! I'll see you on the *FlagShip*! Next time, I'll prepare another tutorial and information, so watch for the next 'BOOK' from CBUG!!

-*deb!*

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NORTHWEST MUSIC'S INVENTORY PROGRAMS
A RERVIEW

By: Bob Loeffler

About a year and a half ago I was enthusiastically cabling up my new B-128 from Protecto. We had cost-justified the purchase price of the system, based on the time we anticipated saving in switching the archaic method of keeping the hundreds of items you find in a hardware store inventory, hand listed in a loose-leaf notebook, to the CABS Inventory program which was supposed to change all that. However, we were soon to learn that instead of going from "creep" to "fly", we were actually going from "creep" to "crawl". In addition to the bug infested CABS software, we discovered that the software had been designed around the needs of a manufacturing company, not a retail business. Any item originally entered into the database and later received and/or issued had to be addressed by means of a software-generated "check-digit" part number. Because we purchase pre-printed bin labels and price tags from our distributors, with their part numbers on them to speed up our shelf stocking and ordering operation, if we had elected to substitute the "check-digit" number, we would have been in worse shape than before we purchased the system.

Since the CABS Inventory program can only list inventory items by ascending "check-digit" numbers, and due to the changing nature of hardware stock, it was totally impossible to alphabetize the stock items in conjunction with the "check-digit" numbers. So we finally wound up identifying 26 (A-Z) storage areas, inventorying each item in each area, printing a selective inventory report of all the items in each area and installing them alphabetically in a divided loose-leaf notebook, that way we only had to look through a few pages to find the "check-digit" number for a particular item. Slow, clumsy, but somewhat better than the handwritten way we were doing it before.

Then along came Bruce Faierson/Northwest Music Center, Inc. and the announcement of a new inventory program for the B-128. A letter requesting more information resulted in a phone call from Bruce and I soon found myself eagerly agreeing to field test the program and write a review. The first program was based on the original Superbase version sold by Protecto.

Naturally, as with all new programs, there had to be a of couple bugs. But Bruce quickly identified the problems (one, we were able to fix over the phone) and sent new program copies out to me.

I wasn't looking forward to re-typing all my inventory items into the new database. But it wasn't long before I began to realize that it wasn't going to be the formidable task I had anticipated, thanks to Bruce's Program. With the CABS program, it took 17 1/2 - 21 seconds just to get from a main to a function menu, or vise-versa. Now, you might wonder why that should be that much of an obstacle since, if you're going to sit down and plug in 50 new items, you're only going to have that wait for one time

frame, right? - WRONG! The authors of the CABS software elected to have the Exit/Quit function as a single keystroke, using 0 as the command character. You won't BELIEVE how many times I can "fumblefinger" a 0 instead of a 1 on the numeric keypad, which results in a 20 to 35 second round trip from the function to the main menu and back again. In contrast, Bruce uses a Shift/?/RET combination for an exit (quit) command. While it requires three keystrokes compared to one on CABS, it's a pure joy to work with, since you know that once you're in a given function, you're going to stay there until YOU'RE ready to exit/quit.

Another problem with the CABS programs is that if you don't fill an information field, you have to hit a RET to get to the next field, however, if you fill the field, you automatically jump to the next field. While that might look great at first glance, in reality, it is very frustrating, due to the fact that if you're not paying strict attention to the screen, you may fill a field (especially descriptive fields), jump to the next field and spill a couple of extra characters over into the next field, which brings up yet another frustration - you can't just simply move the cursor back to the prior field to correct the problem with a shorter description - you have to fill in all the remaining fields and then tell the system which line you'd like to go back and correct. Also, if you have been distracted before you get to this point, you may forget to make the appropriate corrections and store this file with the erroneous data.

With Bruce's Program you MUST hit RET at the end of each field to step to the next one. Now this may sound like extra keystroking, but believe me, it's a real lifesaver in the long run. And you can also move the cursor back to any field you wish as in the event of having to correct a typo.

Another nice feature is that when you are in the Entry mode and you store the record, the data stays on the screen until you hit the spacebar. That gives you the opportunity to take another look at the fields you have filled in and if you see something you'd like to change and with the speed of this program, going back to the sub-menu and selecting Replace Record, making your change(s) and then going back to the Entry mode is no problem at all.

I thought this first program was far above CABS. But then, a few weeks ago, a new program arrived, re-written for Superbase II. The first thing that is impressive about this program is the speed in pulling up menus. The time from the main menu to a sub-menu is 7 seconds and from sub-menu to sub-menu is 3.5 seconds (8050 drive). The time from requesting fields, such as Merchandise Issues to when the fields appear on the screen is instantaneous - you'd swear you were working on a hard disk.

Another nice feature is that when prompted to answer Yes/No, the Yes response can be obtained with either the Y key or by the RET key, which is what I prefer.

The program provides every function we need in our business: Enter, Replace, Add, Delete and Search Record - Merchandise Issued, Received and Inventory Adjustments (the last three functions also include a pop-up on screen calculator which not only lets you operate it as a standard calculator, but will let you enter the result into a field and ultimately be stored) - Inventory, Reorder, and Monthly Sales Reports - the ability to Print or Display a report (something CABS lacks with it's Print only outnut) and also the ability to Select Parameters for reports, which CABS has, only this is slicker.

Since we buy the same type of items from different distributors and because we may keep them in two different storage areas and the description for each one varies with the size, there was no way that CABS would let us pull a report of, lets say, all our Hex Bolts - we had to pull a report of each storage area and look through all the items in order to find the hex bolts. Since the NWM program alphabetizes automatically, if you structure your descriptions like an index, ie: Bolt Hex 3/8X5, instead of 3/8X5 Hex Bolt, you can type, Bolt Hex, in the descriptive field, hit SHIFT/RET, and it will give you a report of every Hex Bolt in inventory. What a time saver!! We're still finding ways to improve the descriptions for more concise reports. This feature and the speed alone are worth the price of the program.

There is also a Maintenance Function, which includes, Clear Monthly Issues, Update Reorder Fields, Update Yearly Totals, Yearly Sales Analysis report, which includes a listing of, Year to Date Issues, In Stock, Retail Price, Cost, Daily Usage and Stock Number. Also, Clear Yearly Issues, Superbase Menu and Export Files.

Also included in the package are 36 pages of well-written documentation. All functions are clearly explained.

I could go on and on about the virtues of this program, but time and space will not permit.

Well, that's the good news - now you just gotta know there is one thing I don't like about the program.

Superbase does not allow a deleted file to be written over as CABS does, therefore it's necessary, if you deleted quite a few files, to use the Export (sometimes called Repack) function to allow maximum storage space. It requires a fair amount of time and disk swapping.

Then there is the "Wish List".

In our business we deal with thousands of nut, bolts, screw, etc., etc. which we sell by the each (no blister packs) and therefore our cost on many of the items breaks down to 3 digits. This program goes to two digits, but since the error rate on .005 x 2000 items is only $10, and because of all the other neat things it does, I'll forgive it.

In the Merchandise Issues and Received modes, the prompt "Use Calculator? Yes/NO", will appear. Most of the time we do not need to use it, so you must leave the RET key and hit the N Key - at this point you are generally using a string of RET commands. I would much prefer it if you could also use the] key, which is just to the left of the RET key. That way your hand could stay in the vicinity of the RET key. Also, if you enter the Issue or Received modes and then change your mind, you must fill in the fields until the prompt "Store? Yes/No" appears and you can then hit N. It would be nice to have a way to get out instantly. To expedite this matter, I have entered an item in the database with a ? in the descriptive field - I can then, when forced to fill in the field, quickly enter the ? from the numeric keypad, followed by single 7's into the remaining fields until I can say "NO" to the "Store?" prompt.

When requesting an Inventory Report, the bottom line gives you a total quantity count, but there is no Item line count - it does appear on the top of the screen, on the right side of the message line, as a running total, however, as soon as the report function ends, the Item count disappears. Again, it's not a critical item since each report page holds 54 item - it would just be a lot more convenient than counting pages and the items on the last page.

Well, that's all folks - all-in-all, it's an excellent program - this is where I thought we were going to be a year and a half ago.

Note: The author is a former Electronic Engineer, working in the field (territory - the world) on digital computers, Newspaper front-end systems and high-speed, digitized, CRT

phototypesetters for 10 years for Compugraphic Corp. - For the next 5 1/2 years, worked for the Quadex div. of Compugraphic as a Systems Engineer, custom-tailoring customer software and field testing prototype software at selected customer sites (again, territory - the world). Two and a half years ago, semi-retired to the life of a resort town hardware store owner (although everyone else in town seems to think of it as a full-time occupation).

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MORE ON DIABLO PRINTERS

By: Warren Kernaghan

First, some general information gathered from various sources while looking for supplies, information, and parts. In the beginning was the Hytype I, with some 100,000 built between 1972 and 1978. These were relatively simple compared to the later Hytype II series: troubleshooting was more difficult because two of the circuit boards were mounted below the typing mechanism, a strange interface, and the hammer striking each character with the same blow whether a small punctuation or a large capitalized letter - making for uneven darkness of print. Parts, too, are mostly different from the later model.

In 1976 came the Hytype II, with production reaching about 400,000 by the end of production in 1983. The entire mechanism was made faster, more durable, and more accurate than the the Hytype I. The Hytype II can move its carriage horizontally to an accuracy of 1/120 of an inch at an effective slew rate of 500 characters per inch. The most desirable of these are the 1600 series, which had RS-232-C interfaces built in, though interface boards are available for the 1300 series, so that they can be adapted to RS-232-C, Centronics, or IEEE. The least desirable, for our use, are the variations by Xerox, DEC, and others, as the printed circuit boards in some were completely changed. In others, only the interface board may have been changed.

The 1610 and 1620 were the earliest, the 1610 without a keyboard, called "RO" for Receive Only. The 1620 had a keyboard and is labelled a "KSR" for Keyboard Send-Receive. Both used the 1345A mechanism, with 45 characters per second maximum typing speed, and using only plastic typewheels. Watch out for the 1641, as it uses the IBM 2741 protocol. All boards except the interface board were the same as the 1610/1620 though, so it could be converted to RS-232-C by buying the proper board. Outright purchase of this board, an HPRO2, costs about $95. A board from a salvaged printer should be more agreeably priced.

Then came the best of the Hytype II series, the 1640 and 1650. Some companies report using these for years without any service. The 1640 is basically the 1345A mechanism, using plastic print wheels, at 45 cps, and can be found with and without keyboards. The 1650 uses only metal print wheels, and is basically the 1355WP (WP = word processing), which is improved in several ways for better print quality. The print speed was also reduced a bit to 40 cps, for the same reason. In the November, 1980 issue of Microcomputing, these were the advertised prices:

Diablo 1640	RO	$2745		1640	KSR	$3050
1650	RO	2890		1650	KSR	3155
630	RO	1999				

The Hytype II was killed in the name of profit, after Diablo spent a lot of money in developing the 630. The Hytype II was more costly to build than the 630, so management wanted to push the 630. When the Hytype II continued to sell well in spite of the more attractively priced 630, (some customers recognized quality), Diablo decided to solve the problem by dropping the Hytype II entirely, thinking to force the buyers into buying the 630. However, by this time Diablo no longer had a monopoly on daisywheel printers and many buyers were attracted to the competition. Diablo lost more sales. The 630 was discontinued in December, 1985, with production of over 300,000 units. It has been replaced by a slower, less expensive 635 with fewer features.

Recently advertised prices seen for printers in like-new condition:

Diablo 1610	RO	$475 & $995	1620	KSR	$550 & $1095	
1640	RO	1195	1640	KSR	1295	
1650	RO	1195	1650	KSR	895 & 1295	
Diablo 630	RO	995				

Interfacing the 1610 was covered in the Winter/Spring issue of the CBUG Escape. The 1610 with its normal interface, HPRO2, is limited to 30 cps (300 baud) to avoid buffer overflow, unless software handshaking (not RS-232-C) can be used. An interface is available to allow full speed operation.

The 1650 is easy to interface at full speed, 1200 baud, RS-232-C, with full handshaking. To accomplish this, locate the end of the signal cable where it connects to the HPRO4 interface board. Pull the connector from the board, and gently remove the yellow wire and its individual pin from the connector's pin 4. Remove any wire found in the pin 2 location (there probably won't be any) and insert the yellow wire as pin 2.

Then re-connect the signal cable connections at the RS-232-C DB-25 connector as follows:

HPRO4 J2	Wire Color	DB-25	Use
1	Pur	7	Signal ground
2	Yel	5	Clear to send
3	Blk	6	Data set ready
5	Red	3	Receive data
6	Grn	1	Protective gnd.
7	Or	2	Transmit data
8	Blu	20	Data terminal rdy.
9	Bn	4	Ready to send
10	Wh	8	Carrier detect

Control panel switch settings:

Left switch:		Middle switch:		Right Switch:		HPRO4 Switch A25
paper out	either	parity	odd	ANSI-2741	ANSI	All
speed 30	off	parity	off	APL	off	at
speed 120	on	pitch	n/a	Prop space	on	left
duplex	off	auto cr	on	Test	off	side

When entering Superscript II, you should supply the text width at the beginning if known, otherwise you can return to the menu later and go through all the answers again. Answer "3" for printer type and press RETURN. Then "a" for ASCII, and "r" for RS-232. For control register value, just press RETURN once. You will have chosen 1200 baud, 8 bits, 1 stop bit, and disabled parity, by default.

Sources:

The Printer Works
1961 Alpine Way
Hayward, CA 94545

800 235-6116 (not CA)

This company has parts, printers, interfaces. Also a fine, free catalog from which much of the historical information

800 225-6116 (in CA)	came. Some Hytype I parts.
Expansion Products Service P. O. Box 4217 Mountain View, CA 94040 415 965-7222	Printers, tractors, sheet feeders
Computer Products & Peripherals Unlimited Warehouse: 18 Granite St. Haverhill, MA 01830 Mail Order: Box 204 Newton, NH 03858	Printers, parts, boards. Some Hytype I parts. Ask for Tim Jennings for technical info.
617 372-8637	
Diablo Systems, Inc. Retail Store 1510 Trimble Road San Jose, CA 95131	Manuals for Hytype II printers. Also printwheels, etc. Major credit cards accepted.
800 351-9300 (not CA) 408 263-7704 (CA, AK, HI)	
Pryor Catalog Sales Corp. 224 William St. Box 1563 Bensonville, IL 60106	Printwheels, ribbons. $25 minimum order. M.C. & Visa
800 558-6866	

If you are not overly concerned about getting a warranty, try computer resale stores, computer surplus outlets, newspaper ads, the Computer Shopper, Nuts & Volts, etc. Some real bargains are possible, especially for those of us who may not need a machine for continuous printing 8 hours a day in a business environment.

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RS-232-C HANDSHAKE

By: Warren Kernaghan

This is an explanation of the handshake operation. Though I'd gone through the sequence several times before, the operation never stayed in memory until needed the next time. Too, locating an explanation is sometimes difficult. Perhaps this will help someone else struggling with interfacing.

Pins	Abrev.	Comments:
1	GND	Protective ground, usually the cable shield, and connected to the chassis.
2	TXD	Transmit Data - In 'mark' or 'low' or logic 1 or 'negative' state when not transmitting. Moves to 'space' or 'high' or logic 0 or positive level. Nominally +/- 12 VDC Switching will usually occur at +/- 2 or 3 VDC or more.
3	RXD	Receive Data - same comments.
4	RTS	Ready to Send - Normally negative. Goes high when computer is ready to send data, and is checking to see if the peripheral is ready for data.
5	CTS	Clear to Send - Normally negative. Peripheral forces this high on receipt of high RTS. Tells computer that the peripheral is ready for data.
6	DSR	Data Set Ready - Normally negative. Positive level is provided by the peripheral on receipt of DTR query.
7	GND	Signal ground, for interface signals.
8	DCD	Data Carrier Detect - Not normally used with printers. Positive level provided by modem when carrier is detected. Should be at positive level for use with any peripheral.
20	DTR	Data Terminal Ready - Normally negative. Goes high when computer checks for active peripheral.

Handshaking procedure:

The computer queries the peripheral to see if it is present, and turned on, by switching the DTR line on pin 20 from negative to positive.

The peripheral, on receipt of the DTR signal, switches the DSR line on pin 6 from negative to positive. Some peripherals keep this line at a positive level from the time they are turned on, regardless of the query from the computer. The computer won't transmit data unless it finds a positive level on this line.

When the computer is ready to transfer data, it switches the RTS line on pin 4 from negative to positive. If the peripheral is ready for data, it switches the CTS line on pin 5 from negative to positive. Again, some peripherals keep this line at a positive level as soon as turned on, so that no handshaking occurs. A positive level on this line is also required before the computer will transmit data. (Don't forget the positive level on DCD.)

After all these conditions are satisfied, or circumvented, the computer will proceed with sending data to the peripheral when commanded.

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PROTECTO PROGRAMMERS GUIDE ERRATA

By: Neil Cumfer

The Protecto Programmers Reference Guide contains errors on pages 206 and 216, in the kernal routines section. At the bottom of each page, the descriptions of the .A and .Y registers have been reversed. Also, note that SETTIM sets the time-of-day only if the carry bit is cleared. If it is set, then SETTIM sets the alarm. So, to set the clock in machine language, you must load the registers, then CLC, and finally jump to the SETTIM routine, unless you are sure the carry bit is cleared.

Another minor error, propagated in all B-128 references, states that ti$ starts at "0000000" when the computer is turned on. Actually, all computers that calculate ti$ from the 6526 cia chip, including the B-128, start the clock running at "0100000".

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REPORT ON SPEED CONTROL UPGRADE FOR THE 8050

By: Gerry Mills

Preamble by CBUG: Last issue there was to have been an article by Mr. Mills which was not there as we had not received it. Many of you have had difficulties in reaching Gerry while hoping to avail your selves of the Phase Lock Loop fix he has designed. This may allay those concerns. Gerry has promised to provide article materials explaining in detail the reasoning behind his designs, the discoveries about the 8050 drives, and a great deal more of both general and technical interest to CBUG Members.

As with all vendors to the B128 community, I request that the membership appraise CBUG as to satisfaction or dis-satisfaction with any of our vendors. We do keep track of the information as best we can.

So now, take it away, Gerry: ------

Just after the time when we started to manufacture the pc boards for the phase-lock loop control system, which was back in May, the company that we work for asked for a

special effort from our departmen. One of our customers developed some problems that had not been planned for. Summer was coming and we we were asked and agreed to delay vacations and go to work on the program immediately. Well it took a lot longer than they thought and I was actually away from the plant for most of the summer. During that time a coworker who was also involved in our personal project for CBUG found some problems with the pc boards from our vendor. Given that they would have to redo them he ALSO FOUND ANOTHER FEATURE COULD BE ADDED. This has been done AND we now have the ability to swap the two drives MERELY BY A FLIP OF A FRONT PANEL MOUNTED SWITCH. This feature does not interfere with the functioning of the 8050. It just thinks drive 0 is the one on the left and d1 is on the right. The flip can be made at any time that the drives are not spinning without having to turn off power or do anything more than flip the switch. This will allow most of us to run the reversed form for some time to give the d1 unit a balance of the wear that d0 had received. 'Southpaws' will love that.

For those of you who do not know about phase-lock loop control let me explain. The speed of the disk must be held to 300 rpm plus or minus just about 1/2 rpm to function properly. This precision of 0.16 % is rather a stiff requirement for the sort of analog system designed into the 8050. It has problems not surprisingly. A better way is to do it is to compare the speed to a digitally derived signal from a crystal oscillator -just like your color tv set. We do this and use a group of DIP switches to set the unit on speed. Once set it will never vary much- not more than about 1/10RPM!. Until the belt breaks- and that should be a long time with the synthetic type belt that we are using.

Back to our progress - we now expect to be shipping the first of the units that we have received around the first week in October. Once we are up and running turnaround in the service department will normally take about 5 business days. We have also found that it is often necessary to replace the drive belts and to adjust the drives. Once setup properly the 8050's they will run without trouble for a long time. However, some of the belts that we have seen have considerable wear or stretch. We have decided for all these good reasons to install the upgrade ONLY AT OUR SERVICE CENTER. In this way we can insure that the drive will function well when they are improved in speed control. Without this approach too many problems may occur when installing the boards in the field.

We have now considerable experience in the improved operating behavior of the new phase-lock loop control. It makes quite a difference in that there is none of the crankiness and work does go much smoother and faster. We invite your participation in this upgrade project, but do be patient with us. We have worked long and hard at this to make sure that it will fly with no problems in the field. The costs to develope the system have been personal. Our company will do the installation at the price quoted in our ad. If you do not have the original packing we can ship it to you for an additional cost of $17.50.

We are planning some other accessories for the B128 system and will announce them when ready to ship in future issues of THE CBUG ESCAPE. SEE OUR AD IN THIS ISSUE FOR PURCHASE AND SHIPPING DETAILS. Please insert the cardboard dummy disks and close the doors of any unit that you ship. If you do not have the cardboard dummies, insert real disks and close the door. Please also include the power cord for the unit. Thank you members for your interest and patience as we launch this project.

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SCREEN WINDOW OPTIONS

By Chris Burgbacher

I suspect that, by now, most B machine owners know about creating a screen window using the ESCape commands "T" and "B". "T" being the top left corner of the window and "B" being the bottom right corner. The major objection I find to the use of them is that the cursor must be in the position where the corner is desired when the ESCape code is used.

If a window is desired from within a program, it is not always convenient to send the cursor to the corner locations and use the ESCape codes before printing within the window. I find it easier to poke the line and column positions from the program. The pokes are into Bank 15 and are as follows:

```
poke220, (top working line #)
poke221, (bottom working line #)
poke222, (left working column #)
poke223, (right working column #)
```

Notice that I have marked these as working positions. The number poked will be the line or column of limit that the cursor or print statements will be allowed to work into.

HINTS FOR USE:

1. Keep in mind, when defining a window, that the machine numbers the top line and the leftmost column as "0", not as "1".

2. If you define the top of a window at line 5 and the bottom at line 10 you have set up a window of 6 lines, not 5, due to the frozen lines being inclusive. Columns work the same.

3. After defining a window, a "printchr$(19)" order will home the cursor to the top left of the window. A "printchr$(147)" order will home the cursor and clear the window.

4. After a window is defined and the cursor placed in it, the cursor may not leave the window except by direct poke statements until the freeze is broken. Window freezes can be broken with the command "printchr$(19)chr$(19)".

5. The easy way to put HOME or CLR statements into a program is to type "print" then the quote sign and then press the control keys for the action desired, closing with a close quote sign. Examples:

```
print"s"   - Homes cursor
print"S"   - Clears screen and homes cursor
print"ss"  - Releases screen freeze and homes cursor
print"ssS" - Breaks freeze, clears screen and homes
                cursor
```

6. If you want to have the cursor turned on inside the window even though the computer may be waiting on a GET statement; create the window, home & clear, poke55296,10:poke55297,peek(212), then open the GET statement. The cursor will stay on until the next INPUT statement or you can poke55296,10:poke55297,24 to turn it off.

SAMPLE PROGRAM:

Type in and run the program listing that follows and play around with the screen window to get a feel for how it works. I'm sure it will suggest some uses in your own programs. To some degree, this is an excerpt from a label printing program I wrote. The program will terminate when you press the ESCape key.

```
10 printchr$(147)
20 print"(6 cursor downs)"
30 printtab(21)" 36 under rule chr here CTRL 4      "
     (36 times CTL4)
```

```
 40 forn=1to8:printtab(20)" "tab(57)" ":next (first
       graphic is CTL- on numeric keypad, 2nd graphic is
       CTL7 on keypad)
 50 printtab(21)" 36 over rule chr here CTRL 3       "
       (36 times CTL3)
 60 poke220,9:poke221,16,poke222,21:poke223,56
 70 printchr$(19)
 80 rem printchr$(27)"m"
 90 poke55296,10:poke55297,peek(212)
100 getz$
110 ifz$=chr$(27)then140
120 rem poke 210,0:poke211,0
130 printz$;:goto100
140 end
```

If you would like the quotes mode suppressed while in the window, remove REM from the statement of line 120. This keeps the machine from going into quotes mode if you use INS to create some spaces or type a quote symbol.

If you would like to kill scrolling while in the box, remove REM from line 80. In the confines of a small window, it is easy to scroll your text right out of the window.

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MODEMS & RS232C REVISITED

By Chris Burgbacher

There has been much discussion both in the Escape and on Delphi about the use of the RS232C port and modems. Some people seem to have the misconception that only a certain few modems will work with the B-128. There are many good modems on the market with varying prices and varying features. Nearly all are built to work from an RS232C port. My own tests indicate that the RS232C port on the B machine is a fairly normal port adaptable to many outboard uses. I regularly access Compuserve, Delphi and several bulletin boards using both 300 and 1200 baud rates. I am using the Volksmodem 12, from Anchor Automation, tied to the RS232C port. I highly recommend this modem for the B-128. It has auto-dial(tone or pulse), auto-redial, auto-answer, auto-selecting 300/1200 baud rate, on-screen confirmations and several controllable registers. It is a very smart modem compatible with Bell 103/212, Vadic and Hayes. It is available from a number of suppliers in the $179 to $189 range. Anchor sells interconnect cables for many computers, called Volkscables. I found no cable for the B-128, ~~but~~, you can construct your own with just a little soldering ability and the instructions below. I have had very satisfactory results with my own 300/1200 baud program and Swan's terminal program.

For the cable you will need a DB25 male connector and hood, a 5 pin DIN plug and an appropriate length of 4 conductor shielded cable. Connect the cable ends to the pins as indicated below:

```
  To                                       To
Computer                                  Modem

 DB25                                      DIN
              (shield wire)
  1 <-----------------------------------> 2
  2 <-----------------------------------> 1
  3 <-----------------------------------> 3
  8 <-----------------------------------> 4
 20 <-----------------------------------> 5
  5 <---
  6 <--- These three jumpered together
 11 <---
```

Before connecting the modem, you have to set a couple of small switches. They are on the rear panel, to the right, behind a small square hole. The left switch must be in the UP position and the right one DOWN. Ignore any other switches you may be able to see by looking in the hole at an angle.

All other instructions are included with the modem. As an added plus, Anchor now places a 5 year warranty on the Volksmodem 12.

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EPSON INCOMPATABILITY?

By Mark Schwarzbauer

I am writing you as a former owner of the highly esteemed Epson DX20. I purchased the DX 20 to use on my B because of the many features including the all purpose interface which supposedly includes IEEE. Epson states in their user manual that it is commodore compatable. They goofed!

Imagine how shocked I was when my brand new $600.00 printer locked up my disk drives. As long as the printer was plugged into the IEEE cabling, the drives would neither load nor save.

I contacted Epson America and went through extensive testing with the assistance of one of their technical personnel. He also informed me that they had some problems with the rs232 working. Epson released a new set of roms to take care of the rs232 problem. However, the new roms I received from them failed to cure the IEEE problem. I thought Epson had better quality control and engineering than this. Hopefully they can get back on track.

Other reports of API interfacing has led us to believe that although they claim compatability with our machine, the API's IEEE-488 does not work on the Commodore B series. Whether it works on other IEEE equipment we have not ascertained.

If you are in the market for a new printer, watch out! All purpose interfaces that supposedly include IEEE, and may even claim commodore compatabilty, will most likely not work for you. You will probably end up selling it at a loss like I had to.

We are seeing several companies selling the Commodore 6400 LQ. printer. It really is a C-Itoh made by tec with a CBM label on it. I have one and recommend it. CBUG sells the IEEE board to convert those 6400's which are centronics, back to IEEE. If you have questions relative to this or other printer problems or solutions please let me know.

Mark Schwarzbauer
CBUG Library Review and Software Coordinator
1723 Michigan
Sturgeon Bay, WI 54235

414-743-4151 (Before 10pm)

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CONVERTING DOS 2.5 to DOS 2.7

By: Warren Kernaghan

If you have a Micropolis or Tandon disk drive with DOS 2.5, and would like to upgrade to DOS 2.7, it's not difficult. When REX in Chicago sent me a Micropolis drive with DOS 2.5, instead of the MPI ordered, I began comparing the cost of living with it or converting to DOS 2.7. The first thing was that Knight's copy Utility 2.5, though not yet available, would probably cost at least $20. Second, I found that Superbase applications programs made using a drive with DOS 2.7 wouldn't run with DOS 2.5.

* THE CBUG LIBRARY *

The additions to our library this issue include the complete Commodore Educational Suite, revised to run properly on the B128. A formidable task compliments of our own CBUG Registrar, Marilyn Gardner.

Mark Schwarzbauer has spent many months compiling a print utilities disk. Everything from signs to greeting cards. Quite an impressive collection. The London Sampler is tickler -- the first item we are releasing from Mark's astoundingly productive sortie to London two weeks ago in behalf of CBUG.

The Fall ESCAPE will have a number of these new acquisions in the library and a great deal of information as to the rest of the software Mark received from our friends in England. We have learned of several major programming efforts which have never been released because Commodore dropped the B128. A number of software houses now recognize that the B128 is far from dead, and thru CBUG they can reach the B128 community. They are considering if not already preparing those programs for market. Best yet, often at affordable prices thru CBUG.

There are two new Pre Release disks. Number 5 is a collection that will keep even advanced computer users busy (entertained or enlightened as the various files may suggest,) for many many days. Number 6 contains some late receipts which needed to be released. Mathew Goldstein has again upgraded his checkbook program and added a number of help files. Jack Mangold has compiled an index for the Protecto Users guide -- an invaluable aid. These files will be incorporated in the next full sized pre-release disk.

Our library next issue will offer the JCL Workshop at a most affordable price -- tentatively $50.00 for the entire set with instructions on the disk(s). You will need to have a RAM Cartridge -- such as Gary Anderson's product since the original programming stored in ROM Cartridge has been converted to disk storage. To use the program you simply upload the bank 15 code to the cartridge then proceed as before.

In the last issue, Howard Harrison's assembler was advertised, however we were not aware that it too requires the use of a RAM cartridge. You can either use Gary Anderson's cartridge, or you can install an additional 8K memory chip in you Calc Result or Word Result cartridge. The installation is explained on Liz Deal's disk under file name "w.exp15"

The idea of RAM cartridges is not at all new. The values are several: You can download a ROM cartridge to disk, subsequently uploading the code to a RAM cart so as to preserve the difficult to replace ROM cartridge. This technique is applicable to Calc Result and Word Result for example. The other advantage is the addition of 8K to 24K of memory in the operating system bank. Many programmers will find this a very necessary place for some advanced applications code.

MEANWHILE, WE GOOFED AGAIN! In the last issue we touted Casey's Scrubber CBUG #28 (stock #12504). However I neglected to mention the price anywhere nor to include it on the order form. The correct price is $19.00. For those of you who ordered the disk assuming a lesser price, you will receive invoices for the balance due along with the shipment.

In the first part of the Summer 1986 ESCAPE, we also mixed up and doubled up on one stock number and one CBUG number. Not to worry, we think they will all be caught during order entry.

Again, if you have received a defective lisk, send it back with a note as to what was wrong. It will be replaced promptly.

PREVIOUS DISKS AVAILABLE

All CBUG library releases remain available subject to upgrades and expungement of materials if there appears any risk of copyright infringement. Write in whatever you require on the order forms, or if necessary, send the order in via a very neatly written letter.

If for some reason you need a copy of an earlier version, say of Liz's Utilities, be sure to specify the version you have ordered. Call out the old stock number, the version number, and conspicuously write that you wish that version, not the current version. Under normal circumstances we ship the most current version of a disk regardless of the stock number ordered.

TO OUR CONTRIBUTORS

Pre-Release 5 has emphasized the problems of duplicate file names. Even with the various methods of naming the annotated directory, I found the need to alter several file names in compiling this disk. Therefore I'd like to suggest a protocol in future library submissions:

Any file name likely to be used by another contributor should be suffixed with your initials, i.e. "adirectory.nd". If you have made multiple contributions to the library, play it safe and add a number to the suffix, such as "adirectory.nd6". I've stuck the letter "a" infront of directory to indicate that it is an annotated directory -- the nice ones which tell everyone a bit about each program or file.

The blurb file should be similarly suffixed. The "blurb" file is a short discussion about the nature of your disk which we will use in the text preceeding each directory listing in the library.

Annotated directories should be set up with line lengths not to exceed 60 characters (CReturn in column 61). Any overflow should be indented onto the next line. CBUG will do the column moves to set up for multiple column printing.

Any files which are not to be published should be entitled "EYES ONLY", lest we not remember just what was on the disk at assembly time. It would make my life much easier if there was also a "FROM" file, which should be suffixed with your initials. The from file would normally be published and would contain your name, address and phone number and any comments you wish to make to the member acquiring your materials. Should you wish this not to be included in the release disk, put as much or as little as you desire in the FROM file. THEN BE SURE TO INCLUDE an "EYES ONLY FROM" file with your full name, address and phone numbers for CBUG administrative use only. This insures that we properly send you the bonus due to contributors.

One last thing. ALWAYS always put your name and address and phone on the disk label. I know it is redundant with the above, but if the disk arrives damaged we need to know who to contact.

LONDON SAMPLER CBUG #36 NEW RELEASE #12561

Just a tiny nibble of the things our librarian, Mark Schwarzbauer, brought back from his recent trip to England on behalf of CBUG. This is a really neat sales program on what the B128 can or was supposed to do. Much of the supposed to do things are now being implemented by various of CBUG's ambitious members. This disk has some very interesting graphics such as we have never seen before. There are also several demo files. A fun purchase. Incidentally, the B128 was originally known as the PET II in the early CBM engineering files. Later in Europe it was assigned a whole series of numbers which were enumerated by Mr. Matos in the Fall 1985 ESCAPE -- generally known as the 700 series for short.

1	"700 sampler "	aa 2c	5	"sys0400"	prg		
1	" loader"	prg	8	"pet ii screen"	prg		
8	" boot2"	prg	7	"network"	prg		
8	" bootscrn"	prg	9	"logo"	prg		
9	" copy"	prg	29	"ast.demo"	prg	assembler Tutorial	educational
8	" instscrn"	prg	22	"and.demo"	prg	Android Nim	game
6	" menu"	prg	7	"arr.demo"	prg	Arrow	game
49	"demo"	prg	53	"lab.demo"	prg	Labyrinth	game
5	"menu"	prg	27	"tit.demo"	prg	Titration Solution	chemistry
1	" directory "	seq	8	"cal.demo"	prg	Calendar	demo
			1781	blocks free.			

SUPER PRINT CBUG #37 NEW RELEASE 12576

Superprint includes over 60 programs and text files, plus 20 custom banners, that relate to printing with your B-128. Some are from previous pre-releases and ESCAPE articles but are all combined on one disk. Over half the programs have not been available for the B-128 before. Get your copy now while the price is only $15.00! After December 1st it goes back up to $19.00. Order from C-BUG today. Note, the price list shows the regular price of $19.00. Prior to December 1, just extend the line item at $15.00.

0	"print works "	az 2c	21	"big letter ads"	prg	4	"cassettelabel.ss"	seq	23	"note calendar"	prg
1	" loader"	prg	13	"big letters"	prg	9	"copy"	prg	4	"plot"	prg
1	" directory "	seq	62	"bp-3 wise men"	seq	7	"dir 2 col printe"	prg	15	"prelay.cbm"	prg
8	" boot2"	prg	22	"bp-anniversary"	seq	2	"dir printout"	prg	15	"prelay.epson"	prg
8	" boot3"	prg	25	"bp-capt kirk"	seq	11	"double column"	seq	22	"printer demo"	prg
8	" boot4"	prg	14	"bp-charlie brown"	seq	84	"epson print pro"	prg	5	"prog print"	prg
8	" boot5"	prg	13	"bp-jfk bust"	seq	28	"f-key template"	prg	1	"ramp"	seq
8	" bootscren"	prg	28	"bp-linus"	seq	3	"filep"	prg	1	"ramp2"	seq
8	" bootscrn"	prg	12	"bp-mickey mouse"	seq	9	"fkey template.ss"	seq	9	"rev appt cal"	prg
10	" c-mail inst"	prg	57	"bp-santa pt1"	seq	1	"gnp$"	seq	16	"rev ship labels"	prg
8	" instscrn"	prg	32	"bp-santa pt2"	seq	19	"graphp"	prg	13	"rs-232 letter"	seq
6	" menu"	prg	40	"bp-schlitz can"	seq	7	"graphp instr"	prg	24	"rs232 typewriter"	seq
6	"75 names"	prg	12	"bp-schroder"	seq	165	"hints + tips"	seq	20	"screen ed-large"	prg
6	"8050 format"	prg	64	"bp-seasons g."	seq	7	"hlabels"	seq	6	"screen editor"	prg
3	"8050 menu"	prg	20	"bp-shuttle"	seq	14	"home video"	seq	5	"scroll"	prg
25	"8050 print"	prg	6	"bp-skull"	seq	9	"inter- comrex"	seq	12	"seq read/print"	prg
42	"8050 update"	prg	44	"bp-snoopy dance"	seq	41	"inter- diablo"	seq	9	"ss2/8050"	seq
2	"ascii screen"	prg	39	"bp-statue/david"	seq	6	"inter- powertype"	seq	10	"superbase labels"	seq
47	"b index-sup/scpt"	seq	26	"bp-tweetie pie"	seq	44	"inter- rs232 nul"	seq	3	"typewriter"	prg
15	"b256 labels"	prg	13	"bp-winnie pooh"	seq	23	"inter- smith cor"	seq	45	"word result"	seq
9	"banner"	prg	12	"bp-woodstock"	seq	25	"labels"	prg	13	"yearly calendar"	prg
36	"banner 2"	prg	23	"bp-xmas tree"	seq	8	"labels.p"	seq	2	"FWC"	prg
5	"bar chart demo"	prg	47	"c-mail2 instr."	seq	4	"line plot"	prg	30	"instructions"	seq
8	"bar graph subrtn"	prg	32	"calendar-large"	prg	16	"lines per page"	seq	142	blocks free.	
14	"bar grf"	prg	14	"cartoon"	prg	19	"name sort"	prg			
21	"bargraph"	prg	15	"cassette label.w"	prg	23	"new list 8050"	prg			

CASEY'S SCRUBBER v1.0 CBUG #28 12504

Our appologies for leaving this super useful disk off the price list last issue. It's there this time at a mere $19.00.

This is the disk that makes it possible for us to gain access to both Superscript and Superbase code so that we can make corrections and/or add improvements. It also allows us to make unprotected disks of these programs in a manner that makes loading both easier and faster. With this disk and the talents of many of our members, we should end up with word processor and database programs second to none.

As the first entry of what I would call a translator program, Mr. Casey has set an important example. This program is able to copy and translate another program without this program itself containing any infringing code. You have to have the first legitimate copy, and any you make for your own use, even if altered (translated) are permissable under the "fair use doctrine" of the US Copyright code. By nature this type of program must be machine specific, but even then, they are well worth the effort for important materials. The next step is translators that will shift code from one machine format to another; but then we can dream, can't we?

1	"ss2 & sb7 access"	jc 2c		6	"superbase 7"	prg	Copies Superbase copyable files.
3	"notice"	prg Informs user of materials needed.		1	"sb"	prg	Copies Superbase program code.
8	"frame"	prg Binary program for border (general).		12	"format"	prg	Creates new program disk.
8	"frame2"	prg Binary program for ss border.		23	"notes"	prg	Access and operational instructions.
8	"frame7"	prg Binary program for sb border.		1	"ss2"	prg	Loads new Superscript program.

```
12 "intro"          prg  Tailors program to user's inventory.
8  "superscript II"prg  Copies Superscript copyable files.
1  "ss"             prg  Copies Superscript program code.
```

```
1  "load ss2"       prg  Load transfer program for data disk.
1  "sb7"            prg  Loads new Superbase program.
1  "load sb7"       prg  Load transfer program for data disk.
1  "notes.s"        seq  Notes as a Superscript file.
```

PRE RELEASE #5 CBUG #34 NEW RELEASE 12542

The Pre Release series are programs contributed by numerous members. Some member written, some converted from other systems. None of these programs have been checked by CBUG or our review staff. In the past many if not most have been reported as outstanding, and occasionally one if found to be inoperable. In putting these materials into circulation as quickly as we can, members have an early chance at finding things they need as well as productive challenges to work on, upgrade, adapt, etc. Fortunately this time the majority of the contributors have provided annotated directories.

Neil Cumfer did one better: Jazz up your SuperScript documents printed on the 4023 printer with graphics! Create borders and boxes, draw bar graphs, even use the spades/hearts/diamonds/clubs symbols. Details in "ssgraphics" and "graphics update." Two files describe how to use Teleterm80, including XMODEM transfers. "Autolinegen" is a godsend to programmers, who now no longer have to keep track of line numbers in BASIC. Ever want a list of disk filenames with a specified extension? Use "searchdirectory" for this, or when you can remember only part of a filename. If you've ever read a CompuServe Data Library file only to get an unending stream of hexadecimal characters, you'll love "hexconverter". True autoboot on the B? Of course not, but "autoboot" is the next best thing: if you find yourself using several different programs each time you sit down at your orphan, load it up and then when ready load & run your next program from either disk with a single keystroke.

```
1  "CBUG Pre #5     " p5 2c
19   "cash specs"        prg A currancy selection program
15   "letter"            seq
1    "---above---"       seq
3    "-----nc-----"      seq
8    "contents"          prg BASIC prg (shift/run),describes
                             these files
35   "teleterm80/elem"   seq SS Teleterm80 for beginners
42   "teleterm80/adv"    seq SS instructions for Teleterm80,
                             including XMODEM uploads and
                             downloads
29   "ssgraphics"        seq SS graphics on 4023 from SS; #1
25   "graphics update"   seq SS graphics on 4023 from SS; #2
29   "grafx maketables"  prg BASIC prg, revision of 'ss2
                             maketables'
2    "ss2 tables"grafx   prg binary prg, how to make graphics
6    "autolinegen"       prg BASIC prg, use F10 to make line
                             numbers
9    "searchdirectory"   prg BASIC prg, internal string
                             search of dir
8    "hexconverter"      prg BASICprg, fixes CompuServe files
7    "bootmaker"         prg BASIC prg, setup for 'autoboot'
2    "autoboot"          prg BASIC prg, one-key load&run for
                             any prg
1    "keyrestore"        prg BASIC prg, resets functions keys
4    "blurb"             seq SS blurb for these files
5    "annotations"       seq SS this file

1    "-----jb-----"      seq
horizontal message
3    "framer"           visual effect for game or quiz prg
3    "pokeshow"         pokes bank 15 memory to screen
14   "tank vs ufo"      crude VIC-20 game adapted to B128
1    "-----cb-----"      seq
10   "directory.ss"      seq  This document.
3    "about author.ss"   seq  Name, Address, incidentals.
1    "<-²²-AUTHOR-²²->" seq  Marker only.
5    "read first.ss"     seq  Sort of a freeware statement.
1    "<-----DOCS----->" seq  Program documentations follow.
17   "abc.ss"            seq  >
                                  3   "cst.chr.chart.ss"
2    "hex-dec.ss"        seq  > When, Where What-for, and Why
5    "label.ss"          seq  > explanations for the programs
14   "label editor.ss"   seq  > that follow in the section
2    "marquee.ss"        seq  > under the heading
4    "monthlypay.ss"     seq  > "<----PRGMS---->".  I have
4    "mortgage.ss"       seq  > attempted to cover everything
17   "term.b128.300.ss"  seq  > completely enough to make the
7    "trm.hlf-duplx.ss"  seq  > use of the programs very
                                simple.  Program details
                                below.
1    "<----PRGMS----->" seq  Marker only.  Programs follow.
17   "abc"               prg  Sorts inputs alphabetically.
                              Searches,Prints,etc.
40   "address"           prg  Alphabetic address, phone book.
                              Search,print,etc.
```

```
17   "label editor"      prg  Different kind of label
                              printer.  Must see.
5    "marquee"           prg  Just a little play-around
                              screen freeze demo.
9    "monthlypay"        prg  Computes monthly payments on
                              borrowed amounts.
13   "mortgage"          prg  Computes payment and escrow,
                              shows interest costs.
40   "term.b128.300"     prg  300 baud terminal w/buffer,
                              xmodem, phone directory.
41   "term.half-duplex"  prg  As above,to communicate with
                              another PC;w/echo.
                              Phew!  The End, finally.
1    "-----gk-----"      seq
83   "mail pro"          prg  This is a high speed high cap-
acity (15-20,000) mailing list program.  After a customer
name is entered, the pgm prohibits you from entering that
same name again!  It goes into edit section.  A ML pgm
checks for duplication of that customer's number part of
the address.  When you run labels you must first delete
lines 30 and 20000 up.  To start you must manually open
the original files as in lines 4000-5000.
84   "rev mail pro"      prg   Upgraded version of above
1    "-----mg-----"      seq
18   " menu v2"          prg w/non-selectable '---header--##'
                              files
18   " menu v2"          prg  seq file display & print option
28   "copy-all v3.2"     prg  define & insert '---header--##'
                              files
2    "+copy-a.21c3c"     prg  same as before m/l for copy-all
1    "+btxfer.fe48"      prg  same as before m/l for copy-all
64   "autoexp v1.2"      prg  from CBUG#5 w/additional featrs
72   "checkbook v1.3"    prg  from CBUG#5 w/additional featrs
1    "   directory   "   seq  sample using menu v2
                              (incompatable w/old)
4    "mg protocol"       seq  protocol project for progmers
12   "var. copy-all"     seq  annotated varaible listing
3    " menu.instr"       seq  instructions for menu v2
8    " annotation .scn" prg
3    "---directory"      seq
1    "----utility-----" seq
1    "--applications--" seq
1    "------text------" seq
3    "mg annotation"     seq
4    "-----wk-----"      seq
4    "directory"         seq  This file.
66   "checkers80.gb"     prg  From CBUG #4, compiled with
                              Petspeed, uses b15.
53   "chg addrv2.gb"     prg      ditto above
50   "prog adds.gb"      prg  Program addresses, ditto
1    "b15"               prg  Program needed to run above
                              compiled programs.
22   "basic4.0 conts"    seq  Contents for Swan's 4.0 +
                              tutorial.
6    "b500"              seq  Article on a C= B500 computer.
9    "cbugarchive002+"   seq  Contents of 002, with bad pages
```

```
3   "cust.char.chart"  prg  Makes charts for custom
                            character layout.
10  "hex-dec"          prg  Converts decimals to hex code
                            & vice-versa.
10  "label"            prg  Prints five line labels,
                            includes bold.
1   "-----jk-----"     seq  17  "abc"              prg  17  " menu"           prg  3   "scrn format"     prg
8   "Autostart"        prg  40  "address"          prg  1   "screen dump"     prg  1   "feminist's"      prg
1   "Utilities"        prg  3   "cust.char.chart"  prg  1   "magic protector" prg  1   "waves"           prg
130 "Roms S/No.01650"  prg  10  "hex-dec"          prg  3   "typewriter"     prg  8   "patterns"        prg
1   "(610-WGermany)"   prg  10  "label"            prg  3   "ac directory  "  seq  3   "recipe"          prg
130 "Roms S/No.02349"  prg  17  "label editor"     prg  2   "screenprint"    prg  5   "keyboard matrix"  prg
1   "(710-WGermany)"   prg  5   "marquee"          prg  2   "password"       prg  3   "alphabet slalom"  prg
1   "K"                prg  9   "monthlypay"      prg  2   "ascii finder"   prg  4   "vtab"            prg
6   "Fn Key Instrns"   seq  13  "mortgage"         prg  4   "speedy"         prg  1   "bubble sort"     prg
6   "Demo Windows  "   prg  40  "term.b128.300"    prg  1   "z16"            prg  1   "shell sort"      prg
1   "-----tc-----"     seq  41  "term.half-duplex" prg  5   "chr$ codes"     prg  1   "underlining"     prg
8   " MENU"            prg  1   "<----ESCAPE---->" seq  3   "for next hint"  prg  2   "centered prting"  prg
1   "   directory  "   seq  3   "escape read.ss"  seq  2   "get 2"          prg  12  "utility audit"    prg
6   "RUN/STOP KEY"     seq  3   "zenith width.ss" seq  3   "get"            prg  2   "data statements"  prg
6   "ss.RUN/STOP KEY"  seq  11  "more modems.ss"  seq  2   "get 3"          prg  5   "roman"           prg
9   "-----cb-----"     seq  16  "screen window.ss" seq  3   "get 4"          prg  1   "wait"            prg
9   "directory.ss"     seq  8   "extra banks.ss"  seq  2   "data err fndr"   prg  1   "peek 2"          prg
3   "about author.ss"  seq  3   "-----lh-----"    seq  2   "angles (sin of)" prg  1   "flashing screen" prg
1   "<-²²-AUTHOR-²²->" seq  12  "Software List"    seq  3   "comma files"    prg  1   "timer"           prg
5   "read first.ss"    seq  2   "-----et-----"    seq  1   "adding machine"  prg  5   "msx"             prg
1   "<-----DOCS----->" seq  6   "dooley"          prg  1   "adding machine+" prg  1   "def fn"          prg
17  "abc.ss"           seq  31  "monster combat"  prg  8   "book names"     prg  3   "printat"         prg
22  "address.ss"       seq  1   "monster us"      seq  2   "binary quiz"    prg  2   "bug"             prg
3   "cst.chr.chart.ss" seq  10  "memo1 assembler" seq  2   "binary table"  prg  4   "delay loop"      prg
2   "hex-dec.ss"       seq  10  "A Mad World"     seq  2   "get 5"          prg  4   "printat+"         prg
5   "label.ss"         seq  6   "memo2 user"      seq  7   "dr psycho"      prg  2   "scrolling"       prg
14  "label editor.ss"  seq  1   "monster hall"    seq  2   "rs232 example"  prg  4   "jump search"     prg
2   "marquee.ss"       seq  5   "-----mg-----"    seq  6   "magic menu"     prg  1   "file1     .descr" usr
4   "monthlypay.ss"    seq  1   "-----lh2-----"   seq  4   "profit"         prg  1   "file1     .key01" usr
4   "mortgage.ss"      seq  4   "horn.compiler"   seq  7   "temp conv"      prg  2   "dynamic 1"       prg
17  "term.b128.300.ss" seq  25  "horn.ssgraphics" seq  1   "ascii"          prg  2   "dynamic formula" prg
7   "trm.hlf-duplx.ss" seq  8   "horn.teleterm.in" seq  1   "peek"          prg  1   "prog loader"     prg
1   "<----PRGMS----->" seq  10  "-----ac------"    seq  7   "mem jogger"     prg  2   "-----gk----"     seq
                                                                                    35 blocks free.
```

PRE RELEASE #6p CBUG #35 NEW RELEASE 12557

This is the beginning of Pre-Release #6, which because it has two very valuable files on it already, we are going to let out in advance of its completion. Since the disk is not full, better yet we are going to offer it a $6.00. HOWEVER there will be no upgrade provision on this disk. The full disk will be the normal pricing when completed.

Mathew Goldstein has again upgraded his checkbook program, which has been subject to several upgrades by him and others. It inturn was improved upon a checkbook program which appeared elsewhere in the utilities disks but reportedly was not as good as it should have been.

Jack Mangold provides us with a program for making Function Key overlays. Best yet, an index to the Protecto Programmers Guide.

```
1 "pre6 partial    " p6 2c
18 " Mastermenu/c"    prg features: copy, delete, rename, speedup,   2  "check.sample"     seq  13 features, menu driven.
24 " Mastermenu"      prg   switch drives, with error trapping,      1  "--instructions--" seq
15 "Masterdirectory"  rel    automatic updating... for every disk    20 " Master.instr"    seq
1  "--applications--" seq                                           4  "checkbook.instr"  seq
81 "checkbook v1.6"   prg debugged with reconcile, user friendly,    1  "-----above-----" seq

2   "-----bd-----"    seq  2   "-----jm-----"    seq  8   "overlay"          seq      1790 blocks free.
7   "bank it"         prg  3   "alpha"           prg  72  "ref index"        seq
```

PD MATH A CBUG #40 NEW RELEASE 12771

The next five disks are the well known Commodore Educational Series, available from many user group libraries for the entire Commodore line of equipment -- except of course the B128. The Space Coast Commodore Business Machines User's Group had advertised their translations of these programs in the Winter/Spring 1986 issue of The CBUG ESCAPE. This series is the effort of CBUG registrar Marilyn Gardner. Due to space limitations, we have not previously released this series even though it was completed last April. Marilyn has made maximum use of the 8050 storage capacity of our systems to reduce what used to be a huge pile of disks down to just 5. Let's give Marilyn some real applause for the weeks of work it took to dig thru each of these programs; the annotated directory alone was no small feat! The entire set is available at a reduced cost also under stock #11822.

```
0 "pub dom ed matha" e4 2c
22  "sh.ft/run menu"  prg   loads programs; programs return here
```

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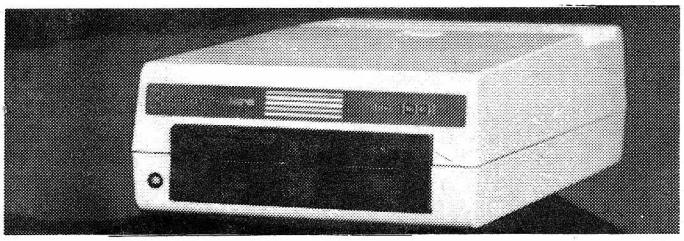

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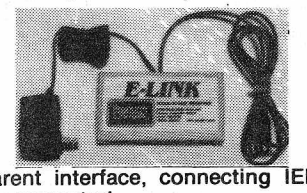
The Commodore SFD-1001 stores over one megabyte of data on a double sided double density disk. Fast IEEE interface is plug-in compatible with a B-128 or PET computer. The SFD-1001 has the same format as an 8250 and will load 8050 and 8250 software without conversion! The best feature? The built-in price of only 239^{95}.

SERIAL IEEE INTERFACE FOR THE C-64 & C-128



The E-Link is a 100% transparent interface, connecting IEEE peripherals to the serial port of your computer!

E-Link works with 4040, SFD-1001, 8050, 8250 disk drives, and all other CBM IEEE peripherals. Plug the E-Link right into the serial port of your computer, no dip switch or software settings to adjust. Draws no power away from your computer and runs at almost twice the speed as normal serial devices. **Reg. 119^{95} NOW ONLY 99^{95}!!** Requires PET to IEEE cable 34^{95}

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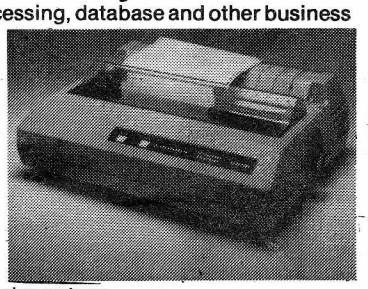
It's fully compatible with word processing, database and other business and personal software.



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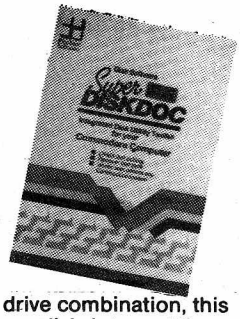

SOFTWARE FOR THE B-128!!

SUPER DISKDOC UTILITY: FIX CORRUPTED DISKS!

Suitable for any Commodore computer/disk drive combination, this utility set allows you to zoom in on the bytes on your disk, interpret them in plain English, hexadecimal or ASCII, make any changes and replace them. You can detect the cause of frustrating disk read and write errors, and recover previously unreadable files and large portions of apparently deleted data. You can either copy any part of any file, change directory entries entirely, or verify the integrity of internal disk pointers and links.

Super Diskdoc comes with a simple menu interface. You can type the command or cursor along to it. Once you call up the file or the part of the disk you want to look at, you can browse in any direction through it. Clear documentation is included for ease of use.

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I NEED HELP FROM ALL OF YOU -- WHAT DO YOU SAY?

Hundreds of you have spoken with me from time-to-time and many hundreds of you can remember me as one of the original B128 Users when the first B appeared. In fact I probably had one of the first machines in the USA.

It's my turn to ask all of you for help. Maybe, call it a small "gift" for those late night calls from you all over the world whom I refused to accept any gratituity.

I'm running for the House of Representatives here in South Dakota. I am a conservative with devout interest in computers, education, and preventing another Boston Tea Party. I am in the minority party here (and probably elsewhere). Funding is, as with most political campaigns, the one major ingredient that either makes or breaks the candidate. **READ ON ...**

I'm well respected here, but rather new in the political arena. I am a educator (mathematician) with two B.S. degrees and an M.S. (magna cum laude). I hope to introduce legislation to protect the computer consumer. I'm not an advocate of the "shrink wrap" law wherein a user (buyer) who opens or breaks the seal cannot obtain a refund on software.

If I could get every CBUG member to send my campaign $5.00, what a campaign I could run in the next 90 days. I've survived the state's primary and November 4th will decide my political fate.

A $10 contribution would bring in much and I can only wonder what more would do. How about it? I think I have shown my true colors with all of you. Norman knows what my past contributions have done for CBUG. Can you afford it?

This is one time you can be a help to me. Please take the time to send advice or money. Most people won't even finish the first paragraph.

Ah, what a dream this is!!!

Thanks for listening.

Jim

AAONMS

Citizens for White, Judy Olson and Shirley Frederick, Co-chairs
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A HIGH-RESOLUTION BOARD is available FOR THE B128

The board allows bit-mapped graphics. The HR pictures can coexist with the normal text screen. The resolution is 1024 across by 512 down; to that area the B's screen is a window. Any size window for HR graphics can be created, and it can be moved independently of the text screen. The board includes 64K of RAM to support the bit graphics. Installation is simple: a six by five inch board goes inside the B, and one line needs to be cut. The board was designed in cooperation with the people who are building 1meg expansion, in order to be compatible with that project.

Software is in Basic at the present time. Machine code routines will be developed as an independent project, as soon as possible.

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** BeeLine V2.0 will be available by November 1, 1986!!! **
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** It can be ordered directly from the Order Form for $35.00. **
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** This coupon is to be used for ordering BeeLine V2.0 ONLY! This coupon **
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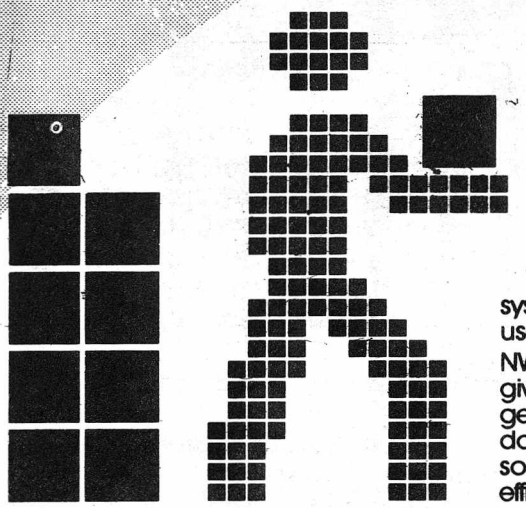
Does this sound like your inventory system?

- painfully long modules loading times
- check digits that have no relationship to the item selected
- limited editing features such as typing over into the next field and not being able to correct it on the spot
- inconsistent program function keystrokes
- hit "exit" by mistake and end up with a 50 second round trip to return
- being mentally tortured for 15 seconds when you make an error and the system doesn't let you forget it!
- excessive keystrokes to answer forced prompts when you are working in another area!
- not being able to search quickly for a particular record because of the "check digit" scheme

IF IT'S THAT HARD TO USE... GET RID OF IT!



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Ours sounds like this:

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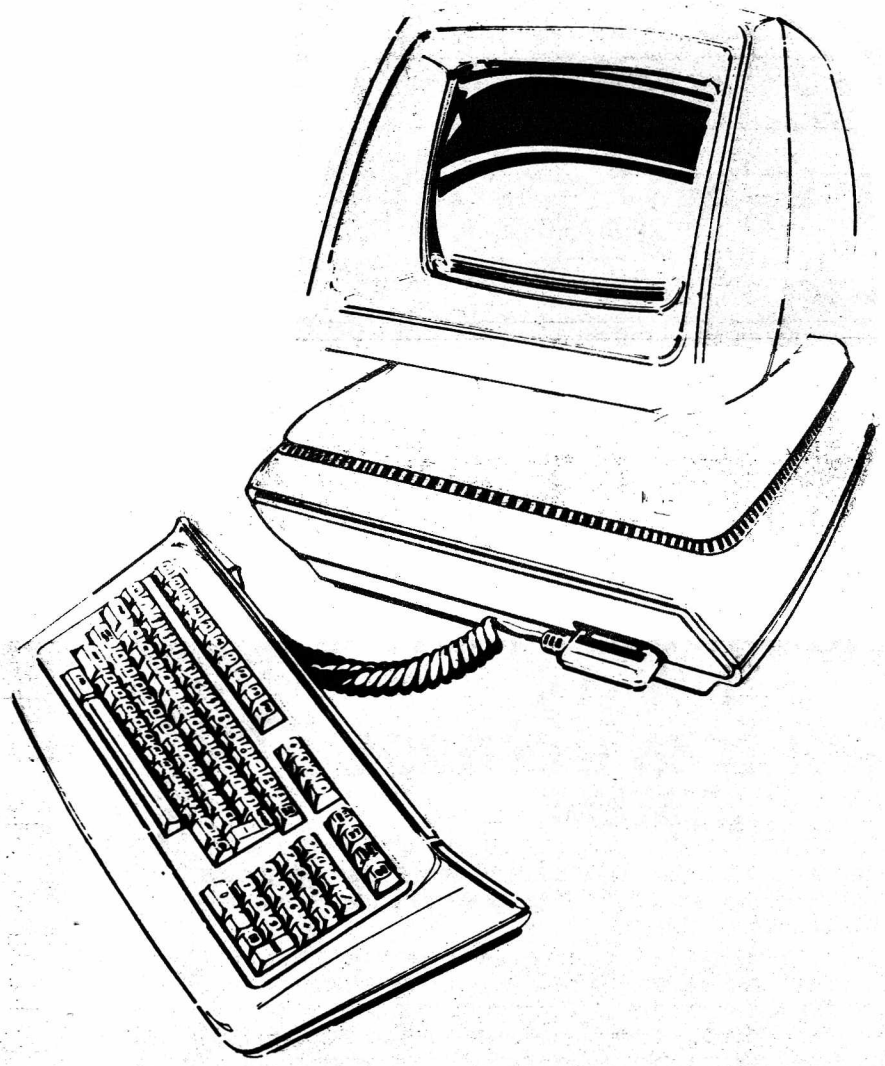

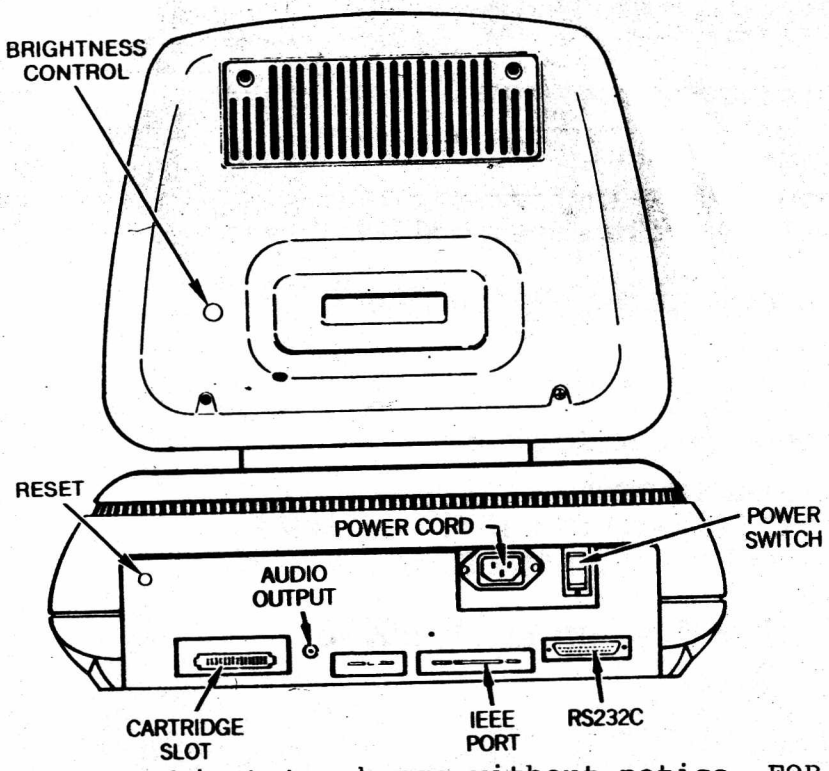

CBM 128 HI PROFILE

Yes, after much intensive work we have unearthed a small number of CBM 128 computers. This machine was to be the flagship of the CBM Business line and listed in the high $2,000 price range. The computers were made in West Germany for Commodore. I do not think that anything has to be said about the quality control there.

CBM 128 features:

* SWIVEL MONITOR
* ADJUSTS HOR. and VERT.
* DETACHABLE KEYBOARD
* 9x12 PIXEL DISPLAY
* INCREDIBLE RESOLUTION
* DESIGNED FOR 2 INTERNAL DRIVES

Priced from $300 to $400

You really have to see the green phosphor display to believe it. This model has at least as good a display as the other company with those three big letters.

These are the last hi profile computers CBM has in the United States and we do not expect them to last long. We are also expecting a shipment of CBM 256 computers. They have not arrived so no information is available yet.

For information call
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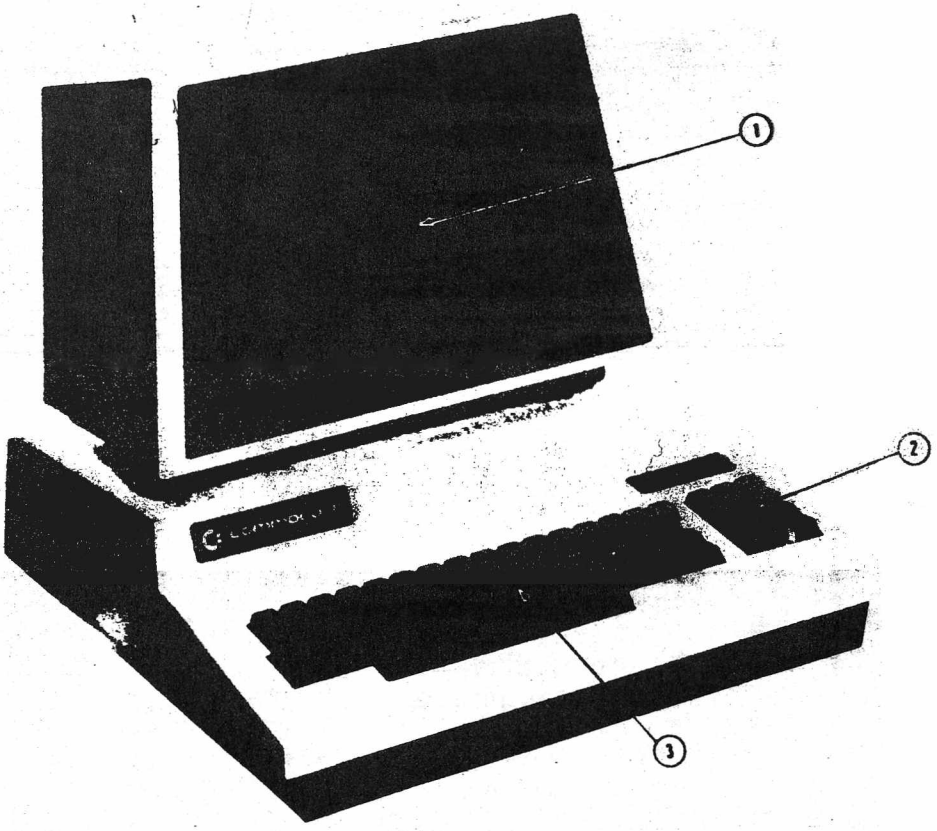

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What's this I hear ? You would like a computer that you could run business applications on and develop programs in Cobol, Fortran, Pascal, Apl and Basic. You also want to adapt it to run the OS-9 operating system ? ARE YOU CRAZY !!!

Perhaps not ! CBM and Waterloo University developed such a computer in 1981. This computer was called a Superpet. The Superpet has two built in operating modes. The first is a stock 8032 computer and the second is a 6809 based computer with the above language interpreters, editor, standard ascii output, rs-232 port, ieee port , 96k ram and much, much more ! TPUG recently supported the development of the OS-9 operating system for the SuperPet.

What does a computer like this cost ? Well if you shop around for these languages for other computers you might spend thousands just for the programs ! This of course doesn't cover the cost of the computer to run them.

The Superpet comes with a built in 80 column monitor and full 8032 keyboard. The price on these while they last is only $395. This includes all the language manuals which sold for $70. Some of these systems are minus the Cobol manual as it was not developed until later.

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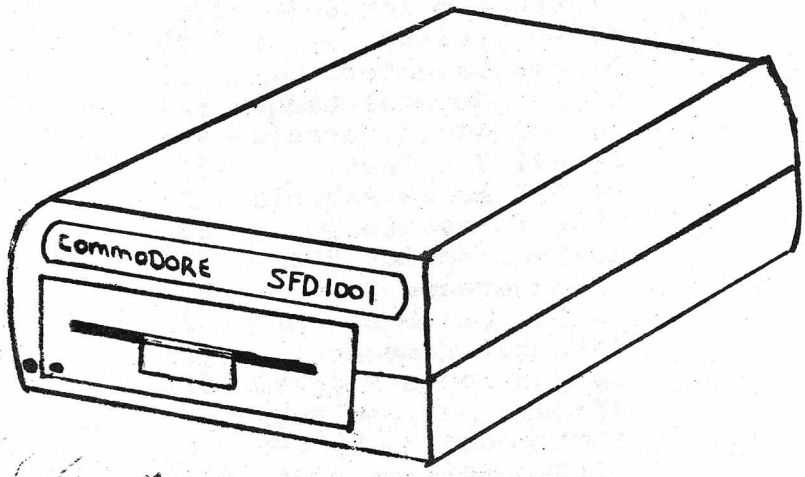

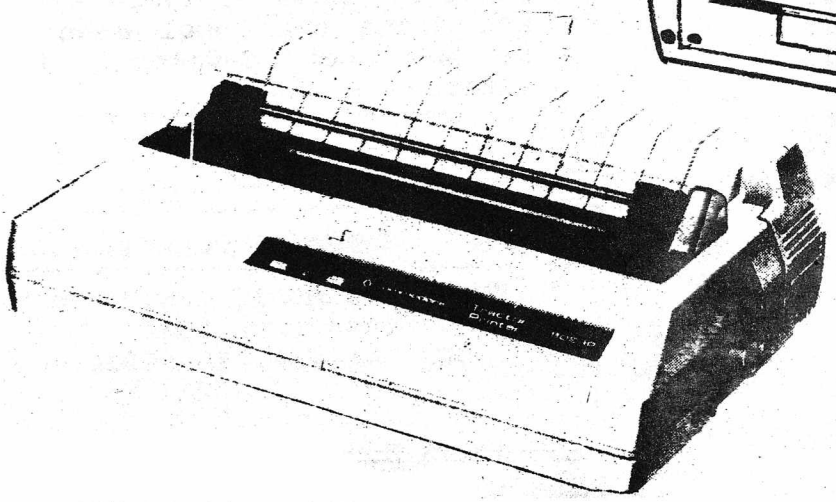

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PHASE LOCK SPEED CONTROL

FOR YOUR 8050 DISC DRIVE

ELIMINATES THE MAJOR FLAW IN THE B128 SYSTEM

Difficulties in READ/WRITE, COPY and NEW functions on the 8050 and 8250 are most often due to the speed control drift and instability inherent in the existing design. G.B. Mills has investigated this problem as reported in The CBUG Newsletter and developed an upgrade piggyback circuit-board that allows the drives to run on exact speed (error of less than ¼ rpm or 0.08%) even from a cold start. This board is now being manufactured and can be installed by us in your drives. The board uses a quartz crystal oscillator as a reference and has DIP switches to set each drive on exact speed. We will also clean and lubricate the drive belt wheels and replace belts on both drives. The charge of $265.00 includes return UPS shipping in the USA. If you do not have the original carton with foam inserts which is essential to protect your drive in transit, we will send a shipping carton for an additional $15. Please include a check for the full amount with unit or request for carton. Be sure to include your name, shipping street address (P.O. Box # cannot be used for UPS), and serial # of the unit on a note packed **inside** with the unit. When shipping drives to us, be sure to **insure** the unit for **$1500** as the unit is in **your** care until it arrives safely at our **door.** We urge shippers to use UPS and **not** to use U.S. Mail! We are also now in a position to service other 8050 problems including component level repair of the digital control board—call or write us.

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Copycalc—An electronic spreadsheet. *"Excellent program for budgeting, estimating, or any math-oriented use . . . well worth the money. Highly recommended."*—Midnite Software Gazette.

ReportGen—creates form letters, mailing lables, etc.

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To order, send name, address, and $19.95 to address below. Please specifiy regular [1541/1571/2040/4040/2031] disk, 8050 disk, or cassette [cassette not available for Plus 4 or C-16]. Add $3 for credit card or COD orders; Calif. residents add 6%. No personal checks from outside USA. A sampling of program output is available for $1. **Tear this ad out and keep it handy!**

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PHYSICAL EXAM — THE DISK ALIGNMENT PROGRAM

By now you've seen several articles and ads dealing with the speed instability problems of the 8050 drives. This problem also applies to the 8250 and most other CBM drives. Physical Exam is a superior in-computer measuring tool for seeing the speed of a drive on you monitor with great accuracy. The drive must be between 299 and 301 rpm to work properly. P.E. gives about 1 reading per second, leaving about 15 on the screen as they scroll. The accuracy is to two decimal places, 299.35 for example. You then simply turn the control on the inside to the drive is on speed. If you are going to add the new reference diodes you must have a way to reset the speed adjustments. You can easily and quickly check your drives as often as you like to insure that you will not have read or write problems, or worse yet trash a disk or write bad files within a large data base. A second section of the disk displays the mechanical alignment of the head tracking so this also can be adjusted when the occasion demands.

CBUG is now stocking P.E. for the 8050, 4040, 1541 and 1571. Though the 8050 version will not "officially" operate on a SFD 1001 or an 8250, you can load the program from an 8050 then switch drives without turning the computer off. You switch the drives after you have passed the first menu. By doing this you avoid the section of program which asked the drive what it is.

* *

BETTER ZENERS and REFERENCE DIODES

Finding parts is not always easy, so CBUG has purchased a supply of both replacement close tolerance zeners of the type recommened by Mr. Kernaghan, and a far superior reference diode. We are offering these, albeit at a modest markup, along with copies of the circuit board component location charts, with schematics and brief instructions. KNOW WHAT YOU'RE DOING OR GET SOMEONE WHO DOES TO HELP!

Zener Diode: ECG 5014A is also known as a SK6A8 under the RCA numbering system. In reality it is a relabeled 1N5235B. These diodes can simply be swaped for the two located on the analogue board, one for each drive (0 and 1) They are about 4 times better than the original part ratings. These parts are rated at .05% per degree C drift. Two are provided in a package. CBUG order #11330, $6.00.

Precision Reference: LM329 is a tight tolerance near zero drift reference diode from National Semiconductor. It sports a .0015% per degree C drift -- 33 times better than the zener diode. However, a bias resistor must also be changed, so 4 parts need to be substituted. Make twice as sure you are capable of this before attempting. Two LM329's and 2 2.7K resistors in a package. CBUG order #11344, $8.50.

* *

INTERNAL IEEE CONVERTERS FOR THE 6400 PRINTER

If you are about to or have purchased a CBM 6400 printer from most any source, it likely will come with a Centronics Parallel (industry standard) connector. To use this interface system you must provide an IEEE to Centronics converter. CBUG has brought in a quantity of the original internally installed converters for the 6400 printers. It takes but a few minutes and only one small phillips screw driver to install. This is a Commodore interface and performs far better than the outboard devices with respect to many of the instruction codes. It is equiped with adjustable device number jumpers. We provide them with complete instructions and schematics. CBUG order #11221 #35.00. Incidentally, there are two sets of dip switches on the back side of the control panel of the 6400. Their proper settings for B128 use is: 00010000 01101001 00.
When using Superscript with the 6400 printer, at the opening menu select option 3, Diablo!

This page printed on a CBM 6400 with a 10 pitch Courier wheel using 12 pitch spacing.

THE BEST DEAL

The Best Quality!

The Best Prices Too!

WHAT A DEAL! No kidding, we know from you, our members, and members of many other user's groups and commercial customers that the OPUS quality disks cannot be surpassed by any other manufacturer. In the course of our duplication on the 8050 drives, which write 502K per side rather than the usual 170K to 340K for conventional Double Density usage, the Opus disk reject rate has been less than .1% — one part per thousand. Phenominal! Most of the major brands I've tried have exhibited reject rates in the order of 3% to 5%!

* 100% Certified
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* Heavyweight jackets
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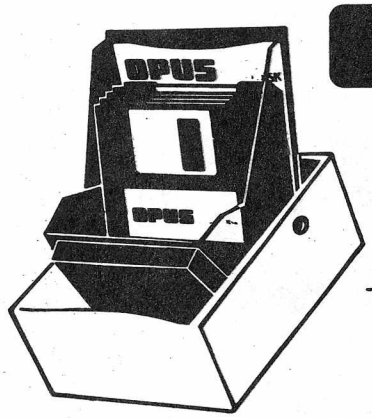
* 5,000,000 rev/track life ++
* Highly polished surface
* Antistatic liner
* Highest saturation figures
* Lubricated liner
* Special Heavy duty binder
* Hub rings.

++"media life shall exceed 5.0 million revolutions (278 hrs) with the head(s) loaded normally on a single track. During this period, the average signal amplitude shall not be less than 75% of the original value." The high output oxide insures that even at the 75% or original level, the Opus disk will exceed the output of most other brands of disks when new.

Why is OPUS so good? Opus is one of the very few "manufacturers" of disks which makes the entire product. Infact, OPUS is primarily a manufacturer of computer and military critical use instrumentation tape; they've taken the technology used in making those far more critical products and applied it to produce the finest disk in the business. But they are not just satisfied to make it right, they then check every single piece they manufacture -- a necessity in the world of critical data applications. Opus is one of the largest disk manufacturers in the US, but generaly caters to the ultra critical duplicator market, hence few consumers know of the brand.

We stock the complete line of OPUS disks: QUAD DENSITY, SS and DS, IBM AT, 3.5" and 8"; retail packaged thru duplicator no label bulk packaged. Inquire for volume pricing.



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CBUG
THE CHICAGO B128
Users Group
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* *

KNIGHT'S COPY UTILITY

With the advent of programs to upgrade Superscript and Superbase, if you have not bought this most important utility, now is the time. Never ever do surgery on an only copy. Knight's copy utility will copy Superscript and Superbase easy as can be. All you need is an 8050 drive with DOS 2.7. To find out if your drive is DOS 2.5 or 2.7, type as follows upon first turning on your computer and drive: ' ?ds$ RETURN '. The screen will then show drive and DOS type.

Running Knight's Copy Utility is very simple. Just load the program in the usual manner, remove the program disk and insert the original to be copied (must have a write protect tab on it), then insert a blank disk in drive 1. Ten minutes later you have a complete copy. The indicators on the drive flash at the end of the cycle if the copy is good. You can continue inserting blank disks as long as you want for additional copies!

Don't risk ruining your Superscript or Superbase disks. Order from CBUG, #12204 only $20.00 ea.

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COPY SCREENS TO VIDEO TAPE... WITHOUT CAMERA!

OVER 60 PROGRAMS + TEXT FILES

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SUPERPRINT INCLUDES OVER 60 PROGRAMS AND TEXT FILES, PLUS 20 CUSTOM BANNERS, THAT RELATE TO PRINTING WITH YOUR B-128. SOME ARE FROM PREVIOUS PRE-RELEASES AND ESCAPE ARTICLES BUT ARE COMBINED ALL ON ONE DISK WITH OVER HALF THE PROGRAMS NOT AVAILABLE FOR THE B-128 BEFORE. GET YOUR COPY NOW WHILE THE PRICE IS ONLY $15.00! AFTER DECEMBER 1ST IT GOES BACK UP TO $19.00 SO ORDER FROM C-BUG TODAY.

```
1   "-mathematics i--" prg
45  "add & sub"        prg   teaches how to add & subtract integers
27  "addition drill"   prg   drill on simple addition problems
26  "addition race"    prg   move men on screen by solving problems
46  "adds and subs"    prg   shows objects to count if answers are wrong
62  "agent blotto"     prg   use all operations to break code for Agent
43  "algebra vectors"  prg   drills 9 sub-topics under algebraic vectors
32  "amort'n table"    prg   user inputs loan info, table is printed
31  "analysis 1"       prg   processes up to 500 student marks
33  "ankova"           prg   teaches analysis of covariance
27  "anova"            prg   teaches analysis of variance
35  "artillery"        prg   choose angle/powder to shoot over mountain
45  "auto add teacher" prg   drill with automatic difficulty increases
41  "b.t.c. add"       prg   practice addition against the clock
36  "b.t.c. decimal"   prg   practice with decimals against the clock
1   "-mathematics ii-" prg
36  "b.t.c. divide"    prg   practice division against the clock
38  "b.t.c. fraction"  prg   practice fractions against the clock
34  "b.t.c. multiply"  prg   practice multiplication against the clock
40  "b.t.c. percent"   prg   practice with percentages against the clock
28  "bairstow nth"     prg   solves nth order polynomials
24  "base change"      prg   changes baase 10 to base 2 through 16
24  "beads in a jar"   prg   binomial distribution graphic/numeric
31  "bigtime"          prg   12- or 24- hour clock with alarm
36  "bomb add"         prg   answer addition problems to defuse bombs
25  "bonds"            prg   calculates present value of savings bonds
39  "brain crane +"    prg   drill simple addition with graphics
39  "brain crane -"    prg   drill simple subtraction with graphics
42  "brain crane /"    prg   drill simple division with graphics
42  "brain crane x"    prg   drill simple multiplication with graphics
1   "mathematics iii-" prg
24  "choices"          prg   probability study
45  "clock"            prg   tell digital time from clock face time
35  "count 1 to 10"    prg   practice rational counting
38  "count ten"        prg   graphics to help practice counting
39  "count-five"       prg   displays in response to key press
37  "dart"             prg   checks speed and accuracy in four operations
26  "dates"            prg   tells what day of week given date occurs
48  "decomposition"    prg   teaches/drills factoring of trinomials
22  "depreciation"     prg   straight line, double declining, sum of digits
31  "deriv poly"       prg   input polynomial, x; computer solves for y
41  "dice throw"       prg   tallies results of throwing various dice
34  "drill si"         prg   conversions between different metric units
32  "drill"            prg   add/subtract to 20; multiply/divide to 9-table
28  "drills"           prg   practice four operations
27  "ellipse-trans"    prg   computer drawn/translated ellipse
24  "pub dom notes"    seq   notes on this series of disks
14  "Annotatd Dirctry" seq   what you are reading now
475 blocks free.
```

PD ENG A CBUG #41 NEW RELEASE #11785

```
0  "pub dom ed engla" e7 2c
22 "shift/run menu"   prg  loads programs; programs
1  "---english i---"  prg
30 "a or an"          prg  complete sentences w/ proper word
29 "a story"          prg  fill in speech parts; computer
                           makes story
31 "antonyms"         prg  give antonyms of words presented
                           by computer
35 "baseball madlib"  prg  fill in speech parts; computer
                           makes story
49 "computer poetry"  prg  team with computr to write poetry
43 "conc. words"      prg  memory and matching game
48 "concentration"    prg  game with similar-sounding words
34 "definition match" prg  match six words to their
                           definitions
41 "flasher"          prg  recall word/phrase flashed on
                           screen
29 "haiku"            prg  demo of this form of poetry
46 "hangman 1"        prg  word-guessing game, with graphics
51 "hangman 2"        prg  word-guessing game, with graphics
36 "hangman 3"        prg  word-guessing game, with graphics
34 "initial digraphs" prg  complete words in multiple-choice
                           drill
1  "---english ii--"  prg
25 "letter square"    prg  the game "15" played with a-o
32 "macbeth quiz"     prg  quiz on the Shakespeare play
30 "matching"         prg  practice distinguishing words
39 "mm dark wood"     prg  Mr. Mugs vocabulary drill
31 "mm homonyms"      prg  Mr. Mugs choosing correct words
32 "mm ladvf"         prg  Mr. Mugs drill on verb forms
33 "mm mugs 2wm"      prg  Mr. Mugs sentences to complete
35 "mm mugs wm"       prg  Mr. Mugs sentences to complete
35 "mm punctuation"   prg  Mr. Mugs punctuation of sentences
35 "mm sadstory 2"    prg  Mr. Mugs sentence completion
                           techniques
39 "mm share time"    prg  Mr. Mugs vocabulary drill
32 "mm vb forms 1"    prg  Mr. Mugs drill on verb forms
1  "--english iii--"  prg
32 "mm vb forms 2"    prg  as above
33 "mm vb forms 3"    prg  as above
31 "mm vb forms 4"    prg  as above
35 "mm vb forms 5"    prg  as above
32 "mm vb forms 6"    prg  as above
32 "mm vb forms 7"    prg  as above
34 "mm vb forms 8"    prg  as above
32 "mm vb forms 9"    prg  as above
32 "mm word means"    prg  Mr. Mugs sentence completion
                           techniques
24 "new tachisto"     prg  recall phrase flashed on screen
36 "nouns"            prg  tutorial and quiz on nouns
37 "problem pronoun"  prg  pick the correct pronouns for
                           sentences
25 "parts speech"     prg  noun, adjective, adverb,
                           preposition
```

```
                    from each other
27 "medial vowels"   prg  multiple-choice vocabulary drill
31 "misspelling"     prg  identify the one word misspelled
                          in five
34 "mm advbforms"    prg  Mr. Mugs drill on adverb forms
33 "mm crcomp"       prg  Mr. Mugs drill identifying
                          question types
26 "petpitpatpot"    prg  given definition, find word
                          beginning with...
82 "plurals"         prg  tutorial and exercise on forming
                          plurals
24 "pub dom notes"   seq  notes on this series of disks
13 "Annotatd Dirctry" seq what you are reading now
408 blocks free.
```

PD GHBT — CBUG #42 — NEW RELEASE — #11790

```
0 "pub dom ed ghbt " e1 2c
22 "shift/run menu"   prg loads programs; programs retn here
1  "---geography----" prg
48 "map of england"   prg 4023 printer outline map
48 "geog"             prg lesson & quiz on land/water terms
35 "nations/capitals" prg match capital with country / vs.v
41 "co-ord. distance" prg calculates distance using latitude
                          and longitude
67 "british geog"     prg quiz on British geography, uses
                          special 4023 map
26 "french topics"    prg quiz on French geography
43 "geography quiz"   prg general geography quiz
34 "italian quiz"     prg quiz on Italian geography
46 "koeppen"          prg quiz on Koeppen system of climate
                          classification
27 "mileage"          prg calculates mileage using latitude
                          and longitude
36 "states & captls"  prg multiple choice quiz
30 "states & regions" prg quiz on American geography
39 "world capitals"   prg quiz on world capitals
1  "----history-----" prg
37 "ancient history"  prg quiz, primarily on ancient Greece
41 "election"         prg 19th century simulation, with
                          strategy input
72 "famous people"    prg quiz about ancient and modern
                          personages
34 "president quiz"   prg quiz on U.S. presidents
34 "world wars"       prg quiz on both world wars
1  "----business----" prg
32 "amort'n table"    prg calculates interest and creates
                          table for loans
25 "bonds"            prg calc. simple bond yield values
26 "dates"            prg how many days between given dates
22 "depreciation"     prg straight line, double declining,
                          sum of digits
26 "f.i.f.o"          prg first-in, first-out inventory
                          evaluation lesson
28 "gross pay"        prg simple calculation of wages
44 "lemonade"         prg small business operation with
                          variables
36 "market"           prg competition between two
                          same-product companies
38 "mortgage"         prg computes payment and prints tables
47 "objective 1.1"    prg tutorial & quiz on balance sheets
40 "portfolio"        prg simple calculations and disk file
                          of transactions
36 "simulation"       prg how computer follows flow chart
                          (also in Tech.)
36 "stock market2"    prg simulation game
1  "---technology---" prg
35 "tech simulation"  prg how computer follows flow chart
                          (also in Bus.)
77 "resistors"        prg lessons and quizzes on resistance
26 "circuit 3"        prg voltage, current, equivalent
                          resistance
28 "circuit 4"        prg calculates current and voltage
                          change over time
43 "dfw resistance"   prg learn/practice serial/parallel
                          networks
64 "driver education" prg Canadian written driver test,
                          with graphics
62 "electrical prob"  prg lessons & problems on Ohm's law,
                          energy, power
26 "fuse"             prg select from given fuses for
                          specific applications
45 "light meter"      prg graphic demo of use of light meter
24 "ohm2"             prg Ohm's law problems
24 "pub dom notes"    seq notes on this series of disks
13 "Annotatd Dirctry" seq what you are reading now
384 blocks free.
```

PD SCI A — CBUG #43 — NEW RELEASE — #11803

```
0 "pub dom ed sci a" e2 2c
14 "shift/run menu"   prg loads programs; programs retn here
1  "---science i----" prg
35 "actinium decay"   prg works through decay series,
                          displays graph
34 "avorm"            prg label each object animal, veg, min
40 "azimuth & alt"    prg provides azimuth & altitude for
                          eight stars
57 "balance chem"     prg balances chemical equations
32 "bernie tower"     prg simulation of gas bubble tower
71 "bohr atom"        prg tutorial on the Bohr atom
50 "boyle's law"      prg simulation of modifying pressure
                          and volume
80 "buoyancy"         prg teaches/tests on density, buoyance
                          & flotation
43 "cai momentum"     prg quizzes student on momentum
28 "charge"           prg simulates Millikan's oil drop
                          experiment
31 "chemist quiz"     prg drill on symbols, valences, names
                          of elements
29 "chemist"          prg chemical ratio quiz
1  "---science ii---" prg
56 "circuits"         prg examine 7 circuits -- will they
                          light lamp?
48 "cylinders"        prg displays graduated scales to read
25 "defect"           prg investigates defect dealing with
                          single atom
62 "electrical prob"  prg drill on electrical problems
33 "element"          prg test on some elements and symbols
37 "elements"         prg drill on all elements and symbols
47 "equations"        prg how many marbles in bag? balance
                          bag/loose m.
38 "family"           prg simulation of genetic inheritance
41 "fishery"          prg resource management of fishery
                          (simulation)
26 "fuse"             prg relation between power rating and
                          ampheres
27 "gas equations"    prg solve pressure, temperature,
                          volume problems
30 "geigercounter"    prg simulation on radioactivity
61 "inorg chem"       prg drill on inorganic chemistry
24 "pub dom notes"    seq notes on this series of disks
9  "Annotatd Dirctry" seq what you are reading now
942 blocks free.
```

PD SCI B — CBUG #44 — NEW RELEASE — #11818

```
0 "pub dom ed sci b" e3 2c
14 "shift/run menu"   prg loads programs; programs retn here
1  "--science iii---" prg
42 "interference"     prg demo of interference of waves
28 "periodic table"   prg elements, symbols, and valences
1  "---science iv---" prg
86 "ph problems"      prg drill on ph of various solutions
34 "photosynthesis"   prg simulation of photsynthesis
```

29 "ion"	prg	quiz on ion charges and formulae
32 "lockey"	prg	lock and key hypothesis study of an enzyme
45 "meter read"	prg	demo of reading a photographic light meter
48 "metric volume"	prg	quiz on converting one metric unit to another
57 "microscopy"	prg	tutorial on microscope operation
27 "molar"	prg	molar calculations with user-input mass
35 "motorcyjump"	prg	simulation with distance, angle, speed variable
52 "nomenclature"	prg	drill with radicals, acids, ous-ic compounds
82 "nuclear reactor"	prg	graphic simulation of nuclear power plant
27 "percent"	prg	calcs percent composition by mass experiments
49 "pollution"	prg	simulates waste/oxygen content of body of water
49 "reg pwr supply"	prg	design power supplies, optional printout
69 "remedial nomencl"	prg	drill on chemical nomenclatures
44 "s.i. conversions"	prg	drill on metric conversions
34 "specific heat"	prg	facilitates grading of lab test on sp.ht.
31 "stoich"	prg	solving stoichiometric equations
49 "temp conversion"	prg	quiz on Kelvin/Celsius conversions
41 "titrate"	prg	graphic simulation
46 "uspop"	prg	population growth simulation
33 "young"	prg	simulation of Young's double slit experiment
24 "pub dom notes"	seq	notes on this series of programs
8 "Annotatd Dirctry"	seq	what you are reading now
935 blocks free.		

THE ENTIRE SET OF 5 CBM PD DISKS ABOVE NEW RELEASE #11822

All 5 at a 10% discount for the set. Just $45 for the entire CBM public domain educational series reworked to run correctly on the B128 with a minimum number of disks by Marilyn Gardner.

CBUG PRINT FILE 4 CBUG #38 NEW RELEASE 12580

These are the print files comprising the CBUG SUMMER 1986 ESCAPE, part 1. There are two major portions set up as linked files, the library and article sections.

1	"summer86 "	es 2c	9	"31"	seq	43	"bishop"	seq	12	"kernaghan002"	seq
17	"CBUG ads"	seq	38	"17a"	seq	43	"bishop orrig"	seq	21	"kernaghan003"	seq
133	"scratch 0786"	seq	36	"32"	seq	30	"cumfer"	seq	42	"goceliakinv1"	seq
9	"prog letter.ss"	seq	9	"33"	seq	36	"cumfertele"	seq	19	"goceliakinv2"	seq
9	"superspell.tm"	seq	16	"coombs inventory"	seq	14	"casey"	seq	1	"goceliakequal"	seq
9	"want ads"	seq	13	"786 library lead"	seq	22	"mccarthy"	seq	36	"goceliakbig"	seq
4	"hi res ad"	seq	20	"ARCHIVE ORDER FO"	seq	12	"peterson"	seq	8	"kane county"	seq
18	"colorbox ad"	seq	12	"disk.knight ad"	seq	15	"schwarzbauer"	seq	16	"harrison"	seq
41	"27"	seq	124	"liz"	seq	31	"anderson"	seq	8	"& cbug west.e"	seq
10	"28"	seq	14	"purviance"	seq	10	"burgbacher"	seq	15	"table of content"	seq
11	"29"	seq	4	"kclocal"	seq	44	"cross"	seq	842	blocks free.	
10	"30"	seq	128	"matos"	seq	38	"gardner"	seq			

# #

REPLACEMENTS & UPGRADES

A SPECIAL BENEFIT FOR CBUG MEMBERS ONLY!

* CABS ACCOUNTING SUITE UPGRADE SERVICE
* SUPERSCRIPT II, SUPERBASE I DAMAGED DISK REPLACEMENT SERVICE

CBUG can now provide the most recent upgrades of the CABS/Info Designs program disks for the usual library nominal fee of $9.00 per disk. We have also been authorized to provide the CABS Inventory program to those who purchased Order Entry but now are unable to acquire the now out of print Inventory program. (Order entry is still available from Northwest Music & Computer). For first time purchasers of the Inventory program, manuals will be photocopied as required for $15.00 each. Members MUST first obtain a special contract and order form from CBUG to participate in this service effort. There are requirements as to proof of ownership which are enumerated in the contract & order form. The directories of the latest versions as produced by Info Designes are shown at the end of this text. The inserted version numbers are from the labels on the disks -- there is a conflict as to the version numbering on the disks. If you are experiencing problems integrating the modules it may be because of early version program incompatability. Check the directory listings and block sizes carefully with your disk as this is the only reliable method.

CBUG has obtained permission to provide this service to our membership. CBUG is in no way affliated or acting as an agent of either CBM or Info Designs. These programs are offered without warrantee of any kind. At various times CBUG has and will continue to publish listings of known defects in these programs so that they can be avoided. Overall, the CABS suite appears to be servicable for many purposes. As with any program, CABS must be carefully evaluated and undergo extensive trial runs before implementation.

CBUG is nearing completion of negotiations regarding a disk replacement service for Superscript II and Superbase I. This again based on evidence of ownership and upon payment of the usual library fee. We hope to have this agreement in place by the time this notice reaches our membership.

We have undertaken to provide this service to our membership as neither CBM, Info, nor Precision is, as a practical matter, in a position to offer the upgrades/replacements on an expeditious basis. These are all Copyrighted programs by their Authors and/or Publishers, and/or Commodore Business Machines. Excepting by permission (such as CBUG has negotiated for its members as above), it is illegal to make and distribute copies. Kindly remember these rules lest the good reputation of CBUG and its membership be impared with those who have been giving us so much valuable help.

If you need to participate in this program, send a #10 SASE (business sized self addressed & stamped envelope) to CBUG. In the lower left hand corner of the SASE, indicate "CABS/SS/SB service."

DIRECTORIES OF THE CABS ACCOUNTING SUITE

Latest version. These programs are copyrighted.
This listing for reference use only.

```
0 "a/r b-128 V2.0c " 01 2c
   v 2.1
59   "a/rbot"      prg
58   "masmen"      prg
58   "a/r000"      prg
123  "a/r010"      prg
113  "a/r020"      prg
77   "a/r030"      prg
74   "a/r040"      prg
122  "a/r050"      prg
119  "a/r060"      prg
91   "a/r070"      prg
98   "a/r080"      prg
60   "a/r090"      prg
66   "a/r100"      prg
59   "a/r260"      prg
1    "b15"         prg
1    "a/rconf"     seq
872 blocks free.
```

```
0 "i/m program disk" 01 2c
   v 2.1
59   "i/mbot"      prg
58   "masmen"      prg
[illegible]   "i/m000"      prg
103  "i/m010"      prg
101  "i/m020"      prg
108  "i/m030"      prg
90   "i/m040"      prg
74   "i/m050"      prg
59   "i/m260"      prg
1    "b15"         prg
1    "i/mconf"     seq
1339 blocks free.
```

```
0 "a/p b-128 V2.0c " 01 2c
   v 2.2
[illegible]   "a/pbot"      prg
58   "masmen"      prg
58   "a/p000"      prg
122  "a/p010"      prg
83   "a/p020"      prg
126  "a/p030"      prg
123  "a/p040"      prg
95   "a/p050"      prg
101  "a/p060"      prg
94   "a/p070"      prg
107  "a/p090"      prg
65   "a/p110"      prg
88   "a/p120"      prg
59   "a/p260"      prg
1    "b15"         prg
1    "a/pconf"     seq
811 blocks free.
```

```
0 "b128 prog o/e   " id 2c
   v 2.0
59   "o/ebot"      prg
64   "masmen"      prg
59   "o/e000"      prg
124  "o/e010"      prg
122  "o/e020"      prg
98   "o/e030"      prg
80   "o/e040"      prg
97   "o/e050"      prg
85   "o/e060"      prg
83   "o/e070"      prg
100  "o/e080"      prg
60   "o/e090"      prg
61   "o/e100"      prg
61   "o/e110"      prg
106  "o/e120"      prg
66   "o/e130"      prg
59   "o/e260"      prg
1    "b15"         prg
1    "o/econf"     seq
665 blocks free.
```

```
0 "g/l b-128 V2.0c " 01 2c
   v 2.0
59   "g/lbot"      prg
64   "masmen"      prg
58   "g/1000"      prg
131  "g/1010"      prg
130  "g/1020"      prg
121  "g/1030"      prg
117  "g/1040"      prg
111  "g/1050"      prg
96   "g/1060"      prg
103  "g/1070"      prg
59   "g/1260"      prg
1    "b15"         prg
1    "g/lconf"     seq
9    "gl acct ptrs" seq
892 blocks free.
```

```
0 "b128 p/r prog  " ms 2c
   v 2.0 DISK A
59   "masbot"      prg
58   "masmen"      prg
79   "mas100"      prg
64   "p/r000"      prg
91   "p/r010"      prg
99   "p/r020"      prg
123  "p/r050"      prg
105  "p/r070"      prg
102  "p/r080"      prg
129  "p/r090"      prg
84   "p/r100"      prg
126  "p/r110"      prg
117  "p/r120"      prg
124  "p/r130"      prg
94   "p/r180"      prg
100  "p/r210"      prg
1    "b15"         prg
1    "config"      seq
494 blocks free.
```

```
0  p/r comp disk b " ms 2c
   v 2.0 DISK B
1    "p/rbot"      prg
73   "p/r030"      prg
76   "p/r040"      prg
85   "p/r140"      prg
71   "p/r150"      prg
64   "p/r160"      prg
71   "p/r170"      prg
83   "p/r190"      prg
81   "p/r200"      prg
76   "p/r220"      prg
71   "p/r230"      prg
78   "p/r240"      prg
58   "masmen"      prg
1    "config"      seq
1    "b15"         prg
64   "p/r000"      prg
1098 blocks free.
```

That gave me enough incentive to find out what a set of DOS 2.7 ROMs would cost. A quote of $45 at my friendly local authorized service place convinced me to become completely compatible again with the rest of the B128 world.

If you have a drive other than MPI (these are all DOS 2.7) and want to upgrade to DOS 2.7, you must first be sure of the brand of your drive. Remove the cables from the rear of the disk drive, and take out the two screws fastening the top at each side of the case near the front. Open the top, leaning it against something stable so the IEEE connector won't be damaged. You may be able to find a readable label on the side of one of your drives. In any event, look at the large printed circuit board mounted inside the cover. You'll find an integrated circuit with 'UK3' marked nearby, in the center of the board. If UK3 is marked '901483-03', you have a Micropolis drive with DOS 2.5. If the number is '901483-04', the drive is a Tandon with DOS 2.5. Should you find '901884-01' or '901885-04', you already have DOS 2.7. See your Commodore service center to order the correct ROM set.

ROM replacement is reasonably easy. Open the top again and prop it so it won't be able to fall when you start the process. Note the location of the indented semi-circles in one end of ROMs UL1, UH1, and UK3. These indents will almost certainly be toward the hinge.

Though I'm told that these ROMs are not ultra sensitive to static electrical discharge, it is prudent to ground the disk drive case, and connect a wire between you and the case (perhaps clipped to a metal wrist watch band) while changing the ROMs.

Carefully pry out the three ROMs, with a small slender flat bladed screwdriver inserted under the ends of each ROM (if you have nothing designed for this sort of thing). Install the new ROMs in their proper places, with the semi-circles located as before (most likely down toward the hinge). Apply the DOS 2.7 sticker, and that's it.

* * * * * * * * * *

INDEX TO BASIC SWAN'S 4.0 (Extended) Tutorial

By: Warren Kernaghan 5/1/86

RE: Swan's Basic 4.0+ Course, CBUG #16
stock #12773, $19.00

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Our appologies to both members and to Warren for squeezing this beautifully prepared table into a 58 column format. The original version appears intact on pre-release 5, and will also appear next issue on the print disk for this issue.

SPECIAL ANNOUNCMENT: Beginning with the fall 1986 issue and continuing on a space available basis, abridged portions of this course will appear in THE CBUG ESCAPE. Our greatest thanks to Warren for extending the extra effort to the membership!

* * * * * * * * * *

HARDWARE EXPANSION DESIGN on the B-128

by Gary L. Anderson

A number of our members have built, are designing, or are considering developing various hardware enhancements to the B-128. I would like to go over some considerations with regard to hardware to ensure that the result of our efforts will be as compatible as possible.

MECHANICAL LAYOUT Fig. 1 shows the mechanical layout scheme I am using and would like to see adopted by the group. I use pin field headers and printed circuit board mounted socket strips to interconnect the boards. This has advantages over ribbon cable in that spacers are minimized, the connectors act as a spacer themselves, and the current carrying capability of the power lines is improved by not having any length of #28AWG conductors in standard ribbon cable. Also by using this approach boards can be stacked closer together allowing for a greater number of total boards mounted under the cover.

I show the possible co-processor board as offset from the front of the B-1024 1 Meg Memory Expansion Board. This is necessary to clear the back of the sloping keyboard. The front to back dimention between the added pinfields on the B-1024 1 Meg Memory Expansion Board is identical to the dimention between P7 and P9 on the B-128 main board. This guarantees that a co-processor layed out with this concept will fit on either a B-1024 1 Meg Memory Expansion Board or on the B-128 main board. A three pin field will be needed on the proposed co-processor board for the LED power on indicator connector. The co-processor board using this interconnect technique would sit too low and hit the connector if it is mounted on the B-128 main board. My B-1024 1 Meg Memory Expansion Board has this LED pin field for the LED connector.

Chip Select 1 Pin 28 of P6/P7 is a chip select called "disk units" on B-128 documentation and is presently unused. This line enables a 256 byte page of decoded address space from $D900 to $D9FF in bank 15. I am going to decode a portion of this page with a 74S138 for use with the Alternate Operating System Expansion Board that is presently under development. Dan DeConinck of Toronto is going to decode $D940 to $D97F for use with his HRT High Res Graphics Board. He has modified has design used with the PET and SUPERPET for use with the "B". With the fact in mind that I am only using one output from the 74S138 decoding the bottom 1/4 of the page on my Alternate Operating System Expansion Board, specifically $D900 to $D907, there should be plenty of room on CS1 to decode possible future uses such as a hard disk controller, SCSI interface, internal modem, etc. Still available is $D908 to $D93F and the top half of the page from $D980 to $D9FF.

Internal Power Supply Ah yes, just the thing to have around on a cold winter night. It's just like warming your hands over a nice toasty fire. The current capability of the +5 volts should not be a problem when adding more internal hardware. My stock B-128 draws 2.52 Amps average and with the B-1024 1 Meg Memory Expansion Board it draws 3.13 Amps average. This leaves approximately 2.3 Amps available from the power supply for possible future add-in boards. When designing a circuit board don't forget to distribute 0.1uf bypass capacitors on each IC and at least one 10uf electrolytic around the board.

After more testing I have found that my power supply does generate slightly more heat under greater load. If any of you feel that your B is too hot then a small fan would probably be in order. I don't believe that mine has reached that point yet. I have discovered that there are two versions of power supplys in the B-128s. The one most of us have is a "hot" switcher and there are some cooler linear versions that have a fuse mounted on the back plate. Replacement switchers can be purchased from JAMECO ELECTRONICS, Model# PS-35 for $24.95 plus shipping.

Fan Out Please try to observe fan out rules in your designs. Try to make each input signal that you use driving your design such as phase 1, phase 2, R/W, CS, BDOT CLK, etc. appear as one TTL load. Others may want to design an interface for use with the internal pinfields and the driver outputs on the B-128 main board can only handle so much. If too many inputs are attached to one line then threshold levels may not be guaranteed due to overloading.

Phase 2 Justified Using a chip select alone as the clock for a latch will NOT be 100% reliable. The official definition of the 65XX series data bus states that data can only be enabled and reliable on the bus during the high side of phase 2. Edge triggered latches must be designed in to catch the data during the falling edge of phase 2. A chip select is just a decoded address and does not meet this criteria all by itself. "OR"ing the chip select with phase 2 will solve any intermittent latching of data.

I am interested in your comments so please write and include an SASE for a reply. Gary.

Gary Anderson
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* * * * * * * * * *

GRAPHICS UPDATE

By: Neil Cumfer
June 8, 1986

Further testing and refinement of the SuperScript II "ss2 maketables" program to allow graphics on the 4023 printer continues slowly towards a definitive revision. An earlier report outlines with great detail the procedure to be used in setting up enhanced graphics capabilities. A few graphics were still unprintable, in particular those shown on these keys: 2, 6, 8, 0, C, and the keypad's /. This report explains changes that will allow even these graphics to be printed out.

Load "ss2 maketables" from the SuperScript disk and make these changes to the program in memory:

Delete lines 2810-2920, replacing them with this line:
2810 data 210, 128, 128, 215, 140, 128, 159, 146, 128, 149, 206, 128
Change line 3030 to read: 3030 data 17, 0, 141
Change line 3050 to read: 3050 data 0, 145
Change line 3140 to read:
3140 data 172, 195, 162, 163, 164, 165, 167, 190, 187, 175

Then run the program with a disk (not the SuperScript disk!) in drive 1. If you prefer, the CBUG library can supply a disk with the program "grafx maketables", in which these changes have already been made, as well as the version of "ss2 tables" which is created by it.

As before, to use graphics you cannot load SuperScript in the normal way. With SuperScript in drive 0 and "ss2 tables" in drive 1, dload "ss2",d0 and run. If you use Pre-SuperScript, hyperdrive, your own logo, and/or other preparatory routines, you must incorporate these two files in the sequence. One way is to change the line which

loads "superscript*" or"superscript II" to ss2".

Here's a summary of the changes the current program will have on SuperScript when the "CBM Dot Matrix Printer" option is chosen.

keystroke sequence	screen graphic	effect on 4023 printer
ESC $	reverse $	prints the British Pound sign
ESC (	reverse R	prepares printer for reverse-field printing
ESC)	reverse r	cancels reverse-field printing
ESC [	reverse W	prepares printer for enhanced printing (W=wide) (right bracket)
ESC]	reverse N	cancels enhanced printing (N=narrow) (left bracket)
ESC '	reverse left-arrow	forces a carriage return on the printer without a line feed
ESC >	reverse u	puts printer in temporary Upper-case & graphics
ESC ;	reverse l	returns printer to Lower-case & upper-case mode
ESC 1	reverse 1	prints graphic shown on key 1
ESC 2	reverse 2	prints graphic shown on key 2
ESC 3	reverse 3	prints graphic shown on key 3
ESC 4	reverse 4	prints graphic shown on key 4
ESC 5	reverse 5	prints graphic shown on key 5
ESC 6	reverse 6	prints graphic shown on key 6
ESC 7	reverse 7	prints graphic shown on key 7
ESC 8	reverse 8	prints graphic shown on key 8
ESC 9	reverse 9	prints graphic shown on keypad's / key
ESC 0	reverse 0	prints graphic shown on key 0

NOTE: The following sequences are left undefined:
ESC <
ESC :
ESC ,
ESC !
ESC &
If you attempt to use them a reverse @ (at sign) is displayed. This is meant to remind you to delete it

In normal SuperScript operation, some of the escape sequences shown above put a graphic character on the screen. These have been changed to allow the graphic character to be printed. Other characters must be printed using the ESC (numeric) sequence, even though the graphic could be generated on the screen with CTRL (numeric), because SuperScript would interpret the occurrence of the actual graphic on the screen as an instruction to process a shifted-space,, soft-hyphen, or labeled block. Use CTRL (numeric) for the graphics on the odd-number keys (1,3,5,7,9) and ESC (numeric) for the graphics on the even-number keys (2,4,6,8,0). In the case of 3, 5, and 7, either CTRL or ESC will work.

When using ESC ' (apostrophe) to force a carriage return without a line feed, you must adjust the right margin before and after the line where it occurs. The right margin "count" does not start over at 1 when a shifted-return is printed, so you have to fool SuperScript by telling it you want an extra-long line.

Use the Control key to display and print the other graphics shown on the other NON-ALPHABETICAL keys. As always, the 4023 printer does not print every graphic correctly, so print out a trial version of any document you compose using graphics and check it carefully. In some cases, the graphic printed depends on whether is was created with or without the shift key and whether or not the printer is in graphics mode at the time it is output. The keypad's decimal point key will even generate 3 different graphics, depending on the circumstances!

The graphics characters on the alphabetic keys will not be shown on the screen, but will be printed out as graphics, if you use the ESC > function. All subsequent capitalized (shifted) alphabetic letters on the same line (up until ESC ; or until the end of the line) will be printed out as the corresponding graphic character, while all lower-case letters will be printed out as capitals. To get a lower-case letter after an alphabetical key graphic, use ESC ; to switch the printer back into its normal text mode printing.

Remember that graphics printing will not continue on the next line unless you use ESC > again. SuperScript sends a control-q, chr$(17) or cursor-down, to the printer at the beginning of each line, forcing it out of graphics mode.

Existing SuperScript files should be used with caution, especially if they use reverse-field or enhanced printing. There may be some as yet undiscovered side-effects with this program. If you intend to use the graphics option of choosing the Epson printer at the startup menu, even though you are using a 4023 printer, you should avoid this program as there seem to be some definite side-effects on printing.

* * * * * * * * * *

TELETERM 80 ADVANCED

By: Neil Cumfer

Teleterm80 is a terminal program for use with the Commodore B-128 computer. Unlike B-term, it does not make use of the computer's random access memory as a buffer for storage of the communications. This can be either an advantage or a disadvantage. Communications can be saved to disk or to the printer as they are being received, eliminating the need to save files from the buffer after disconnecting from the other computer. There is no need to worry about filling the buffer and overwriting it during a lengthy session on-line. Disk storage can be switched on and off at any time using different filenames, although not as easily as the buffer can be turned on and off in B-term. As in B-term, Teleterm80 allows you to change the communications protocol to suit your requirements, and allows you to obtain a directory of both drives. However, there is no provision in Teleterm80 for programming the function keys or performing disk maintenance.

There are 3 menus in Teleterm80. The Main Menu allows access to the Modem Settings Menu and the Upload/Download Menu, as well as providing direct entry to the Terminal mode, obtaining the directory, and exiting the program to BASIC. When loaded the Main Menu is displayed and the Terminal Mode option is selected. To change menu options, the user has a choice of depressing the letter of the option or using the <cursor-down> or <cursor-up> keys. When the desired option is lit up, enter a carriage return to effect it.

A Terminal Mode
B Modem Settings
C Upload/Download
D Directory
E Exit

When using the Directory option, a directory of both drives will scroll down the screen without pausing. Touch any key to stop and restart the scroll. When the directory is completed, touch any key to return to the main menu.

If you select the Exit option and enter the carriage return, the program will terminate immediately. There is no chance to correct a mistake as B-term allows with its "Are you sure?" prompt.

The Modem Settings Menu and its default options are listed below.

A Duplex	full
B Baud Rate	300
C Word Length	8
D Parity	none
E Stop Bits	1
F LF with CR	no
G Printer Type	CBM
H Return to Main Menu	

As in the Main Menu, select options by depressing the letter of the option desired, or use the <cursor-down> and <cursor-up> keys. Then, toggle the options with the carriage return key. For CompuServe, the Word Length must be changed to 7 and the Parity to Even. If your printer does not advance to the next line when it receives a carriage return, then you will need to supply a line feed by changing option F to Yes. If you change the duplex to Half, then you can type on the screen when you are not connected to another computer, and you can store the message you compose as a sequential file on disk or print it out like a typewriter provided you open the output file in the Downloading Menu first. B-term is similar; the message you type will be saved in the buffer and you can store it on disk as a sequential file or print it out later. B-term can be used as a sequential file reader, but this feature is not possible with Teleterm80.

When in terminal mode, the top line will disappear from the screen and everything you type will be sent out through the modem. To leave terminal mode and obtain the main menu, press the f1 key. The modem settings listed at the bottom of the screen can be toggled while in terminal mode by using keys f2 through f6 in order: f2 changes the first setting listed (duplex), f3 changes the second setting (baud), etc.

Two important functions can be accomplished from the Upload/Download Menu: saving communications are they are received, and uploading disk files to the other computer. Selection of options is made by using the <cursor-down> and <cursor-up> keys, then entering a carriage return. If a printer or disk file is opened to save the communications, an asterisk appears before the option to show that it is in effect, and the user is prompted for a filename in the case of saving to disk. To turn this feature off, or close a disk file during or after your on-line session, return to the Upload/Download Menu, select the option with the cursor key, and enter another carriage return. The asterisk will disappear and the file will be closed. By using the "Send to: Disk Drive" option in half-duplex mode when off-line you can create a sequential file for later use.

To upload any B-128 file to CompuServe, use the "Protocol: XMODEM Send" option. If the disk containing the program is in drive 0, you can omit the 0: prefix when prompted for the filename. It will take 15 or 20 seconds for the XMODEM transmission to begin. As each successful block is transmitted, a hyphen will appear below the filename. A colon indicates an error has occurred. When the file transmission is completed, the filename will disappear from the screen. At this point, the cursor keys will again become active, allowing the user to select the "Return to Main Menu" option.

When uploading, CompuServe will ask you for a protocol and you should choose XMODEM. Then they will ask for a type and you should answer Binary. When they ask for a filename, give them the name the file will have on CompuServe. It may have up to six characters chosen from a-z and/or 0-9, and it must have an extension of .BIN. The SysOp will erase any Binary XMODEM file that lacks the .BIN extension. CompuServe notifies you that the XMODEM transfer is ready to begin and gives you instructions for signaling when the transfer is complete. At this point, before going to the Upload Menu, you must change the modem settings to Word Length 8 and Parity None. At the Upload Menu, cancel the printer or disk file which is saving the communications, if either is active. When the "XMODEM Send" option asks you for a filename, give them the name of the file on your disk. After uploading your program, you must change the settings back to Word Length 7 and Parity Even before sending the signal that the upload is finished. While you are at the upload menu you may want to switch the printer or disk on to save the rest of the communications.

If you uploaded to a data library, CompuServe will ask you next to enter the file's keywords. Choose 6 to 10 words, separated with a space. Finally, they will ask for a description of the file. This is limited to a maximum of 500 characters, and included in the count are five spaces that CompuServe inserts at the beginning of each line. Include the author's name and instructions along with the description.

Any file can be uploaded using the procedure above, but it will be stored on CompuServe in hexadecimal format. Hex files can be read and then converted back to usable form with a program such as CISDNL.SEQ or CISDNL.BIN which can be found in Data Library 1 of the Commodore Programming Forum on CompuServe go CBMPRG).

Text files can be uploaded and stored on CompuServe in a readable format, provided they are standard ASCII files which do not use the Commodore chr$ codes, and provided that the lines are separated by both a carriage return and a line feed. The text may be a BASIC program LISTING (not an actual program), if it does not have any ASCII codes above 127, or any control codes below 32 (aside from the required carriage returns and line feeds). Thus program listings with graphic characters or imbedded control codes will fail to upload. B-128 sequential files and "normal" program listings will have to be converted to standard ASCII codes before uploading can proceed. (In standard ASCII lower case letters are codes 97 to 122 and upper case letters are codes 65 to 90.) In this case, when CompuServe asks for the file type, respond with ASCII rather than Binary. But you must still switch back and forth to Word Length 8 and Parity None for the actual XMODEM upload. Just remember, the file you submit as text must be exactly as CompuServe would transmit. Anyone reading this file with B-term or Teleterm80 will have automatic ASCII-to-CBM conversion and it will appear normal to them. There seems to be a problem with such transfers as XMODEM will transmit the entire block, even beyond the end of the file. The excess characters are stored on CompuServe as chr$(8)'s, which are translated to backspaces by B-term and deletes by Teleterm80. To be safe, pad the end of the file with two extra lines of blank spaces. It may be possible to use some of the codes below 32 but you will have to experiment to see which ones would be accepted.

The procedure for downloading is similar to uploading. When CompuServe notifies you that it is ready to begin downloading a .BIN program file to your computer, before going to the Upload/Download menu you must change the terminal settings to word length 8 and parity none. At the Download menu, use the <cursor-down> key to select Xmodem Receive, and enter a <carriage return>. You will be prompted in sequence for a filename, a file type, and an error-checking protocol. Enter the name the file will have on your disk (you can use the same name the file has on CompuServe), enter p for program files, and choose 2 for CRC protocol (this is supposed to allow even fewer errors to pass through than the Checksum protocol). After waiting for 15 to 20 seconds or so you will see the hyphens begin to appear at the bottom of the screen as each successful block is transmitted. When it's completed, the filename will disappear and you can use the cursor keys to return to the main menu. Don't forget to restore the terminal settings to word length 7, parity even before resuming your session on CompuServe. It is important to speed through the downloading setup process as quickly as possible. If you take too long, or make a fatal error, CompuServe will cancel the xmodem transfer and wait for you to send a carriage return. But you will be locked out of the keyboard and unable to do anything except turn the computer off and reload the terminal program while your on-line connect time and charges accumulate. Using this procedure you can also download files with .IMG extensions, but you will not be able to run the programs immediately. First you will have to strip the header information from the beginning of the file (typically the first 6 bytes), then you can load it

and (if it is compatible with the B-128) run it. If the file description indicates that it is a text or sequential file, enter s for sequential when prompted by Teleterm80.

* * * * * * * * * *

PRELIMINARY INVESTIGATIONS OF THE 8050 ip

By: Anthony Goceliak

Following are a few of the currently incomplete and somewhat disorderly ramblings through the 8050's IP code.

As usual, let the user beware. Most of this has not been fully explored, and I don't pretend to understand what I haven't even looked at.

The Major (actually the only) loop for the IP begins at address $c590, from which at first blush, there seems no escape. Don't worry, it's plenty big enough to keep you busy disassembling. Jsr's galore, and with apparently 48 bytes reserved for the stack, Commodore has decided to use most of it.

$4377 contains the primary disk command after sorting it out from the mush you transmit to the drive from the b-128 (apparently stored byte by byte from $4300 upwards) Transmission rates are indeed slow to judge by the spaces left in some commands.

At any rate, comparing the primary command against a table gives us the resulting addresses to jump to.

n	=new	$f5bb	
s	=scratch	$ce89	
r	rename?	$d29f	
c	=copy	$d02c	
&	=??	$f1dd	
p	=??	$eb1b	
u	=user	$d371	with resulting jumps via a table exactly as in manual
b	=block*	$d42c	
m	=memory*	$d30e	
d	=duplicate	$cf16	
i	=initialize	$d75e	
v	=validate	$f489	

$4300-2f (at least) reserved for command from b-128. exactly as sent.
$433b is primary command offset from ascii table @$ff58,x
$433d is the current lfn in use
$433e reflects the associated job code (maybe)
$4342/3 are the disk id #'s for drive 0
$4344/4 are the same for drv 1
$4350,y are job codes just as in the application at $1003,y
$4377 is the primary disk command after deciphering. (actually $4376-$437d can all be involved, but THE command is here)
$4387- are the lfn in use, track, sector, all replaced by #00 after done
$43a4 is the 'big rel file' flag. #ff=yes, #00=no
$43b8 is the normal start of 'blocks free.' messages (they always end with 15 spaces)
$43dc is the normal start for ds$ messages

p.s. poking ascii here can get your drive to say whatever you wish when querried for ds$, if you properly set up page $00 pointers at $19 (start) and $ce (end)

That's it. Stated simply, page $43 is in charge of communicating with the computer, although not exclusively reserved for that function.

I have released this information in this incomplete and speculative state so that those of you with the inclination to do so will have a bit more to go on than merely "browsing through" 16K of ROM.

p.s. The heart of the duplicate command is performed by a four page dump of IP code from $c000 onward into common RAM and executed by the FDC (who else). Start address for the code as it sits in RAM is IP $1100- (although they call it $1d00- due to incomplete address decoding it is both) or fdc $0500-.

p.p.s. The fdc page $05 start up code disassembled on this disk for you also came from the IP ROM beginning at $c370

last p.p.ps. by the way, build a ds$ code can be found at $f150 (with appropriate set-ups of course.

* * * * * * * * *

EQUALLIZING MPI 8050 DRIVE WEAR

By: Anthony Goceliak

A SAFER HARDWARE APPROACH

According to our fearless leader Mr. Deltzke, there are a number of CBUGgers out there who are experiencing difficulties of one sort or another with drive 0 of the 8050. I would heartily recommend that those of you get your drive properly repaired instead of futzing around with this 'patch' that makes the 8050 think drive 0 is drive 1 and vice-versa. There are going to be some good things to come which will require both drives in working order to achieve maximum benefit. However, for you foolhardy souls who insist in operating with a sick drive, and principally in order to 'bail out' those who must keep their system running until it can be properly repaired, here is a minimally intrusive hardware method of accomplishing the drive swap without exploding your 8050 as in the original Cardinal Software 'just swap the drives' approach.

The cable that needs to be worked on is a standard product, manufactured by Vector Products under their number KS2-20. This lets you futz with a spare cable, leaving the original in untouched condition for the time when your drive is repaired.

Step 1. First SHUT OFF POWER TO YOUR SYSTEM!

Step 2. Open drive cover. (Two screws on sides of drive unit ca. 3" from the front)

Step 3. Find the grey 20 conductor ribbon cable connecting the digital pcb (mounted on the case top) and the analog pcb (mounted over drive 0).

Step 4. CAREFULLY NOTE WHICH END IS CONDUCTOR #1 ON EACH END OF THE CABLE. [conductor #1 is usually painted, although industry standards would allow it to be marked by a "rough" finish. It is crucial that you properly identify which way to count conductors. Do not proceed until absolutely certain.

Ribbon cables are counted in the following manner. If it confuses you, let someone else make your cable, please. We want to let your drive run, not explode.

MARKER END ---> 1-11-2-12-3-13-4-14-5-15-6-16-7-17-8-18-9
19-10-20

Step 5. Carefully unplug both ends of the ribbon cable. Only a fool would want to work on the cable while it is still inside the drive if given a chance to remove it. Just one wire clipping or solder splash on your drive could mean Big Bucks repair bills and we don't want that. The plugs will require a modest amount of force to unplug, so please grasp the Plug, not the cable.

Step 6. With the cable removed from the drive, we can now safely retire to the workshop, defined as any place with good lighting, a sturdy table, soldering facilities and further from the 8050 than solder can splash.

Step 7. Using a razor blade or xacto knife, isolate wire #2 and wire #12 for about 2" at a point about 1/4 the way from either end of the cable. Once isolated, get some vinyl electrician's tape and RIGHT NOW, before the temptation to 'just see if it's going to work' sets in, wrap one layer of tape around wires 1-11, and with another

piece of tape, wrap the entire cable except for the two wires we just isolated. Insulate NOW!

Step 8. We want to swap these two wires, but before cutting, consider how to cut. If we leave one 'long end' on wire #2 closest to the plug and the 'long end' on the opposite part of the wire #12, we can directly solder them together without adding a piece of wire. That's good, so cut it in this manner, solder, AND THEN TAPE! Going the other way, we will have to add a piece of wire. Solder, and tape!!!

Reviewing, so far we have manufactured a cable that now has pin #2 from the digital pcb end connected to pin #12 on the analog end, and pin #12 from the digital pcb end connected to pin #2 on the analog end.

Step #9. Go to a point 1/4 of the way from the other end of the cable and repeat the process for wires #3 and #7. Do Not forget the TAPE!

Step #10. Similarly, swap wires #9 and #18. TAPE!

Step #11. Final swap! Wires #19 and #17. Now wrap the whole cable with even more tape. Remember, once you close the lid, no one will see all that tape, but without it, the Repair Shop [illegible]t to see the whole unit soon!

Step #12. Plug in your Kluge cable. Do I have to remind you to be careful to plug the wire #1 end of the plug into the wire #1 end of the sockets?

Step #13. Very important! Swap plugs P1 and P2 on the small one-ic pcb mounted over drive 1. They are the two leftmost plugs (the two with four pins). P1 goes where P2 used to, and P2 where P1 was. Otherwise, your drive will not write protect the correct disk when a write protect tab is installed, which may not bother some of you, but HIGHLY CRITICAL -- YOU CAN TRASH YOUR BAM WHEN SWAPPING DISKS if the disks both have the same id#. Also for those of you who fail to either look at the error led or ask for ds$ messages, you will get disk id# mismatch error messages and DOS won't let you dsave even though the drive whirs.

The reason for this is that no disk temporarily blocked off the write protect sensor that DOS thinks is connected to the drive you just changed disks in, so DOS says the old disk is still there. You can leave the plugs unswapped ONLY if you faithfully type 'open15,8,15: print#15,"i(drive#)":close15' EVERY TIME you change disks. Considering the risks, it ain't worth it.

Make your life easier, swap plugs or you will be writing me to ask how to recover from your failure to do so, and it may not be easy.

Step #14. Reconnect your drive, power up and you are set to go. Don't forget to swap the label for drive 0 to the other side, because your 'lobotomy' has now convinced your 8050 that "old #1" is now drive 0 and "old #0" is now drive 1. Superscript, Superbase, all CABS etc, will now "shift/run" from what used to be drive 1, and basic programs will 'dload' from "old #1" as well.

If you have trouble with your drive, I cannot urge you too strongly to get it fixed properly. But at least you will be able to continue using your system until you do.

* * * * * * * * * *

8050 COMMAND PAGE ASSIGNMENTS

By: Anthony Goceliak

Once again, let me emphasize that the names given to the address locations are my own, and for heaven's sake, if any of you have access to 'official' nomenclature or functional assignments that differ from these, please let me know.

This page of address locations is the fdc page $04XX, which is accessible to us as the ip page $10XX via 'm-r' commands. I have decided on the functions of each location specified by a combination of direct experimental variation of the locations, repeated dumping of ip page $10XX under as many different, but known variations and combinations of disk commands, and disassembly of the complete code that runs the fdc as well as partial disassembly of the ip code (it is just so doggone long! 16K of ROM that does nothing but tell our glorified tape recorder what sequence of jobs to do!).

Without further ado the list: preface $10 to all addresses.

address	function
00	flag test for fdc idle loop and done
01	=#0E on power up (drive zoom constant for fdc)
02	=#2D on power up (drive un-zoom time constant)
03	ch 0 job code
04	ch 1 job code
05	ch 2 job code
06	ch 3 job code
07	ch 4 job code
08	ch 5 job code
09	ch 6 job code
0A	ch 7 job code
0B	ch 8 job code
0C	ch 9 job code
0D	ch 10 job code
0E	ch 11 job code directory normally goes to this ch.
0F	ch 12 job code bam for drv 0 goes to this ch.
10	ch 13 job code bam for drv 1 goes to this ch.
11	ch 14 job code seek to initialize drive.
21	msb disk id ch 0
22	lsb disk id .
23	track # for job .
24	sector # for job .
25	header block cksum ch 0
29	msb disk id ch 1
2A	lsb disk id .
2B	track # .
2C	sector # .
2d	header block cksum ch 1
31	msb disk id ch 2
32	lsb disk id .
33	track .
34	sector .
35	header block cksum ch 2

Ok, you should get the idea, print out a copy of of my program '8050 direct tabl' for all 15 of these. They are identical in layout. Print a copy of the zero page blank and write them in for yourself if it helps you.

I will now skip to the first location of interest past the ch 14 header block table.

99	#sectors per track in disk zone 1 [track65-77]
9A	#sectors per track in disk zone 2 [track54-64]
9B	#sectors per track in disk zone 3 [track40-53]
9C	#sectors per track in disk zone 4 [track01-39]
9D	Writing time constant. When altered yields 20/24 errors
9E	# of bytes for gap 2 (starting value, adj. as needed by fdc)
9F	Master DOS version number (43 when 8050, 41 when 4040)
A0	channel number of current job
A1	drive 0 head off track flag
A2	drive 1 head off track flag
A4	? 04 ?
A5	Number of bytes that constitute an acceptable sync mark
A6	drv 0 write protect flag [=1]
A7	drv 1 write protect flag [=1]
A8	drv 0 write protect sensing [=08]
A9	drv 1 write protect sensing [=08]
AA	? 07 ?
AB	? 00 ? fdc interrupt routine lsr's this each int.

```
AC   fdc reports 6350 pb6 status (8250 drive!)  That's
       right, we can have three drives for the price of
       one.  8050, 8250, or 4040.  Anyone for direct
       loading of Commodore 1541 disks?
AD   Drive rotation target time for counter
B0   first track too high to be on zone 1 bottom of disk
B1   first track too high to be on zone 2
B2   first track too high to be on zone 3
B3   first track too high to be on zone 4
B4   first track too high to be on zone 1 top of disk
B5   first track too high to be on zone 2
B6   first track too high to be on zone 3
B7   first track too high to be on zone 4
```

For those of you paying attention, the answer is yes, your MPI 8050 disk drive is identical to an 8250 disk drive right down to the ROM's. On power-up a test is made to determine whether jumper e3 is installed, and pin 18 of the 6350 is gnded. This is the only difference between the two drives, (and the extra R/W heads of course)

```
C0   first  bam block's track #
C1   second bam block's track #
C2   8050 1st dir block track # - 8250 3rd bam
       block track #
C3   8250 only -=- fourth bam block track #
C4   8250 only -=- first dir block track #
C5   first  bam block's sector #
C6   second bam block's sector #
C7   8050 1st dir block sector # - 8250 3rd bam
       block sector#
C8   8250 only -=- fourth bam block sector #
C9   8250 only -=- first dir block sector #
CA   ?  27  -  12     (looks suspiciously like a track #)
CB   ?  05  -  04
CC   ?  06  -  04     first #'s for dos2.7 - second
                        for dos2.1
CD   ?  04  -  01
CE   ?  06  -  90
E9   Whoops track (too high for drive)
EA   fdc reports 8050(1) or 8250(0) (from test e3
       jmpr $0576)
EB   how many tracks to move head drv 0
EC   how many tracks to move head drv 1
EE   8050 = #05  -=-  8250 = #03 head bump settle time
F0   NMI vector [=$f3a3] u9 command (does half of
       a start-up)
F1   rest of NMI vector
F4   ?  05  ?
F5   ?  05  ?
F6   vector [=$c590] ip scan routine
F7   rest of vector
```

The following code is executed by the fdc (floppy disk controller) 6502 after having been loaded into fdc adr $05XX by the IP (interface processer) by detection of a #$01 at fdc $0400 / ip $1000. That means that the fdc has sucessfully read the job jump to the idle loop at fdc $fc00 and been cruising around in circles while the ip got organized.

Note that this code, like the disassembly of the main fdc rom, is ONLY for the MPI 8050. I would like copies of your rom dump if you have other versions of the 8050 disk drive. Read my comments regarding use of the 8050 to read disks designed for other drives or processors.

Also please note that since I disassembled this code with no aid from CBM, all location names and routine designations have been chosen by me and I would be very surprised if they coincided with official designations, although they should convey the same ideas.

Needless to say, if anyone has 'official' documentation or disassembly of code for the 8050 fdc or ip I would be most interested in obtaining a copy.

Happy hunting!

```
0500  a2 3f     ldx #$3f
0502  9a        txs              set s.p. to top of
                                 ram (64 bytes is it)
0503  d8        cld

0504  a9 00     lda #$00         ram test
0506  a8        tay
0507  a2 3f     ldx #$3f
0509  8a     -- txa -
050a  95 00     sta $00,x
050c  ca        dex
050d  10 fa     bpl $0509
050f  a2 3f     ldx #$3f
0511  f6 00     inc $00,x
0513  c8        iny
0514  d0 fb     bne $0511
0516  8a        txa
0517  d5 00     cmp $00,x
0519  d0 27     bne $0542        the error exit blink
                                        code and all
051b  55 00     eor $00,x
051d  95 00     sta $00,x
051f  b5 00     lda $00,x
0521  d0 1f     bne $0542
0523  ca        dex
0524  10 eb     bpl $0511
0526  e8        inx
0527  86 00     stx $00
0529  86 01     stx $01
052b  a8        tay
052c  a2 04     ldx #$04
052e  18        clc
052f  c6 01     dec $01
0531  71 00     adc ($00),y
0533  c8        iny
0534  d0 fb     bne $0531
0536  ca        dex
0537  d0 f6     bne $052f
0539  69 00     adc #$00
053b  c5 01     cmp $01
053d  f0 08     beq $0547
053f  a0 fe     ldy #$fe
0541  2c a0 ff  bit $ffa0        one of the few tricks.
                                        0542 ldy #$ff
0544  4c 06 fc  jmp $fc06
0547  86 83     stx $83          6530 port b ddr (all
                                    input) (temporary)
0549  ca        dex              =#ff
054a  86 40     stx (6522 via - um3) i/o reg. port b

054c  86 81     stx $81       6530 port a ddr (all output)
054e  a2 7f     ldx #$7f
0550  86 42     stx (6522 via - um3) port b ddr
                                (bit7(sync)in,bit6to0 out)
0552  a2 fc     ldx #$fc
0554  86 4c     stx (6522 via - um3) peripheral ctrl.
                                    reg. (read-data mode)
0556  a2 01     ldx #$01
0558  86 4b     stx (6522 via - um3) aux. ctrl. reg. (all
                                            kinds of stuff)
055a  a2 0e     ldx #$0e
055c  8e 01 04  stx $0401        drive zoom constant
055f  a2 2d     ldx #$2d
0561  8e 02 04  stx $0402        drive un-zoom constant
0564  a2 04     ldx #$04
0566  86 1a     stx msb of header table address
0568  a2 02     ldx #$02
056a  a5 82     lda 6530 port b (drv.sel ds0 ds1 wps)
056c  29 40     and #$40         & test for pb6 jumper
056e  f0 01     beq $0571
0570  ca        dex
0571  8e ac 04  stx $04ac        report jumper test here
0574  a2 01     ldx #$01
0576  a5 82     lda 6530 port b (drv.sel ds0 ds1 wps)
0578  29 10     and #$10
057a  d0 01     bne $057d        8250 present?
057c  ca        dex
057d  8e ea 04  stx $04ea        look here to see
0580  d0 03     bne $0585
0582  a2 07     ldx #$07
0584  2c a2 17  bit $17a2         0585 ldx #17 for the
                                   biggie (odd head out)
0587  86 83     stx $83          stuff 6530 port b ddr
                                     (write protect in)
```

```
0589  a2 03     ldx #$03
058b  8e ee 04  stx $04ee
058e  a2 05     ldx #$05
0590  ad ea 04  lda $04ea
0593  f0 05     beq $059a
0595  8e ee 04  stx $04ee
0598  ca        dex
0599  ca        dex
059a  8e 00 04  stx $0400
059d  86 8f     stx $8f          6530 timer for interrupts
059f  6c 00 fc  jmp ($fc00)        =$fc17  scan q
```

Relatively straightforward, which frankly surprised me, although since this came out of a 16K ROM and all to run a glorified tape recorder, there is no great premium placed on compact code to the exclusion of legibility.

I frankly became interested in the disassembly of the fdc code because of the extreme volume of code for the ip. Complete disassembly of the ip code would require around 120 pages of paper and only Commodore knows how much time.

Our fdc fools around on bare bones 1K of code, kind of like my first Computer, and can waste it's entire 64 bytes of ram on foolish stuff like track #'s and such. That's more like it, and more profitable as well. I have already written code to make my 8050 read & write in sync mode instead of data mode, and I can put the head wherever I want, AND a goody (but dangerous), I can write to disks which have their write protect tabs on. Big deal, you say?

What does a normal single sided disk look like if you try to put it in upside down? Like a disk with a write protect tab you say? No notching - two disks for the price of one, and it's not really that dangerous, all I have to do is send a 'print#15,"uj"' to my drive and voila! no more writing to protected disks (it effectively 'erases' my special code)

Anyway, I once wrote a so-called 'tiny basic' (admittedly for an 1802 processor) that fit into 2K of memory. Without getting into add on hardware, there is 4K of ram in an 8050, and stealing 2k for our code is quite feasible to make the fdc do whatever we want.

It may slow the drive down because the b-128 will have to do more of it's own bookkeeping (b-128 sending via program control a whole series of commands instead of a simple 'dload'), but it beats a $300+ investment in a drive to be followed by more bucks for a bus converter.

I speak 6502 code quite haltingly and I've gotten pretty far with this drive. Let's get together with some of those m/l gurus out there and make a CP/M drive out of the 8050.

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* * * * * * * * * *

PROCEEDURE FOR TRANSFORMING AN 8050 TO 8250 FORMAT

By: Anthony Goceliak

CAUTION! CAUTION! CAUTION!

CAUTION! CAUTION! CAUTION!

I implore you, do NOT use this proceedure unless you are completely desparate and cannot beg, borrow or steal an 8050 to use with your uncooperative program. There is an excellent chance of forever losing the data stored on your disk if you fail to perform even one step of this proceedure flawlessly, and since I do not hold myself to be one of Norman's gurus, my proceedure itself may hold a hidden flaw. The only thing that I can tell you is that it worked on my set of CABS disks, allowing me to remain in operation with my B-128 and SFD-1001 disk drive while my 8050 was not working.

The vast majority of programs will load and run just fine with an 8050 disk in an SFD-1001 drive, the only proceedure necessary is to access the disk once for read and then ignore the error message. Do this by either typing F8 (directory), or shift/run, or just ask the B-128 to dload the program that you desire. The first time this is done after inserting an 8050 disk in the SFD-1001 drive the error led turns red and no data is taken by the computer.

The reason of course is that the SFD expects a disk to have four not two BAM blocks. 8050's only need two since they store data only on one side of a disk. The BAM blocks for the SFD that we need to create are track 38 sectors 6 and 9. An 8050 disk containing programming or data is likely to have used these sectors already, which is fine for 8050 drives. What the proceedure does for us, is to find new homes for the offending blocks, copy them there, correct the blocks of programming just preceeding these to tell them where to find the relocated parts of the program, and last create a "fake" apparently full BAM for the top side of the disk. A true guru could probably tell you how to use the other side of the disk, but it was never formatted by your presumably broken 8050, and I am trying to throw you a lifeline, not an everyday routine. If you have access to both drives don't do this, run one of the excellent unit to unit copying programs.

STEP 1
dload and run 'view bam'. Do it twice if necessary as per above. Use your CABS disk as the 'view-ee'.

STEP 2
remove CABS disk. dload and run 'disk rx'. Again insert the CABS disk and begin to use EXTREME caution. One false move and you will validate your disk into oblivion. Don't even bother to call me. There will be NOTHING I can do.

STEP 3
Find new homes for two blocks. Refer to your BAM printout. Even if it says a block is unallocated, don't believe it until you see. Examine one of the supposedly unused blocks. If there is even ONE byte that shows ANYTHING other than '@' Don't use that block.

STEP 4
Access track 38 sector 6. Only if it shows all '@' will we NOT have to move it.Move it to it's new home, that you found in step 3. We are now either on the road to salvation, or you have already joined the lost. Access track 38 sector 9 and move it too.

STEP 5
Find the blocks that called 38-6 and 38-9 respectively. Try blocks 38-1 and 38-4 first. The first two characters of the block that called 38-6 are &f (which is how we display binary numbers 38 and 6). Change positions 0 and 1 to the new track and sector that you sent the former occupant of 38-6 to. Rewrite the block. Next do the same for the block that called 38-9 (usually but not always 38-4). It's first two characters should have been &i .

STEP 6
Again to the view bam printout to assist in finding an all '@' block. Copy this '@' (all zero) block to 38-6 and then again to 38-9.

STEP 7
Access 38-6. Change position 0 to 38, position 1 to 9, position 2 to 67, position FOUR to 101, and position 5 to 151. Rewrite.

Step 8
Access 38-9. Change position 0 to 39, position 1 to 1, position 2 to 67, position FOUR to 151, and position 5 to 155. Rewrite.

STEP 9
Access 38-3. Change position 0 to 38, position 1 to 6,

and position FIVE to 101.

STEP 10
Quit disk rx. This will result in what seems an inordinate amount of disk activity as the BAM is validated, and hopefully will protect the new homes you found for the displaced program blocks.

Type 'new', and try using your converted disk. Its sink or swim time.
I sincerely hope that no one will ever have to use this proceedure, and that all of our 8050's run forever. Good luck.

* * * * * * * * * *

HINTS & TIPS

From CBUG

A number of members have had difficulty obtaining parts for the 4023 Printer. Seemingly Commodore has little or nothing available. The problems are currently reported as to print head failures (one or more pins sticking) and were previously reported as stripped gears due to defective ribbon cartridges. Note also that the 4023 is the same mechanical mechanism and some of the same electonics as the 1526 and MPS-802 both of which are serial printers for use with the Vic, C64, C128 type equipment. As with all Commodore printers, CBM did not make the printer. The 4023 is infact made by Shinwa (see the mention of the print head manufacturer in the instruction book). Shinwa USA is located in Morton Grove Il., at 5915 Lincoln Ave., phone 312 470 1600. Two years ago when tracking this information down, the Shinwa people were most cooperative. They will sell the replacement heads for a bit over half of what you would have to pay to a CBM dealer if you can find such a dealer with parts who knows what a 4023 is!. Shinwa suggested buying the parts via Elektek in Lincolnwood, Il., 800 621 1269 who was at that time one of their largest dealers.

CAUTION. Shinwa sells the printer under the identity of a Compumate CP80. Don't dare to mention 4023 or Commodore to anyone but top management. They never heard of the 4023. Remember too, these sources are good only for the mechanical parts, not the circuit boards or chips. For those you have to go back to CBM or the electronics parts store. Of course, buying a head as an end user will be without warrantee -- but I'm told there is nearly nothing to installing them. Also remember to get a 8 pin head if possible rather than a 9 pin head. The 9th pin will not function as there are no driving electronics in the 4023.

NEVER EVER use a fabric ribbon with the 4023. It may work for a while, but the ink oils will get into the head and jamb the head when they dry. Bye bye head.

From Rodney Jay Lillibridge

I think I have found a way to output the GRAPH characters in Superscript II. Before typing the desired GRAPH characters type the following command:

*sa7;[Graphic Characters]*sa8

<<where the "*" above is the reverse star for Superscript commands>>
<<Here followed a string of graphics whicn we can not typeset.>>

Unfortunately using this method you must have a RETURN after the graphic characters otherwise you will get a printer error.

From Liz Deal

HOW TO SAVE CARTRIDGE MEMORY TO DISK AND BRING IT BACK:
You can use the monitor, or your can use Basic. Example uses CALC RESULT.
MONITOR:
s"1:+calcrom",08,0f6000,0f8000
saves +calcrom on drive 1 unit 8 from $6000 to 7fff
l"0:+calcrom",08
loads back to the same place from drive 0
BASIC:
bsave u8,d1,"+calcrom",p6*4096 to p8*4096
saves on drive 1, unit 8
bload u8,d1,"+calcrom"
loads back to the same place ($f6000)

It's OK to mix the two, e.g. Save from the monitor, BLOAD from Basic, or the other way around. $6000 is 8K cartridge. Use 0f4000 to 0f8000 if you have 16K cartridge, or 0f2000 to 0f8000 for a full 24K cartridge such as Gary's.

<<NOTE: The commands are shown above in lower case. With the B128, always enter program instructions in un-shifted form regardless of how they appear on the screen.>>

From Matt Ostrander 68803
As an owner of a B-128, I find little need for a change load address program for my own uses. The B is quite capable of loading other Commodore programs regardless of the load address recorded on the program header. It is when working with other Commodore computers that such a program is needed. Although the C-64 can load a Vic program, it cannot load programs from some of the other models, especially the B-128.

The question is 'why does a B owner need that program at all?'. Anyone who has modified a C-64 program using the B has found out that the C-64 cannot load the modified program because the B saved the program with its own load address. If the B can change the load address of a C-64 program (from 2049 <$0801>) to its own (3) why can't it change it the other way.

Using the dload and dsave commands the B automatically relocates a program. All that is required is to set the start of basic at the proper location and dload and dsave the program the setup is only one line.

bank15:poke 45,(address low):poke 46,(address high)
or
hi=int(address/16):bank15:poke 45, address high*16:poke 46,hi

For the C-64's load address of 2049 ($0801) the value of address low is 1, and the value of address high is 8. Then just dload and dsave the program you want to change. This is much faster than running a change load address program.

One final note. If you relocate basic as described above, the command 'run' will give you a 'syntax error', but list and save will still work. For the program to run, the byte prior to the start of basic must be zero! To correct this just use:

bank 1:poke (address - 1),0:bank 15

So now you are off and running with a faster alternative to change load address programs.

DIABLO CHR$ CODES FOR PITCH CHANGE
For 15 pitch: chr$(27)
chr$(31)
chr$(9)

SECONDARY ADDRESSING IN SUPERSCRIPT II
The "Format" instruction in SS II does not work as directed. In its stead is the following syntax:
To enter the required escape codes, enter at the top of the document *1=code1, *2=code2, etc. Diablo example above — *1=27. I've not experimented with putting more than one code on a line. NOTE, the * is infact the REVERSE STAR from the OFF/RVS key.

Once these codes are preset, you then enter *1*2*3, etc before and aft your text as you turn features on and off in your printer. The *1 will appear as a 1 in a reverse field, etc. This capability is limited to 20 definable characters (lower and upper case number keys), which is likely the largest quantity needed to call out any fancy feature set. These codes are necessary when doing feature work on many printers including Star, Gemini, etc. You should get both the Centronics manual and the Commodore interface manual for whatever printers you get as the Centronics manual usually will not show the CHR$(codes, rather only the standard escape codes.

I understand SS3 has the format escape codes operational.

From Gerald A. Powell 43133
re: Pre-Release #4 —— directory to printer program—— the following will allow the program to work as intended:

```
add line      360 open 7,4,7:print#7:close7
add line      890 if et$="00" then 350
add to line   530                :close 15
change line   730 so the goto 900 is goto 890
```

that may not be the proper way to do all that but it does work.

From SF Dan (Progressive Periferals)
re: Superbase secondary addressing 8023 printer
standard:

```
  pdev4,255,0:print"":pdev4,255,0
```

condensed:

```
  pdev4,13,0:print"":pdev4,15,0:print""
        :pdev4,255,0:print""
```

nlq:

```
  pdev4,15,0:print"":pdev4,255,0:print""
```

From Bob Phillips
re: Setting device numbers for drives in Superbase
while in immediate mode, poke 159,dn
where dn = device number

8250/8050 Jumper:
the enabling jumper for making an 8250 operate as an 8050 is #E3 on the digital board.

From Tony Cureton
re: Disabling/enabling Keys
RUN/STOP

```
                    Disable:  poke 789,250
  Normal:                poke              789,249
                  NO LIST
  Disable:  poke 647,138
  Normal:   poke 647,137
```

WARM START

```
  SYS32768
```

Note: Not a Complete Reset similar to new SYS. These few little known pokes may not work on all B128 machines's, But I'm sure they work fine on quite a number of them. It took a little investigation but I hope this information helps someone else.

P.S. Does anyone know of a cold/warm start routine?

From Neil Cumfer
re: B128/C128 Vice-Versa

The first two bytes in the file are the address in memory where BASIC program files begin. The next two bytes are the pointer to the beginning of the second program line (i.e. the next pointer). The third two bytes are the first line number. The next sequence of bytes is the program line, which is terminated with a null -- ASCII code 0. The next four bytes and the next pointer and the next line number, either of which could be a zero. There are not supposed to be any zeros within a line, only at the end. So you could set up a short subroutine to copy the four bytes after a 0 exactly, after a startup sequence copying the first 6 bytes exactly. This will preserve the line numbers, which you want, but it will also preserve the line links, which you don't want -- but those are easier to fix later rather than trying to count bytes within the program.

<<From a Delphi message Cumfer to Faircloth 07jun86>>

From Paul McIntosh 93033
SUPERBASE CAUTION:
When working with Superbase and formatting large records (<50 fields), be careful that the TOTAL number of records in any three files of a single database does not exceed 127. It seems that when you use the FILE option of MENU 2, the previous files are not closed until you have 3 fields open at once. This problem drove me nuts. I was using Superbase to keep track of contracts and dollar values of shipments. When I would go to the third file and try to do anything the screen would scramble in mysterious ways. <<Note check with Clyde Northrup's first disk, Furn ture Store Accounting program notes for another discussion on multiple files open concurrently.>>

From Klaus H. Seliger 60466
re: CBUG Scratch Pad January 1986, page 5, letter f rom John Branca Jr.

The program correction which John wrote about on the 'banner' program, also works for the 'bargraph' program on Kernaghan's utility disk.

JUST CHANGE LINE:

```
498 print#6,chr$(24):rem line spacing - was 18 for 8 LPI
     to read
498 print#6,chr$(9) :rem line spacing - was 18 for 8 LPI
```

This change will then work with the 8023 printer and give the desired singe spacing.

```
494 rem
495 open7,4,4
496 print#7:rem enable error messages
497 open6,4,6
498 print #6,chr$(9):rem print #6,chr#(24) line spacing
     was 18 for 8 LPI.
499 open2,4,2
500 F$="99999  A  "
```

From Bob Houk 98146
A proposed directory standard:

```
12   "b.menu"              pgm
8    "p.window graphics"   pgm
15   "d.banner.dsp"        pgm
```

where: b=basic, p=machine lang., d=displays, s=Superscript, f=Superbase, c=CABS G.L.

We are attempting to write all machine lang. to kick from same address and bank. A leading space is outlawed..... Now how's that for nonconformity.

Hint 1:
Windows' the four poke addresses are:
220 top, 221 bottom, 222 left, 223 right
in programming it's easy to say;

```
  100 t=200:b=221:l=222:r=223
  200 poket,10:pokeb,30:pokel,15:poker,60
```

The result is a window from line 10 to line 30, and column 15 to column 60. To expand or shrink the window just poke the value into one or all.

Hint 2:

Overprint; chr $(141)
to overprint (bolder than normal printing)

```
100 print"CBUG works"chr$(141);
200 for i=1to4:print"B-128"chr$(141);:next:rem this gives
      "B-128 5 whacks—
```

Hint 3:
Rem Statement Caps:
Some of you may have noticed if you use caps in a rem statement then list it, wow..... all of it is in Basic Tokens..
To correct this just put a quote (") in the line before the caps and after your rem command. See line 200 of hint #2 above.

Hint 4
3 column dir to printer;
On Kernaghan's Utility disk is a good 2 col dir printer a few changes and zip off the dir to on page, (for all you guys with multi-level directories).

```
add      130 open7,4,7:print#7:close7
change   200 dim n$(255):rem lists 255 files
delete   455
change   470 1$-left$(1$,24):rem---truncate to 23 chars.
change   560 mid=int(ct/3)
change   570 fori=1to mid:print#4,n$(i)"  "n$(i+mid+1)"
               "n$(i+mid*2+1):next
```

Houk's Pats on the back box:

Superscript	Liz Deal
Rescue	Warren Swan
Copy	Jesse Knight
Barbara and the Kids	
Taking heat	R Phillips
Liz gets an extra 1	

From Edwin R. Bowerman 01983

I had a problem with Superscript II when I tried to use the *ch command to create user defined characters such as superscripts and degree signs.

Superscript *ch command uses an 8 high x 6 wide printer matrix while the 4023 printer uses and 8 x 8 matrix. The result is that extra garbage is printed out in the two right most matrix columns. Precision Software in England came up with a fix. Brian Leighfield wrote me that *ch could be replaced by *sa5 and the whole 8x8 matrix could be accessed. It works!

Defining a degree sign as *sa5,96,144,144,96,0,0,0,0, and ESC $ to enter the user defined character, we can write:

the solar home was 72 <<degree sign>> F when the outside temperature was 25 <<degree sign>> F.

A problem will be encountered when two user defined characters are needed on the same line. My solution is to invoke the pause command with a status line message to remind me to backspace the printer of the line feed that the second character definition creates. This is tricky since the 4023 printer has a detent mechanism that needs about 9 clicks/line.

Defining a delta as *sa5,2,10,34,130,34,10,2,0 and using a pause with message (*ps backspace 9 clicks, restart with p) we can write:

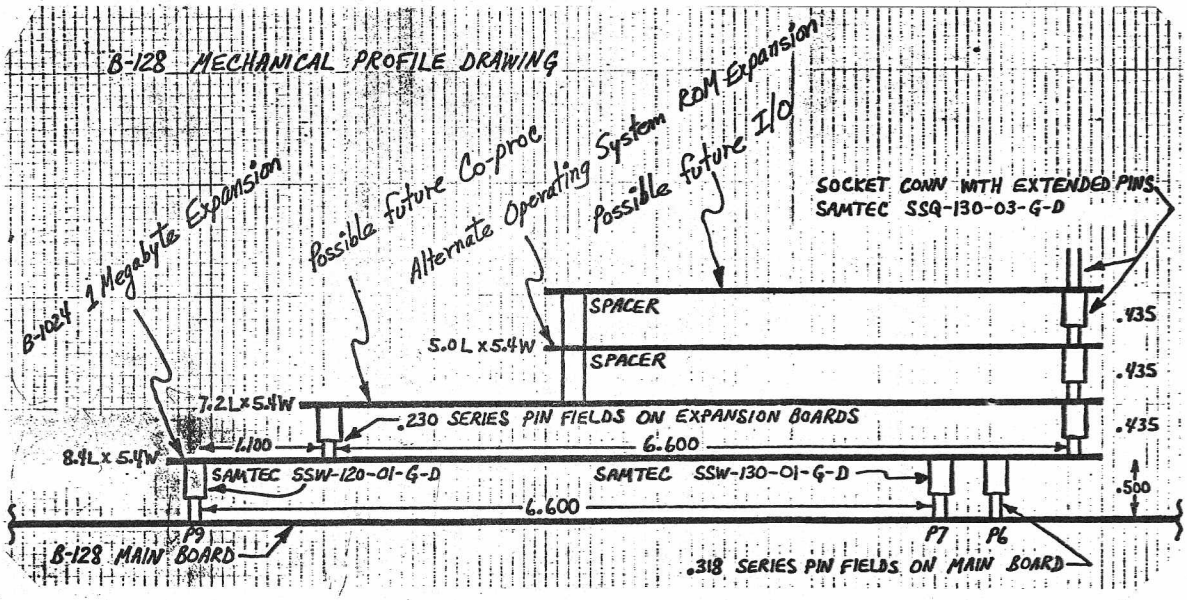
This give a <<triangle delta sign>> T of 47 <degree sign>> F.

<<Sorry folks, I don't know how to make my Daisywriter do these things>>

* *

PROPOSED ADD ON BOARD LAYOUT

This is the intended mechanical layout cross-section as proposed by Mr. Gary Anderson for implementation of internal add on boards to the B-128. Those of you who have interest in hardware improvements should contact Gary if only to register your intentions with him. He is the CBUG clearing point for all hardware and software upgrade co-ordination. DO NOT go off on some tangent that will be incompatable with the main body of work now being done. Please advise Gary of any shortcomings you may find in this drawing. Gary L. Anderson, 1528 34th St. SE, Cedar Rapids, Ia. 52403



COL.J.E.O'HALLORAN
HORSAO FARMS
RT.2 OWL CREEK ROAD
HIAWASSEE,GA. 30546

12 September 1986

Mr. Gary L. Anderson
Anderson Communications Eng.
1528 34th Street S.E.
Cedar Rapids, IA 524003

Dear Gary,

I received the 1024 board yesterday in good condition. I read the cautionary and procedural material twice and then unhooked my B128 and began the installation while following the step by step instructions. I had my computer hooked up and running in less than an hour after opening the package.

I want to let you know that the test went 100% and I then tried out my Income Tax Program 1986 for CPAs and SuperScript II. I am absolutely delighted with the performance of my new Commodore-Anderson B1024.

I was 'building' the CPA TAX PROGRAM and trying to put in all the forms which a CPA had requested when I ran out of memory on the B128 with 3 pages of requested forms to go. I will get in touch with the CPA who made the request and suggest uprading with your 1024 board, otherwise the PROGRAM will have to be held to less forms than desired. It is my feeling that all CPA's having a B128 would welcome the upgrade AND a complete set of forms commonly used along with the FORM 1040.

The announcement of my 1985 TAX PROGRAM did not get out until 11 days before filing time on 15 April and I was surprised by the response received immediately. With the announcement of the 1986 program coming in the second section of the summer CBUG ESCAPE I expect a sizable response. I have a program for individuals besides the one for CPAs. They will both be available for shipment shortly after I receive the 1986 tax year forms from the IRS and am able to incorporate changes in forms, if any.

Please feel free to refer any prospective 'upgrader' to me as I am the very happy owner of a B1024.

Sincerely,

J.E. O'Halloran II

Warren A. Kernaghan
901 E. 108th, Street
Kansas City, MO 64131
816 942-3615

3 Apr 1986

Norman Deltzke - CBUG
4102 North Odell
Norridge, IL 60634

Hi Norm!

Re: program conversion article by John Wolfram, page 29, W/S 1986

After reading John Wolfram's article on conversion of CBM and C-64 BASIC software to the B128, which I thought was generally good, I wondered why he went to such bother to change the loading address when the B128 does it automatically. Any BASIC program saved to disk from the B128 using the DSAVE command will have a loading address of 3, regardless of what it was before. One way to avoid that, as I found out by accident, to have Liz's Keytrix in residence. A program saved then will have whatever loading address it had before. That makes it very handy to modify, edit, etc. a program destined for Pet/CBM or C-64, if it still has the proper address.

If the address does need to be changed, the 'CHG ADDR V2' program on my disk does it handily without all the work of using 'DISK MOD', as you noted, but without explanation.

Also, the easiest way I've found to look for 'SYS' commands, peeks, pokes, data statements, etc. is to use Liz Deal's Keytrix. That way any potential problems can be found before listing on the printer. When the decision is made to go ahead, then the printing can be done.

The MSD single (or dual) drive should also be considered for a format transferring drive, as well as the 4040 and 2030. The MSD has the advantage of being useful on both the C-64 and B128 without any added interfaces. It already has an IEEE interface and a serial port for the C-64.

Again, I think John did a good job, and I'm eagerly awaiting his article on converting machine code programs, (especially the m/l routines used with BASIC programs).

Regards,

Warren

Warren A. Kernaghan
901 E. 108th. Street
Kansas City, MO 64131
816 942-3615

13 June 1986

Norman Deltzke
Chicago B128 Users Group - International
4102 N. Odell
Norridge, IL 60634

Hi Norman,

Here's another case history for you:

8050 Disk Drive: A Case History - Write Protect

by Warren Kernaghan

A friend's MPI drive had been giving him problems because "drive 0 won't read Superscript disk directories or load from those disks." As demonstrated, he was right too. It seemed that any other disk was OK. Drive 1 had no problem with any disk. The drive had been returned to REX in Chicago for repair under warranty, but had been returned as OK, no problem found. After checking performance and alignment, and having it pass everything well within tolerances, we agreed that he had a weird case.

A diagnostic program found that the write protect sensor on drive 0 was defective; everything else was OK. Remembering that the command DCLEAR would initialize a drive, I tried that each time the disk was changed. Every directory was read without problem. But why? This may be obvious to experienced users, but I hadn't come across this problem before.

When DCLEAR is used after a disk change, the head stepped out one track. Several directories were read from drive 1. Each time the disk was changed, the head moved out one track, then back in to read the directory. If the disk wasn't removed, the head didn't step out and back, just kept on quietly reading directory after directory on request. Drive 0 didn't step out and back when the disk was changed, only when DCLEAR was used.

Have you realized why? I finally did. The write protect sensor tells the Disk Operating System (DOS) to step out and back whenever a disk is changed, in order to initialize the head position. Some information on this can be found in your "Disk System User Reference Guide" on page 23.

The next question was, what was wrong with the write protect sensor. A look at the sensor was informative - the connectors for the infra-red emitter diode (IRED) and the photo transistor sensor had both been disconnected, then reconnected to each other with two short wires bypassing the sensor system.

Reconnecting the IRED and sensor wiring, I found that the voltage across the sensor dropped from 5 volts with a disk halfway in, to about 1.3 volts with the disk out or all the way in. Drive 1 dropped from 5 volts to about 0.4 volts. Quite a difference.

These voltages are easily measured on the plugs located on the small board across the rear of drive 1; P2 pin 2 for drive 0, and P1 pin 2 for drive 1. Clip the voltmeter common lead to chassis ground.

After much scurrying around looking for substitutes, used parts were found at an independent computer repair shop. Perhaps a technician with better access to information and sources can come up with good substitutes. A Texas Instruments TIL32, TRW OP160 or TRW OP260 IRED may substitute for the emitter, but none could be found here in small quantities. For the phototransistor, TIL78 or TRW OP500 may be suitable. All these are listed in Newark catalogs.

My friendly Commodore repairman tells me that the drive left side, with write protect parts, was once supplied for $30. They are now listed as unavailable, and Commodore advises an exchange drive unit, at somewhere upwards of $200.

So, if you have trouble reading directories, and DCLEAR takes care of it, try saving a program to a disk with a write protect tab on it. If the program appears in the directory, it's the protect sensor, not your imagination or a bad disk - as my friend was told!

Regards,

Warren

Cardinal Software™

13646 Jefferson Davis Highway, Woodbridge, Virginia 22191 (703) 491-6502

September 16, 1986

URGENT

Chicago B-128 Users Group, Int.
4102 N. Odell
Norridge, IL 60634

Dear Sirs:

Reference: Anthony Coceliak
Article p. 34 Vol THE CBUG ESCAPE

We regret any confusion we may have caused with reference to swaping disk drives in our 8050 Physical Exam instruction manual. All of the drives we had seen up to that date had the 3 plugs and worked okay. We printed an errata sheet and sent it to all 8050 Physial Exam owners that were registered with us. This errata sheet is now included in all manuals that are produced. There are still several unregistered copies and we appreciate your effort in spreading the word. Apparently the units sold to Protecto were different than the regular store units.

Our purpose in creating the Physical Exam programs was to provide Commodore computer and disk drive users an alternative to loss of time and money due to disk errors. We make every effort to provide service and support with our products!

If you have any questions or need any additional information please call me!

Sincerely,

Cathy Mallinger

Cathy Mallinger
(703) 491-6404

URGENT

CBUG CATALOGUE LISTING

thru Sept 18, 1986

Stock #	Item	Description	Price
10017	52001306	SSDD Bulk Opus disks/10ea	$8.50
10021	53501306	DSDD Bulk Opus disks/10ea	9.10
10178	17	DS4D Bulk Opus disks 10 in vinyl library case	18.89
10318	9999	White Tyvec 5.25" sleeve	.07
10994	D-55W	60 capacity data case	6.45
11221	6400IEEE	IEEE converter for 6400	35.00
11330	1N5235B	Zener diode kit	6.00
11344	LM329B	Precision Reference Kit	8.50
11536	CBUG #32	Kernaghan's Utilities v3	10.00
11540	CBUG #33	Medical Accounting v2.0	9.00
11771	CBUG #40	CBM PD Math A	10.00
11785	CBUG #41	CBM PD English A	10.00
11790	CBUG #42	CBM PD GHBT	10.00
11803	CBUG #43	CBM PD Science A	10.00
11818	CBUG #44	CBM PD Science B	10.00
11822	setCBMpd	Set of 5 #40 thru 44	45.00
12204	8050CU	Knights 8050 Copy Utility	20.00
12219	8050 PE	Physical Exam, 8050	35.00
12223	1541 PE	Physical Exam, 1541	35.00
12238	4040 PE	Physical Exam, 4040	35.00
12242	1571 PE	Physical Exam, 1571	35.00
12257	CBUG #11	Terminal Pgms w/ BTerm	14.00
12261	CBUG #11A	Terminal Pgms w/O BTERM	9.00
12276	v1.4	BEELINE Terminal Pgm	35.00
12351*	ARC 0003	Micro fiche 808 images	27.00
12365*	ARC 0002	Micro fiche 302 images	9.00
12370*	ARC 0001	CPM 8088 Docs 100785	25.00
	* signed release form required for purchase		
12401	COPY FEE	Member copy/reproduction fee	5.00
12416	CONTRIB	Free will donation to CBUG	
12420	1085	Fall 1985 CBUG ESCAPE, copy	3.00
12449	W/S 86	Winter/Spring 1986 ESCAPE	6.00
12492	CBUG #27	Goceliak's Gold - utilties	9.00
12504	CBUG #28	Casey's Scrubber	19.00
12519	CBUG #29	CBUG TPUG P1/P2	9.00
12523	CBUG #30	Harrisons Assembler v5.5	35.00
12538	CBUG #31	Superbase Corner/Hints	9.00
12542	PR 5	Pre Release #5	9.00
12557	CBUG #35	Begining of PRE 6 (temp disk)	9.00
12561	CBUG #36	London Sampler	9.00
12576	CBUG #37	Superprint	19.00
12580	CBUG #38	Summer 1986 pt 1 print file	9.00
12646	COMB'S	Inventory + Checkbook pgm	55.00
12651	CBUG #26	Print Files #2	9.00
12665	CBUG #25	Print Files #3	9.00
12670	CBUG #17a	Liz's Utility v1.2a	16.00
12699	CBUG #21	Retail News Distribution pgm	9.00
12701	CBUG #22	Math Education Programs	9.00
12716	CBUG #15	Friendfam (superbase applic)	14.00
12720	CBUG #24	8432 Emulator Disassembled	9.00
12735	CBUG #23	Bible Games	15.00
12749	PR 4	Pre Release #4	9.00
12768	CBUG M20	CBUG Utilities etc #2	9.00
12773	CBUG #16	Swan's Basic Course	19.00
12787	CBUG #13	Superbase tutorial & aids	9.00
12792	CBUG #19	Old BUG text and pgms	10.00
12824	PR 1	Pre Release #1	9.00
12839	PR 2	Pre Release #2	9.00
12843	PR 3	Pre Release #3	9.00
12862	RR 1	Norm's Utility v1.2	9.00
12881	CBUG #3	Swan's Utility #1	14.00
12913	CBUG #6	CBUG/TPUG #1	9.00
12932	CBUG #7	Northrup's Superbase applic's	9.00
12946	CBUG #8	Sermons	9.00
12951	CBUG #9	CABS G/L pro forma #1	9.00
12965	CBUG #10	Fall ESCAPE & prior prnt file	9.00
12984	CBUG #12	Scott's B-Mon	14.00

The above are the current library disks available thru CBUG. We have listed only a few of the OPUS disk products to conserve space on the list. Items updated only show the current version. Earlier versions can be provided on special order. State your needs conspicuously. All orders require the standard $2.00 shipping and handling fee to be added.

THE CBUG YELL FOR HELP DIRECTORY

Following is a current listing of members who have gratiously volunteered to give of their valuable time to aid other members in specific areas of B128 applications. There are a few rules which need to be followed carefully:

1.) Thou shalt not call collect;
2.) Thou shalt not ask helpers to call back unless you instruct them to call collect;
3.) Thou shalt follow time restrictions listed, and when not listed, use exceptional judgement allowing for time zones;
4.) Thou shalt have all materials at hand when calling, and if possible be infront of your machine if applicable.

zip	expertise	helper's name	main phone number		additional phone number	
03264	sbp	Glen Van Valkenburg	603 536 1025	7pm to 10pm		
08043	bp	Michael F. Gullo	609 768 4789	9pm to 11:30pm		
10010	P	Benson Greene	212 683 6906	Noon to 10pm		
10128	S	Anthony Liversidge	212 534 7371			
10467	p	Angel Matos	212 231 6028			
11229	s	John Francis	718 376 9269	7:00 to 10:00 pm		
11552	pd	Mathew Goldstein	516 265 5131	8:00 to 9:30pm EST		
11729	SBPml	George Kowalak	516 667 7076	7pm to 10pm		
13045	B	Paul J. Comfort, Jr.	607 753 8433			
17315	sPmt	John Lemkelde	717 292 4933	5pm to 10pm		
17331	sIpmt	Steven J. Greenaway	717 637 2453	7:00 to 10:30pm	301 890 3878	7:00 to 10:30pm
28533	sbpmTl	Rick DeGraffenreid	919 223 5765	8:00 to 11:00pm		
31313	sBp	Clyde M. Northrop	919 368 6712	7pm - 10pm		
32405	sbp	Bill Hammack	904 763 8808	8am to 10pm		
35136	PS	Allyn Uptain	205 377 4476			
44106	pml	Allen E. Tracht (='tract')	216 932 2754	9pm to 10pm		
45805	ui	Ron W. Burkholder	419 331 1719	6:00 to 12:00pm		
45849	sp	Dale K. Elston	419 587 3804	7pm to 11pm		
46013	sI	Dan R. Schoger	317 649 8364	reasonable hours		
48827	p	Albert Meinke, III, M.D.	517 663 4994	7pm - 11pm		
50662	u	Randy Wilbur	319 283 1422	8am to 5pm		
52405	SUPmt	Leonard (Len) Kloft	319 390 4412	7pm to 10pm Th/F		
53211	U	Carter S. Pawlus	414 332 8481			
54304	sBP	Mickey Crittenden	414 494 3142	5pm to 9pm		
55108	PMv	Charles A. MaCarthy	612 645 6867	7pm to 10pm		
59872	p	Dick Wilkinson	406 822 4989	5pm to 11pm		
60077	SBIP	Roy Sherman	312 673 5094	9am to 9pm		
60188	XMPSTCbhu	Warren D. Swan	312 665 1514	7:00 to 10:00pm		
60202	sPxEh	Marilyn Gardner	312 866 9159	7pm to 9pm		
60634	Sit	Norman Deltzke	312 456 8720	7pm to 10pm		
60643	sbut	Eric L. Watkins	312 734 0312	6pm to 10pm		
61015	bUp	Gerald Beck	815 732 7387	7pm to 10pm		
62821	sbt	Troy Becker	618 773 4614	8pm to 10pm		
64055	PL COMPILERS	Bing Hart	816 373 5523	3:00 to 7:00pm		
64683	bipv	Marvin V. Pinnick	816 359 2138	9:00am to 9:00pm		
67337	bp	Tex Davis	316 251 5623	6:00 to 10:00pm		
68046	sbpl	Lt. Col. John Wright	402 339 5728	2:00 to 7:00pm		
68788	i	Ron Meyer	402 372 5785	7pm to 10pm		
74126	?	S. Ray Lohman	918 425 0669		918 425 3660	
75040	bPMX	Richard H. Wood	214 530 2595			
76201	Sbp	Mohammed Algheryafi	817 387 4446	6pm to 10pm		
76206	Sbp	Mohammed Algheryafi	817 566 2552	6pm to 10pm		
77063	sPtl	Mauricio J. De La Torre	713 953 9249	5pm to 10pm		
78210	b	Francis Martin	512 534 1400	noon to 9:30pm		
78504	pml	Robert Hargrove	512 686 5219	noon to 10pm		
83536	Sbp	Rodney Jay Lillibridge	208 935 2962	5pm - 8pm		
83605	SbPM	David C. Evans	208 454 8421	5:30 to 7pm	208 454 8421	BBS 7pm to 10pm
89121	SuPMl	Ron W. Hardy	702 459 4964	Fri 10pm to Sun 4p		
91733	PmX	Jerry Bailey	818 448 8351	7pm to midnight	213 598 7661	9am to 4pm
92056	spv	Lt. Col. G. A. Carlson	619 726 3219			
93423	sBuPm	W.K. Vance	805 466 5123	10:00am to 4:00pm		
98032	st	Dan Gayman	206 878 8783	7pm to 10pm		
98198	st	Dan Gayman	206 878 8783	7pm to 10pm		
B2G 1C0	sbptL	Michael Steinitz	902 867 3909	9am to 6pm AST		
V8X 3P5	sPMt	Russ Beinder	604 479 8510	7pm to 11pm PST		
V9Y 1X3	cP	Steve Pearson	604 123 3231	9am - 10pm		

Expertise codes are as follows. Lower case indicates the helper has given themself a rating of "pretty good", Capitals indicates an expert rating:

a = all	p = basic lang. prog	c = general business	h = math
s = Superscript	m = machine prog	h = accountant/ing	w = law
b = Superbase	x = expert programmer	d = tech/elect. eng.	f = finance
i = CABS/Info	l = lab instrumentation	z = repair servicie	e = education
u = Calc Result	v = hdwr interfacing	t = telecommunications	n = CMS/Southern Solutions pgms

To all members: Anyone desiring to join in the Yell for Help effort should send their name, address, phone number, hours available and a listing of subjects rated as "expert" or "pretty good". It is prefered that you use the registration coupon in the Fall ESCAPE as it is very difficult for us to sort thru and read the quantity of mail we recieve. AND, everyone let us know how this program is working out -- that will take memos, so head them right on top "YELL FEEDBACK". Thanks, everyone, for the the help.

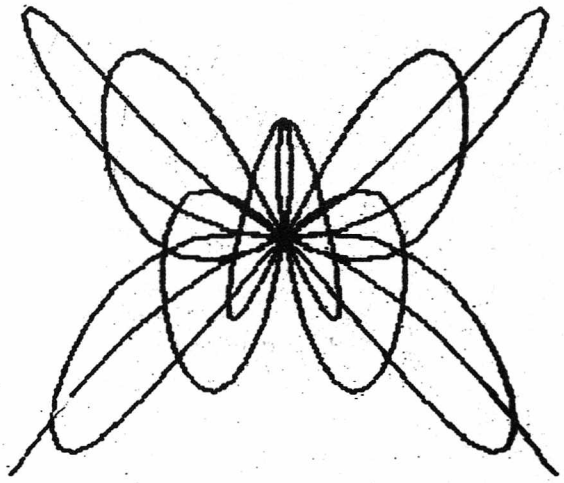
To our helpers: We have put in place a casual reporting system so that inquiries and their answers can be catalogued and published. Mr. Fred Peterson is heading up this co-ordination effort. Sometime in the not to distant future send an update letter to the Helpers with Fred's address. We hope to use the information reported as to the member needs and if possible unusual answers developed to seed Q & A type columns, as well as reduce the flow of redundant questions.

PAGE 2, Sept. 1986 CBUG ORDER FORM
PREVIOUS RELEASES

Please repeat your name and zip code per chance your order sheets are separated:

Shipping Name _____ Shipping Zip Code _____

Quantity	Stock #	Description	Price	Extension
_____	10994	Data Case, 60 disk capacity	$6.45	_____
_____	10021	DSDD Premium Opus Disks /Pkg of 10 w/ sleeves & labels	$9.10	_____
_____	11221	IEEE converter for 6400 Printer	$35.00	_____
		Illinois residents add 7% Sales tax above items only		_____
_____	11536	CBUG #32 Kernaghan's Utilities v3	10.00	_____
_____	12223	Physical Exam for the 1541	35.00	_____
_____	12238	Physical Exam for the 4040	35.00	_____
_____	12242	Physical Exam for the 1571	35.00	_____
_____	12257	CBUG #11 Terminal Pgms w/ BTerm	14.00	_____
_____	12261	CBUG #11a Terminal Pgms w/o BTerm	9.00	_____
_____	12276	BEELINE Terminal Program v1.4	35.00	_____
_____	12420	Fall 1985 ESCAPE, copy of publication	3.00	_____
_____	12449	Winter/Spring 1986 ESCAPE, copy of publication	6.00	_____
_____	12454	Jan. 1986 Telecommunications issue, copy of publication	2.00	_____
_____	12468	Summer 1986 ESCAPE Part 1, copy of publication	4.00	_____
_____	12473	Summer 1986 ESCAPE Part 2, copy of publication	3.00	_____
_____	12492	Goceliak's Goldmine -- disk utilities and engineering	9.00	_____
_____	12519	CBUG #29 CBUG TPUG P1/P240	9.00	_____
_____	12523	Harrison's Assemblerv5.5	35.00	_____
_____	12538	Superbase Corner/Hints	9.00	_____
_____	12580	CBUG #38 Summer 1986 part 1 print file	9.00	_____
_____	12646	Comb's Inventory + Checkbook programs	55.00	_____
_____	12651	CBUG #26 Print Files #2	9.00	_____
_____	12665	CBUG #25 Print Files #3	9.00	_____
_____	12670	CBUG #17a Liz's Utility v1.2a	16.00	_____
_____	12699	CBUG #21 Retail News Distribution pgm	9.00	_____
_____	12701	CBUG #22 Math Education Programs	9.00	_____
_____	12716	CBUG #15 Friendfam (Superbase application pgm)	14.00	_____
_____	12720	CBUG #24 8432 Emulator Disassembled	9.00	_____
_____	12735	CBUG #23 Bible Games	15.00	_____
_____	12749	PR4 Pre Release #4	9.00	_____
_____	12768	CBUG M20 CBUG Utilities etc #2	9.00	_____
_____	12773	CBUG #16 Swan's Basic Course	19.00	_____
_____	12787	CBUG #13 Superbase tutorial pgms & Leighfield aids texts	9.00	_____
_____	12792	Old BUG texts and programs	9.00	_____
_____	12842	PR1 Pre Release #1	9.00	_____
_____	12839	PR2 Pre Release #2	9.00	_____
_____	12843	PR3 Pre Release #3	9.00	_____
_____	12862	RR1 Norm's Utility v1.2	9.00	_____
_____	12881	Swan's Utility #1	14.00	_____
_____	12913	CBUG #6 CBUG/TPUG #1	9.00	_____
_____	12932	CBUG #7 Northrup's Superbase Applications	9.00	_____
_____	12946	CBUG #8 Sermons	9.00	_____
_____	12951	CABS GL pro forma #1	9.00	_____
_____	12965	CBUG #10 Fall ESCAPE & prior print files	9.00	_____
_____	12984	Scott's B-Mon	14.00	_____
		TOTAL THIS PAGE -- Extend to main order form		_____



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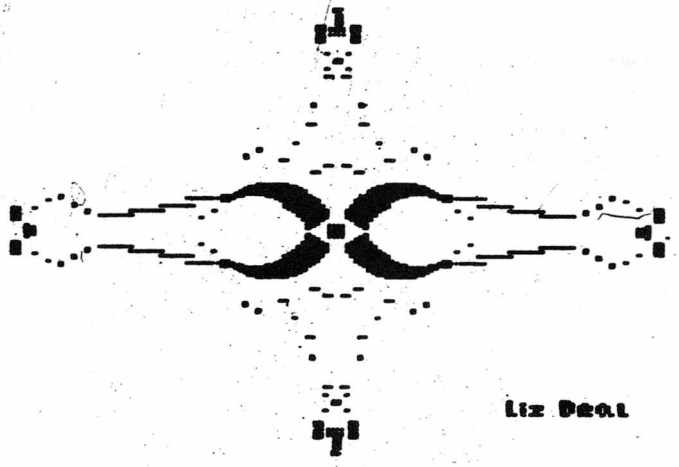

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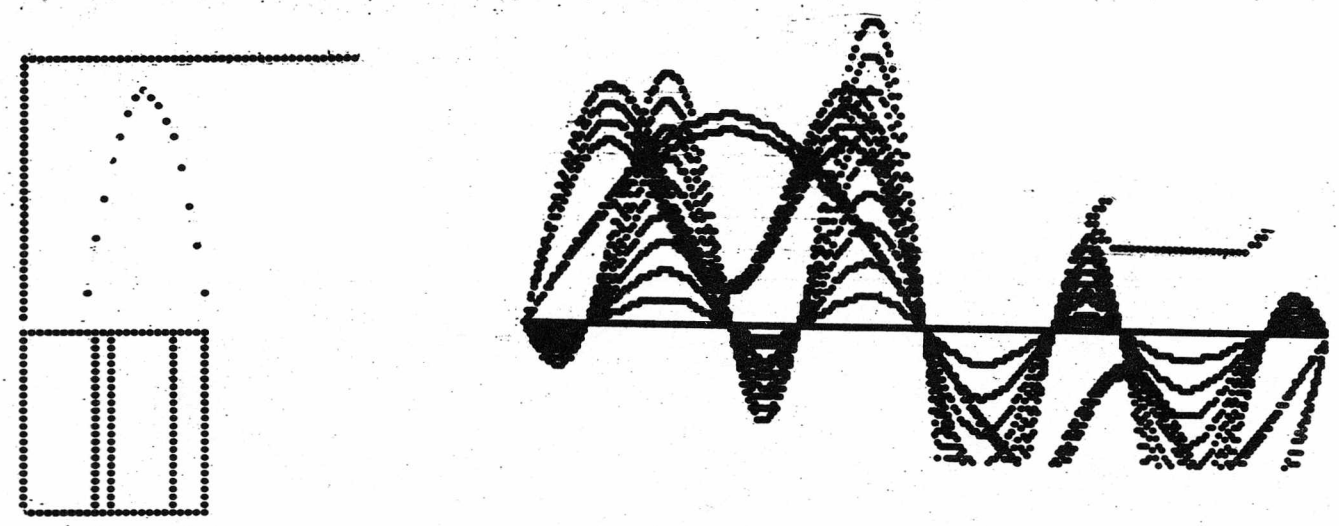

PRESENTING: B128 HRES DUMPS

C-128 CHARACTER SET "DUMPED" THRU B-128 TO 6400 PRINTER

T.G.I.F.

A SPECIAL CBUG BLANK DISK DEAL

OUR THANK GOODNESS IT'S FALL SPECIAL DEAL. TYPICAL OF CBUG, THE FIRST CHRISTMAS BARGAIN ON THE STREET, OR IN THE MAIL!! BY SPECIAL ARRANGEMENT WITH OPUS, WE CAN OFFER THESE UNIQUE DISCOUNTS THRU DEC. 25, 1986.

STOCK #	DESCRIPTION	SPECIAL PRICE
10017	SSDD OPUS PREMIUM DISKS, 10 PER BAG W/ LABELS, TABS & SLEEVES	$5.70
10021	DSDD OPUS PREMIUM DISKS, 10 PER BAG W/ LABELS, TABS & SLEEVES	$6.00
10252	DS4D OPUS PREMIUM QUAD DENSITY IN A VINYL LIBRARY CASE	$16.00
10088	DSDD 3.5" OPUS, 10 IN A FLIP N' FILE, RETAIL PACKAGE (AMIGA)	$19.00

THESE ARE SPECIAL PRICES SPONSORED BY OPUS FOR CBUG THRU THE PERIOD ENDING DECEMBER 25, 1986. TO AVAIL YOURSELF OF THEM, SIMPLY EXTEND THE PRICE ON THE ORDER FORM TO THOSE ABOVE. IF YOU ARE AN ILLINOIS RESIDENT YOU MUST ADD 7% SALES TAX ON THE LINE PROVIDED FOR SAME EVEN IF THE LINE IS OUT OF SEQUENCE.