



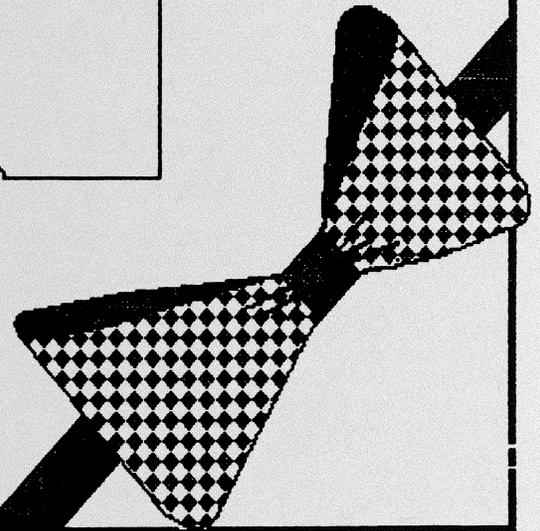
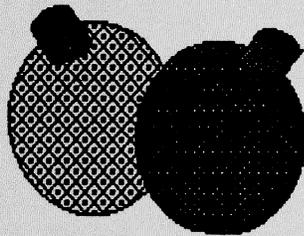
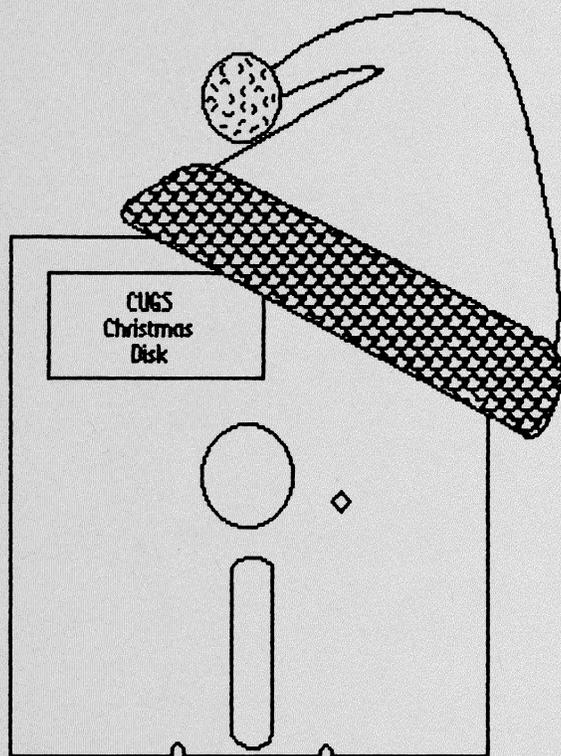
monitor

December 1988

Vol 3 No 11

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OBLIGATORY STUFF

CUGS EXECUTIVE 1989

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If you have any questions about CUGS please feel free to contact any of the above executive members.

THE MONITOR is published monthly by the COMMODORE USERS' GROUP OF SASKATCHEWAN (CUGS), Regina, Sask., Canada. CUGS meetings are held at 7 pm the SECOND WEDNESDAY of every month (unless otherwise noted) in the North-West Leisure Centre, corner of Rochdale Boulevard and Arnason Street.

Anyone interested in computing, especially on the C64, 128 or 64C, is welcome to attend any meeting. Out of town members are also welcome, but may be charged a small (\$5.00) mailing fee for newsletters. Members are encouraged to submit public domain software for inclusion in the CUGS DISK LIBRARY. These programs are made available to members. Any member is entitled to purchase DISKS from our public domain library for a nominal fee. Programs are 'freeware', from computer magazines, or the public domain. Individual members are responsible for deleting any program that he/she is not entitled to by law (you must be the owner of the magazine in which a particular program was printed). To the best of our knowledge, all such programs are identified in their listings. Please let us know if you find otherwise. Contact Earl Brown, 737 Rink Ave.

CUGS is a non-profit organization comprised of C64, 64C, C128, and 128D users interested in sharing ideas, programs, knowledge, problems and solutions with each other. The more members participate, the better the variety of benefits. Membership dues are pro-rated, based on a January to December year.

EDITORIAL

First, congratulations to the new executive. It's good to have new people, fresh ideas and insight (note changes in this issue thanx to assistant ed. Jarrett Currie).

And a Merry Computer Christmas to all you Commodore crazies! May all your graphics displays be merry and bright from our CUGS XMAS DISK, and may all your gifts be new hardware! Seriously, tho' folks...

This time of year, many people are looking at computers as a present for "the whole family", something to "help the kids with their schoolwork". Maybe some of you are (shudder) thinking of changing to another computer. What's available, and how do you decide what's best for you? Here's a brief list of what's around for digital buyers, with my comments on each. You may not agree with my comments, but, in the last 3.5 years I've not had one dissenting opinion (IN WRITING)!

TIMEX/SINCLAIR, RADIO SHACK I/II, VIC20, COCO, ADAM, ATARI 400/800 - older machines - not much support or software. BION each still has an active user support group. Each IS a legitimate computer, but, unless you're a programmer-tinkerer type, not much use.

RADIO SHACK COLOR COMPUTERS (TANDY) - ok color and simple sound - ok dealer support - fading because of MS-DOS compatibles. You can do better for the same money.

APPLE II+/IIe/MAC/IIGS - all good computers - wide support - generally expensive and "touchy". If your aim is "educatin' the kids", Apple has by far the largest collection of EDUCATIONAL software behind it. It's common in many schools. MAC and the IIGS (newest) tend to be "pricey" - MAC aimed squarely at business, IIGS at the hobby/education market - but the IIGS suffers BADLY from C128 "disease" (lots of software from its younger "brother" [II+/IIe], nothing that takes advantage of IIGS's advanced features.

ATARI XE/ST - ATARI's been trying to outdo Commodore in the hearts of the home market for eons (it seems). They always seem to cut the wrong corners. Great machines, good dealer and user support, but little penetration in the hobby, home and education market, mostly due to problems with their earlier machines. "Always a bridesmaid; never a bride". However, newer machines are "friendlier" and certainly have good software available. Too many people still equate ATARI with videogames, not computing. To summarize their usefulness "THIS machine does such-and-such, and an ATARI will, too, sort of". Worth looking at ...

IBM, MS-DOS machines, OS/2 - so how much money DO you have??? Great machines! Fast, expensive, dependable, expensive, (expensive) peripherals, lots of (expensive) software. It's getting better, but... How much POWER do you really need?? The image of a 2 megabyte PC clone with a 40 meg 20 nanosecond harddrive used to store a household inventory or a recipe collection would make most computer people cry with laughter. Want office compatibility? - you'll probably need this (unfortunately). Managing a mid-size business? - MS-DOS compatibility is a distinct advantage. Have a great deal of money for software and hardware extensions? - you won't find a better machine! It's meant for business - why would you want it as a home machine??

AMIGA - really a Commodore pretending it's not! MEGA-machine for the hobbyist and 2nd-level ("don't want to know how") user. Terrific graphics, sound, and friendly as a pet wildcat. Prone to extended GURU meditation when handled by less-experienced users. Gaining user and software support. Just getting over "Early Commodore" disease (great machine - no software, dealers or info.). The 500 is pushed just like the 64, but it isn't called "user-friendly". If you like showing superb graphics or playing great stereo sound, this is for you. Creating great graphics and sound with a basic machine is as tough with an AMIGA as it was with the C64. Hobbyist's delight, a bit of overkill in the home, but so was the C64. Maybe next year?

The C64/128(D) - (Hoping my bias wouldn't show) Dollar for dollar, no other machine offers so much for so little (dollars or effort). Truly a home computer. 128D can be "boosted" into "big (memory) leagues" for anyone who likes (needs?) lots of RAM. The 128 is suffering from an identity crisis (it keeps being used as a C64). Very powerful machine offering the best of 3 worlds (C64,128 [80 columns and BASIC 7.0], CP/M). My C64 has seen 2 kids through schoolwork, homework and educational drill from grade 6 to 12. It's still doing university assignments. There are 4 more kids who keep its chips hot on everything from games to essays 3:35 to midnight daily. Average investment = \$242/user over 7 years!

NINETENDO, SEGA SYSTEM, COLECOVISION - games, games, games, games and more games. Great games, many of them almost as good as those on the 64, APPLE or ATARI. And they make neat (if somewhat expensive) doorstops when the games wear thin!



Sir Richard's Rap:

I would like to take this opportunity to examine our CUGS year.

Over this past year, our club had a number of high points and a few low ones but, overall, I feel the year was very successful. The high points included our involvement at 'Computerfest', our software preview night, membership of over 50 members, the start of our own BBS, some excellent presentations at meetings, and an increased involvement by the members in our club. The major disappointments included our Public Domain software swap night (a dismal failure) and the reluctance by some to become as involved in the club as they might.

The questionnaire being distributed this month has one objective - to get your feelings and advice on the direction CUGS should go in 1989 (and beyond). Please take the time to fill it in as completely as possible. Some of the questions pertain to a completely new direction for our computer club. Do you want us to take these new paths?

I would also like to take this opportunity to thank a number of people for their special involvement this year. If you are included, please give yourself a special pat on the back, and accept my sincere THANK YOU! First, to the executive members who made my job so easy this past year. By doing your own specific duties effectively, you made it very easy for me to do mine. Your willingness to take that extra step was greatly appreciated. To everyone who gave a presentation at a club meeting - thank you! I know how much extra effort was involved in preparing for the presentation. Every member who wrote an article for the "MONITOR" deserves an extra pat on the back. It takes extra time and effort to share your knowledge and expertise with others. Thank you for giving of yourself this way.

A number of you also gave your time at Computerfest looking after our display, answering questions, etc. Thank you for this involvement. Thank you also to everyone who attended the meetings, asked questions, purchased club disks, called the BBS and thus kept the operation of our club at such a high level.

A look to the future is a look to increased involvement by everyone. The specific direction will be determined by all the club members - by your continued attendance and support of club activities and specifically by indicating your preferences on the questionnaire.



Memberships Due:

Memberships in CUGS are now due.

\$10.00 Jan. - Dec. 1989

Benefits:

- meet with other C64/128 users
- discuss common concerns
- presentations
- software previews
- monthly newsletter "The Monitor"
- access to disk library
- access to bulletin board
- discounts - Software Supermarket
- TTL Computer Concepts

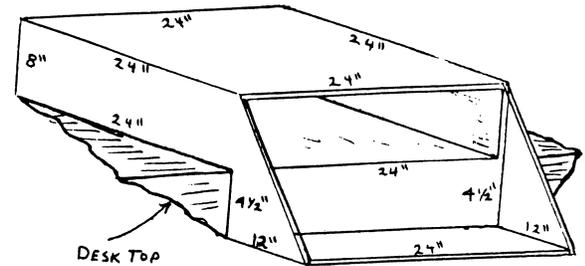


The best buy in town. Get yours now if you haven't already.

COMPUTER FURNITURE

by Steve Bogues

(1)



DRAWING N.T.S.

BUILDING A DROP KEYBOARD COMPUTER HOLDER FOR A NORMAL DESK WITH MATCHING PRINTER STAND

by Steve Bogues

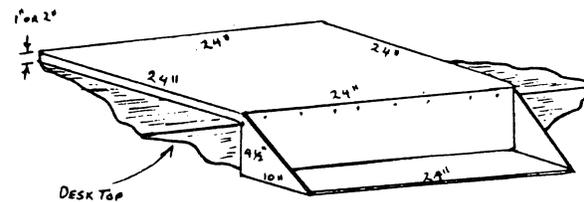
This design is the first in a series of computer desk plans. The design you see above has two versions - one for the C64 and one for the 128D.

The first design for the C64 allows the maintaining of the 28" height from the floor as well as a storage area for 2 1541/1571 disk drives, and a place for a monitor on top of the case.

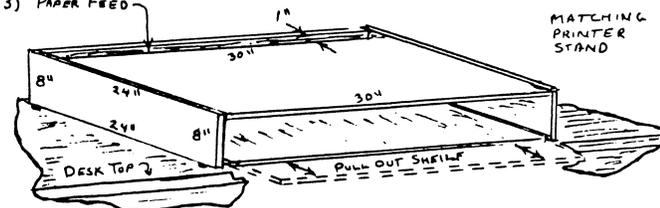
The second design allows for the same dropped keyboard shelf, as well as a location for the 128D case and monitor to be placed.

The third design is a matching printer stand that has a slide out paper tray allowing for easier loading. This printer stand is capable of holding a 15" carriage printer with backfeed.

(2)



(3) PAPER FEED





BUGS ART CONTEST:

Because our new BBS will allow multiple colour graphics title screens, we'd like to give any budding C64/128 screen artists a chance to strut their stuff. Watch for details early in the new year, but 'til then, blow the dust off your favourite screen graphic program and start workin' out some good art for BUGS.



BUGS - WIRED

by Richard Maze

Last month I outlined a few of the features of the Bulletin Board System. If you haven't called, yet, do so. The more who are involved, the more fun it is. The board is available 24 hours/day and 7 days/week (except when I put it down to make changes or to take the computers to the club meetings). If you get 'NO CARRIER' when you call that means that I am messing around with the files. I try to take as little time as possible so please be patient and call back.

As the board operates, shortcomings and changes became evident. To make it easier, I have made a few changes since last month. The major change is that the main menu 'information' file has been dedicated to explaining how to use the Bulletin area of the bulletin board. It also contains information about using the color/graphic features of the bulletin board. A major advantage of this is that you can capture this in a buffer and print it out on paper so you have the features available.

The newest version of the BBS has been ordered from the author (programmer). As soon as it arrives, I will be installing it. This will probably involve some changes for those of you who have been calling. Just bear with us and I will try to include explanations for you which indicate the differences (if any).

When I set up board initially, I had to create a number of files. Two of these involved the WELCOME screens for both ASCII and C/G (color graphics). Shaun Hase submitted a welcome screen for ASCII which is now being used. Thank you Shaun. As soon as the new version is installed, we are going to have a contest for the creation of a new C/G WELCOME screen. Watch the BUGS bulletin area for details about the contest.

One last thing that I would like to mention is that I have been accepting MONITOR articles on the BBS. Write whatever article(s) you want and upload it (them) as a sequential file(s) to the board. It saves you the hassle of having to get articles personally to the editor. I transfer all the articles to one 'MONITOR ARTICLES' disk. One thing you should realize with this is that anything you upload to the board is "invisible" to everyone who calls. I have to rename a file to make it possible for others to see it so your articles can't be read before the MONITOR is published. Sooooo... no excuse for articles now!! Sorrrrrrry!!!

CALL: 586 1189 24 hours/day 7 days/week
300/1200 baud
F8N1 (full duplex/8 bit characters/No parity/1 stop bit)

The BUGS BBS is now operating version 11.3 of the AABBS. Those of you who called before will notice a number of significant changes from version 6.7 we were operating up to last month. The most important differences are:

- 1) Use your user id# to log on instead of entering your phone number - much easier logon. (Check <Y>our status to obtain your user id#)
- 2) Global New in the bulletin area - checks ALL bulletin areas and returns all bulletins since your last logon.
- 3) Chance to auto-reply to bulletins is now available.
- 4) Games area - play games on-line (Right now disk space limits this to 2 games areas but we hope to improve this in time).
- 5) Full Commodore graphics supported.

If you have not called the BUGS BBS as yet, I should mention the following features:

- 1) This is a full color graphics BBS. (C/G terminal programs are available in the up/download area or from the club communication disks)
- 2) When you first call, you will fill in an application. BUGS members will have their status upgraded to give them access to the bulletin board features.
- 3) Major features include: both public (bulletins) and private (E-mail) messages; up/download files in both Punter and Xmodem; play games online.

We have had a bit of a problem with Xmodem uploads with the BBS. If you have a choice of protocols you may want to use PUNTER. It works in all cases and is faster than Xmodem as well. Xmodem downloads do work as well.

If you haven't called the BUGS BBS as yet, do so. The more who contribute - the better the Bulletin Board is.

Scrath 'n' Save by Earl Brown

THE NEW BUGS DISK LIBRARY ADDITIONS listing that appeared in our November MONITOR had a small error. The disk listed as GRAPHIC 13 #GM should be listed as GRAPHIC 15 #GO. We already have a graphic 13 disk, so please make that correction. The error was spotted while backups were made; and corrected at that time. No backups were made to the disk with the wrong ID.

BUGS has a surprise for you this month. Any member that shows up at our December meeting gets a free Christmas Disk. This disk contains all the Christmas programs we have in our library plus a few more. You can play them to your friends during this festive season. Don't forget, however, there are a few from magazines, so scratch any from your disk that you are not entitled to (4 are from this year's December issue of RUN which is still available).

As I thought. I still have not heard from Electronic Arts about the Epson file on their PaperClip III disk, and I guess no one in our club can help me. I did, however, hear back from Software Support (the company which sold me the Cracker Jax disk to backup Pocket Writer 2). They said if I disconnect my serial plug from the interface that is connected to my drive, it will back up. I did this and it still does not give me a loadable copy. So much for that.

SIR RICHARD'S REVIEWS

A REVIEW by R. Maze

This is a Color/Graphics (C/G) terminal program for the C64. The program was written by Steve Thompson in 1986. It is released as freeware by the author. A C/G terminal program is one which can handle Commodore color and graphics features. C/G terms are useful only when you are connected to a C/G bulletin board (like the CUGS bulletin board).

MULTI TERM is loaded with ',8,1' and is self starting. After an introductory freeware message, the main menu is obtained by pressing a key. Rather than examine each of the features of the menu, I will mention what MULTI TERM can do and some special features it has.

First and foremost, MULTI TERM allows you to operate in either C/G or ASCII. You can change from one to the other by simply selecting the letters T (for ASCII) or G (for C/G) from the menu. Transfer of files can be done either by Xmodem or Punter protocol. Protocol is selected from the menu by pressing P (toggles between the two). Selecting block size unfortunately must be done separate from this and you will be asked to input the block size you want, which is a little hairy if you don't know what goes with what. I guess it does give flexibility though. Once protocol and block size have been established you then select S (send) or R (receive) file to up or download from the main menu. You can also select Multi Transfers if you want to transfer many files at a time (and the bulletin board allows multi transfers). A nice feature of this is you are given a disk directory and asked to select the files you want transferred (very easy to use). These file transfers can also be done through a "Non Auto Mode Menu". Besides allowing up and downloading according to the protocol you selected, this mode includes some other useful features like getting a disk directory, changing the drive number, doing multi transfers, paging the sysop, and changing the protocol.

MULTI TERM supports autodialing if your modem permits that feature. You are given a chance to enter up to 25 telephone numbers (and names and baud rates). You can then select any one, or a multiple of between 2 & 5 numbers to have dialed.

The buffer in MULTI TERM is not as advanced as some other terminals. The buffer menu consists of only 4 choices: save, read, print, and clear. I would have liked to see the following features as well: open and close buffer; load buffer from disk; and transfer buffer to modem. For completeness these features would allow you to really make good use of the buffer.

A configuration menu allows you to set up the terminal program compatible with your own modem and as well set colors etc. It is here that you set baud rate, select your modem type (from a choice of 10), set the redial delay time (10 - 35 seconds), and set the drive number. You can also set the time (is displayed continuously on the top screen line) and set border, background and text color (this is only important for ASCII term because you can make your own changes in C/G term). Two important choices are to load and save the setup file. Once you create a setup file and save it, it will be automatically loaded each time the program is loaded into the computer. This setup file includes your telephone data for autodialing and the function keys (more about these coming soon). You can change your setup at any time and save it (erases the old setup).

An extremely useful feature is the 16 programmable

function keys. These are set up and edited by selecting F from the menu. They are saved by using the save setup feature from the configuration menu and will be loaded automatically with the program. To use them you simply press the function key you want for F1 to F8 and press C= and the number key 1 to 8 to get from F9 to F16 (to use F16 press C= 8). These keys can be used at any time in ASCII terminal mode. I feel this is one major drawback in that the function keys are not usable in graphics terminal.

I mentioned earlier that MULTI TERM allows both ASCII and C/G terminals. To get from either back to the main menu simply involves pressing C= X. You can also switch directly from one to the other by pressing C= T to go to ASCII or C= G to go to graphics. The ASCII terminal also has a nice extensive menu which allows you to select most of the options available in the program directly without going back to the main menu. This is a very handy feature but unfortunately is not available in the Graphics terminal.

One very nice feature is that most submenus allow a return alone to abort to the main menu. This is very convenient as well as easy to remember if you get into the wrong area and want out quickly.

MULTI TERM has one very unique feature called "Modem Nibbler". It allows you to send/receive all or parts of a disk. You can specify all or part of the disk. If you specify part of the disk you are asked for the starting and ending track and if you want to send blank blocks. The screen display is of the contents of a sector that is being sent/received.

Overall, MULTI TERM has many nice features which make it very easy to use and work with. If you are using it in ASCII mode it is very useful. It is a good C/G terminal program but I feel it would be much better if it gave the same options in the C/G terminal as in the ASCII terminal.



Meeting Place:

AGENDA:

President's address

It's a GAS! (Graphic Assault System)

*****coffee****visiting****disk-picking*****

X-10 POWERHOUSE and similar computer control devices
by Gord Williams

NEW MEETING DATES:

Because of a conflict with our booking of the North West Leisure Centre, we have had to move our meeting dates to the SECOND Wednesday of each month. I hope this does not create any inconveniences for you.

The meeting dates for the period January to June are listed below. Please write these on your calendar.

CUGS MEETINGS JANUARY - JUNE 1989

January 11, 1989
February 8, 1989
March 8, 1989
April 12, 1989
May 10, 1989
June 14, 1989



Meeting times are 7:00 - 9:00 pm

All meetings are held at the North West Leisure Centre (Room #1)

CUGS-SCOOP!

From Bill Taggart

1581 Bug-Swatter

[Editor's note: The following article was included on the update of our BBS Richard recently received. Anyone who has a 1581 disk drive (or might be planning to own one soon) will find this is "must" article. The short program mentioned is available following the article as a "type-in", or from our own BBS to anyone with a modem (Thanx, Rick). - KD]

Well, it's time to clear the air regarding 1581 problems. This fairly long posting (ED. note - this article was originally posted on a BBS) will hopefully address the most commonly expressed grievances, provide an explanation of the situation and describe what to do about it.

The 1581 3.5" disk drive had undergone fairly complete and extensive testing both in-house and through numerous 'beta' sites. It is as clean and reliable a system as one could hope for, and I am satisfied with what we have created. Unfortunately, a couple of early production-related hardware problems crept into some of the first systems, affecting some 500 to 2000 drives. These have been investigated and corrected as quickly as possible, and service centers have been sent bulletins. Repairs should be made as warranty repairs for these particular problems, even if your warranty has expired.

Now, the gory details. Here are the complaints:

From Robert Oyung:

Looking at the 'FILECOPY' program on the '1581 TEST/DEMO' disk included with the new drive, I noticed a bug. There is a line that says:

```
60 :IF SU<4 OR SU>31 OR DU<4 or DU>31 or SU=DU  
THEN 10
```

but line 10 does not exist. I believe it should read 'THEN 25' which is a jump to a subroutine that restarts the program.

Correct. Actually, someone changed my original FILECOPY program for the 1581 TEST/DEMO disk and this was the result. Newer 1581's are shipping with a VERSION 2.0 TEST/DEMO disk with this and other rather minor changes.

From Michael Weber:

Has anyone noticed any problems with their 1581 disk drive? I've owned mine for about a month and found that it managed to trash a disk while I was using it during a heavy download session on Quantum Link. In particular, it looks as though any files written past track 40 were completely corrupt! Further investigation on one of the Q-Link discussion areas showed that others have also encountered problems with this drive but I could find no official (or unofficial) comments from CBM in reply. Also

mentioned was that Commodore will issue a bulletin in the (near?) future describing the problem and its solution/resolution to all authorized service centers. One message described that the WD1770 drive controller should be replaced with a WD1772 controller chip (a real pain, the 1770 is NOT socketed). A 47 ohm J1 jumper resistor would also be necessary. Please note that I am only repeating the messages I encountered on Q-Link, they are in no way supported or recommended by myself and definitely did not come from CBM!

I had this same problem with my 1581, but it only really manifested itself in the CP/M mode. I could duplicate it in the C128 mode by having one of the devices connected to the serial port turned off. Also in the C128 mode I had many 'DRIVE NOT READY' errors - including right after successful disk accesses. I "emailed" my problem directly to Fred Bowen at CBM and he was extremely helpful and responsive in narrowing in on the cause of the problem. I don't know if CBM has issued an 'official' fix for the problem - but I fixed it by replacing the WD1770 with a WD1772 and adding a 47 ohm resistor at J1 as described on QuantumLink. [...] After the 'fix' I have never lost any data and find the drive to be reliable.

From Robert Umfer:

I agree. I now rarely use my 1581 for fear that I will lose more information. I bought it to save disk space. Now it seems I'm using more 5.25's than ever to backup what I'm saving to the 3.5's. No one on Plink is satisfied with his 1581, and CBM doesn't seem to be in any hurry to rectify that.

Okay. There are two problems. The first one was easy: pin 10 of U10 was not properly grounded in some units. This was caused by some unmodified pre-production boards sneaking into a final production run. The number of units affected, I am told, is about 500. The symptoms vary from occasional 'device not present' errors to data not being written or retrieved from disk correctly. The fix is a simple one - ground pin 10. If you value your warranty, a service center will do this for you as a warranty repair.

The second problem was more difficult to isolate. Some (not all) disk drives with a WD1770 controller chip (U4), occasionally did not correctly write data to disk. The previous example of a corrupted directory following a disk copy is typical. This was caused by a particular lot or two of WD1770 controllers. The number of units affected is around 2000 I am told. The fix is simple but hard to do - replace the WD1770-00 controller with a WD1772-00 controller. The 1581 was built to use either one and, in fact, the vast majority of systems did use WD1772 controllers. I recommend you see a service center to have this repair made.

Associated with the controller is a jumper, J1, physically located adjacent to U4. The jumper should always be shorted with a 47-ohm resistor for a 6ms step rate.

Following this posting will be a BASIC program which will tell you which controller chip your 1581 has, and the status of the J1 jumper. You need not crack open your 1581 to determine these things. It is impossible, however, to check for proper U10 grounding with a program.

While it perhaps seemed like a long time to you, it truly took several weeks to properly find, analyze, document, and distribute effective corrections for these things. I've worked with a lot of very helpful, patient folks to accomplish this, and without their help it would have taken much longer to isolate the problems. Some of these people, in an honest attempt to aid others in their position, passed on some previously 'unofficial' fixes for these problems. After a necessary review and thorough testing, they are now official. Sorry, but that is the way the system works. Authorized CBM service centers should have all the info necessary to help you now. I apologize for any aggravation or inconvenience this caused any of you.

I occasionally hit a few services such as QuantumLink, People Link, and GENIE. I haven't the time or \$\$\$\$\$ to peruse all the postings and answer many questions, so please pass this info along.

Now, on to new things...



1581 ROM Checker

NEW CUGS LIBRARY DISKS

[Ed. Note: The following program checks the ROM used as the controller for the 1581 disk drive. Because some of the commands involve accessing the drive's memory, a simple typing error could be frustrating, annoying, even destructive to a disk in the drive, so - TYPE CAREFULLY - or download the program from our BBS]

```

100 REM CHECK 1581 DISK FOR CONTROLLER TYPE & J1 JUMPER
110 REM 12/09/87 FRED BOWEN
115 :
120 PRINT"INSERT ANY FORMATTED DISK IN DRIVE."
121 INPUT"CHECK WHICH UNIT";U: PRINT
125 :
130 OPEN 1,U,15:L=218:H=1
131 REM LAST PART OF LINE 130 AS DOWNLOADED READS
    "L=DEC("1DA")AND255:H=DEC("1DA")/256". THIS PRODUCES
    AN ERROR MESSAGE.
140 OPEN 2,U,2,"#"
145 PRINT#1,"M-R"CHR$(0)CHR$(192)CHR$(1): GET#1,AS
150 IF ASC(AS)<>192 THEN PRINT"DEVICE"U"IS NOT A 1581.":
    GOTO360
155 :
160 PRINT#1,"M-R"CHR$(L)CHR$(H)CHR$(5):REM MODIFY
    CONTROLLER CMDS
170 FORI=1TO5:GET#1,AS:B$=B$+CHR$(ASC(AS)OR3):
    C$=C$+AS:NEXT
180 PRINT#1,"M-W"CHR$(L)CHR$(H)CHR$(5)B$
190 :
200 PRINT#1,"U1";2;0;1;0:GOSUB500:REM SEEK TRACK 1 &
    RESET TIMER
210 PRINT#1,"U1";2;0;80;0:GOSUB600:REM SEEK TRACK 80 &
    READ TIMER
220 :
230 PRINT#1,"M-W"CHR$(8)CHR$(64)CHR$(1)CHR$(0): REM
    TEST JUMPER J1
240 PRINT#1,"M-R"CHR$(8)CHR$(64)CHR$(1): GET#1,J$
250 :
260 PRINT#1,"M-W"CHR$(L)CHR$(H)CHR$(5)C$:REM RESTORE
    CONTROLLER CMDS
270 IF VAL(F$)>0 THEN PRINT"SEEK ERROR- CHECK
    DISKETTE.":PRINT: RUN
285 :
290 PRINT"UNIT"U" CONTAINS A ";:REM REPORT
300 IF T>20 THEN PRINT"WD1770";
310 IF T<20 THEN PRINT"WD1772";
320 PRINT" AND J1 IS ";
330 IF J$="" THEN PRINT "OPEN"
340 IF J$>"" THEN PRINT "CLOSED"
360 :
370 CLOSE2: CLOSE1:END
380 :
390 :
500 FORI=11TO8STEP-1: POKE56320 +I,0:NEXT:RETURN
505 REM LINE 500 AS DOWNLOADED READS "FORI=11TO8STEP-1:
    POKED("DC00")+I,0: NEXT: RETURN", LINE WON'T
    EXECUTE ON A C-64
600 INPUT#1,F$,R$,E$,D$:
    T=PEEK(56329)*10+PEEK(56328):RETURN

605 REM LINE 600 AS DOWNLOADED READS
    "INPUT#1,F$,R$,E$,D$:
    T=PEEK(DEC("DC09"))*10+PEEK(DEC("DC08")): RETURN".
    LINE WON'T EXECUTE ON A C-64.

```



TEXT GAMES 10 TJ

"SPRINT IV"
"Eye OF THE INCA"
"POWER PLANT"
"ESPIONAGE"
"PICK-A-LETTER"
"CRIBBAGE"
"BLACKJACK"
"BLACKJACK TUTOR"
"MAPLE RAG"
"BATTLESHIPS64"

"SOUND MANAGER"
"CYBERFAST"
"FASTDEMO.O"
"ZBALLS"
"SMINUET IN G"

CUGS CHRISTMAS 88

GENERAL 14 MN

"SPANISH"
"DICTIONARY"
"TUTORIAL"
"SCRIPT ANALYSIS"
"ELECTRONIC DIARY"
"COMPATIBILITY"
"WEATHERMAN"
"SPRINT"
"FOUR YORKSHIREME"
"DIV WORKSHEET"
"DUTY RATES"
"MEMORANDA"
"FILE DRAWER"
"BIORHYTHM"
"CONVERT NUMBER"
"SHAPES"
"GOLF FLIGHT"

"CHRISTMAS/CBM"
"CHRISTMAS CAROLS"
"FIRST NOEL.C"
"HERALD ANGELS.C"
"DECK THE HALLS.C"
"COME/FAITHFUL.C"
"MIDNIGHT CLEAR.C"
"REST YE MERRY.C"
"O LITTLE TOWN.C"
"WE THREE KINGS.C"

SOUND 14 SN

"GSB MUSIC BOX"
"SIDMON.2"
"TEST.SIDMON"
"SOUND FX"
"PLAY/FIND"
"YESTERDAY"
"SYNTH SAMPLE"
"COMPLEX SOUND"
"DYNA-TRANSLATOR"
"DYNA-CUSTOMIZER"
"DYNA-PLAYER"
"DYNA-ELITE DEMO"

"CSLIDE"
"?PIC K HOLLY "
"CHRISTMAS"
"MERRY CHRISTMAS"
"CHRISTMAS TREE"
"X-MAS CARD"
"XMAS MAGIC"
"XMAS SCENE"
"XMAS TREE"
"NOEL"
"SANTA"
"TWELVE DAYS/XMAS"
"HAPPY NEW YEAR"
"WINTER WONDER"
"SILVER BELLS"
"YULETIDE MAGIC"
"CALENDAR MAKER"
"SANTA'S CAVERNS"

128 Windows: | by Shaun Hase

[Editor's note: Shaun's program can be found on the CUGS BBS. Save yourself some typing by downloading the program.]

This article is about doing simple animation. Although it won't win you competitions, it will let you see that graphics and sprite animation on the 128 are as easy as they say.

The program draws a large planet in a star-filled sky with an orbiting, spinning satellite. Nice, but what good is it? In today's world of programming for purpose, probably not much. Programming like this is more of a learning experience for me, computing "exercise". I get an idea and I try to work it out. I rarely program for "purpose". I program for fun. I'd learn assembly or machine language if there was a purpose behind my ways.

I thought about including REM statements with the listing, but you can only fit so much on a line, and most of the code is self-explanatory. Besides, that's not the way I program. This program was originally 11 lines long. I rewrote it to make it easier to follow. So, I'll explain the workings of the program in paragraph form and refer to the listing.



NEXT MEETING - Wednesday, January 11, 1989

7 pm - NorthWest Leisure Centre - Room #1

Battle of the CADS!!

Shaun In SPACE!!



LINE

100 The standard bit-mapped graphics screen is selected and cleared.
 110 Sets the screen and border to black.
 120 Dimensions three arrays that are to be used in the program: M\$(10) for sprite character storage, and X(360) and Y(360) for the calculated X and Y position of the orbit.
 130-190 Make up one of the four set-up loops. This first loop creates the sprite data for the satellite. The sphere is drawn (line 140), painted or filled (line 150), has a dot erased to show rotation (line 160) since the dot is drawn using the screen colour. The finished sphere is saved as a string M\$(T) in line 170. Here's where the marvels of BASIC 7.0 come in. The SSHAPE command is used to save a rectangular area of the bit-mapped screen to a string variable. The dimensions of a sprite are 24 by 21, thus the coordinates in line 170. Finally, the screen is cleared (line 180) and the loop is repeated 10 times.
 200 Sets the foreground or pixel colour to white, and the following loop creates a star-filled sky (lines 210-260). The X and Y coordinates are picked randomly (lines 220-230), the pixel cursor is located (line 240) and then the point is drawn. The only reason this loop is programmed this way is to show how the locate/draw commands could be executed together. More stars are drawn with the next loop (lines 270-320), but these stars are different. Their random locations are done the same, but they are drawn in the shape of a small cross (lines 300-310). The last set-up loop to be executed is the calculation of the satellite's position on the screen (lines 330-380).
 340 Plots a 1/360 piece, or arc, of the circular orbit. In the next two lines (lines 350-360), the X and Y coordinates of the pixel cursor position are returned as the variable arrays X(1) and Y(1) by the RDOT(N) command, with RDOT(0) as the X coordinate and RDOT(1) as the Y coordinate. The pixel cursor is always located as the last drawn part.
 370 Clears a path for the orbit of the satellite.
 400 Draws the main planet in the centre of the screen. The 1.25 multiplication factor on the X radius is used because an individual pixel is not exactly square and this value has to be multiplied to the X coordinates to scale things properly. The things you learn from programming....
 410 Paints the planet.

```

100 GRAPHIC1,1
110 COLOR0,1:COLOR4,1
120 DIMM$(10),X(360),Y(360)
130 FORT=1TO10
140 : CIRCLE1,5,5,4*1.25,4
150 : PAINT1,5,5,1
160 : DRAW0,10-T,10-T
170 : SSHAPEM$(T),0,0,23,20
180 : SCNCLR
190 NEXTT
200 COLOR1,2
210 FORT=1TO50
220 : X=INT(RND(1)*320)
230 : Y=INT(RND(1)*200)
240 : LOCATEX,Y
250 : DRAW1
260 NEXTT
270 FORT=1TO5
280 : X=INT(RND(1)*320)
290 : Y=INT(RND(1)*200)
300 : DRAW1,X-1,YTOX+1,Y
310 : DRAW1,X,Y-1TOX,Y+1
320 NEXTT
330 FORT=0TO359
340 : CIRCLE0,159,100,10,L,L+1,10
350 : X(L)=RDOT(0)
360 : Y(L)=RDOT(1)
370 : BOX0,X(L)-7,Y(L)-7,X(L)+7,Y(L)+7,1
380 NEXTL
390 COLOR1,10
400 CIRCLE1,159,100,30*1.25,30
410 PAINT1,159,100,1
420 SPRITE1,1,13,1
430 FORT=0TO359
440 : C=C+1:IFC>10THENC=1
450 : SPRSAVM$(C),1
460 : MOVSPR1,X(L)+20,Y(L)+45
470 : IFL>90ANDL<270THENSPRITE1,1,13,0
      :ELSESPRITE1,1,13,1
480 NEXTL
490 GOTO430
    
```



420 Turns on the sprite to be used for the animation sequence. The syntax for using sprites is: sprite #[,on/off][,colour][,priority].... There are more parameters, but they are not needed for this program.

430-490 Are the main loop of the program. This loop does all the animation seen on the screen. Line 430 sets up the loop for recalling the X and Y coordinates previously calculated. Line 440, in conjunction with line 450, chooses which sprite pattern will be displayed. The SPRSAV command transfers the sprite images stored in the string variable (M\$(C)) to the sprite storage area. These two lines make the satellite rotate by executing a "page-flipping" routine, or swapping still pictures very quickly, to give the appearance of movement. Line 460 moves the

selected sprite image around the calculated orbit using the MOVSPR command. The scaling requirements of +20 in the X coordinate and +45 in the Y coordinate are needed to locate the sprite in its true orbit. Although these values can be calculated, it's more of a trial-and-error process. Line 470 is really the only line that does any work. It figures out whether the sprite should appear in front of the planet or behind it by deciding where the satellite is with respect to its orbit. The circle command is used to make the orbit begin its execution at the top of the circle and then draws clock-wise. Now here's where simple geometry, Commodore style, comes in handy. Since the top of the circle is the beginning, this point is 0 degrees. So logically, if the circle is drawn clock-wise, one quarter of a circle is 90 degrees. So, as the orbit becomes greater than 90 and less than 270 degrees, or when the satellite should pass in front of the planet, the sprite priority - whether sprites appear in front of or behind objects on the screen--is turned to 0. Anywhere else the

sprite priority is set to 1, meaning that it will pass behind objects on the screen. Line 480 ends the for/next loop and line 490 sends the program into a continuous loop. Well, that's it.

I've been working with graphics for a long time, way back to my VIC-20 days. Graphics on the 128 are not only accessible, they are easy and fun to use. Try out BASIC 7.0. You might be surprised what can be done.

Season's Greetings
 AND BEST WISHES FOR THE NEW YEAR

