

TPUG Newsletter

Views and News of Toronto Pet Users Group, Inc.

P.O. Box 48565, 3605 Lakeshore Blvd. W., Etobicoke, Ontario, M8W 4Y6

(416) 253-9637

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Winter 1998/99

From the President -

Impeach Another President

In recent years we have seen a Television-Evangelist and a President of the United States and other great leaders apologize to their followers for the sins that they have committed. With this New Year just beginning I feel guilty and must remove this burden of shame by confessing to this unspeakable sin. For years I have praised the virtues of using a Commodore Computer, and have promoted the idea that a computer is obsolete only when it can no longer do the task that you ask of it. But I have done something so repugnant that I can not bring myself to repeat it.

I guess, I owe it to TPUG's membership to come clean. It happened one cold November day, I was invited to visit a den of iniquity for the sole purpose of rescuing Commodore hardware from the wells of despair (the trash can) and to convert wayward components (MS-DOS drives) to the path of righteousness. But it was while I was in a moment of weakness that I did this horrendous crime. For this I ask you all to forgive me, Please???????

I am truly sorry for what I have done !!!

What was it I did? I bought a MS-DOS machine. I bought a COM-

PAQ LE 286 Laptop computer while I was at HAM FEST (a great flea market of electronic stuff).

Ahh ... by the way I need a hard drive that will fit this thing, if you have one write to me care of TPUG, Thank You.

In this issue we have printed TPUG's inventory list. All sales are as-is and any reasonable offer will be considered, but we will try to insure items do work. Order now because TPUG is closing their lockers to save on overhead and as mentioned in the inventory list at the end anything leftover will be destroyed on the spot. Also the date for Winter Swap 99 is posted, I hope to see a lot of you there. You are welcome to copy this entire newsletter and pass it around so others will know where and when the swapmeet is or purchase any of or inventory (it must go). Remember all are encouraged to visit Winter Swap 99 to buy and sell any computer stuff at no cost to enter. Items from other computer brands are welcome.

Also see *Tom's World* for an article on Canon Bubble Jet Printers without dip switches and how to interface to them.

All the Best to You and Your Families in 1999.

*Tom Luff
President of TPUG*

For users of all Commodore Computers :

- * **PET/CBM**
- * **SuperPet**
 - * B-128
- * **VIC 20**
- * **Commodore 64**
 - * PLUS-4
 - * C-16
- * **Commodore C 128**
- * **AMIGA**
- PC/MS-DOS**

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Newsletter

Editor John Easton (416) 251-1511
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Meeting Schedule

Amiga Central: Second Tuesday of the month.

Contact - George Cripps (416) 255-1436
7:30 pm at Videolink - 53 Lucy Avenue, Scarborough
Lucy Avenue is one block south of Danforth Avenue, between two and three blocks east of Victoria Park Avenue.

C-64/128: Fourth Tuesday of the month.

Contact - Tom Luff (416) 503-0753
7:30 p.m. in the York Public Library, 1745 Eglinton Ave. W. (just east of Dufferin), in the Auditorium or Story Hour Room.

Westside and Amiga West: Third Thursday of the month at Alderwood United Church, 44 Delma Drive. Delma Drive is just west of and parallel to Browns Line, south of the Queen Elizabeth Highway, north of Horner Avenue. From the west, exit QEW at Evans Avenue, east on Evans to 2nd stoplight, south on Gair to Delma Drive. From the north or east, follow signs from QEW or Hwy. 427 to Browns Line, exit right to Evans Avenue, turn south on Gair (first stoplight) to Delma.

Contact - Tim Luff (416) 503-0753
or George Cripps (416) 255-1436

TPUG on the Internet:

<http://www.icomm.ca/tpug>
e-mail: tpug@icomm.ca



Well, here I am with about four extra pages of articles and re-prints, and a deadline to get this issue into the mail prior to the Winter SwapMeet.

In that case, let me assure you that Wheels in both 128 and 64 flavours is progressing at a great rate. Virtually weekly up-dates from Maurice Randall via Myke Carter

<MYKE@delphi.com> speak of continuing refinements and tweaking.

For all other news, you'll just have to wait for the next issue of this, *YOUR* TPUG Newsletter. Note the subtle emphasis of the word 'your' - indicating that *YOU ALL* are responsible for this Newsletter (articles and notes are encouraged) and the ultimate life of TPUG as an on-going entity.

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Articles, letters, tips, questions, art, etc. are welcome. Send hardcopy or disks "Attn: TPUG Newsletter", or use Internet e-mail. Advertisements are also welcome. Member's small ads are free. Commercial ads are \$100 per page with a \$10 minimum.

Notice to new owners of SuperPet and CBM 8296 machines

TPUG has copies of the Waterloo LANGUAGE DISKS (3 in 4040 format) as supplied with the SuperPet on original purchase.

TPUG has the EXECUDESK disk (8050 format) as supplied with the CBM 8296 on original purchase.

These disks are an integral part of the operating systems of the above machines and since Commodore insisted on referring owners of these machines to TPUG for service, we have added these somewhat proprietary (and also virtually unobtainable) disks to our library - all part of the TPUG mandate of service to our members.

We also will attempt to search out copies of original program disks to replace corrupted disks. In this category you will find such programs as VISICALC, WordPro, and PaperClip.

INSTANT 1581 DRIVE KIT \$49.95
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Note: Dealers and User Groups Welcome!

TPUG News

Annual TPUG Winter SwapMeet
Saturday, January 23, 1999
11 a.m. to 3 p.m.

Alderwood United Church
44 Delma Drive, Etobicoke

Classified

Another member-service!

For Sale:

2 - C64s, 2 - 1541 disk drives, colour monitors, joysticks, printers, and printer interfaces.
Call Tom Luff (416)503-0753.

Miscellaneous Commodore Hardware and Software is available from :

D.L. Johansen
Box 912, Troy, MT, 59935

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Magazine-on-Disk
Christopher Ryan
5296 Devonshire Rd.
Detroit, MI, 48224-3233
(313) 882-0811 (4thru 10 PM EST)
chris.ryan@metro-1.station-1.com
\$25.00 for a one-year subscription.

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20% Exchange On US Funds
Send \$2 for a catalogue
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Canon Bubble Jet Printer without Dip Switches

Canon has been producing low cost bubble jet printers without dip switches. They come with drivers and interface programs to use on MS-DOS machines. The parameter set-up program talks to and receives data from the printer. Unfortunately on the C64 and C128 we cannot read data from the printer.

With dip switches it is possible to set-up and change settings by reviewing the manual. I used to have a BJ100 until I accidentally pulled out the power cord while the printer was on (it didn't like that, it never allowed me to talk to it again). Aside from dip switches it also had 3 external buttons, power (on,off), linefeed, and formfeed (top of next page) and all was fine in my world, until my printer quit.

I picked up a BJC 250 Lite (its a BJC250 with less software, which I will never miss) for about \$100 less than I paid for the BJ100 over 3 years earlier. First problem I noticed was there were only 2 external buttons, power (on,off) and eject/load. I don't use it very often but I have to send a CHR\$(10) to the printer to do a linefeed. But how was I to control fonts, auto linefeed and other features???

Being on the Board of Directors I am exposed to a number of newsletters, in two of them I found the same article reprinting 'LOAD YOUR CANON' by Maurice Randall published in 'DOUBLE CLICK' by The Lansing Area Commodore Club. I know Maurice's work thru 'LOADSTAR' the diskette magazine for the C64 and he is also the author of 'WHEELS' the newest upgrade for GEOS. In the article Maurice gives us permission to reproduce his article and suggest anyone who would like to may use his information to produce a program to suit their needs. I have produce a program which allows the user to access most of the features available in your printer. NOTE: Maurice state the information in his article will work on CANON printers WITHOUT dip switches only.

In 'LOAD YOUR CANON' there are 5 programs, we will discuss the first 3 because programs 4 and 5 deal with setting up for GEOFAX and EPSON 24 pin support software. Program 1 'CONFIGURE FOR LQ MODE' allows you to choose printer mode. Line 10 to 40 set-up variables as strings for protocol when talking to the printer. Line 50 opens a channel to send commands to the printer. Line 100 is the start protocol to

inform the printer what follows are instructions for the printer. Line 10 to 100 are the same for all 5 programs.

Line 110 sends the string "@setcontrolmode=lq" which will tell the printer to operate in EPSON mode. To select CANON mode replace 'lq' with 'bj' or 'auto' to allow the printer to automatically switch between the two modes. Line120 tells the printer to resume normal operations using the new settings. Line 999 close the channel we opened in line 50.

Program 2 'PRINT STATUS PAGE' is identical except for line 110, here we see the string '@printstatuspage=on' which tells the printer to print a page listing its configuration. These two demo programs use a couple of the primary commands. The following are primary commands and their parameters:

Command String	Parameter	Comment
"@setcontrolmode="	"lq","bj","auto"	-set printer mode
"@printstatuspage="	"on"	-print configuration list
"@poweroff"	-none required-	-turns printer off
"@reset"	-none required-	-resets to power up defaults
"@eject"	-none required-	-ejects paper-like the button
"@testprint="	"a","demoprint","nozzlecheck"	-try them
"@changehead="	"1"	-returns head to home
"@cleaning="	"1"	-use to clean printhead
"@initialize="	**bjc-250"	-reset to factory defaults
	*substitute your printer's model number	

Substitute the command strings above combined with a parameter for the string located in line 110 of the first two programs between the quotation marks. "@eject", "@poweroff" and "@cleaning=1" can all be done from the buttons on the printer (see your printer's manual) but this allows the options to be used in our programs.

Program 3 'AUTO LINEFEED-ON' uses the secondary commands. Lines 10 to 100 are still the same, but 110 says "controlmode=lq" (substitute 'lq' with 'bj' or 'common' explained later) instead of "@setcontrolmode=lq". This line is necessary with one of the 3 parameters each time you use a secondary command, it is alright to use this once followed by several secondary commands. This must be the first line of the series of commands you wish to use. There are 3 control modes to be accessed without fear of changing the others, 'lq' mode, 'bj' mode and 'common' mode. As the name 'common' mode suggests, features accessed in here are common to the other two. Although there are features common to both modes, such as fonts, it is possible to have different options in each mode. (see table below) Line 120 uses the "autolf=on" string to

tell the printer to do a linefeed at every carriage return. ("autolf=off" turns it off) Line 130 is the same as line 120 in the earlier programs and line 999 closes the command channel to the printer.

The following are secondary commands and the modes they operate in:

<u>"controlmode=bj"</u>	<u>parameter</u>	<u>comments</u>
"font="	"roman","gothic","prestige" "script","courier"	-5 options
"codepage="	"850","860","863","865" "852","857","437"	-countries character sets -437" is for the USA
"pagelength="	"11","12"	-paper length in inches
"characterset="	"set1","set2"	-2 for each code page
"textscalemode="	"on","off"	*-normally turned off
"autolf="	"on","off"	-auto linefeed
"autocr="	"on","off"	-carriage return sent every 80 characters
"agm="	"on","off"	*-uses IBM mode commands and 9pin software.

<u>"controlmode=lq"</u>	<u>parameters</u>	<u>comments</u>
"font="	as above	different font then used in "bj"mode maybe stored
"pagelength="	"11","12","22"	-inches-22 was not offered in "bj"mode
"characterset="	"italic","graphics"	-Commodore would normally use "italic"
"textmode="	as above	*-normally turned off
"autolf="	as above	-auto linefeed
"international="	"japan","norway","denmark2" "denmark1","spain1","spain2" "sweden","latinamerica" "korea","germany","italy" "uk","usa","legal"	-character sets of different countries -normally "usa"

<u>"controlmode=common"</u>	<u>parameters</u>	<u>comments</u>
"paperslect="	"letter","#10envelope" "a4","dlenvelope"	-normally "letter"
"printmode="	"fine","hq","hs"	-high quality,hi speed(draft)
"smoothing="	"on","off"	-use "on" to print graphics to reduce blockiness -not always good
"reduction="	"wide3","form2","off"	*-normally "off"
"autopoweroff="	"1","10","30","60" "disable"	-minutes to shut off after last use-
"i/d-buffer="	"input","download"	*-normally "input" -"download" used to get custom characters from the computer

*-these features were not fully understood by either MAURICE RANDALL or TOM LUFF at the time of this article.

In summary to execute a primary command, which is one that begins with '@', just follow the examples in program 1 and 2. If we are going to use a secondary command we must first use "controlmode=" and the parameter to allow us access to talk to the mode whos feature(s) we want to change. Keep in mind that the primary command "@setcontrolmode=lq" tells the printer to operate from now on in the lq or EPSON mode. "controlmode=lq" tells the printer to expect changes in the lq features even if the printer is still in the bj mode, even after the changes the printer will still be in the bj mode until you use the primary command "@setcontrolmode=lq".

This is a lot of information to take in so, at Maurice's article prodding I wrote a program called *BJC Dipless I/F* which will allow a person to pick and choose from all of the parameters. Its big but its easy to use. It and Maurice's programs will be available on a TPUG disk and they work on the C64 and C128 as is. Watch for a write up on my program in our next issue. Special thanks to the research and labour of Maurice Randall.

Tom Luff

```
5 REM *** BJC AUTO LINE FEED-ON ***
10 C$=CHR$(10)
20 D$=CHR$(27)+CHR$(91)+CHR$(75)+CHR$(2)+CHR$(0)+CHR$(0)+CHR$(31)
30 S$=D$+"BJLSTART"+C$
40 E$="BJLEND"+C$
50 OPEN 4,4,5
100 PRINT#4,S$;
110 PRINT#4,"CONTROLMODE=LQ"C$;
120 PRINT#4,"AUTOLF=ON"C$;
130 PRINT#4,E$;
999 CLOSE4
```

```
5 REM *** CONFIGURE FOR LQ MODE ***
10 C$=CHR$(10)
20 D$=CHR$(27)+CHR$(91)+CHR$(75)+CHR$(2)+CHR$(0)+CHR$(0)+CHR$(31)
30 S$=D$+"BJLSTART"+C$
40 E$="BJLEND"+C$
50 OPEN 4,4,5
100 PRINT#4,S$;
110 PRINT#4,"@SETCONTROLMODE=LQ"C$;
120 PRINT#4,E$;
999 CLOSE4
```

```
5 REM *** BJC PRINT STATUS PAGE ***
10 C$=CHR$(10)
20 D$=CHR$(27)+CHR$(91)+CHR$(75)+CHR$(2)+CHR$(0)+CHR$(0)+CHR$(31)
30 S$=D$+"BJLSTART"+C$
40 E$="BJLEND"+C$
50 OPEN 4,4,5
100 PRINT#4,S$;
110 PRINT#4,"@PRINTSTATUSPAGE=ON"C$;
120 PRINT#4,E$;
999 CLOSE4
```

In the last few newsletter articles I have been covering input devices for the C64/128. Throughout each article I would mention the compatibility of the input device with GEOS. After looking back through a number of old newsletters, I realized that not many articles have been written about GEOS. This is with the exception of the last newsletter of Autumn 1998, which had an article about Wheels. This is a great article, but if you are unaware of what GEOS is then the information about Wheels may not be very clear. Therefore I will attempt to give an account of what GEOS is.

GEOS is an acronym for Graphic Environment Operating System. As the name implies, this system uses a desktop with Icons, windows and pull-down menus. With the pulldown menus at the top of the desktop there also is included a clock which you set, that will punch the time onto any file that you produce. To give a more definitive analogy, GEOS has a look and feel like a MacIntosh or Windows OS.

seem to point out the fact that the mouse was the best input device when utilizing GEOS. In my humble opinion the mouse is the smoothest and most accurate of all the input devices, and is almost essential for working in GEOS. Remember a Commodore 1351 mouse or CMD compatible replacement are the ones to use. The 1350 mouse was just an upside down trackball and acted like a joystick, so doesn't handle as well with GEOS.

GEOS was originally produced in 1986 by Berkeley Softworks but is now controlled by CMD, and they continue to keep it for sale, this also includes the 128 version that Berkeley had completed shortly after the 64 version.

When GEOS came out, Commodore recognized the potential of the operating system and began bundling a version 1.3 with their new C64c machines. These were full functioning GEOS systems. Even though Berkeley continued to upgrade the GEOS, these earlier bundled versions are still usable for getting a good feel for how GEOS handles.

There was also a version of GEOS called GeoWorks which was produced for the MSDOS format and more recently they have used it in handheld organizers and portable computers. These versions of GEOS are not compatible with our Commodore GEOS systems except through other means of file transfers.

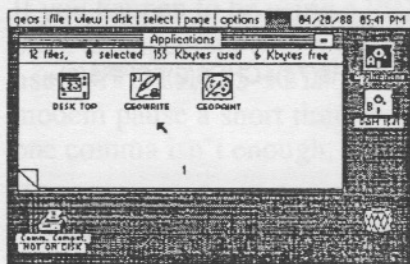
GEOS is more than just a program, but is a complete operating system. It comes with applications and features to be used with the system. You receive a word processor called Geowrite, a paint program

called Geopaint, a notepad, a calculator, clock and printer drivers. To go into more detail on each of these applications and functions would fill a whole other article, so we'll save that for later. As well as these programs which were included with the original operating system, Berkeley also created other separate applications as well. Some of these other applications could be used as separate programs on their own and did not necessarily need the main GEOS system to have them run. These other applications included such programs as Geocalc, Geofile, Geodex, Geochart, Geopublish, Geofont and Geoprogrammer. With all of these applications together in your library you would have a complete SOHO (small office/home office) system.

Along with all these applications that were produced by Berkeley, there has also been a wide selection of additional programs and applications produced by 3rd party programmers and developers more recently. As Commodore 64/128 users, we are lucky to have the likes of Mr. Maurice Randall and CMD (Creative Micro Designs) as well as Loadstar still producing and supplying new and improved products for GEOS. Maurice Randall has been instrumental in keeping GEOS alive and well. He is the creator of GEOS systems such as GeoFax (a fax program for GEOS) and GeoShell (gives the ability to move away from the desktop) and most recently his new development of the new Geos Operating system called Wheels (See Autumn 1998 Newsletter).

Other earlier developments came from CMD who now own the rights to GEOS. CMD were the developers of a system called

4: The Applications disk will open:



The Applications disk desktop

This is the reason that in my past articles I would use GEOS for an example setting standard for input devices. As you may recall GEOS can be navigated with any device such as, joystick, Koala Pad, light pen, or mouse to point and click onto the selected Icon or menu. If you remember, my articles always

Gateway. Gateway had a scrolling type desktop which made it easier and quicker, than flipping the pages of the original GEOS desktop. As well it allowed the use of more disk drivers to be used at one time, and also allowed for the creation of bootable backup copies of GEOS. CMD is also the developer and supplier of some great hardware that enhances all the GEOS features. They have HD harddrives up to 2GB, High Density disk drives, Ramlink with up to 16MB of memory and battery backup. And their biggest achievement so far is the 20Mhz SuperCPU Accelerator. CMD also supplies a program call Perfect Print LQ that will round out the Jagged edges of the GEOS printed

fonts. While we are on printing GEOS, let me add that Laser printers and also Canon Inkjet printers can be used. Note though that printing with the latest printers has caused some headaches because printer manufacturers have stopped putting on the dip switches which could allow printers to be changed to Epson Mode. The 4000 series Canons now work fine at least for the Geowrite. Again Maurice Randall has been trying to put together some Basic programming which will do software switching for these printers.

With the continued development and supplying of these GEOS enhanced programs and systems we Commodore users can expect a

dramatically increased lifespan of our machines' uses. Let me quote from an advertisement for GEOS in 1988, "it means you don't have to worry about it (your Commodore) becoming obsolete, ... while it may not actually keep your Commodore from getting older it certainly could live for a long long time." Well it is now a full decade later, as we head into the next millennium and these prophetic words are still ringing true today.

In future articles I will attempt to give a more in depth look at the individual applications for GEOS, as well as the 3rd party upgrades as best that I can.

*Tom Haslehurst
tomhas@idirect.com*

Modems 101

John Buller

This article is directed to the people who are interested in getting accounts on the Toronto Freenet, but haven't had much experience with modems. I'll try to keep this as direct as possible.

You need a modem attached to your computer to communicate with the Freenet or any other computer by phone line. There is always a modem at the other end that answers when your modem dials. The two modems establish that they can communicate with each other (or that they can't). If they can, your modem takes everything sent by your computer and sends it to the other modem. It also takes everything sent by the other modem and sends it to your computer.

Getting everything set up correctly is sometimes a problem. You will be using some kind of terminal program. All of them do the same basic things. I'll tell you what to do, but you'll have to read the documentation of the program to find out how to do it.

Most places that allow you to dial up their computer give you some details about how to set up to talk to them. The Freenet uses eight data bits per word, no parity bit, and one stop bit. This is sometimes abbreviated '8N1'. The Freenet also accepts a range of data rates - or bit rates, or baud rates, we won't quibble. The lowest of these is 1200 bits per second (bps), and the highest is at least 28,800. If you have only a 300

baud modem, you will have to upgrade. Talk to whoever leads your chapter meeting. TPUG can find you some used equipment at low prices. Anyway, you have to set the data bits, parity, stop bits, and data rate somewhere in your terminal program.

You must also set the terminal program to initialize the modem. This is a bit trickier, since not all modems are alike. Unless you have a really exotic modem, it will support the 'AT' command set, or some subset of it. Almost all of these commands start with the upper-case letters 'AT'. I am using manuals from three different modems to write this article. These modems all support the commands I'm writing about, but check the manual for your own modem. It might be different. The manuals I'm using are for the Hayes Accura series, the SupraExpress 288 series, and the Racal MDF 34.

Let's talk a little more about terminal programs. All terminal programs have a mode in which you type, and the program sends everything you type out through the serial port. It also takes everything that comes in through the serial port and puts it up on the screen. This is the main purpose of the program. It's emulating a terminal. We'll call it the terminal mode to distinguish it from other modes a terminal program can have, such as recording and looking up phone numbers.

Notice that the program is doing two disconnected things. It sends out stuff you type. It shows you stuff that comes in. It doesn't show you what you type unless you have the 'local echo' option turned on, and you normally don't. What normally happens is that the device you're connected to (usually a remote computer) echoes every printable keystroke you make, so you can read what you type.

If you are running a terminal program in terminal mode and have a modem connected (and properly configured) every keystroke you make goes out to the modem. You can send commands directly to the modem by typing, and that's what I'll be talking about in the next few paragraphs. Later you can get the terminal program to do some of this for you automatically, but right now we'll do it 'by hand'.

One more thing. Almost all the AT commands end with a carriage return. After typing the entire command you press RETURN to tell the modem to act on what you've typed. There is a carriage return at the end of almost every one of the command strings in this article, but I'm going to leave them out after the first time. I'll tell you when there is no return necessary.

To get the modem to dial the phone number 555-1212, type ATDT5551212<return> (and that's the only carriage return I'll show). If you are using a pulse, or rotary-dial, line the command is ATDP instead of ATDT. You can put in hyphens and spaces to make it easier for you to read, and the program ignores them. 'ATDT 555-1212' is equivalent to 'ATDT5551212'. The string of numbers can be as long or as short as you want.

If you happen to be using a PBX phone system or any other arrangement where you have to dial 9 'to get out', use 'ATDT9,555-1212'. The comma makes the modem pause a short time to wait for the dial tone. If one comma isn't enough, you can use two or more.

When you send a dial command, the modem dials the number and establishes communication with the modem on the other end. If this is all done properly, the modem will then pass everything else that comes from your computer to the other modem. It's not looking for any more commands at this point. This is fine until you want to stop. How do you get the modem to listen to you again?

You have to send an escape sequence. The modem has an escape character, which is '+' by default. Three of these characters in a row are recognized by the modem as a signal to drop out of the transmit mode and wait

for commands again. It's conceivable that three '+' characters could occur in the regular data stream. To prevent this pattern from being recognized as an escape sequence, the modem has a guard time, which is one second by default. A series of three escape characters is only recognized as an escape sequence if there is an interval of at least the guard time before and after the sequence.

If you are on-line and you want to hang up, wait one second, type '+++' (no return) and wait another second. Now type the hang-up command 'ATH0'.

How can you tell if the modem is listening to you? Your first clue is that you can see what you type on the screen. Remember the echo? The modem is echoing your keystrokes. Just to be sure you don't have "local echo" turned on by accident, type 'ATV1'. If everything is working, the modem will reply by typing 'OK' on the next line down.

If this is not happening, you really could have a bad connection, so check your cable again, be sure the modem is plugged in, etc. If this doesn't improve anything, you could have a configuration problem. First, check the serial configuration again. Look for an option called handshaking, or maybe it says XON/XOFF or RTS/CTS. For the moment, you should select the XON/XOFF option. RTS/CTS should be disabled. Some terminal programs will complain if you turn off RTS/CTS and your data rate is set higher than 2400 bps. Don't worry, just do it.

Now with RTS/CTS disabled, go back to terminal mode and type something. Does the modem echo your keystrokes? If not, your problem is elsewhere. If it does echo keystrokes, your problem may be solved. If you plan to operate at a data rate of 2400 bps or less, XON/XOFF handshaking is fine. If you plan to go faster than that, you have to do a bit more fiddling.

The thing that's probably hanging your modem is the DSR line. Let's see if I can explain this without getting bogged down in detail. RTS and CTS are two signal lines in your serial cable. RTS is asserted (made TRUE) by the terminal when it wants to send something. RTS stands for Request To Send. If the modem is able to send data, it asserts the CTS (Clear To Send) signal. If CTS is not asserted, the terminal will not send data. The problem is that when a terminal program pays attention to CTS, it may also look at other signal lines coming from the modem.

One of these other signals is DSR (Data Set Ready). I'm sure it had a well-defined purpose in the original

RS-232 standard, but it seems a little redundant, and it may be used in slightly different ways by different modems. Normally by default, a modem does not assert DSR before it has detected a modem at the other end of the line.

This seems to duplicate the DCD (Data Carrier Detect) signal. At any rate, some terminal programs, when in RTS/CTS mode, won't transmit anything to the modem unless DSR is asserted, and if the modem won't assert DSR until after a number is dialed, the whole thing is going nowhere fast.

Many modems respond to AT&S commands. 'AT&S1' makes DSR act in the way I've just described. 'AT&S0' makes the modem assert DSR at all times. This is the one you want to send to your modem. There is a similar set of commands (&C0 and &C1) for DCD, but my terminal program (Term) isn't bothered by the absence of DCD, just DSR. Your program may be different.

We're not finished yet. You can set a terminal program to send a series of modem commands every time it starts. You can string a bunch of them together between an 'AT' and a return. The command sequence could be something like 'ATL0M1N1&S0'. This feature lets you configure your modem just the way you want it.

But wait. If the modem always powers up in the mode that waits for connection before asserting DSR, the terminal program won't send the command sequence, and you're stuck again.

You could always set the terminal program to start with RTS/CTS disabled, and enable it after the modem has received its command string, but that's a real pain. The three manuals I'm consulting all list the command &W0. This stores the current modem configuration as the default configuration that the modem uses when it powers up.

So go into terminal mode, turn RTS/CTS off, send 'AT&S0'. Then send 'AT&W0' to store the new configuration. Turn RTS/CTS back on and save your terminal program settings. That's it.

There are lots of commands I didn't even mention. There are other ways to run into trouble. Read the manual. Don't just read it and hope it sticks. Connect your modem, start your terminal program, and try things. Play with the commands you read about. See what weird and wonderful things you can do with your modem. And as Ian McIntosh would remind you, write down the things you change so you can get back to where you started. Have fun!

John Buller

Go GUS!

This article is part of a Genie online interview/conference which appears in the March, 1998, issue of The Infinite Loop, the newsletter of the Western Colorado Commodore User's Group. Earl Williams, the editor, has pretty much turned the dialogue into a monologue, but he tries hard to give us the "good stuff". In it, Doug Cotton of Creative Micro Designs, speculates on plans for GUS, the General User System for which CMD is building a prototype.

How is GUS doing? GUS is sitting around doing nothing right now, until we finish the SuperCPU 128. :-)

What is it? GUS is the CMD computer project, our own computer.

What will it be like? Well, none of you heard this from me, but the speculative plan is for 4 Mb of RAM, an unknown amount of ROM with on-board apps, some flash memory for upgrades, three 40 MHz 65816 processors [these are twice as fast as

a SuperCPU], an SVGA controller, a soundblaster compatible sound chip ... built in ethernet, GUI interface and BASIC command line ... printer and high-speed serial port, on-board hard drive controller, built-in floppy ... Probably an option for built-in modem and net-browser/email ... and it will support CD-ROM as well ... and yes, we do hope to have a compatibility slot for a Commodore or Apple or other systems.

Hard Drive controller? Probably IDE ... the point is to keep this cheap, though you could add a SCSI [hard drive] if you wanted to expand the system.

Of course, this is all pretty much pie-in-the-sky unless it gets funding. Timing depends on the funding level. If we get what we're looking for there, the project could be done in a year or less. CMD has already achieved much of the technology needed to do this job.

The machine won't be 64-compatible ... that's what the compatibility slot is for. That's an engineering detail that doesn't enter into shopping the project as a whole.

The basic idea is a modern machine that fills the market that the C-64 and others did in their day ... such a machine doesn't exist today, and there IS a market for one.

Projected cost? Initially the base configuration would probably run around \$399, though in higher volume (say one million units a year or more) we could get it down to \$299.

By the way, our secretary will disavow any knowledge of what has been discussed tonight. This should be enough to give you a view into the future...and you know how predictable that is!!! GRIN

(This article is reprinted from the March 1998 issue of 'The Lucky Report' - the newsletter of LUCKY, INC. (originally the Louisville Users of Commodore of Kentucky).

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 STO1 STRADDLE PRINTER INTERFACE

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 PROFILE 64
 Q-BOPPER C64
 SHARD OF SPRING
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 COMMODORE PERIPHERALS-A USER'S GUIDE
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 COMPUTE!S:C64 GRAPHICS
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 CP/M HANDBOOK WITH MP/M
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 GW BASIC
 HANDS-ON BASIC WITH A PET
 HOW TO GET STARTED WITH CP/M
 HOW TO PROGRAM YOUR C64 IN MACHINE LANGUAGE
 I SPEAK BASIC TO MY PET
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