CPU

The Magazine For Commodore 64/128 8-bit Enthusiasts

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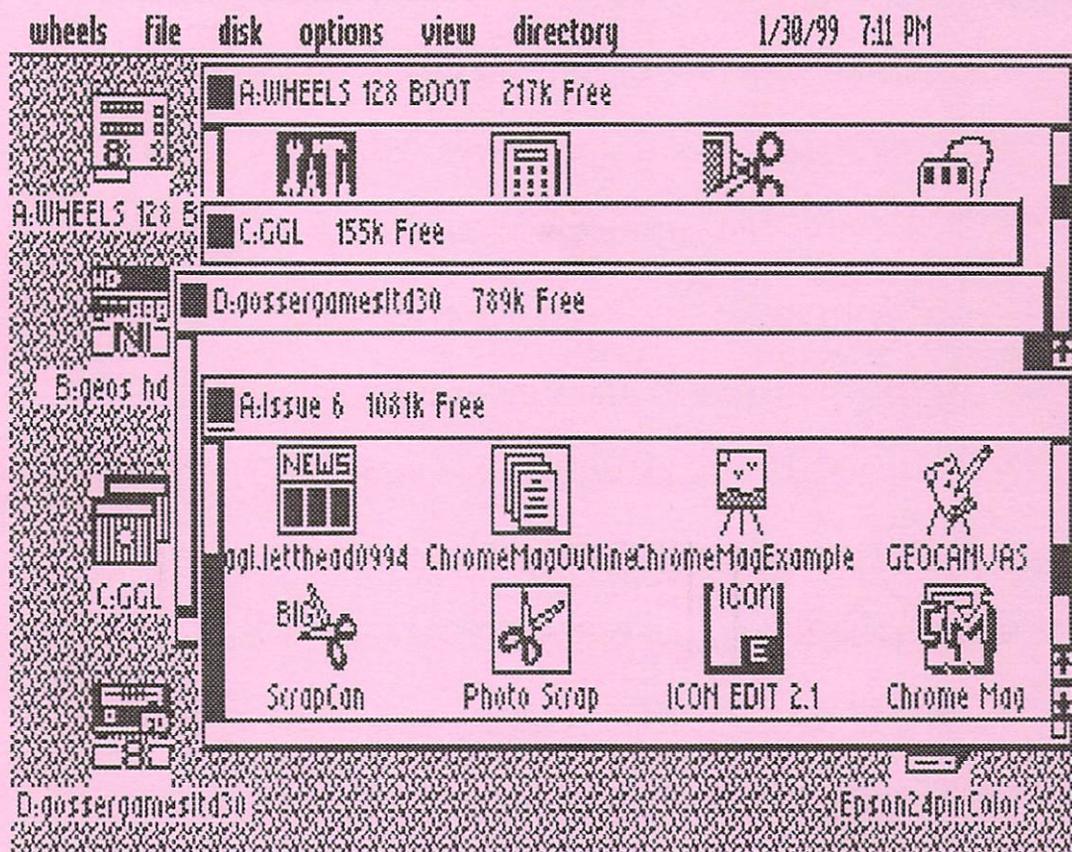
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C O N T E N T S

ISSUE 6   VOLUME 1   1999

From The Back Room...

Welcome faithful reader,

I have a few things that I want share with you. I received a letter from a subscriber with some info that i would like to pass on to you: *"Dear Sir, The main reason that for this card was on page 21 (of CPU issue 5) the Ad for PHD Software... mr. tabke has $100.00 of my money for all but RAMDOS 128 which I have. We made a deal about 1 year ago and he cashed my M.O. I wrote a letter to C= mailLink and Tom Adams published it. Mr. Palumbo in Canada also has $100.00 for an ACTION REPLAY cart... we talked by phone. Thought maybe you could help.*

-J. Masters"

I left email to Mr. Brett Tabke a few weeks ago (he does have a Web site) and have received no response concerning this matter. Therefore we have pulled his Ad and recommend that you do not do business with him until such time as a reasonable explanation and rectification of this matter is forthcoming. Its to bad too, as the software that PHD offers is of the highest quality. As for Mr. Palumbo he is the owner of J.P. PBM Products by Mail who advertises in Commodore World magazine. Again, I recommend avoiding this company. Look to companies like CMD, Loadstar, Centsible Software, etc. to do business with. Before doing business with any company that you do not have any experience with check around with others that have.

CPU magazine is beginning publication on a new and probably the worlds first GEOS/Wheels based disk magazine. *Chrome Mag* requires GEOS or Wheels to operate and is planned as a quarterly offering. *Chrome Mag* will contain articles from Maurice Randall, Bo zimmerman, Cindy Simms and other GEOS gurus. *Chrome Mag* is all GEOS, from the articles to the programs. Chrome Mag is for the descriminating GEOS/Wheels user. From the beginner to the advanced user, *Chrome Mag* has something for everyone! If its new or news to GEOS/Wheels users *Chrome Mag* will have it first.

The presenter is being programmed now by Bo Zimmerman, you know him for geoBEAP and the geoLoadstar Presenter. You will also know him for geoBROWSER reviewed for the first time anywhere in this issue of CPU! We are now accepting advanced subscription orders for *Chrome Mag*. The first issue will mail 1 march 1999 and is being offered at the introductory price of $25.00 for a 1 year US subscription. Canada and others $30.00 in US funds. Do not miss out on the premiere issue as it will become a collectors item! The first issue is a **DEMO's ISSUE** and contains demos from Europe and the US. Not the least of which is the new MegaPatch 64 demo and the Topdesk v4.0 fully working demo!

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-Tom

geoHELP

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LOAD YOUR CANON

Text by Maurice Randall

How many of you purchased a new Canon BJ series printer only to discover you can't configure it from your Commodore? Yet, you hear stories about other people using them but you just can't seem to get the results you expected. Your old 9-pin dot-matrix printer sure was a lot easier to deal with. Your old printer had dip switches and front panel controls that allowed easy configuring for font type and pitch, margin settings, page size, automatic linefeeds, etc. This new printer you just bought only has two switches: one for turning the printer on and off and the other for form feeding a page through the printer.

How do you alter the settings on these new Canon BJ printers? Others are using them because they might also have a Windows-based computer. The printers are shipped with software that runs in Windows and allows settings to be changed using a program that you load into your computer. The computer then sends special instructions to the printer which causes the printer to set itself up just as if you flipped a dipswitch or pressed a control panel switch.

This is still inconvenient for someone to switch the printer over to another computer just to reconfigure it. Wouldn't it be nice if we could do something like this right from our 64 or 128?

Ten years ago, these printers were built with controls right on the printer. Those were the days when you could unplug the printer from one machine and plug it into another. If a setting

needed to be changed for the other computer, a simple flip of a switch was usually all that was needed. Now, in order to use a printer, you also need software on each machine. The sad thing is the software is primarily only available for Windows and Macintosh machines. So, plug in the printer, load the software, and play. "Plug, LOAD, and Play."

If Canon used these Plug, Load, and Play printers ten years ago, they also would have included software for our Commodores in order to configure them. If you call the technical hotline at Canon, you'll get connected to a no-brain tech person that will tell you their printers can't be used on a Commodore. That tells you how much they really know about computers, let alone their own line of printers. In fact, you can call Canon all you want and you won't find a single individual working for the company that knows anything about any special codes or commands that can be sent from a computer to the printer for configuring it. We're on our own, so let's get down to business and see how to set these printers up to get them working the way we need them to.

The first thing you need to do is to look at your printer. Is this the model of Canon that was made with dip switches? If so, then this article doesn't pertain to you. The older Canon BJ-200 had dip switches. You can configure those printers, The BJC-4000 also has dip switches. But then Canon introduced the BJC-4100 to take the place of the 4000. They got rid of the dip switches and cheapened up the printer. Every BJ model since

then comes without dip switches.

Since our Commodores have BASIC built in, it's pretty easy to write a little program to configure the printer. The biggest problem is what goes into the program. What kind of commands are we supposed to send to the printer? Well, I did some investigating and came up with some of the commands we can use.

SWITCHING MODES

Most of these printers support two different emulation modes. The default is BJ mode, The other mode supported is Epson. Canon likes to refer to this as LQ mode, so we'll do the same in this article. Perhaps the software you use with your printer expects it to be in LQ mode. Study Program 1. This is a program that will switch the printer to LQ mode.

Each program that I'll discuss in this article will be very similar to Program 1. In fact, lines 10-50 will always be the same in each program. These lines set up some variable strings that we'll use throughout the program, making it easier to not only enter the program, but also make it easier to read. For instance, look at line 20. This defines d$ as a string containing a whole bunch of character string values. If we work on a program that needs to send all these more than once, it's much easier to just define the whole bunch in d$ and then use d$ throughout the program.

Line 50 opens a channel to the printer. This program and the others assume you're using a printer interface that can be connected to the Commodore serial port. Using a

REVIEW MANIA!!

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STAR EXTRA #5

Available from Loadstar for $12.00 inc. s/h 3.5 disk (#0049D3) or 5.25 disks (#0059D5) 1-800-594-3370

When Fender Tucker sent me a copy Loadstar's STAR EXTRA #5 disk to review I was pleasantly surprised. This little disk contains a treasure trove of public domain offerings. The nice thing about SE #5 is you boot it up and get a menu system not unlike the familiar Loadstar presenter. All of the files can be accessed from here, however unlike Loadstar you can not return back to the Presenter when finished.

The first bauble you will find is UNZIP64v2by Errol Smith. This is a rare jewel indeed, for it gives Commodore 64/128 users the ability to unzip files from the PC world that are pkzip2.04g zipped. Which is the latest compression version to date in the DOS world. With more and more Commodore files being zipped for DOS machines running Commodore emulators this is a much needed utility for any users toolbox of goodies.

There are two very impressive and beautifully done demo's. One by CARCASS and the other by TAURUS. Demos are always creative and show off the versatility of the Commodore 64. *Heres an idea! Why not demo's for the C128's 80 column screen?I wonder if any have ever been done.*

There are two issues of Driven Magazine, issues 25 and 26. Driven covers the realm of Demo's and the demo scene. You will find each issue informative and entertaining.

C= Hacking #15 is also included in a zipped format, thus giving you a chance to use UNZIP64v2. This is a huge file and it is chocked full of information any hacker and programmer would find useful.

And last but not least is what I consider the creme de la creme of STAR EXTRA #5. No less than twenty four FLI images are included. Whats a FLI image? FLI is an acronym for *Flexible Line Interrupt.* Simply put you can think of FLI as an interlace mode for the C64 composite screen. And let me tell you, when you view these graphics you wont believe your eyes! Who would have thought that the C64 was capable of such displays. When viewing these invite a PC using friend over to impress and awe them. These twenty four FLI images are worth the cost of the disk alone, but you get all of the other mentioned files along with them.

STAR EXTRA #5 is available from Loadstar for the paltery price of $12.00 and that includes postage! Order #0049D3 for 3.5" disk or #0059D5 for 5.25" disk. 1-800-594-3370 for orders only.

THE BEST OF IAN ADAM
Available from Loadstar

Ian Adam is a professional engineer from Vancouver, British Columbia, who was the best of the "scientific" programmers of the 80s. LOADSTAR picked his top ten programs (five for the 64 and five for the 128) and placed them all on one disk.

The C64 programs are:

ALPHAMETRIX - analyze and make math puzzles where letters are substituted for numbers in simple addition problems.

CRYSTAL GARDEN - make beautiful screen designs by using "cellular automata".

AFFINE TRANSFORMATIONS - make complex fern-like designs using simple integers.

THE PROJECTOR - plot 3-dimensional landscapes on your screen.

JULIA SETS - Draw and magnify subsets of the most amazing fractal image ever: the Mandelbrot Set.

All programs have complete instructions either in a text file or in the program itself. All except
JULIA SETS return to the LOADER program when you quit them. Some programs allow you to print the screens and others support a RAM Expansion Unit. Some are in BASIC and can be modified. You'll have fun while you learn from Ian Adam.

Fender went through every program on this disk, adding code to make the programs work on any drive . In the old days Loadstar only supported drive 8. And he made them work correctly at 20 MHz. If you've got a CMD SuperCPU V2, by all means crank it up to 20 MHz before booting. There are some programs that may automatically change the speed to NORMAL (only if necessary). If you find that something moves too fast, or that a menu selection doesn't seem to work, try flipping your SuperCPU SPEED switch to NORMAL, at least until you get results.

The 128 programs are:

FRACTALS - Shows you the underlying principle of these intriguing "designs". 40 column mode.

DARWIN'S BUGS - Life in a petri dish. Both 40 and 80 columns.

FERN VALLEY - Create fern-like designs using fractal math. 80 columns.

FRACTAL LANDSCAPES - Big Brother of FRACTALS. Shows you in 2-D what a 3-D landscape looks like. 80 columns. In BASIC 8, so it doesn't return back to the Menu.

RANDOM-DOT STEREOGRAMS - Create and print those popular 3-D vision pictures. 80 columns. In BASIC 8, so it doesn't return to the Menu.

These programs really shine and show the power of the C64 and C128 when used with a SuperCPU. They are so mathematically intensive that on a stock computer some screens can take a

CPU Revu: geoBROWSER

A vailable from Bo Zimmerman

by Remmington Steele
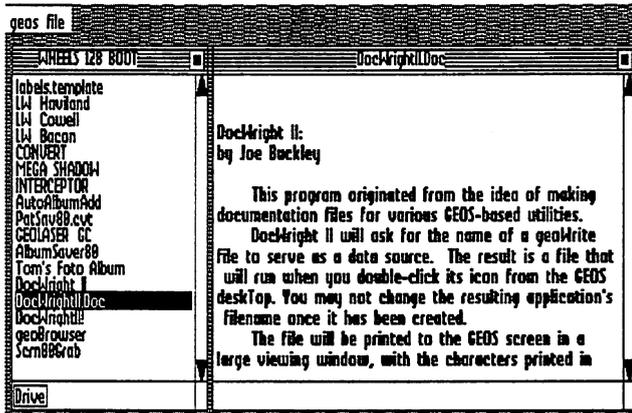
sequential files that are formatted to the viewing window size. You can also launch applications and run files from the geoBrowser main window. However you will not be returned to the geoBrowser window upon exiting the application that you launched. *The screenshot to the left shows how geoBrowser looks when booted up and a geowrite file has been opened.*

One thing that I have discovered over the years about Commodore users that are also programmers is that they have a passion for the computer and making it easier to use. This is true of Bo Zimmerman author of geoBEAP and the geoLoadStar Presenter. Bo also has a passion for the GEOS operating system like many of us do. Fortunately for us *users* he is also a GEOS programmer.

When asked if he would be interested in programming the presenter for a GEOS/Wheels disk based magazine he jumped at the chance. He also emailed a copy of one of his newest GEOS creations to us for review; **geoBROWSER**.
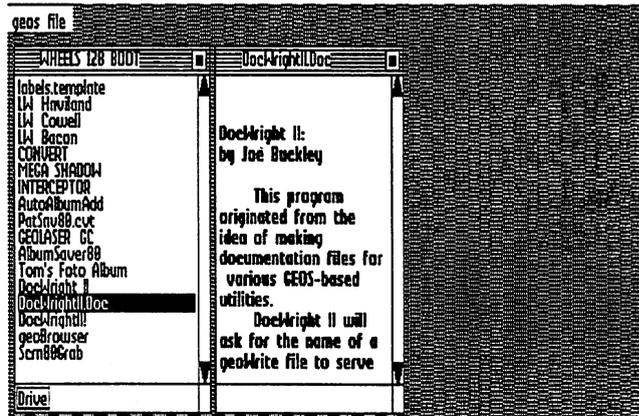
So without further adieu here is a run down of what geoBrowser is and what it does. Simply stated geoBrowser is a psuedo-desktop and file browser. It allows the viewing of geowrite and

Geobrowser also allows the viewing of photo albums and notepad messages from within its environment. As hinted to earlier the geoBrowser windows are resizable as demonstrated in the screenshot below. You will notice that

the text of the selected document has reformatted itself to fit the size of the window. Thus allowing the document to be read. *Compare to the formatting of the very same document in the screenshot above left.* As you can see

geoBrowser is quite versatile. I especially appreciate the ability to view your photo albums from the browser screen. *Just look at the screenshot below*. This image is in the photo album named CMD Hardware. Next to the SuperCPU the
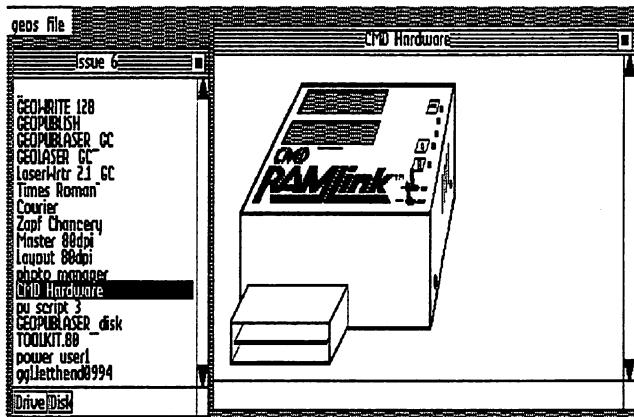
RamLink is the greatest piece of hardware ever conceived and produced for our Commodore computers. But I digress.

Another great feature of geoBrowser is movable windows. Not only can you resize the windows to your preference but you can also move them anywhere on the screen as the screenshot to the right demonstrates.

GeoBrowser is GEOS 64 and 128 compatible. It is also Wheels compatible which is a must. It runs in 40 and 80 column mode making it very versatile.

So to recap geoBrowsers features, which include:

1. Resizable windows-text and directory.

2. Movable windows.

3. Ability to launch another application directly from the geoBrowser directory window...does not return to geoBrowser.
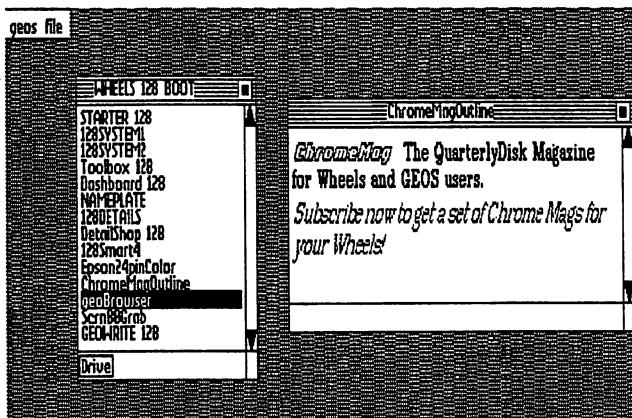
4. Displays geoWrite documents in Fonts used, and styles except sub script and super script.

5. Formats text to window size and shape.
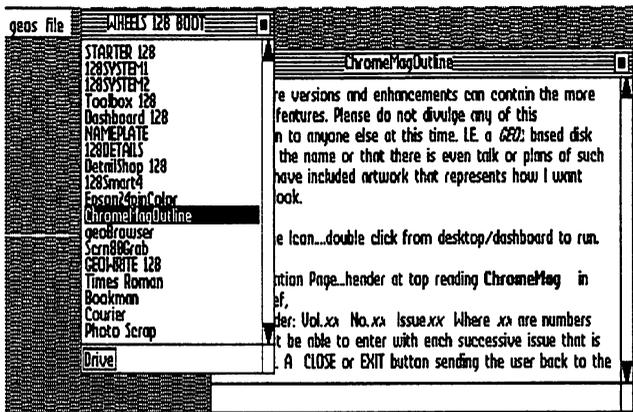
6. Supports up to four (4) disk drives.

7. Supports CMD devices/partitions.

8. Displays geoWrite documents, photo albums, note pad documents, and seq. text files.

Features that I would like to see:

1. The ability to view geoPaint and geoCanvas files.

```
geos file   WHEELS 128 BOOT
STARTER 128
128SYSTEM1
128SYSTEM2                 ChromeMagOutline
Toolbox 128
Dashboard 128      re versions and enhancements can contain the more
NAMEPLATE          features. Please do not divulge any of this
128DETAILS         n to anyone else at this time. I.E. a GEOS based disk
DetailShop 128     the name or that there is even talk or plans of such
128Smart4          have included artwork that represents how I want
Epson24pinColor    look.
ChromeMagOutline
geoBrowser         e Icon...double click from desktop/dashboard to run.
Scrn89Grab
GEOWRITE 128       ntion Page..header at top reading ChromeMag  in
Times Roman        f,
Bookman            der: Vol.xx No.xx Issue.xx Where xx are numbers
Courier            t be able to enter with each successive issue that is
Photo Scrap        . A CLOSE or EXIT button sending the user back to the
Drive
```
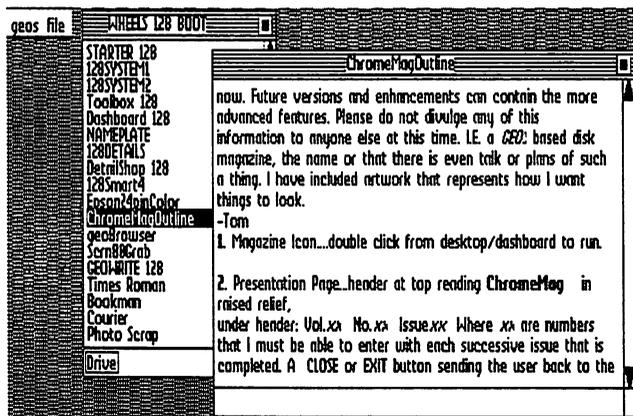
As this page demonstrates, geoBrowser is a powerful and required tool for all serious GEOS and Wheels users. The time savings gained by having a tool like geoBrowser around makes it a worthwhile investment indeed. At present the current availability and disposition of geoBrowser has not yet been determined.

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Austin, Tx.
78754

2. The ability to view geoPublish documents. This may or may not be feasible...but it would sure be a nice feature!

3. Automatic return to geoBrowser upon exiting an application instead of the currently active desktop.

4. Play a SID file while viewing a document.

As it stands geoBrowser is a full featured application. As the screen examples on the previous pages and this

Editors Note: It has been learned that geoBrowser will appear in Loadstar 178. Revised and updated versions of other Bo Zimmerman GEOS offerings will appear in future issues of Loadstar.

The screen shots on this page demonstrate how the currently active window in geoBrowser moves over and in front of the inactive window.

GeoBrowser is a professionally written program that will enhance your GEOS/Wheels experience well into the 21st Century.

-Remmington Steele


```
geos file   WHEELS 128 BOOT
STARTER 128
128SYSTEM1
128SYSTEM2                 ChromeMagOutline
Toolbox 128
Dashboard 128      now. Future versions and enhancements can contain the more
NAMEPLATE          advanced features. Please do not divulge any of this
128DETAILS         information to anyone else at this time. I.E. a GEOS based disk
DetailShop 128     magazine, the name or that there is even talk or plans of such
128Smart4          a thing. I have included artwork that represents how I want
Epson24pinColor    things to look.
ChromeMagOutline   -Tom
geoBrowser         1. Magazine Icon...double click from desktop/dashboard to run.
Scrn89Grab
GEOWRITE 128       2. Presentation Page..header at top reading ChromeMag  in
Times Roman        raised relief,
Bookman            under header: Vol.xx No.xx Issue.xx Where xx are numbers
Courier            that I must be able to enter with each successive issue that is
Photo Scrap        completed. A CLOSE or EXIT button sending the user back to the
Drive
```

Jim's C=orner

with Jim Butterfield

A Matter Of Style

--Jim Butterfield

Programming is more than plunking down one instruction after another. It might be a science, it might be an art, but at the very least there's a "style" that can make your coding go more smoothly. Today, I'll work on the theme: USE MORE VARIABLES.

Forgotten Variables.

It's easy to forget that almost anything in your Basic code can be a variable, except the keywords. And in many cases, changing a constant to a variable can make your program more powerful - instantly! For example, take a look at this simple program which prints the square root of values from 1 to 10:

```
100 FOR J=1 TO 10
110 PRINT J,SQR(J)
120 NEXT J
```

Simple? Of course. If you scan through the code looking for constants, you'll find only the numbers 1 and 10. Even so, look what might happen to the program if we change these to variables:

```
90 INPUT "SQUARE ROOTS FROM,
   TO";X,Y
100 FOR J=X TO Y
110 PRINT J,SQR(J)
120 NEXT J
```

With this trivial addition, the program now lists square roots between any two values the user supplies. It's better, and could be prettied up even more - how about a step size? But we'll leave this simple example and focus our interest on a specific area that I think is important: input/output.

First Notes.

I'll outline my thoughts in both Basic and Machine Language. If you don't know Basic, you can still type in the program and see what it does. If you don't know Machine Language, I can't cover it here, but understand that the same principles apply. Although the above sample code showed only numeric variables, keep in mind that strings can also be replaced by string variables. We can also use arrays to make things even more powerful. But I'll stay with fairly elementary stuff here.

The Logical File Number.

You likely know that you can print to logical file 2, for example, with a statement that starts out PRINT#2 ... But we sometimes never think that we can say PRINT#X, where X is a variable we can set. Here's a simple (and fairly useless) program: we want to type in a number of words, and have these words copied to a file. But we'd like to have words starting with letters A to M sent to a file called AM, and words starting with letters N to Z to go to a file with name NZ. This kind of thing can be used to split data according to various

measures: for example, we could break up data into various files depending on the state, or by the telephone area code. It might take a little customizing, since we rarely write more than about 4 files simultaneously on a Commodore disk drive; but with a little effort, you can work miracles. Think for a moment about how you might do this job of splitting data into two output files. Then look at the code below.

```
100 OPEN 1,8,3,"0:AM,S,W"
110 OPEN 2,8,4,"0:NZ,S,W"
120 PRINT "TYPE  WORDS BELOW
    - TYPE 'END' WHEN FINISHED"
200 INPUT X$
210 IF X$="END" GOTO 300

220 F=1
230 IF X$>="N" THEN F=2
240 PRINT#F,X$
250 GOTO 200
300 CLOSE 1
310 CLOSE 2
```

If you've been following my logic, you'll see how the single PRINT# command on line 240 will print to either file, depending on the value of variable F. It feels elegant; it takes up less code; and there's likely a lesser chance of a mistake which might somehow miss writing a record or possibly write one to both files. Get used to the feel of it. Now we'll move on to another example.

The Device Number.

In a Basic statement such as OPEN 1,8,3 ... we recognize the numeric 8 as a device number. You likely know that device 1 is the Datasette, device 2 is the RS-232 port, device 4 is the printer, and device 8 is the disk drive. It's less well known, but device 3 is the screen. Device 0 is the keyboard, but we won't use that one this time. Our theme here will be: what's a quick way to send data to either the screen or the printer, according to the user's choice? We could use the technique shown above, opening both devices with OPEN 1,3 and OPEN 2,4, followed by a PRINT#X with X set to 1 for the screen or 2 for the printer. Sometimes that's the best way. But we'll take another tack.

Again, it's easy for our brains to get stuck on the thought that a command such as OPEN 1,3 needs numbers in there. But there's nothing to stop us from saying OPEN 1,X .. or for that matter, OPEN W,X if we wished. And if we said OPEN 1,X... we'd set up a connection to the screen if X has a value of 3, but connect to the printer if X was 4. Happily, we don't need to worry about file names for either of these devices.

As before, we'll write a very simple program to demonstrate the technique. This program simply prints the numbers from 1 to 10 on a single line .. either to the screen or to the printer. Your choice. I suspect you can almost see the code coming.

```
100 PRINT "NUMBERS FROM 1 TO
    10 (WOW!)"
110 INPUT "OUTPUT THEM TO THE
    PRINTER (Y/N)";Y$
120 D=3
130 IF LEFT$(Y$,1)="Y" THEN D=4
140 OPEN 4,D
200 FOR J=1 TO 10
210 PRINT#4,J;
220 NEXT J
```

```
230 PRINT#4
300 CLOSE 4
```

Don't forget the semicolon character at the end of line 210; that makes the numbers string out across the line. Line 230 wraps the line up nicely. None of this is too mysterious. But if you haven't coded this way before, you'll find that this kind of code feels good as you write it. Experimenters might like to compare the above results with that of the simple PRINT statement. They will see a slight difference from the way things appeared on the screen when PRINT# was used.

Machine Language.

The same principles hold true, of course. I'll illustrate this with a quick program that will do a similar job to that of the last Basic example. This time, the program will print the letters A to Z to the screen or printer. As a personal preference, I'll use the GET call to receive the Y/N response from the user. The user might be surprised by lack of a cursor; extra coding could fix that.

The program will print letters A to Z. Because we don't use a secondary address, we don't need to supply a file name when we OPEN. Here's the code. It's location is suitable for a Commodore 64, although the same logic could be used for virtually any Commodore 8-bit machine.

```
; SEND THE PROMPT MESSAGE
033C A2 00    LDX #$00
033E 8D 84 03  LDA $0389,X      ;
character of message
0341 20 D2 FF  JSR $FFD2      ; print it
```

```
0344 E8 INX    ; bump to next character
0345 C9 20    CMP #$20      ; did we just
print SPACE?
0347 D0 F5    BNE $033E      ; if not, do it
again
; RECEIVE THE USER RESPONSE
0349 20 E4 FF  JSR $FFE4    ; get a key
034C AA       TAX        ; save and test it
034D F0 FA    BEQ $0349      ; if no key,
try again
034F 20 D2 FF  JSR $FFD2      ; echo the
key
0352 A9 0D    LDA #$0D      ; RETURN to
end line
0354 20 D2 FF  JSR $FFD2      ; print it
0357 8A       TXA    ; what was that key?
; SET DEVICE TO 3 OR 4
0358 A2 03    LDX #$03        ; assume
device 3
035A C9 59    CMP #$59        ; did user
press 'Y' key?
035C D0 02    BNE $0360        ; no, skip
over next instruction
035E A2 04    LDX #$04      ; yes, assume
device 4
; SET LOGICAL FILE PARAMETERS
0360 A9 03    LDA #$03      ; logical file 3
in any case
0362 A0 FF    LDY #$FF          ; no
secondary address
0364 20 BA FF  JSR $FFBA      ; SETLFS,
set up file data
; NO SA, THUS NO NEED TO 'SETNAM'
BEFORE OPEN
0367 20 C0 FF  JSR $FFC0      ; OPEN
logical file 3

; NOW WE'LL CONNECT OUTPUT
STREAM TO LOGICAL FILE 3
036A A2 03    LDX #$03      ; pick logical
file 3
036C 20 C9 FF  JSR $FFC9      ; connect
it to output stream
```

```
; GET READY TO SEND THE ALPHABET
036F A9 41    LDA #$41      ; start with
letter 'A'
0371 20 D2 FF JSR $FFD2      ; send to
output stream
0374 18      CLC    ; get ready to add
0375 69 01    ADC #$01      ; move to
next character
0377 C9 5B    CMP #$5B      ; are we
beyond 'Z'?
0379 90 F6    BCC $0371     ; no, print
another one
; PRINT END OF LINE
037B A9 0D    LDA #$0D      ; RETURN
character
037D 20 D2 FF JSR $FFD2      ; send to
output stream
; OK, RESTORE OUTPUT STREAM
0380 20 CC FF  JSR $FFCC        ;
disconnect stream from file
; CLOSE THE FILE
0383 A9 03    LDX #$03      ; take logical
file 3
0385 20 C3 FF  JSR $FFC3        ; .. and
close it.
0388 60      RTS     ; that's all, folks.
0389 50 52 49 4E 54 45 52 3F 20 .ASC
'PRINTER? '
```

It's not the world's most advanced machine language program. But it shows that you can use the same style principles no matter what the langauge.

-J.B.

Story Time

The Gondwanaland Frontiers:

Transfiguration part 2

By: Thomas R. Gosser, Jr.

Thor awoke to the chillness of a cold winters morn, overcome with contemplating the fate of his newfound wealth.. Clutching the small wooden box from yesterday he arose, taking in the vastness of the cave, his treasure and the decomposing corpse of the dragon..

Taking on the first task of the day, Thor cut a slab of meat from Cryothraxus and proceeded to cook it over the now dying fire. Consuming the last bite of the lean dragon meat, Thor arose turning to look at his new armor. The transluscent-white scales gleamed in the new-days sun as would a still pond on a warm springs day. Picking the armor up, Thor slowly began to replace his own armor with that of the dragons. It was a matter of minutes before the icy chill of a thousand winter nights penetrated Thors chest as the dragonskin became his own..

Thor stood in a daze, momentarily forgetting the events of the past few days. An errant breeze of warm air brought Thor back to the world of the conscious. Without a thought he picked up the deck of many things and proceeded to leave the cave.

Roughly two years later......

The second lightning bolt struck Orion Mars' chest slamming him against the far cave wall, he slipped into an unconscious state while the memory of how all of this truly began flooded even the deepest crevices of his mind....

A year and a half ago, in the month of Naladan, it was a cool winters day in the forest of Medde. The young initiate Orion Mars walks slowly through the forest undergrowth, leaving no trace of his passing. The clearing before him is a harmonious one; a brook runs to the left of it opposite a great oak tree. Orion takes this in as a bear moves to the brook taking in the crisp mountain water. "

Orion Mars" a moderately flowing voice beckons to him from the great oak. A lone figure emerges from the shadow of the tree, it is the archdruid Ganymede. The tanned, white-bearded face of this man betrays no emotions as he speaks. "In the northwest we have some company, would you accept the task of escorting him out?" Orions reply is swift and eager, "I do accept this task my Master, I will proceed at once."

Now you must understand that the forest of Medde is greatly immense. What would have been a couple days journey through dense forest is one of but a few hours to our druid, Orion Mars. ... It is now nightfall.

In the crystal clear twilight sky of an early winters night a smokey mass rises to the stars at the northwestern edge of the Medde forest. Supping on the exotic but fair tasting meat and fruit from Ot, Samson's cavernous chest rises as he takes in his surroundings, ever-alert of his enviroment. With a graceful move worthy of a Mystral assassin, Samson drew his newly forged blade. Now this exquisite blade would be two-handed for the average human, but being the immense barbarian that he was, the hilt of this sword was just a handful. As his eyes darted non-chalantly around the perimeter of the forest around him, he noticed an olive figure emerge from the tenebrous forest.

" Halt creature, reveal thyself before I welcome thee into the warmth of my camp." The figure spoke, "Fear not my colossal friend, I am Orion Mars, a custodian of this forest." Samson replied with little warmth, "If you be this man, present thyself." Samson arose. Orion slowly moved toward the campfire as he removed his hood. "Now, we have the mat-" Samson was upon the half-elf before his sentence could be concluded. Samsons massive arms encompassed Orions lean frame as he hugged and shook the man. "My brother! You do not even recognize your own cousin? It is I, Samson! I have traveled hundreds of leagues to this great forest in my quest for adventure!" Taken

aback by this Orions cool reserve was shaken by this encounter, it disturbed him.. He was reminded of the family that he had once had, and the mother he had never known.. Nevertheless Orion hugged his cousin in return.. "Samson I must escort you from this forest, the archdruid is wary of visitors in his old age." Samson looked at him with fondness "Must we talk of such things so soon? It has been nearly ten vernal-seasons since we have seen each other." Orion looked around slightly nervous, "Samson for tonight I will allow you to stay here but you must leave on the morrow." "Wilst thou stay the nght and keep me company?" Samson asked, excited by this chance encounter. On this Orion Mars agreed, only after Samson put the fire out.

The two young men stayed awake until the early hours of the morning reminiscing of the old days. Warmed and aided by one of Orions illumination spells they talked of the northern lands, their parents, of Samsons newly acquired beard, and their plans of the future. Time passed and the men eventually slumbered.

Day came and the sharp rays of the sun came to rest on the form of two young men at the edge of a great forest. Samson was the first to arise. By the time Orion awoke Samson had the camp clear of all his litterings. "My cousin, I go to Odrins Fork I must be there in three days time." Samson hugged his cousin. "I do not know when we will see each other again, but may my fortune and luck go with you." Orion stood on the grassy knoll while Samson turned to leave. "My cousin we will meet once again, all fortune with you.", choosing not to watch Samson leave Orion faded into the forest.

"Master, I feel the lure of adventure on my heart, as all men have once felt. I must ask to be released for a time my liege, I must find who I am, I have only known this little corner of the world and the rest beckons to me with a sirens song." Ganymedes sapphire eyes looked over Orion Mars as if looking for something, it was after a time that he chose to speak, "There are men in this world who have ignored their call to challenge; they live miserable mundane lives with no meaning. I do not see you as one of these people Orion Mars. You have something inside you to offer all the world and if this is to be your way then it will be so." Ganymede paused as he removed an emerald amulet from around his neck and placed it on that of Orion. "I release you, go and do what you must."

Next Issue: Elysians Challenge

C= COMMODORE LOG C=

Some 64-ers might remember Thomas Tempelmann, the German student who wrote the celebrated 4-minute disk backup program .. for which he received virtually no royalties. Subsequently, a considerable number of Commodore users sent donations, directly or via an intermediary, which helped set things right.

A while back, I received email from Thomas, and asked him how things had been going with him over the last fifteen years or so. I quote from part of his reply. Feel free to put it in your newsletter (it's a little long and has a regional orientation), or on your BBS or web page.

Tempelmann's personal web page site is: <http://www.tempel.org/>

>*Good to hear from you again, Thomas. From time to time, people ask me*
>*for a followup on how things went with you and your famous copying program.*

: Let me give you a brief history of mine (wow, this became long, I made it into a biography and now I'm considering putting it on my web site, too). After getting so much money for F-Copy, I decided to make it my profession. I was still in school, but I saw my future in software eng, where I would not need anything that we were taught in school (today, I wish I hadn't been so stubborn).

I worked with Oliver Joppich and the two other Olivers (Jedi) on F-Copy 3, which used a parallel cable between the   C-64 and the Floppy drive. We were putting much effort into a copy- und crack-protection (the copy-protection techniques I learned also from the "inside" Apple ‖'s DOS manuals).

After the release of F-Copy 3 it took about 10 days until a cracked version was around . It was abviously the greatest challange for any programmer/cracker to break F-Copy 3 - and

the one who made it became even more famous than those who created the cracked program.

It reminded me of the gun fighters in the wild west: Seek a gun fighter and shoot him to show everyone that you're tougher than he was. I was very disappointed and upset about those crackers having no moral sensitivity - they undermine my efforts and when you meet them, they give you an insolent smile, they think they're the king. This also taught me that there's no way to prevent your software from being cracked as long as there's this public challange. So I tried to sell my copy-protection to companies that would sell high-priced, low-volume software. I succeeded once, make some money and learned that even years after this software was still not cracked - just because the crackers didn't know about it and that it had a copy protection from me in it.

I had a part-time job at a friend, who had written "GALA", the Game Language, which was a complete development environment for writing animated games on the Apple ‖. He (Thomas Schumann) and his friends (Meinolf Schneider, Juergen Mueller and someone else I don't remember) had written a compiler that was like a simple Pascal (no floating pt, e.g.), but created native 6502 code. GALA also had a graphic editor to create animated "shapes" (like sprites) for high-speed animations. We were developing a few games, first for the open market, which didn't pay at all. Later, for "Langenscheid", maker of dictionaries, we programmed language learning/training games. That paid. Hannes Krohn, a friend from school, also joined the team. I (privately) also ported the whole GALA system to the C-64, making it possible to port those games easily to the C-64. Unfortunately, no one was interested.

Then those Apple ‖ friends were watching Apple releasing the Mac and decided to do

better: The Mac was a closed box, and they believed that the typical customer wants an open system, like the Apple][, and decided to build their own modular 68000 computer, dreaming of a success story like that of Job/Wozniak. They called it Gepard, and I programmed for them, first a machine level monitor/debugger, then adopted my own C-64 GALA-DOS system to the Gepard (in the beginning, the Gepard consisted only of a bus, and RAM card and a CPU card - so we used the Apple][and the C-64 as a terminal and disk station). Every piece of software was self-written: First, someone wrote a cross-assembler that
ran on an Apple][and generated 68K code. Then Juergen Mueller wrote a Modula-2 compiler (we believed that M-2 was the successor of Pascal and was also superiour over C, which was true, actually) in 68K asm code for it. Then others started to write an OS for it.

My first real job. I made decent money, but after about 2 years the company got broke. Too much expenses, only about 300 units sold. But many people in Germany knew even many years later about the Gepard and said: "I dreamed on having such a machine, but I couldn't afford it". At that time, Oliver Joppich had already switched to the Atari ST. He and the one who distributed Fcopy3, were trying to get me attached to it, too. So they even bought one for me. But I wasn't happy with it, because of the poor programming documentation and the not-at-all working BASIC on it. I didn't know C, so I didn't touch it for almost a year. When Gepard closed, I had a closer look at the Atari. Since I was given all the source code for the Gepard (I also continued on improving its self-written OS in order to make some money, so I learned a lot about OS programming), I started to port pieces from the Gepard to the Atari ST.

First, the monitor I had written and which later became the quite successful shareware debugger "Templemon", then I even started porting the Modula-2 compiler. The M-2

system became a real usable programming environment and so it came to the German market under the name "Megamax Modula-2", kind of the "brother" (or better "sister"?) of Megamax C, the first decent C compiler for the Atari, from some guys from Texas. It was distributed by "Application Systems Heidelberg", short ASH, founded by two guys (Heinrich-Hermann Huth and Volker Ritzhaupt) of which the latter was working part-time for Gepard, and I became friends with.

Meinolf Schneider, a very creative guy, used the Modula-2 compiler to create some games fore the Atari ST, first sold by ASH, later as shareware. He was very successful with his games in Germany (Bolo, Esprit, Oxyd). He asked me to port those games to the Macintosh, so I started learning to program the Mac. When Atari closed its home computer business, ASH, which became the most successful software distributor for the German Atari ST market, they had the idea to make an Atari ST emulator running on the Macintosh. We all didn't like Windows, so we were fighting for the Mac. First, Julian Reschke, the Atari ST "guru", was supposed to write the emulator, but when he had to withdraw because of other career reasons, I jumped in. So MagicMac was born, the emulator that could run Atari ST software on much faster Mac OS computers. I was working on this with Andreas Kromke, who had written a replacement Atari OS kernel and file system (-> MagiC), and Wilfried & Sven Behne, who did the BIOS and graphics software (-> NVDI). I did the basic emulation of the Atari resources by interfacing them to the Mac OS functions.

[I wanted to continue on this, but I didn't do it for the past weeks, so the mail was still sitting here and waiting to be finished and sent to you - now I sent it anyway at this stage to get it out of my mailbox.]

Best wishes...
Thomas

I had been receiving my Commodore Gazette disks in 1541 format and everything was fine. But then my disks started arriving crushed so I emailed Chris Ryan and asked for the Gazette in 1581 format. The 3.5 inch disk is virtually indestructable by the United States Postal System...so I highly recommend that you get it in this format. Besides 5.25 disks are becoming harder to come by and one 3.5 disk takes up less storage space than two 5.25 disks.

Commodore Gazette is a monthly offering and shows up faithfully every month. It must be stated that Commodore Gazette is not a disk magazine per se as it is mostly public domain and shareware software oriented. The selections are of high quality and of definate usefullness to all Commodore 8 bit users. So here are some hilites from the two most recent issues; Issue's 40 and 41.

Issue 40 23 Kenneth Barsky musical and sprite programs * DISK VIEW a track and sector editor and DOS utility * Educational...Day search, Robot Math, Speed Reader * GAMES...Odin, Speed Boat Race, Blue Thunder, Pool * 67 Printshop images * 8 SID files * Home Money Manager, Memoranda, Portfolio * C= Bundle...C128, 128dirsleeve, chart/graph 40, Whitehouse, I and II * +4/C16, Westward Ho!, Stocksgame * VIC 20, C64/VIC 20 Emulator, Shooter, Simon, Slot II and III * Jim Green PD #80 13 programs including Graphics Assault System 64 by Bruce Bowden Heuristics.

Issue 41 4 Kenneth Barsky graphics and musical programs * 24 SID files * C= Bundle...C128, The Animal Show * VIC 20, Squares, Star Trek, Star Wars, Tank * +4/C16, Petals, Reverse, JumboJet * 67 Printshop images * 16 Jim Green PD programs * Checkbook and Interest Rate * Games, Centi-What, Last Star, Light Cycles, Minefield * Educational...Name Game, Subject Shoot, Word Search * Home & Business... Weather man, Weight watcher, Home improvement.   *C=*

LOAD YOUR CANON
Continued from Page VI

that can be connected to the Commodore serial port. Using a geoCable would require a different method of communication. If you're a geoCable user, this might be the only difficulty you'll encounter, the fact that you'll have to plug in a separate interface each time you want to change the settings in your printer.

Line 999 closes the channel to the printer and ends the program. Everything in between opening and closing the printer are the lines that send commands to the printer. In this case, lines 100-120 are configuring the printer for LQ mode. Line 100 sends s$ which contains a series of codes that tells the printer some special commands will be coming. The chance of this series of codes happening in normal everyday printer use is very slim and will likely never happen. So, when the printer sees this, it will be ready to accept the commands that will be following. And that is what we are sending in line 110.

This is the "@setcontrolmode" command. In the case of this program, we set this command's parameter equal to "lq". Following the command and its parameter is c$. Our program defines c$ as chr$(10). This is a normal linefeed character and the printer expects to see this character at the end of each command. In line 120, we end the command sequence by sending e$ which was defined earlier in the program as "bjlend" and the linefeed character. When the printer sees this, it will resume normal operation along with

the new settings it just received. In this case, the printer will now operate in LQ mode, otherwise known as Epson mode. You might find that some software works good in LQ mode, but there just might be some that work better in BJ mode, Why is this? Well, for one thing, the LQ mode that is emulated is similar to a 24-pin Epson printer. When printing text, the printer will work great. If LQ mode works for you, then leave it that way. But if you use a software that prints in graphic mode and the results appear to be stretched vertically, it's likely due to the 24-pin emulation. The vertical resolution doesn't work the same as with an older 9-pin printer. But, when the printer is in BJ mode, it can simulate a 9-pin printer's graphics mode. The AGM mode within the BJ mode is used for this. But you need to watch out for some of the subtle other differences in BJ mode. That's why we have this article though, isn't it?

If you need to put your Canon into BJ mode, you only need to make one minor change to Program 1. Bet you can figure out what that change might be. Yup, just change line 110. Change the parameter from "lq" to "bj". When you run the program, you'll switch your printer to BJ mode.

Once you've changed a setting like this, your printer will remember it. You don't have to run this program each time you turn the printer on. The settings are stored in the printer and will stay the same even if you unplug the power source. If you share your printer with another computer, such as a Windows computer, the settings might change, though. In this case, you might

have to run your configuration program again when you plug the printer back into your Commodore. There's no telling what kinds of changes are made while the printer is being used in Windows.

For this reason, there's another command we can send to the printer to have it print out a status page showing its current settings. Look at Program 2. Notice the similarity to Program 1? The only difference is in line 110. We changed the command to "@printstatuspage" and included a parameter qf "on". When you run this program, your printer will print out a page showing the settings it holds for both tbe BJ and LQ modes and will show which mode is currently enabled.

You can use this status page to help you determine why the printer isn't working quite like you'd expect it to. For instance, maybe you're getting all your text printed only on one line or maybe you're getting double linefeeds. This is controlled by the auto linefeed setting that we used to be able to control with a dip switch, Now, we must send a special command for controlling it. In fact, there are many other commands we can send. Let's make it simple and look at how we change the auto linefeed setting first. This setting can be set differently for BJ and LQ mode. Your status page will show you the current setting in each mode.

Program 3 will turn on automatic linefeeds whenever the printer is operated in LQ mode. In line 110 we begin by telling the printer that we want to make some changes to the LQ mode's settings. Notice the command and

parameter "controlmode=lq". This isn't putting the printer into LQ mode, it's merely telling the printer that the following settings are to be applied to the LQ mode. Then in line 120 we send a command to change one of the settings that we can make to the LQ mode. This is the "autolf" command with a parameter of "on". Run Program 3 and automatic linefeeds will now be turned on.

Have you figured out how to turn those automatic linefeeds back off? Simple, isn't it. Just change the parameter for the "autolf" command to "off" and run the program again. We can add more commands to the same program that will change other settings. Or we can make a program that will set up every setting in the printer just the way we want it to be. Line 130 can be changed to be line 140 which will make room for a second setting change to be placed on line 130. Let's say we wanted the printer to always use the Roman font. Just add the following line to Program 3:

130 print#4,"font=roman"c$;

You can change your program to add as many settings changes as the printer will accept. As shown in Program 3, you can send settings that are in use for either BJ or LQ mode, but you can also send some settings that are in use no matter which mode the printer is in. For these settings, you would change line 110 to:

110 print#4,"controlmode=common" c$;

Then you follow it with additional lines containing commands that are common to both modes. In Program 1, we used a command to switch modes. This command can be considered a primary command while the commands that are used to make changes to settings in each mode can be secondary commands.

PRIMARY COMMANDS

There are several primary commands that we can send to the printer. Some are useful, but most of them aren't really needed. Here's an explanation for each one.

@poweroff (no parameter needed)

By sending this command, your printer will turn itself off. I think it's just as easy to press the power switch.

print#4, "@poweroff"c$; @reset (no parameter needed)

This will reset your printer to its power up state. Some software programs might send control codes for setting margins and other settings. This will restore those settings to their default states.

print#4,"@reset"c$; @eject (no parameter needed)

This will eject the page if it hasn't been completely fed through. Some programs don't send a final formfeed command when finished and this will do just that. Of course, it's much easier to just press the formfeed switch.

print#4,"@eject"c$; @setcontrolmode (parameter needed)

We've already seen this one. You can use either "bj" or "lq" toswitch modes, or you can use "auto". That will let the printer decide which mode is best to use. As far as I know, if the printer sees a control code that is specific to one mode or the other, it will switch to that mode when "@setcontrolmode" is set to "auto".

print#4,"@setcontrolmode=auto"c$; @testprint (parameter needed)

There are 3 different parameters you can use with this one, "a", "demoprint", and "nozzlecheck". These all print different types of test pages. The nozzlecheck test page will allow you to test how your ink cartridge is performing.

print#4,"@testprint=nozzlecheck"c$; @printstatuspage (parameter needed)

Only one parameter is used with this one, "on". This prints a status page showing your current printer settings.

print#4,"@printstatuspage=on"c$; @changehead (parameter needed)

Send this with a parameter of "1" to move the printhead to a position where you can change the ink cartridge. Of course, you can also press the convenient switch that's located inside the machine. Maybe some printers don't have this switch.

print#4,"@changehead=1"c$; @cleaning (parameter needed)

Send this with a parameter of "1" to perform a print head cleaning. On my BJC-4100, holding down the formfeed button for a few seconds will also force this job to begin. The printer will perform the cleaning for you.

print#4,"@cleaning=1"c$; @initialize (no parameter needed)

On tbe BJC-4100, there are 6 different parameters that are accepted with this command. They are "bjc-4100", "table 1", "table2", "table3", "table4", and "table5". The first one, "bjc-4100", will switch the printer back to its original factory default settings. I would assume that this parameter would be altered to reflect the model of Canon printer you're using, such as the BJC-4300. The others, such as "table 1", will switch the printer to user defined settings that are stored in various tables, The only problem with using these is that I haven't figured out how to save a current set of settings into a table. When I do, I'll write another brief article explaining it. In tbe meantime, it's not a big deal to just store your settings in a BASIC program and change them all with tbe program.

print#4,"@initialize=bjc-4100"c$;

SECONDARY COMMANDS

Taking Program 3 a little further, you can send any secondary commands you wish to include in your configuration program. The only thing you must remember is that there are 3 groups of secondary commands. One is for the BJ mode, one for the LQ mode,

and one for both modes. You always begin a group of secondary commands with the command "controlmode=" followed either by "bj", "lq", or "common". Study Program 3 again for an example of this. If you wish to change settings for more than one group within a single program, I think it's best to begin and end each group using the commands contained within the s$ and e$ strings that we've defined in our examples.

Study Program 4 and you'll see an example of this. Program #4 is designed for geoFAX users. By running this program, you'll switch your BJ printer into a mode that works great with geoFAX's BJ360 driver. In this mode, the performance and quality is far superior to that of the LQ mode where the E360 drivers would be used. All the secondary commands require a parameter. Each command has more than one choice of parameters. Let's take a look at the various secondary commands we can use to set these printers up.

BJ CONTROLMODE COMMANDS

These commands will affect settings that are used when the printer is switched to BJ mode. Use these commands after sending the "controlmode=bj" command to the printer.

font This command will select the font you wish to use as your default font. The choices are "roman", "gothic", "prestige", "script", and "courier".

print#4,"font=roman"c$;

codepage This will select the character set that will be used. Some character sets have different characters for different purposes or countries. The choices are "850", "860", "863", "865", "852", "857" and "437". For the USA, you would use 437.

print#4,"codepage=437"c$;

pagelength This sets the length of the paper the printer expects to see passing through the machine. You can use "11" or "12". Generally your paper length will be 11. Some label pages might be 12 inches, though.

printt4,"pagelength=11"c$;

characterset There are two different characters sets available for tbe different code pages. One is "set1" and the other is "set2". Choose the one that appears to work for you.

print#4,"characterset=set1"c$;

textscalemode You can turn this function "on" or "off". I personally haven't tested this feature yet so I can't explain its function. Normally, I would say to just leave it turned off.

print#4,"textscalemode=off"c$;

autolf This is an important function to pay attention to. Depending on how you have your printer interface set, you may need to adjust this setting depending on if you're getting no linefeeds at all or getting double linefeeds. Set this to either "on" or "off".

print04,"autolf=on"c$;

autocr Sometimes, the software you're using might keep on sending text to the printer and not keep track of how many characters it has sent on each line. In other words, you might be printing 80 characters on each line, but the software just keeps on sending without performing a carriage return. In that case, you can have your printer do the carriage return when enough characters have been sent to reach the right side margin, automatically. Most older printers did this by default. The "autocr" command lets you turn this feature on or off. With this turned off, the printer will simply ignore any characters that exceed the right side margin and will wait forever for the carriage return. Generally, you would want this to be "on".

print#4,"autocr=on"c$;

agm This is a special graphics mode used on IBM mode printers. When the BJ is in "bj" mode, it can emulate the graphics commands used on these printers. This will allow your BJ to work with the 9-pin graphics commands and to function properly while using some of the older software packages without having everything stretched vertically. When you're using software that supports 24-pin printers, be sure to turn this "off" or you'll also get poor results.

print#4,"agm=on"c$;

LQ CONTROLMODE COMMANDS

These commands will affect settings that are used when the printer is switched to LQ mode. Use these commands after sending the "controlmode=lq" command to the printer.

font This command will select the font you wish to use as your default font. The choices are "roman", "gothic", "prestige", "script", and "courier".

print#4,"font=roman"c$;

pagelength This sets the length of the paper the printer expects to see passing through the machine. In LQ mode you can use "11", "12", or "22". Generally your paper length will be 11. Some label pages might be 12 inches though.

print#4,"pagelength=11"c$;

characterset There are two character sets available, "italic" and "graphics". The names of these character sets refer to the characters used that are defined above the normal 7-bit ASCII set. Generally, for most printing from our Commodores, we would use the italic set.

print#4,"characterset=italic"c$;

textscalemode You can turn this function "on" or "off". I personally haven't tested this feature yet so I can't explain its function. Normally, I would say to just leave it turned off.

print#4,"textscalemode=off"c$;

autolf This is an important function to pay attention to. Depending on how you have your printer interface set, you may need to adjust this setting depending on if you're getting no

linefeeds at all or getting double linefeeds. Set this to either "on" or "off".

print#4,"autolf=on"c$;

international In addition to the characterset command, you can also select how the characters will appear for the country you're in. The following character sets are supported: "japan", "norway", "denmark2", "denmark1", "spain2", "spain 1", "sweden", "latinamerica", "legal", "korea", "france", "germany", "italy", "uk" and" sa".

print#4,"international=usa"c$;

COMMON CONTROLMODE COMMANDS

These commands will affect settings that are used in both the BJ and LQ modes. Use these commands after sending the "controlmode=common" command to the printer.

paperselect Since the printer has a mechanism for handling the paper, it needs to know what kind of paper you're using. 4 types are supported, "a4", "#10 envelope", "dl envelope", and "letter". In the US, we would generally want to set this for "letter" while the Europeans would usually use "a4".

print#4,"paperselect=letter"c$;

printmode You can print fast, or you can print slow. These BJ printers are generally quite fast at printing text even when you choose the high-quality mode, "hq". And likewise, the quality of print is still quite good even with the draft mode, "hs". It's your choice. You can pick from "fine", "hs", and "hq".

print#4,"printmode=hq"c$;

smoothing When you print graphics from your Commodore, they might turn out blocky. These printers support quite a high resolution of 360 dpi, but most of our software sends data with a much lower resolution. So, we end up with good looking blocky graphics. The BJ printer can smooth out the edges for you if you turn the smoothing feature "on", but for those programs that use the full capability of the printer's resolution, be sure to turn this "off".

print#4,"smoothing=off"c$;

reduction I haven't tried this one out so you'll have to test it yourself. Three parameters can be used, "wide3", "form2", and "off". I guess you would normally set this to "off".

print#4,"reduction=off"c$;

autopoweroff Use this to automatically turn your printer off for those many times when you forget to press the power switch. If this is set, the printer will wait the desired number of minutes of inactivity and then turn itself off. You can set it to "1", "10", "30", "60", or "disable". I prefer "disable".

print#4,"autopoweroff=disable"c$;

i/d-buffer This command is used when you want to send a custom character set into the download buffer area within the printer. This could consume a whole article so I won't go into it here. So, if you don't mess with this setting, it will always remain set to

"input", which is the normal setting. For downloading characters you would use "download".

```
print#4,"i/d-buffer=input"c$;
```

MORE EXAMPLES

A resourceful programmer could take all this information and use it to create a complete configuration program. In the examples given in this article, we're making dedicated BASIC programs to configure the printer the way we want it to be. A nice way would be to allow the user to select among the various settings and the program would then send those settings to the printer. A program written in machine language could also communicate with the printer using a geoCable. This would be a handy utility to have in GEOS for those that need to switch the printer between BJ and LQ modes as needed. Until something like this comes along, we can at least benefit from this article and set these printers up the way we need them to be. It sure beats hauling the thing over to a friend's house to hook it up to a Windows machine anytime a setting needs to be changed! Or worse, having to take your new printer back to where you bought it because you just can't get it to work properly.

Remember that the commands in this article will not work on the Canon printers that have dip switches, only the cheaper ones that require a computer to do the configuring. Program 4 and Program 5 are two BASIC programs you can use. Feel free to alter any settings you see in these programs to suit your own needs. With the information in this article and a little knowledge of what your own needs are, you shouldn't have too much trouble configuring these printers. On top of all this, these printers still support the same old escape codes that we've been accustomed to all through the years. Most software programs are already programmed to send the escape codes that you need and they will still work as long as you have the printer set for the correct operating mode to begin with, BJ or LQ. This is important, since it's a good chance that no program will do this part for you. Even geoFAX doesn't switch the printer to BJ mode when using the BJ360 driver. The reason is because that geoFAX driver will work just as well with a BJC-4100 printer as it will with a BJ-200. The BJ-200 has dip switches for switching to BJ mode and if a program were to send "@setcontrolmode=bj" to one of these printers, it would likely confuse the printer. It's up to the user to make sure the printer is in the proper mode and that's what this article is all about.

USE THIS INFO ALL YOU WANT

The info provided in this article is nothing that can't be shared by everyone. It's here for everyone to use. If you're a programmer and want to include any of this in your own programs, feel free to do so. That's what the information is here for. It's just a shame that the info isn't more readily available. I don't understand why Canon feels they have to shield everybody from this stuff. As you can see from this article, it's not that hard to understand. But if you do get a little confused, just go back and read it again. Once you start

following the examples, you'll catch on quick.

But be sure not to call Canon's technical hotline about any of this. You won't get anyone that knows anything about this stuff. It's really sad, you know. They make printers that can be used on any computer that can be connected to them, but they don't seem to care about anybody except the huge mass of Windows users. I don't think it should matter what kind of computer a user has. These printers work just fine with our Commodores. Let's set them up properly.

Program 1 - 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 open4,4,5
100 print#4,s$;
110 print#4,"@setcontrolmode=lq"c$;
120 print#4,e$;
999 close4
```

Program 2 - Print a 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 open4,4,5
100 print#4,s$;
110 print#4,"@printstatuspage=on"c$;
120 print#4,e$;
999 close4
```

Program 3 - Turn auto linefeeds 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 open4,4,5
100 print#4,s$;
110 print#4,"controlmode=lq"c$;
120 print#4,"autolf=on"c$;
130 print#4,e$;
999 close4
```

Program 4 - Set printer up for geoFAX and the BJ360 driver.

```
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 open4,4,5
100 print#4,s$;
110 print#4,"@setcontrolmode=bj"c$;
120 print#4,e$;
200 print#4,s$;
210 print#4,"controlmode=bj"c$;
220 print#4,"pagelength=11"c$;
230 print#4,"autolf=off"c$;
240 print#4,e$;
300 print#4,s$;
310 print#4,"controlmode=common"c$;
320 print#4,"paperselect=letter"c$;
330 print#4,"smoothing=off"c$;
340 print#4,"reduction=off"c$;
350 print#4,"autopoweroff=disable"c$;
360 print#4,e$;
999 close4
```

Program 5 - Set printer up for most software packages that support Epson 24-pin printers.

```
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 open4,4,5
100 print#4,s$;
110 print#4,"@setcontrolmode=lq"c$;
120 print#4,e$;
200 print#4,s$;
210 print#4,"controlmode=lq"c$;
220 print#4,"font=roman"c$;
230 print#4,"pagelength=11"c$;
240 print#4,"characterset=italic"c$;
250 print#4,"textscalemode=off"c$;
260 print#4,"autolf=on"c$;
270 print#4,"international=usa"c$;
280 print#4,e$;
300 print#4,s$;
```

```
310 print#4,"controlmode=common"c$;
320 print#4,"paperselect=letter"c$;
330 print#4,"printmode=hq"c$;
340 print#4,"smoothing=off"c$;
350 print#4,"reduction=off"c$;
360 print#4,"autopoweroff=disable"c$;
370 print#4,"i/d-buffer=input"c$;
380 print#4,e$;
999 close4
```

Program 6 below is a modfied version of programs 1 and 5. It will allow you to send text dumps directly to the printer to be printed in a readable format. It will also allow you to use the Epson24pinCLR printer driver in GEOS for color printing of your geopaint documents. Also with the printer configured this way it will work with Ipaint using the EpsonLQC printer drivers. Ipaint images printed with a color bubblejet are simply amazing. Heres a side note: If you use GODOT and print using the BJC printer driver it will configure your printer in bubblejet mode. Thus you will have to reconfigure your printer back to LQ/TEXT mode. These programs have been tested on a BJC-250 and BJC-4400. I couldnt get the BJC-250 to work with Ipaint or print in color with GEOS. I highly recommend the BJC-4400.

Program 6- Configure for LQ /TEXT mode.

```
10 c$=chr$(10)
20 d$=chr$(27)+chr$(91)+chr$(75)+chr$(2)+chr$(0)+chr$(0)
+chr$(31)
30 s$=d$+"bjstart"+c$
40 e$="bjend"+c$
50 open4,4,5
100 print#4,s$;
110 print#4,"@setcontrolmode=lq"c$;
115 print#4,e$;
117 print#4,s$;
120 print#4,"controlmode=lq"c$;
130 print#4,"characterset=italic"c$;
140 print#4,"pagelength=11"c$;
150 print#4,e$;
999 close4
```

FootNote: This article also appeared on Loadstar #174 along with programs 1 to 5. If you have this disk it will save you some typing. *This article was originally published in the Jul/Aug 98 Issue of* **Double Click** *the Lansing Area Commodore Club newsletter.*

BEST of IAN ADAM
very long time to complete. This compilation is very interesting, fun and educational. All of the programs on this disk have appeared in various back issues of Loadstar and Loadstar 128.

The Best of Ian Adam $12.00
#0085D5 1541 disk
#0085D3 1581 disk

1-800-594-3370
1-318-221-8718

Doggerel Days
Rock and Roll CD by Knees Calhoon

This rock and roll CD contains thirteen songs written and performed by Fender Tucker's alter ego Knees Calhoon. Fender recorded the music in his home studio using a four track tape machine. The lyrics and music are very reminiscent of the 60's and early 70's sex, drugs and rock and roll style. Anybody growing up during those times can relate to this compilation. My sixteen year old son found the songs entertaining with only one critizism; Some of them would be greatly improved if the tempo were sped up.

There are two other CD's that Knees has done, a Country Western and a Rythym and Blues. I cant wait to get these to listen to. A must have for any collectors collection.

Doggerel Days $11.00 or all 3 for $30.00 includes shipping.

1-800-594-3370 or 1-318-221-8718

WHEELS 128 PREVIEW

In the next issue of CPU Magazine we will have a full featured review of Wheels 128. This preview will familiarize you with the new upgrade to GEOS 128. Wheels 128 is fully customizable. You can define the background pattern, dashboard colors, icon colors and border color. A full colored 80 column desktop display is a sight to behold indeed. You will want to have a SuperCPU 128 installed on your system because Wheels is lightening fast running at 20mhz.

A SuperRAM card with 16 megs of RAM is also desirable. Wheels allows you to configure this as a RAM disk. When used in conjunction with a RAMLink whole native partitions can be copied in a matter of seconds. Wheels makes using four drives a snap. The dashboard manages drives, input and printer drivers and SuperCPU with accelerated efficiency.

People who shyed away from GEOS in the past because of its complexity can set aside their fears. With Wheels no one has an excuse not to use GEOS. From its simple installation to its ease of use, Wheels is the operating system for every Commodore user. The manual is very well written and explains 99%

of everything you need know. Whats the other 1%? Well I will tell you. To lock or unlock a file you click on the file icon, go to the FILE menu and click. Then click on the INFO box. When the INFO screen appears you will notice in the upper left hand corner a file icon.

If the file is locked a key will be next to and to the left of the icon. If the file is not locked, there will be no key. To lock the file, click on the icon. The key will appear. To unlock the file, click on the icon and the key disappears. Its just little things like this that have been omitted. However Wheels seems to be a flawless system, gone are the bug-ridden disk drivers of the GateWay desktop. Wheels 128 requires that some sort of RAM expansion be plugged into the computer. It will automatically configure the RAM it needs.

Is Wheels for you? If you answer YES to the next question then the answer is yes. Do you use a Commodore 128 computer? Wheels breathes new life into our machines and takes advantage of the new technology that is available to us. As mentioned earlier, look for an in depth review of Wheels 128 in issue #7.

Wheels is available from: *Click Here Software*, P.O. Box 606, Charlotte, MI. 48813 *Price $40.00 + $4.00 s/h*

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CHECK OUT THE LATEST LOADSTAR!

First, what is LOADSTAR? We are a monthly disk-magazine sold only through subscriptions. You will not find us on the magazine stands. On each issue you will find programs and articles, all RUNable and readable from our LOADSTAR menu system. Most of the featured programs automatically copy to other disks so you can run them on their own disks.

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LOADSTAR LETTER #65

ON LOADSTAR ISSUE #176

A partial table of contents *squeezed* in!

Basics: Hymn 2k: by Larry Schafer. A parody of the "Battle Hymn of the Republic" for the year 2000.

Centsible Software List: A list of new and used software available from the world's largest 8-bit software company.

Toon – A Loadstar Contest: by Walt Harned and Knees Calhoon. The ninth of a year's worth of cartoons to which *you* supply the captions.

Newsletter Naniskad: by Fender Tucker. Fender culls the best from the many newsletters he gets every month.

Napoleon: by Maurice Jones. Also known as Forty Thieves, this is a card solitaire you probably can't beat too often.

Convoy: by Floyd Kirk. You're the commander of a U-boat in this simulation of naval warfare. It comes with a color-animated instructions program.

Tower Dungeon: by Ed Nichols. Using the *Dungeon* game system from LS #167, try to save Loadstar's editor from the machinations of his evil clone.

Puzzle Page #176: by Barbara Schulak & Knees Calhoon. Four crossword puzzles and an essay on the importance of surf music to our present-day culture.

Even More MIT Problems: by Floyd Kirk. 25 new chess problems to be solved with *Mate In Two* (from LS #171.)

FileMaster: by Jeff Jones. Jeff's masterpiece of a file handler now can display IFLI files. One is included so you can see what this new graphics format is like.

Hi-Res Workstation Overlay Printer: by Andrew Martin. UnWRAP this file and you'll have a set of files *For Hi-Res Workstation*, to make a handy keyboard overlay with all of *Hi-Res Workstation*'s commands on it.

Songs Of The Immigrants: by Dave Marquis. A mini-jukebox of eight songs written by immigrants to America from the old world.

Salt Of The Earth: by Walt Harned. Walt Harned's graphical slide-show is a tribute to farmers everywhere, and especially Orville Thieman, Walt's father-in-law.

Loadstar Album Annum IX: by Loadstar Artists. Twelve full-screen title screens from our glorious ninth year are presented in a mouse-driven slide show.

The Loadstar Letter

The Loadstar Letter is hard-hitting and packed with news, programming info, tutorials, and laughs for every Commodore user! It's $18 for a year and $2 for back issues. Each Issue is usually 14 pages in length and has very few to no advertisements. It sports the writing talents of Jeff Jones, Robin Harbron and other knowledgeable Commodore veterans. Get connected and don't miss a single issue!

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