

The Interface



Fresno, California

June/July 2000

Taking 8 Bits to the 21st Century

What the Editor Said



"Computers
in the future
may weigh
no more
than 1.5
tons."
Popular
Mechanics,
1949

We don't keep track of your age in our extensive data base, but I would venture to guess the average age of the club is over 50, even with spring chickens such as Robert, Ken and Helen dragging down the average. We've seen a lot of stuff come and go. Even the oldest of us grew up in a world where flying through the air was routine, but all but the youngest (Matt maybe?) are amazed that we saw a man stand on the moon.

Closing our post office box and getting the address changed emphasized how much things change and people come and go. We had trouble getting it done because all of the names on the records at the P.O. are people who left the club before I was in it--and I have been a member since 1988. Although it seems we make Robert, Helen and Zella be officers year after year, the list of those who have served is actually quite long.

During my own tenure we have had five different newsletter editors. I took over from Mark Miller, then gave the job to Dennis Fithian after three years. Juanita Eroles took over soon after that, followed by Sandy Dippollet, the only former editor still in the club. I started my second term in June 1997.

In the past two years or so I have mentioned several times that my time as editor would be ending "soon." Now it's time to define that clearly and unalterably as December 2000. Before then we need to decide if we want to continue the newsletter. Some Commodore people think that dropping the newsletter is the beginning

of the end for a club. I would tend to agree with this; we have several members who make it to two or three meetings a year, but continue to send in their renewal check. Would they be willing to pay to belong to a club with no contact other than a postcard? Maybe...three meetings a year for \$12 is still cheaper than a movie, and more wholesome.

Until recently we had three newsletters, two of the unofficial. I miss them and hope they will return. Each served a different purpose. Robert keeps us up to date on the latest activities in the Commodore world, while Helen provides a unique viewpoint on the club and its activities. Only Helen could have properly reported on the indignities we suffered at the February meeting.

Perhaps these two editors can combine their efforts and channel them into the official journal of the club. Possibly they could edit alternate issues, which would be only three per year each. I believe they would be good people to carry on the tradition of *The Interface*.

A Good Reason to Spellcheck the Old-fashioned (Commodore) Way

Before computers came on the scene, word processing consisted of pen or typewriter on paper. The prudent followed with proofreading all but the most casual work. And more often than not, the needed corrections required redoing the work.

The advent of word processors brought a lot of relief to that methodology. Instead of retyping an entire effort after the proofreading, merely making needed changes in the text finished the work. This in turn brought about improved composition. The ease with which corrections could be made encouraged the writer to focus on creation rather than the mechanics of spelling, etc.

Next came spellcheckers. The computers of the day (including Commodore) lacked sufficient memory to hold a large dictionary. So spellchecking was performed as a separate task following the writing effort. This proved faster than looking words up manually and had the advantage of catching errors overlooked by the eye.

Today, though, the newest computers perform spellchecking as the document is typed. That is, if a word is typed that is not contained in the program's spelling dictionary, it is immediately flagged, often highlighted with a red line under it.

At first thought, this instant spellcheck may sound like a good idea. However, many users find that it interrupts the flow of thought, prompting some to turn off the feature. But then they don't bother to spellcheck the finished work. On the other hand, those who do use the feature tend to forgo proofreading completed work. As a consequence, omitted words, lapses in grammar, and typos' witch otherwise from correctly spilled wards escape detection.

(From the Civic 64/128 Gazette, Oxnard/Ventura CA, April 2000)

I've Got Five Dollars and It's Saturday Night

It was easier to give money away in April and May. The winning name came up on the first try, with Helen striking it rich again in April, and Bill Gilbert taking the prize in May.

We draw names till there's a winner, stopping after the third name, and if none of them is present, the pot goes up to \$10 the next meeting.

A History of the @ Character

Just because a thing works does not mean it will endure. Eight-track tapes worked. Nor is the use of a thing destined to continue just because it works better. BETA VCR's worked better than VHS.

So, what is it about things like the common mouse trap, wire paper clips, even the Commodore 64, which fosters continued use? Alternatives to each of these things have come and gone, and each of these things currently have other options which are arguably better. Yet, use of the common mouse trap, wire paper clip, and Commodore 64 endure.

The answer is simplicity. They work and they are simple to use. Indeed, what is simpler than the common mouse trap? And it does the job. So it is with the wire paper clip, and the Commodore 64.

Another thing that has endured over time is the @ symbol. It is known as "the commercial at sign" in this country. In other places it is called a monkey's tail, a snail, a little mouse, even an elephant's trunk.

The history of the @ symbol can be traced to the Middle Ages. Some point to the eighth century as the time of its creation. The reasoning behind selecting the eighth century is because that is when another previously unseen character came into existence: the question mark.

It is thought that the @ symbol came about as a result of efforts by scribes during that time to conserve a scarce supply of parchment. They often squeezed letters like a and e, t and h, and others together to save space. The @ character is a combination of the letters a and d. In Latin, ad means: to, toward, near, or at. Instead of writing ad, the scribe penned the a and omitted the d by wrapping its upstroke counterclockwise around the a.

Unlike many of the letter combinations of the day,

the @ character stood for a complete word. Furthermore, its various meanings allowed diverse use. These two attributes no doubt explain why @ survived while most of the other creative efforts of this nature did not. Besides being found scrawled on numerous written documents from past centuries, mostly in reference to a given price per item, the invention of the printing press carried @ onto the printed page.

It's not surprising, then, that the @ symbol also came to be on the typewriter keyboard. Strangely, though, the first typewriters didn't have @ assigned to a key. And it's thought that this omission explains why those machines were not very successful in the business world. Indeed, history suggests that it was the addition of the @ symbol to the keyboard that made the typewriter commercially viable.

Even so, when printed commercial documents like invoices began to include columns for price per item, the use of @ began to wane. For a time, in fact, about the only place the @ symbol appeared was in string of characters to express expletives like !#\$%& as seen in comics. There is some indication that this disuse prompted some typewriter manufacturers to toy with the idea of removing the @ sign from the keyboard. Just why it endured is a subject of conjecture. Maybe they were afraid of the commercial power of @. After all, if its addition to the keyboard was the reason for the typewriter's success, its removal could cause its demise.

Whatever the reason, the presence of the @ sign on a teletype keyboard is what gave rise to its use in e-mail addresses. As the story goes, beginning use in the early 1970's of what became the internet needed a way to separate the intended recipient's name from the computer's designation in order to prevent confusion as the message traveled between the various computers making up the net-

work. A single unique character seemed to be the logical answer, and what better choice than the seldom used @ symbol which meant "at."

Needless to say, this guaranteed the transition of @ from the typewriter keyboard to the computer keyboard. Thus, the scrawl penned a long time ago to abbreviate the Latin "ad" once again demonstrated its commercial power. And today, the @ symbol is responsible for delivering millions, if not billions, of e-mail messages daily through cyberspace.

(From the Civic 64/128 Gazette, Oxnard/Ventura CA, April 2000)

Evolution of the Disk Drive

by Joel Ellis Rea

First there was the Commodore 2001 Personal Electronic Transactor (PET). It was one of the first personal computers on the market. It had a whopping 4K of RAM, and 8K BASIC in ROM, and a Kernal to control input/output and other system operations. It used Commodore BASIC Version 1. There were no disk drives then, but provisions were made in the form of an IEEE-488 General Purpose Interface Bus. It also had the funniest little keyboard you ever saw!

Commodore then invented the 2040 Dual Floppy Disk Drive. It was an industry first. Previously the main computer had to control every tiny detail of disk drive operation, not to mention loading a large Disk Operating System (DOS) into the computer's RAM in order to use the drive. The 2040 was an intelligent drive, with its own computer system inside, and its own DOS in ROM! By simply PRINTing commands to its command channel, BASIC users could SCRATCH, RE-NAME, and COPY files, and DUPLICATE an entire disk without any further help from the com-

puter. Only problem was, they could not SAVE or LOAD programs, or use data files.

The problem was BASIC V1. It did not know about the timing involved with actually transferring data back and forth between the computer's RAM and the disk drive's computer. So, Commodore created Upgrade BASIC (now known as BASIC V2), and put it into a new PET, called the 2008. It had 8K of RAM, a REAL keyboard (unlike other companies, Commodore NEVER tried a rinky-dink keyboard again!), and it could use the disk drive!

But the 2040 drive had its faults as well. It could not handle random access files (one of the most important advantages of a disk drive over a tape drive) without a LOT of effort on the user's part. It could not trap errors correctly, and it required the user to type OPEN 15,8,5,"I":CLOSE 15 every time a disk was changed. It could not seem to center the disks properly.

So about the time Commodore came out with their 3008 PET computer (including BASIC V3, with very minor differences from V2), they introduced the 3040 Dual Disk Drive. This had DOS V1.2 in it, which corrected the error trapping problems. But they did not fix much else. Also, people were getting tired of having to type OPEN 15,8,15 etc. when their Apple-owning buddies could do the same with RENAME oldfilename, newfilename.

Almost immediately thereafter, the Commodore 4016 PET came out. It had 16K, expandable to 32K, and BASIC V4. This version had nice disk commands like CATALOG, SCRATCH, DLOAD, DSAVE, BACKUP, COPY, etc. These commands simply translated themselves into the old commands that the drive could understand.

Along with the PET 4016 came the 4040 disk

drive. It had it all! Besides fixing the hardware problems, it had DOS V2.1, which supported relative files (also referred to as random files). The new DOS also performed an automatic "I" (initialization) every time it detected a disk with a different ID, so the user did not have to type this command unless he had two or more disks with the same ID. It also used a slightly different disk format from the 2040's and 3040's, so that a disk made on a 2040 could be used only by copying its files to a 4040 drive.

Later, Commodore came out with the CBM 8032. It had BASIC V4, 32K of RAM, a 12-inch 80-column monitor (the old machines had 40 column screens), and a more business-like keyboard. Indeed, it was a business machine.

A business machine needs a business disk drive. So Commodore presented the 8050 disk drive. It used a double density format that allowed over twice as much data on each disk. It also could tell if a disk drive door had been opened, and automatically did an "I" command when the door was shut again.

Later came the 8052 double-sided drive, and the D9060 and D9090 hard disk units that could store 2, 5, and 7.5 megabytes (1 meg=1024K).

Then came the VIC20. Commodore made many advances on this one. Low price! Graphics! Low price! Color! Low price! Three-channel sound, RS232, eight user-programmable function keys, and a game cartridge slot. Not to mention low price! Even though they were producing a computer to compete with home video games, they learned their lesson with the PET 2001 and gave the VIC 20 a REAL keyboard.

But for the sake of low price, Commodore took several MAJOR steps backwards. Only 5K of RAM, 22-column screen, back to BASIC V2. And worst of all, they scrapped the wonderful

IEEE-488 bus that could shove all eight bits of a byte down the wires at once, and replaced it with a "serial bus" that had to spool those bits out one at a time.

Commodore then produced the 1540 Single Floppy Disk Drive. It was basically a one drive, serial bus version of the 4040. It had less RAM, so that fewer files could be open at any one time. It used the new half-high disk drive units. Instead of two microprocessors (one for the drives and one for the interface), it had one processor controlling the single drive and the interface.

About two years later Commodore invented the Commodore 64! (Ever hear of that one?) I will not go into all of its nice features, but it still had the serial bus and BASIC V2. Along with it of course came old slow and poky, the much hated, much loved 1541 that so many of us use and cuss daily.

(from George's Den BBS via Greater Oklahoma Commodore Club Newsletter, 6/88)

GEOS Q & A

by Dick Estel

Because I have had the time, patience and inclination to load the program and explore its capabilities with the manual open at my side, I am considered knowledgeable in GEOS. Some of the questions I am asked require a fuller explanation than I may have given, so here's the complete answer:

1. What is GEOS and what can I do with it?

GEOS is an operating system and a collection of programs that work in a unified way and follow certain conventions. Commodore BASIC is a command line interface, where you type the commands to load and run programs and carry out

other actions. GEOS is a graphical interface, Windows 1988 for the Commodore if you will, where you click on various icons to carry out certain actions. The different programs that run under GEOS all behave in a certain way, and have certain standard characteristics. This makes it possible for a user familiar with one program to use another program with a limited amount of study.

You can do anything you would do with non-GEOS programs on your Commodore--word processing, maintaining a data base, creating and manipulating graphics, spread sheet computations, etc. However, you can transfer certain types of pictures and text files between programs more readily than with a group of unrelated programs. GEOS= strongest point is its ability to combine text and graphics in various ways, with a great deal more flexibility than many other programs. As an example, Label Wizard allows you to use a Print Shop graphic on one side or another of a label. GeoLabel allows you to place any graphic that will fit and text in a variety of sizes and fonts on a label.

2. Do I need two drives to use GEOS?

Yes. I will have some hedging and however's and maybes elsewhere. But if you want to **use** GEOS, you **must** have two drives (see #3 for a semi-hedge). Only a serious masochist would attempt to do anything fun or serious with GEOS with one drive. And if you have the time and patience to do it with one drive, you have the time and patience to study the manual and you don't need my help.

3. Do I need a RAM expander to use GEOS?

It's better that way. However, every time I have added hardware to my system, I have said, "How did I ever use GEOS without my (fill in new toy name here)?" If I could select only one add-on hardware item to a basic one drive system, it

would be a RAM expander. Note: This does not conflict with #2, because the REU becomes your second drive.

Because of the necessary complexity of a graphical operating system, nearly every part of a GEOS program exceeds the memory of a C-64. It works by temporarily saving part of the program on the disk and swapping in other parts as needed. With a 1541 this is a slow process. It gets better and faster with each step up in hardware: 1571, 1581, hard drive. But only with RAM expansion is it nearly instantaneous.

4. What's the difference between the 64 version and the 128 version?

The 128 version holds your printer driver in memory. The 64 version requires the printer driver to be on the work disk with your program (this means it has to be copied to any number of work disks). GeoWrite is 80 columns, which means no flipping from side to side like the 40 column version. In geoPaint you can turn the tool bar off to increase the size of the drawing window. GeoPaint also comes in 80 columns (with a 40 column option). (An interesting note: Except for a few very rare situations, I prefer to use geoPaint in 40 column mode, but lots of users love the 80 column.)

Less important to most users: You can copy files while using the "view by name" mode; the 64 only copies in icon mode.

5. I have an early version 1.xx. Should I get version 2.0?

Yes. Anything new for GEOS in the 90's has either required 2.0, or been designed to work well only with 2.0. Wheels, the new operating system upgrade from Maurice Randall requires 2.0 (and some type of RAM expansion). The menu features and other changes make it difficult for a 2.0 user

to explain how to do things in an earlier version...they will inevitably instruct you to do something that seems natural to them, but is not available on the older versions.

6. Where can I get GEOS?

You will often find users selling their copy, especially if they are moving from Commodore to some other platform. Remember that each set of GEOS programs is keyed to a specific serial number. You can't purchase the basic program from one user, and geoPublish from someone else, and expect them to work together. CMD sells all the major GEOS programs.

FCUG Has Another Web Site

We have been very fortunate to have a web site provided as a courtesy by Australia's Videocam, owned and operated by Rod and Gaelyne Gasson. We do not update this site except for major changes (Gaelyne has to do it for us).

Dick Estel has now added a second FCUG site to his sprawling web, which is provided free as part of his Internet Service from AT&T.

We'll update this one more frequently, and we can include member advertising if you have something to sell.

The address is <http://home.att.net/~rmestel/fcug.html>

There is an associated site, the Commodore Support Center, which has links to other sites and an extensive data base of newsletter articles, from The Interface and other sources. This address is <http://home.att.net/~rmestel/commodore.html>

The Commodore and FCUG sites are designed to be friendly to text browsers, but if you have

graphical access, you'll find some photos of the members. The Support Center has a lot of GEOS and other artwork that can be viewed or downloaded.

Scape

by Robert Bernardo



The University of California at Davis... my old alma mater. It was good to visit it again. When did I visit it last? Certainly several years ago in order to attend Picnic Day or the Whole Earth Festival. The sights seemed familiar, yet different. That intersection had changed. That drive-in restaurant had changed to a Burger King. An entire shopping area had been built around a Borders Bookstore. Yes, the national companies had been encroaching on little Davis, but the town still retained its charm... narrow, tree-lined streets; students and their bicycles buzzing to and fro; small shops selling the wares of local artists.

However, my visit to the town and the university was not for pleasure. I was there on Commodore business; specifically, I was there to visit the university radio station, KDVS-FM 90.3, and interview Justin Beck (Hard Hat Mack), the host of the only radio show in the world that broadcasts Commodore SID music. Several weeks before my visit, I was scanning through the Usenet group, comp.sys.cbm, and found that Justin was posting weekly updates of what was happening on the 6581 SID Show.

The Sound Interface Device (SID) is the 6581 chip in C64/128's or the 8580 chip in later C64's and C128D's. It is a chip capable of producing 3 voices plus white noise, and it placed the Commodore far ahead of any home computer of its day. From an Apple or PC computer at that time, a person would hear beeps and boops. From the

Commodore and its SID chip, you would hear not only sound effects but also speech and music. In fact, I was about to find out how much of an impact SID music made in the world.

It was a sunny, warm, mid-August afternoon in 1999 as I drove into the university campus center and parked in the new, multi-story parking structure. From the trunk of the car, I hauled out my voice recorder, camera, notebook, and various C= items to show to Justin, items such as GO64!, Commodore Scene, and Commodore Zone magazines, an issue of Loadstar, and my SuperCPU 128.

I walked a few hundred feet to Freeborn Hall and tried to enter one of the doors that led down to the basement. Many of the student union businesses were housed in the basement of Freeborn Hall, for example, the Cal Aggie university newspaper and radio station KDVS.

The door was locked. I looked around. The university was not in session, and all of Student Union/Freeborn Hall had closed early that day. For a moment, I thought I'd have to find a phone in order to call for someone at the station to open the door. However, a few seconds after I had tried the door, Justin opened it. What timing! (I had called earlier in the week to let him know I was coming.)

Mustached, shorter than I, far younger than I, very much looking like an undergrad or grad student, Justin greeted me enthusiastically. He had realized that the door was locked and was just coming up to wait for me. He then led me down into the bowels of Freeborn Hall and to radio station KDVS. KDVS...what memories it brought back. I remarked to Justin that I had spent many an hour sitting in the lobby of the radio station. During my day, KDVS had a sofa in the lobby and a loudspeaker with volume control which was fed music

from the station. Instead of using the massive study halls of the U.C. Davis main library, I would work my way down to the radio station lobby (the doors being left unlocked) and study there into the wee hours of the morning. The disc jockeys, who could see me through the window of their cubicle, would never bother me.

The sofa and the loudspeaker were now gone, but everything else looked the same. Justin then led me through the "employees only" door and into the mysterious back rooms of the station. I felt privileged to be in an area which was so unknown before. To my surprise, there was much more space than I had thought...several office desks with papers and other materials strewn over them...posters over the walls...a busy, "creative" environment. Justin also showed me the station's substantial archive of tapes, records, and CD's --all music and vocals in keeping with the philosophy of the radio station, i.e., things which you would not ordinarily hear on commercial radio. (In their literature, KDVS brags that it is the only freeform, non-commercial, community radio station west of the Mississippi River.)

It was about 7:30 p.m., half an hour before Justin's Tuesday night 6581 SID Show and just enough time to interview him a bit more. Justin was 25 years old, an alumnus of U.C. Berkeley in which he studied cognitive science, and an alumnus of U.C. Irvine in which he did research in psychology. At KDVS he got into talk radio first, then moved on to a progressive activism talk show, then to music, and then to avant-garde music. Then in the winter of 1998, a friend sent Justin a CD-R of SID music. Justin was hooked. In April 1999, he created the 6581 SID Show.

Would he ever run out of SID music to play? Not with over 11,000 files! Surprised, I asked him where he got his music. At www.hvsc.c64.org (High Voltage SID Collection), the premiere web-

site of SID music. SID music was greatly admired and composed in Europe.

Did he play the music directly from a Commodore into the station's broadcasting equipment? No, he didn't. At that time, there wasn't even a computer close to the broadcast equipment. What he did was to download the SID files to his home PC, and using the PC program, SIDPlay, he'd transfer the music to an audio mini-disc. Then he'd bring the mini-disc and recorder to the studio and connect it to the broadcast equipment.

What was the broadcast range of KDVS-FM? With 9,200 watts of power, the station could be heard all the way north to Yuba City, south to Stockton, and west to Benicia --a gigantic area and far bigger than I had realized. However, it was still too far for me to pick up on the radio. He advised me that if I had a computer with Real Audio, I could pick up the live feed by going to www.kdvs.org Also each 6581 SID Show would be archived at the website; all I had to do was download the appropriate show according to date. I smiled weakly; the C128D that I used on-line every day had no such capability, and my Amiga computers were not upgraded enough to handle Real Audio.

Showtime was getting close. I was there to see Justin live, on-the-air. My voice recorder was ready to capture his broadcast.

"Would you like to be my guest on the show?" he asked.

Bravely, I responded that I would be honored, and he led me into the DJ's room. The previous disc jockey was just gathering his things before departing. Justin made some small talk with him, and then he pointed out which seat I was to use and which microphone to talk into.

My mind was racing. I had never been on the ra-

dio before. I had to be a good representative of the Fresno Commodore User Group, a good representative of all that is Commodore. In a sense, I was speaking for all Commodore people. I'd better not stumble... I'd better not stutter or freeze up.

Eight o'clock p.m.. Justin played the recorded intro for the 6581 SID Show, and I watched how he deftly, expertly flipped various switches and other controls on his console. SID music started playing. Were our voices on-the-air yet? "No, not yet," he reassured me, and he talked about the musical piece being played and other Commodore matters, all probably in an effort to relax me.

The mid-show break was coming up. O.K., this was it.

Hard Hat Mack: All right, and we're back on 6581 SID. And I'd like to welcome Robert Bernardo from the Fresno Commodore Users Group. Thanks for joining us today, Robert.

Robert B.: My pleasure, Justin, and hello to all my Commodore friends out there in the world.

HHM: All right. In the background we're listening to Martin Walker doing a tune from Atomic Robo Kid, and we were just speaking, talking about the videogame, Impossible Mission, and you might have recognized, right at the beginning I played a short bit from that game, Another Visitor, which you might remember from the game, Impossible Mission. But Robert, I just wanted to ask you, what's your involvement with the Commodore scene, and well, how did you get involved in the first place?

Robert B.: Well, I've had a Commodore 64 since 1983 when it first came out, and I bought it at the unbelievable price of \$200 back then, and the only thing I could get for it for mass storage was a a datasette recorder, because disk drives were an-

other \$200.

HHM: Oh.

RB: And I couldn't afford that back then, so I hooked my Commodore into just a regular television through its antenna leads, and I used it like that for the longest time. And throughout the years, I've collected whole bunches of Commodore machines, flat C128's, C128D machines, SX-64's, which are the portable Commodore 64's, and now for the last few years I've been president of the Fresno Commodore Users Group. And I go around during my vacation time... I go around and report on the scene... what's happening out there in the Commodore scene. I try to look for shows, try to find people who are interesting to write articles about, and I write about them for our newsletters in our group.

HHM: Fantastic. So how many people are involved in the users group there in Fresno?

RB: We have about 30-40 members in our group in Fresno.

HHM: And what's the sort of age range of these folks? Young people? Old people?

RB: We have... we have, maybe, 1 young person who's below 20, I think.

HHM: Oh, wow.

RB: But all the rest range from in their 20's into their 70's.

HHM: Oh, wow. That old, huh? So people... people who are old enough to... mainly to remember using the machine when it was around in the 80's.

RB: That's right, except for the newbies...it's all new to them.

HHM: Yeah, you really got to hand it to the teenagers who are into this stuff, because, you know, it's probably so easy for young people to look at this ancient computer technology and think, "Aw, who would be interested in that? Can't do anything... so primitive... and not very interesting... who cares?"

RB: Yes, that's right. But with Commodore 64, there's a certain soul that you have with the machine. I mean there's a certain spirit from it, and you don't get that feeling from modern PC's or modern day computers. There's no life behind them.

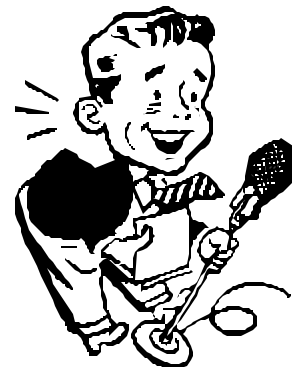
HHM: Yeah, they're very functional, and all pervasive. But as you were saying, there's not much soul, not much spirit to these... I mean, in my opinion, I suppose PC's and Macintoshes are more sort of for the office. They're business machines. They're for working... Well, I mean... I suppose people use the Commodore machine for business as well.

RB: Yes, that's true.

HHM: It's something you can have a lot of fun with, I think.

RB: Yes, why not? When I get behind my Commodore, I write my articles, I do work with it, I go onto the Internet with it, but it's also a fun machine. I mean... even as I'm doing my work on my Commodore, I'm thinking, "fun".

(TO BE
UED)



CONTIN-

OFFICERS and KEYPERSONS

(Area Code 559)

President: Robert Bernardo 627-2438
Vice President: Helen Silvas 227-8005
Secretary-Treasurer Zella Mallard 291-2452
Past President: Ralph Parrott 229-9912

Board of Trustees:

Del Contreras 227-5375
Sandy Dippollet 299-1275
Chester Sohm 855-8543
Bill Gilbert 439-8202
Henry Fry 291-0581

The Interface Editor: Dick Estel 224-4163

Contributing Editors:

Bob Bernardo

Mailing List: Sandy Dippollet
Technicians: Del Contreras, Doug Cunningham
Librarian: Dick Estel
Programs: Ralph Parrott
Demo Coordinator: Helen Silvas
Club Equipment: Helen Silvas
Store: Dick Estel
Meeting Place Reservation, Setup & Cleanup:
Dick Estel, Zella Mallard & Del Contreras
Ribbon Reinking: Robert Bernardo

On-Line Contacts:

FCUG home page-- is <http://videocam.net.au/fcug/>
or <http://home.att.net/~rmestel/fcug.html>
Robert Bernardo rbernardo@value.net

Editor's Internet Exchange Offer

We'll be happy to send any of the articles in our newsletter to other clubs via E-mail, to save the hassle of typing. And we'd appreciate the same from those clubs that have access to Internet E-mail.

Send requests to:
dickestel@att.net.

Fresno PC Users Group
Meetings 1st Monday of each month, 7:30 p.m. at
Ramada Inn, Shaw & Fresno.
Recorded information phone: 496 3974
Membership: 434 0941 or 225 8824
6751 N Blackstone # 395

THE SMALL PRINT

The Fresno Commodore User Group/Sixty-Fourum is a club whose members share an interest in Commodore 8-bit computers. Our mailing address is 3487 E Terrace Ave, Fresno, CA 93703. We meet at 10 a.m., the first Saturday of the month, in the Sarah McCardle Room of the main library, 2420 Mariposa, between N & O St. See the back page for a map. The Board of Directors meets immediately following the general meeting. The meetings generally include demonstrations, discussion, drawings, and individual help.

Dues are \$12 for 12 months. New members receive a "New Member Disk" containing a number of useful utilities. Members receive a subscription to this newsletter, access to a public domain disk library, technical assistance, and reduced prices on selected software.

The Interface is sent to our members and other Commodore Clubs on an exchange basis. Clubs publishing newsletters with informative content are encouraged to add us to their mailing list. Permission to reproduce content from The Interface is granted provided credit is given to the source and, when identified, the author. Club members are encouraged to submit articles, tips or ideas for articles. To insure inclusion, any material should be submitted prior to the 15th.

Disclaimer: The club, its officers, members, and authors are not responsible for the accuracy of the contents of The Interface or the results of actions based on its contents.

Our disk library contains over 2000 public domain programs for the C64 and C128. Members are entitled to copies of these disks at no cost if a blank disk is provided. We do not deal with pirated, violent or obscene programs. Please call our attention to any programs found in our library which may violate these standards.

Sales and Services:

Disk Notchers \$5
Disk drive trouble diagnosis and minor repair: \$10 (members only)
Computer Reset switches: \$7 (members only)
Ribbon reinking: \$1 (members only, 2 per month max)
31 graphics disks: \$3 each, \$50 for all, plus \$1 per disk if to be mailed.
Blank disks: \$.50 each, 25 for \$10
The Write Stuff 64: \$12 (\$14 for non-members)
The Write Stuff 128 \$16 (\$18 for non-members)
The Write Stuff Spell Checker 64/128: \$8 (\$10 for non-members)

FIRST CLASS MAIL

FRESNO COMMODORE USER GROUP
 3487 E TERRACE AVE
 FRESNO CA 93703



- ⌘ *Inside:* Why Spellcheck?
- ⌘ The History of @
- ⌘ Disk Drive Evolution
- ⌘ GEOS Questions & Answers
- ⌘ New FCUG Web Site
- ⌘ Bernardo on the Air
- ⌘ Editor's Retirement Plans



Park on N street (one way northwest); or on O street

Next meeting
 June 3 10 a.m.
 ❄️❄️❄️❄️❄️❄️❄️❄️
Fresno County Library
 2420 Mariposa,
 between N & O St.
 (Sarah McCardle Room
 - Upstairs)
 (for elevator, use main entrance)