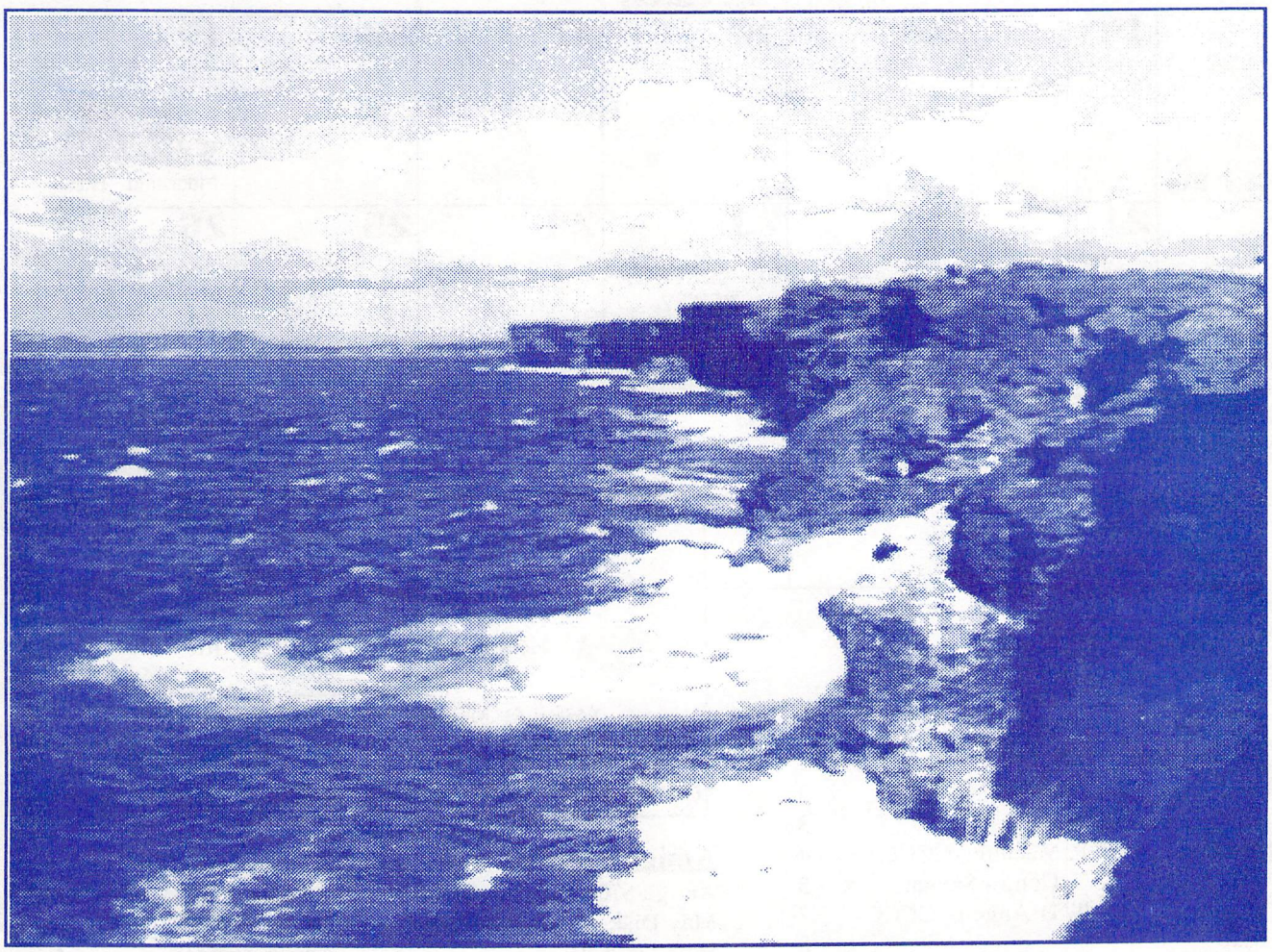
Catalina Commodore Computer Club, Inc.



Vol. 8, No. 5 May 1990

TUCSON, ARIZONA

MAY 1990

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Check CCCC Library for GEOS SUPPORT DISKS		1 CCCC MEETING 7 PM - 9:30 PM ST. PETER & PAUL GRAMER HALL	2	3	4	5
6	7	8 EXECUTIVE BOARD MEETING 7:30 PM at Devon Gables 6150 E. Grant	9 Full Moon	10	11	12
13 Mother's Day	14	15	16	17	18	19 = HELP DAY = 10 AM-2 PM St Peter & Paul Madonna Hall
20	21	22	23 NEWSLETTER PARTY 7 PM St Peter & Paul Madonna Hall	24	25	26
27	28 Memorial Day	29	30	31		

CCCC, Inc. Newsletter Staff

Leila Joiner, Editor
Warren Talbot, C64/128 Layout
Leila Joiner, Amiga Layout

Columnists:

Mike O'Neall Tom D'Angelo
Paul Machula Julia Richardson

Laser Printing by Tom Galloway & Warren Talbot

May Index

C-64/128 Section

Amiga Section

SPRING BOARD-DOM

by Leila Joiner, CCCC

April showers bring May flowers. May nominations bring June elections. It may not rhyme, but it's true, nevertheless.

So far this spring we have a few incumbents and a few possible newcomers running for election to the new Board of Officers.

Incumbents Bob Holdcraft as Secretary, Frank Prievo as Member-at-Large and Tom D'Angelo as Member-at-Large have agreed to run again this year. Frank is our Membership Chairman, and was appointed by the Board to complete Randy Schild's position when Randy moved away this year.

Leila Joiner as Vice President is undecided, but will consider running again if no one else is interested. She still has many duties to fulfill as Newsletter Editor.

Those definitely resigning from the present Board are: Ron Gray, President; Steve Witkowski, Treasurer; Marv Lossing, Member-at-Large.

Possible nominees include Warren Talbot for President and Bob Clausen for Treasurer.

The present Board is, in large part, responsible for rescuing the club from the brink of financial disaster two years ago... no small accomplishment. Some new input would help a great deal at this time, perhaps, to improve membership, which has continued to vascillate between 200-250 members.

If you would like to run for office, please contact a Board Member or a club member to nominate you at the May meeting. Or come and nominate yourself! Don't be shy. We appreciate every offer!

If you know a member who would make a good Board Member, come to the May meeting and nominate the person of your choice. Don't forget, they can always decline if they don't want the job.

And PLEASE... DON'T FORGET TO VOTE IN JUNE!!

THANK YOU, NEW VOLUNTEERS!!

New member Kenney Williamson has volunteered his services for the Saturday Help Day. Ken would like to start a Beginner's SIG for both the C64 and C128, so if you're a beginner on the Commodore and would like some help, call Ken at 750-8164.

New member Julia Richardson is starting a monthly MS-DOS column in this issue of the newsletter. If you have an interest in Commodore/MS-DOS compatability, problems, usage, etc., contact Julia at 323-8105. She might even be interested in starting an MS-DOS SIG if enough people respond.

Show your appreciation for the efforts of our volunteers by giving them feedback and support! Let us know what your needs and wants are.

THANKS, KENNEY AND JULIA!!

Welcome

NEW MEMBERS!!!

Kenney Williamson
Charles Van Meter

June Meeting

ELECTIONS!! ELECTIONS!! ELECTIONS!!

May Meeting

IMPORTANT!!!

Nominations for the June elections!! If you can't run for office, bring a friend who can (and nominate him/her)!!

Also, Ted Seitz will demo the Disk-of-the-Month and answer your questions.

C64 BASIC Doodles

by Paul Machula, CCCC

In our last article we learned how we could store data held in an array on disk. We learned that a very effective way of storing on disk was through SEQUENTIAL files. I stated at the time that understanding how to create sequential files was a VERY useful thing to know. Now I want to elaborate on that.

Just as implied by their name, sequential files store data literally sequentially, byte by byte. If you ponder this a little you will come to realize that this is exactly what happens in wordprocessing. Say, for example, you create some text and then go back and change a character in it. Whatever you change is replaced by your new character. All the rest of the text is sequential and you have only changed a character that was in a sequence.

If you then store your text on disk, the text is written byte-by-byte (sequentially). For this reason many C-64 wordprocessors store their text in SEQUENTIAL files. If they don't, they usually allow an option to do so. Now, this can really give you some interesting possibilities.

If you remember, in my last article I mentioned that changing data once it is in an array can be quite daunting to a programmer. So, why not take an easy way out, especially if you are only interested in simply manipulating your own data, and not in becoming a programming guru. Let's say you use the program we have developed (last month's program), have entered some data, and then stored it on disk in "datastorage" file. How could you CHANGE an item of information in the file without going through a big programming hassle? Well, just load up your trusty wordprocessor (preferably one that saves in sequential file format -- such as the good oldie Easyscript, or The Write Stuff). Then, load into the wordprocessor the file "datastorage." You will see some interesting things.

When you look at "datastorage" loaded into a wordprocessor you will see all your data neatly arranged into lines terminating with a CARRIAGE RETURN [chr$(13)]. Each one of those lines is an array element. That is, line one corresponds to da$(0,0); line two is da$(1,0); line three is da$(2,0); line four is da$(4,0); line five is da$(0,1); line six is da$(1,1); etc.

Now, if you want to change something in your file, just cursor down to what you wish to change, make your change, and resave your file. That's all there is to it!

Oh sure, you will now tell me: "Well, if I wanted to then, I could make all my data this way." Of course you could! BUT now you know how such things are done (well, at least you know more than you did before). Believe it or not, your simple data storage program can actually be of great benefit in simplifying the entry of similar kinds of data. Just remember that a nice wordprocessor can give you a great means of editing such SEQUENTIAL files.

But there are, of course, other ways of changing, or even adding data by programming. Let's take a look at another easy way.

Before I describe this, we need to change our old program somewhat. We are going to add another COLUMN in our two-dimensional array to do this. Of course all ROWS will now have this new column. We will call our new column: 'Owed-'.

In this method of changing data, we are going to allow the computer to actually "compute" while we are in the process of entering the data. The computer will then automatically ADD the new computed data to our disk file. Now, of course this is one thing you CANNOT do when using just a wordprocessor. This will become more clear as I describe the new lines in our program. They are listed below, and then I will give an explanation.

```
10 dim da$(4,399)
899 [DELETE THIS LINE]
999 rem data entry subroutine
1055 print:print"Item Price-
";:l=6:gosub10000
1058 gosub8000
7999 rem calculate amount owed
8000 pr=val(s$)
8010 tx=.06*pr
8020 print:print"Tax- ";tx
8025 tt=pr+tx:print:print"Total- ";tt
8030 print:print"Paid- ";:l=6:gosub10000
8040 pd=val(s$)
8050 ow=tt-pd:s$=str$(ow)
8060 da$(4,i%)=s$
8070 print:print"Owed- ";s$
8080 return
8999 rem write to disk routine
```

Line 10 adds the new dimension "box" we need for the 'Owed-' COLUMN.
Line 899 needs to be deleted to clean up our program.
Line 999 needs to be added to clean up our program
Line 1055 adds the request procedure needed for 'Item Price-'.
Line 1058 accesses our new subroutine [8000].
Line 8000 turns 'Item Price-' [s$] into a REAL VARIABLE so that it can be manipulated mathematically.
Line 8010 calculates the tax.
Line 8020 prints the tax.
Line 8025 calculates and prints 'Total-'.
Line 8030-8040 are similar to lines 8010-8020, but for 'Paid-'.
Line 8050 calculates the amount owed [ow] and then turns 'ow' into a STRING VARIABLE so that it can be stored in our array.
Line 8060 stores 'ow' (now called s$) into our array.
Line 8070-8080 are easily understood.
Line 8999 needs to be added to clean up our program.

When you run the new program you will be prompted for the usual first four "fields" (name, street-address, city-state, and zip-code). But then you will be asked for 'Item Price-', which you can answer as you wish. The computer will then calculate a 6% tax on 'Item Price-', subtract 'Paid-' from the sum of the item-price and tax, calculate 'Owed-', and display all these calculations.

When you store "datastorage" this time, a new COLUMN will be saved. It will be for 'Owed-'. Of course you could also have stored in "datastorage" 'Item Price-' and 'Paid-', etc., by simply adding a few program lines, but to show how you can have flexibility I will leave the program like this.

Isn't this nice? You now have a means of entering data into an array, even of manipulating the data somewhat, and then storing it. It can even be manipulated somewhat further by using a wordprocessor. You now have rather powerful new abilities in your computing. BUT . . . there is a hitch.

Regarding money (always a problem, right) the computer really doesn't understand money very well. You're going to have to browbeat it a little bit if you want it to behave right. You are going to have to make it learn how to round and manipulate cents correctly. Next month I will add this little routine to our blossoming program.

We will also modify our program next month rather drastically by adding a MAIN MENU portion, which will prepare us to add new capabilities. I purposely began with a data entry routine in our original program in order to give us something to work with, but in next month's article we will examine still more about getting ready to manipulate data after it is already entered into an array.

Note: if you are keeping up with these articles through CCCC Disk-Of-The-Month, this month's program (including the new & changed program lines) is called "calcdataentry."

Monitor Radiation?

by T. Contra Savant

I've spent an incredible amount of time worrying over how to present this article. Problem is, the breadth of material involved, cutting across many specialties, together with the "controversial" nature of most of the material. Controversial here is used in the modern sense of the "unfortunate" difference between the truth and what is commonly accepted or being sold to the public. There is neither sufficient space nor research time available to provide much explanation or support. What I will do is provide a very brief explanation of what a monitor does, then some suggestions to minimize ill effects, then some suggestions toward enabling the body to better handle the many unavoidable stresses, then some titles, should you wish to find out something more about the topics involved. As to the accuracy of the suggestions, I have gathered a lot of data over the years and have done a credible job of correlating it; however, there is a lot of bad data out there and a lot of "disinformation" (lies), and a lot of just plain lack of information (ignorance). So, "Yuh pays yer money an yuh takes yer chances."

A monitor is a CRT (cathode ray tube) with the electronics to make it work. You know that there is radiation because it is designed to radiate. It is supposed to radiate the visible part of the electromagnetic spectrum (light), which it does. Due to the nature of the beast, compounded by engineering that a backyard mechanic would be ashamed of, it also radiates a lot of garbage that can't be seen, in all directions. There is everything from radio waves on the long end to x-rays on the short end. More, there is a strong magnetic field which is modulated (made stronger and weaker), as is the other radiation. Then there is the static electrical field and ion generation and mechanical vibration (sound). All these things interact with each other and with every other electrical system, and you, my friend, are, among other things, an electrical system. As an electrical system you are far more delicate and finely tuned than these other systems, but fortunately you have a great ability to adapt ..... as long as you are healthy.

Is then the monitor the only spot of dirt in a clean universe? Of course not. Your TV set is probably a good deal worse. Worse still is your electric blanket. Even "Consumer Bulletins" is getting wise to that one. Everything that uses or conducts electricity, "The Clean Fuel," puts out garbage.

What can and ought to be done is to minimize exposure and maximize adaptability. Electronic equipment does not like to be turned on and off and living equipment does not like it to be on, so reach a compromise. Don't turn it on unless you need it and

(continued on next page)

(from previous page)
don't turn it off when you get up for a drink of water. If you have a pressing need to listen to commercials all day long, please don't use the TV. Use the radio. It radiates less and the commercials are almost as stupid. Distance from the equipment helps but there is evidence that a negative effect can reach to other rooms and floors.

In general the lower you can get your electric bill and the more you can distance yourselves from man's proudest achievements, the less garbage you will eat.

Some monitor radiation varies with the amount of light produced. If your software allows, have a dark background on your screen. With a mono screen, choose a color for the cursor which provides the best contrast. Set your monitor contrast for a sharp picture and brightness as low as will provide an easily readable screen. With a color screen have a minimum of pink, red and orange, and a greater amount of blue and violet. I like bright surroundings, so rather than shade the windows I bent a wire coat hanger and snapped it on the top of my monitor, projecting out the front. I hung a dark cloth over the wire to shroud the screen and another behind me. Light and reflections on the screen are cut way down so I can use less brightness and still have a more easily readable screen. PLEASE bend the tips of the wire back around, or the monitor will have another way to get you.

Another problem with the monitor is what it DOESN'T radiate?! This may be the first application of Dr. John Ott's work with light to the monitor problem and it goes like this: The body is adapted to different stresses by different blends of hormones. These hormones are produced by the various glands which are regulated by the pineal and pituitary glands. The pineal has always been thought to be or to have been light sensitive and both are affected by specific electromagnetic wavelengths. That is: the colors you see, the color of light you see by, are a significant power in the management of your ability to adapt. Further, there is an area in the eye that is sensitive only to the violet and near UV (ultraviolet) and is not connected to the optic nerve. The iris is also sensitive to near UV. If the violet and near UV is not there, the former will think it is dark out and the latter will open too far. And the knee bone's connected to the shin bone.

The American light diet is notably deficient in ultraviolet. Glass filters it out pretty well and eyeglasses are commonly treated to exclude all ultraviolet. Artificial light is very poor in near UV. So you stare at a monitor all day, looking at one or a few colors. Your body needs to adapt to stress, but your regulatory system isn't seeing the outdoor light it needs to tie into its environment.

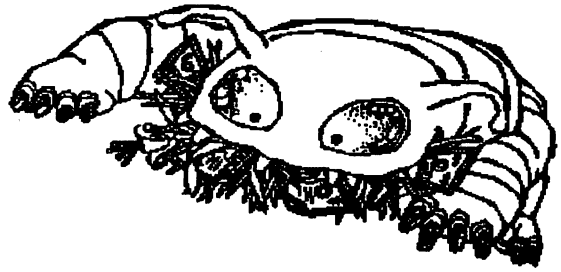
Spend more time outdoors. Walk, sit in the open shade, do your work or take your breaks on an open porch. What time you manage to spend outdoors, don't wear your glasses. If you must wear glasses, browbeat your optometrist into getting you lenses with the "Full Spectrum Seal of Approval." Avoid tinted lenses, especially rose. If you can't live without sunglasses, get full spectrum grey. I doubt it makes much difference in a car as the tinted windows have already jimmied up the sunlight. A small black light tube in your computer room might help.

The little gland factories need raw materials to make the hormones. The more need to adapt, the more hormones needed, the more raw materials needed. If the need is strong and the raw materials are not forthcoming, the glands literally work themselves to destruction. There is a class of these essential raw materials which the body can not manufacture but must import, and the tag we put on that class is vitamin.

Don't buy plastic food in cardboard packages, especially plastic butter, plastic lard, and plastic polyunsaturated oil (labeled specially processed or partially hydrogenated). This stuff won't keep a rat alive, even one that isn't running a computer. Do eat fresh fruit and vegetables and whatever comes in the container God provided for it. In case you're in doubt, by God I don't mean the AMA or General Foods. Do supplement your diet and I don't mean 1-A-Day. I won't get any more specific here or the AMA will have me eating plastic food in a federal facility.

For a foundation in nutrition, books by Adelle Davis, though somewhat dated, have not been surpassed. *Nutrition and the Mind* by Dr. Max Watson and *Supernutrition* by Dr. Richard Passwater are excellent, as is anything by Dr. Carlton Fredericks. *The Body Electric* by Dr. Robert Becker is a real groundbreaker, as is *Light, Radiation, and You* by Dr. John N. Ott. For a better understanding of the situation which exists, read a biography of the man who single-handedly invented and designed our present electric generating and distribution system, Nikola Tessla: *Lightning in His Hand* by Inez Hunt and Wanetta Draper. Also read anything you can find by Dr. Philip S. Callahan, particularly, for present purposes, *Exploring the Spectrum. Annals of Radiation*, a three-part article by Paul Brodeur which ran in *The New Yorker* through June of '89, is a mine of information. This list is certainly not exhaustive, but includes some of the most interesting reading and information along these lines that I know of.

Forward, fellow irradiatees. You have nothing to lose but your glow-in-the-dark.



Nybbles & Bytes

by Tom D'Angelo CCCC
296-5076

AW NO!
OR
HOW TO TALK TO A REPAIRMAN AND SAVE MONEY

You're working at your computer with a word processor program, you go to save a file and the computer seems to lock up and no longer reacts to your keyboard commands. You try different keys, RUN/STOP-RESTORE, nothing works. Finally, you give up and shut down to start over. You type the command to load your word processor again, you press RETURN, the screen shows "SEARCHING FOR (FILENAME)". You notice the drive didn't spin and the read/write light didn't come on, and the computer seems hung up again. You try again and again but to no avail.

What you tell or don't tell a repairman can cost or save you money. Repair bench time is costly. The more you can pinpoint and define the problem to the repair shop, the shorter the bench time should be, and the lower the cost should be to you.

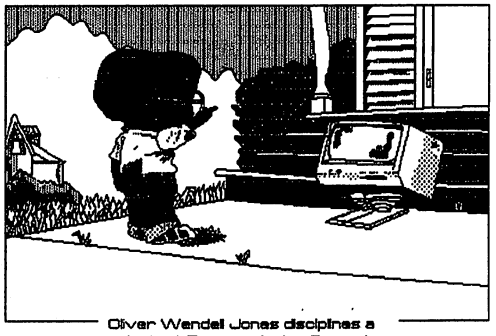
WHAT DO YOU DO NOW?

Remember as much as you can of what you did and the sequence of doing it, and what the computers responses and actions were. Write it down if you don't think you can remember them. Put all of your observation skills in high gear and think logically. So you think; *could it be something happened to the software?* No, because even with bad software the disk drive should at least try to access it by turning ON and its light should have at least blinked a little. *When does the trouble seem to occur?* Anytime I try to access the disk drive. How does what I type on the computer get to the disk drive? Over the Serial Bus cable. *Could the cable or its connections be bad?* Check the connectors to make sure they are secure. Wires usually break when they are being moved, and I wasn't moving anything, so they are probably OK. *What pieces of my equipment might stop or change the proper signals going to my disk drive?* I don't know, but I'll remove anything that's not necessary, like my printer and/or interface, my speed-up cartridge, Jiffy-DOS, a MODEM, joysticks; so that all I'll have left is my power supply(s), and standard computer and disk drive. *Does my drive now behave properly?* No, it still doesn't run nor does the light blink. *I wonder if my computer isn't 'talking' to my drive, or my drive isn't 'listening' to what my computer is saying, and how can I find out?* I can substitute my friends computer or drive for mine and see what works. You take your computer and drive to a friend or to the CCCC Help Day and hook your computer to the different drive. The different drive doesn't respond to commands either. By the process of elimination, it looks like your computer, not your drive, is bad. To check for sure, you try a different computer with your drive, and now your drive works properly.

Now is the time to look at your notes, so that you can tell the service shop what you have already found out about the problem, because if you must take your computer to a service shop and tell them it doesn't work right, you are asking, and will in all likelihood, get the biggest bill possible. I don't think you would leave your car at a shop with a note on it saying "DOESN'T WORK RIGHT" or "BROKE", but I've had computer equipment come to me with must those messages. Usually, from teachers in schools, but also from parents who are bringing them in for their kids.

There are many possible things which can go wrong with computer equipment. Look at what you already know from the above scenario; you know the problem is definitely with your computer so you won't be paying to have other equipment checked out, and you know the problem only shows up when you try to access the disk drive, and that, when you do so, the screen shows "SEARCHING FOR (FILENAME)". This information pinpoints, for the serviceman, where to start fixing your computer. He doesn't have to waste time troubleshooting other areas that would must cost you money. He will in all likelihood still check the basic functions of the computer, after he has fixed your problem, but a good shop will normally do that anyway.

The above techniques can be applied to any computer system problem, and a lot of other problems as well. The more observation and localization of problem areas that you do, the more specific you can be when relaying your problem to the service shop, and most importantly, the less it should cost you.



Oliver Wendell Jones disciplines a reluctant Banana Junior Computer, apparently eager to catch '2010' at the Bijou.

QUESTIONS & ANSWERS

by Leila Joiner, CCCC

To continue last month's session, here are the remaining questions from member Gordon Low.

QUESTION #1

"The April '89 disk had "macto64-1525.sda" on it and I was able to de-arc and save on another disk. Then I tried to transfer the 4 macpaint pictures on the April disk to the same disk and found out I didn't know how! So my question is, how do you do it?"

ANSWER: You should have no problem transferring these files by using "vfast filecpy" on the Feb '89 Disk-of-the-Month. This is an excellent file copy program that works well with either one drive or two drives.

QUESTION #2

"On the Feb '89 disk [Ed.: Actually, it's the March '89 Disk-of-the-Month.] there is a file "final b.a.sda" that doesn't work (for me). There is an error in 62. Whatever that means!"

ANSWER: When you load "final b.a.sda" and then type RUN <RETURN>, instructions will appear on the screen, explaining the procedure and allowing you to either continue or abort the operation at this point. This is generally true of all SDA files. If you read the entire screen, you will find this message at the end:

"IMPORTANT: After it ["final b.a.sda"] has dissolved, type NEW, then load & run the program, MORE FILES, to complete the job."

After executing these instructions, another screen will appear with the following message:

"Due to the limit of the number of files that can be put in a SDA file, I had to include this program to create the rest of the files needed by the Bank Account program. It has already removed itself from the disk, and is creating 8 seq. files on the disk which will be used as storage files for your information. It will then validate the disk."

If you de-arc "final b.a.sda" and try to run it without first running the file "MORE FILES" to create the extra files needed, you will indeed get an "error in 62" message. This means that statement number 62 in the program is trying to access files that do not exist on the disk, since they have not been created yet.

QUESTION #3

"The May '89 Disk has the H.A.L. files on it and de-arcing the sda files worked fine. However, the instructions said scratch the H.A.L. and load the new H.A.L. and the "directory editor" on the disk. Sounds easy, but the computer keeps coming up with "File not found." It shows on the disk listing! Now what?"

ANSWER: To make this a little clearer, the instructions say to scratch the H.A.L. file that is created when the SDA file is dissolved, and replace it by copying the other H.A.L. file from the Disk-of-the-Month. The "directory editor" file on the DOM should also be copied over to the new H.A.L. disk.

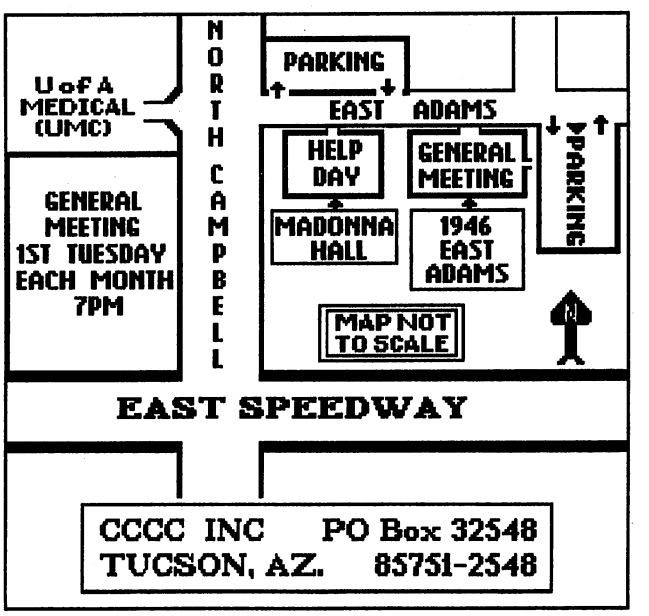
I'm not sure why you had a problem doing this, but here's the best tip I can think of for this type of situation. If you run across a file whose name the computer refuses to recognize when you type it in, you can usually be successful if you use a program like "vfast filecpy" [Feb '89 DOM]. "vfast filecpy" lists the directory for you, then lets you select the file to be copied, scratched, etc., by simply cursoring to the file you want, then highlighting it by pressing RETURN. This way the computer is sure to recognize the file name, even if it has some odd characters in it (some programs will add custom characters to the beginning or end of a file name, to prevent the file being loaded outside of the program it was created in).

Well, this finishes up your questions, Gordon. I hope I've been of some help.

If there are any more questions out there, please send them to:

Leila Joiner
3527 East Fort Lowell
Tucson AZ 85716

Please write legibly and include your name and phone number!



C= to MS-DOS Transport & TWS

by Ted Seitz, CCCC

Each of the recent issues of the CCCC Tucson Newsletter has carried useful articles on file conversion/compatibility/interfacing. There is a lot of interest along this line because the powers that produce systems and machines try to control marketplace as well as market, and the people who use the machines and systems don't like the built-in restriction.

One of the topics dealt with was the difficulty in transporting GeoWrite files. The program mentioned, Strip Gwrite 128 by Ed Vank, is on our April Disk-of-the-Month. It will strip GEOS control characters from files which have previously been converted to SEQ type.

That this will work, I have no doubt, but it would seem to be doing it the hard way, otherwise known as doing things "bass ackwards." People who choose to or need to use GEOS and do a lot of writing tend to use a character based word processor and import the files into GEOS, not the other way around. This is because of inherent shortcomings in a graphics-based word processor run on an 8-bit machine. When you get your "NeXT" computer, that's something else.

For real connectivity you need a real power word processor. You need The Write Stuff. Puffery? Not a bit. While TWS uses screen code in PRG format (BB files) in its native mode, for the fastest loading, most compact files, it also reads and writes PET ASCII and TRUE ASCII in SEQ and USR files. Custom file translators for 14 of the more popular Commodore word processors (not GeoWrite) are included. These translate not only character code, but also imbedded control code into BB files. There is also a generic translator. TWS, in 64 or 128 mode, will do quite easily what Strip Write 128 does. Batch search and replace in 128 mode will handle a whole list of items at one time and that list may be saved; so you can develop your own custom file translation routines. Power? In 64 or 128 mode "Search and Replace" will handle one item at a time through a whole document in a jiffy; or "Hunt and Replace" will stop and ask at each occurence. Connectivity?

How much geld for all this donner und blitzen? Your local user group will supply for a mere pittance. Here at CCCC Tucson, 1 pittance = a membership + $16.00 for 64 version 1 + version 2 with BB Speller, and $21.00 for 128 version 1 + version 2 with BB Speller.

In this world what you pay bears little relation to what you get ..... unless it is your purpose to buy snake oil.

MS-DOS Computers

by J. K. Richardson, CCCC
Phone 323-8105

This month I want to take the opportunity to welcome you all to a new column in the CCCC Newsletter, specifically intended for those of us who use MS-DOS computers. (For the unitiated, this stands for MicroSoft-Disk Operating System. I'll explain operating systems a little later.) I'd like to begin by giving you a general idea of who I am and what kinds of things I think would be appropriate for the column.

While I don't by any means claim to be an expert in the field of computing, I have a teaching degree from the U of A and a minor in computer science. I make my living as a teacher of computers, math, and science. I enjoy programming in several different languages, and am currently working on a communications program which (if I ever get it running) should benefit communication between deaf and hearing persons. I have done some educational programming, and also have done some study into artificial intelligence and expert systems. I have worked with most micro (IBM, Apple, Commodore, MacIntosh, etc.) computers and a few different kinds of mainframes.

I would like this column to do at least three things:

1] inform computer users who are new to MS-DOS machines about some of the capabilities of this type of computer.
2] provide a forum for discussion of computing topics specific to these computers.
3] provide general computing information which, although it may apply to MS-DOS in particular, would also be of interest to all in the club. Please note that I would like this to be a very interactive sort of enterprise, where we could discuss some of the subjects that are most in need of clarification or explanation.

Today, since I don't know you and you don't know me, let me just as an introduction briefly cover the topic "What is an operating system?" This topic seems to be especially relevant since one of the main distinctions between capabilities of different computer systems lies with the operating systems.

When you sit at a computer, you wish the computer to do some work for you. The way in which the computer can do this is through the operating system, which is a collection of programs (although we usually refer to it as one program) already being executed by the computer. An operating system contains the logical procedures that define how a computer is to interact with the outside world. Operating systems on different computers have many of the same features in common:

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a) Control Access to the Machine. This is typical of computers where there are many terminals connected or if the machine can be accessed through a modem.

b) Maintain Accounting Data. While this is most common on business computer systems, you can note that on your PC directory you can see when you last changed a given program or file.

c) Control Data and its Access. An operating system is responsible for allowing the user to access data or execute programs when the user gives the appropriate request. The operating system does this by keeping a record of what files are stored, where they are stored, and who should be allowed to access them (in systems used by many people).

d) Provide for Efficient Device Access. Operating systems generally contain routines which allow the computer user to conveniently communicate with peripheral devices attached to the machine. The operating system allows us to be unconcerned with the physical details of transferring data/files from one device to another.

e) Manage Resources. The resources of a computer system include things such as memory, peripheral devices, and programs. When a system is being used by more than one person it is important to know which devices, areas of memory, and programs are being used and who is using them, in order to prevent conflicts caused by two or more users trying to access the same resource at the same time. Even on computers where only one person is using the machine, conflicts can happen and it is the responsibility of the operating system to prevent these.

One question which may be on your mind is, "How does the operating system get started?" This might seem to be a problem since the operating system is necessary to communicate with the computer, but obviously you are able to start up your computer without your MS-DOS disk in a drive (although you do get an error message). A simple explanation follows. In a computer there are two kinds of memory, which you may be familiar with. There is the Random Access Memory (RAM), which is memory the computer can both read and write to. The other kind of memory is the Read Only Memory, or ROM. RAM is where the computer stores things that can be changed -- perhaps a word processing program you are working with. The ROM contains a very short program called the 'bootstrap'. When you turn on your PC and see a brief message about Phoenix BIOS, etc., this is the bootstrap program working. It first tests the computer components to make sure everything is working properly, then it initializes the computer's peripheral equipment (makes sure everything is in its proper place) and starts up the DOS. This program is not the operating system. It starts up the operating system by reading a certain area of a disk (in this case, the MS-DOS disk, or file if you have a hard drive C:) into a particular area of the RAM, assumes that the data just read is the beginning of the operating system, and goes to that area to begin executing.

Feel the Power

by Warren Talbot, CCCC

A C64, GEOS, geoPublish, and a laser printer have been used to lay out the Commodore section of the Catalina Commodore Computer Club newsletter since November 1989. **Every page of the C64 section (the first 11 pages), was created entirely in my Commodore 64 with absolutely NO cut and paste.** Every newsletter is a single geoPublish file and it's geoWrite support files. Three or four newsletters can fit on a 1581 disk and range between 150K to 300K each, depending on graphic content.

I feel that I have shown that the GEOS equipped Commodore 64 can do many of the things that more advanced computers can do, and will now explain that by using GEOS a person will be preparing for future technology.

State of the art

As technology progresses we see a consistency in user interfaces; the manner in which the user interacts with the computer. While many of the ideas embodied in the GEOS user interface were pioneered elsewhere, they didn't gain widespread exposure until the Macintosh was released in 1984. The realization: how do you make a user interface easy enough for novices to learn and powerful enough for experts to use? It doesn't matter how fast the computer is or what software runs on it if people have a hard time using it. Although the graphical user interface -- a mouse oriented system using icons and pull-dowm menus -- is a source of controversy, it has shown to be the easiest for inexpierenced users to learn.

Consistency

One of the struggles users have had in the MS-DOS/PC-compatible market is the variety of user interfaces for applications. Each program has its own interface, and proficiency in one program helps little in learning another.

The GEOS interface avoids this by creating a consistent user interface for all programs and applications. This interface is embodied in the behavior of objects such as icons, menus and applications, which automatically exhibit a certain degree of consistent behavior. The GEOS desktop reinforces this consistency by setting up certain default objects when you create new projects, while through and complete technical documentation contain detailed guidelines as to how programs should behave. The result: once you know how the user interface works, you can learn each new program or application with a minimum of effort.

Visually Oriented

Command-line interfaces suffer from some inherent limitations because they cause all information going into (or coming out of) the system to do so as text, which doesn't convey information as quickly or, often, as understandably as graphics do.

The GEOS user interface, like most graphical interfaces, avoids these limitations. It takes advantage of our visual orientation - the fact that it's easier to show than to describe. It takes advantage of the full screen, and conveys the illusion of dealing with physical objects in a real two-dimensional space. Instead of having to memorize long lists of commands and options to be typed in, you click, double click, drag, or otherwise manipulate the "objects" on the screen. All this corresponds to how you work in the real world, so that the actions required of you seem as natural and intuitive as possible.

The reality

Most of the above text was taken almost word for word from a section of "The NeXT Book". The author used the NeXT machine to write his book, and worked closely with the designers of the NeXT system. My point is to show the many similarities between the two user interfaces. The Graphic Environment Operating System *GEOS* makes it an excellent trainer. When more sophisticated machines become available understanding GEOS lingo will essentially prepare you for the "NeXT" step.